August 1982
EGG-WRR-6019

PDR

MONTHLY REPORT REPRESENTING THE RESEARCH PORTION OF THE WATER REACTOR RESEARCH DEPARTMENT AND THE THERMAL FUELS BEHAVIOR PROGRAM

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Idaho National Engineering Laboratory
Operated by the U.S. Department of Energy

This is an informal report intended for use as a preliminary or working document

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EG&G Idaho

189 LISTING BY PROGRAM

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ACRONYMS

A/E	Architect Engineer
ACRS	Advisory Committee on Reactor Safety
AECL	Atomic Energy of Canada Limited
AMB	Applied Mechanics Branch
ANL	Argonne National Laboratory
ANS	American Nuclear Society
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ATWS	Anticipated Transient Without Scram
B&W	Babcock and Wilcox
BD/ECC	Blowdown/Emergency Core Coolant
BWR	Boiling Water Reactor
CA&AD	Code Assessment and Application Division
CAM	Constant Air Monitor
CC	Component Checkout
CCB	Change Control Board
CCTF	Cylindrical Core Test Facility
CDC	Control Data Corporation
CDD	Code Development Division
CDUM	Code Description and User's Manual
CE	Combustion Engineering
CHF	Critical Heat Flux
CLLMS	Conductivity Liquid Level Measurement System
CM	Corrective Maintenance
CPM	Critical Path Method
CSNI	Committee on Safety for Nuclear Installation
DAPS	Data Acquisition and Processing System
DARS	Data Acquisition and Reduction System
DAS	Data Acquisition System
DDAPS	Digital Data Acquisition and Processing System
DE	Division of Engineering
DER	Data Evaluation Report
DL	Division of Licensing
DOE	Department of Energy
DP	Differential Pressure
DSI	Division of Systems Integration
DSRR	Division of Systems and Reliability Research
DST	Division of Safety Technology
EI	Energy Incorporated
EICS	Electrical Instrumentation and Control System
EDF	Engineering Design File
EDR	Experimental Data Report
EM	Energy Measurements
ENICO	Exxon Nuclear Idaho Company, Incorporated
EOS	Experiment Operating Specifications

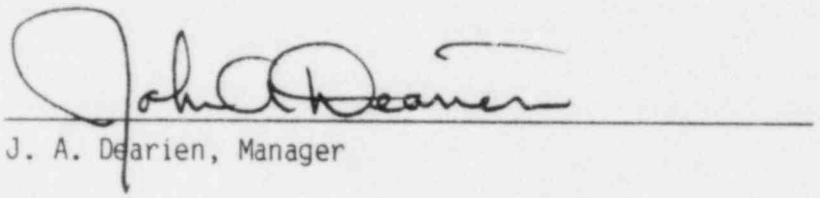
EP&A	Experimental Planning and Analysis
EPRI	Electric Power Research Institute
EQDB	Equipment Qualification Data Base
FCF	Facility Change Form
FDG	Fluid Distribution Grid
FIST	Full Integral Simulation Test
FMEA	Failure Mode Effects Analysis
FRG	Federal Republic of Germany
FSAR	Final Safety Analysis Report
GE	General Electric
GRS	Gesellschaft fur Reaktorsicherheit
HDR	Heiss Dampf Reaktor
HLS	Hot Leg Spool Piece
HPIS	High Pressure Injection System
HSST	Heavy Section Steel Technology
I&C	Instrumentation and Controls
IFA	Instrumented Fuel Assemblies
IGSCC	Intergranular Stress Corrosion Cracking
ILSG	Intact Loop Steam Generator
INEL	Idaho National Engineering Laboratory
IOER	Integrated Operational Experience Reporting System
IPT	In-Pile Tube
IREP	Interim Reliability Evaluation Program
ISDMS	Idaho National Engineering Laboratory Scientific Data Management System
ISI	In-Service Inspection
ISP	International Standard Problem
IST	In-Service Testing
JAERI	Japan Atomic Energy Research Institute
KfK	Kernforschungszentrum Karlsruhe
LANSL	Los Alamos National Scientific Laboratory
LER	Licensee Event Report
LLD	Liquid Level Detection
LLL	Lawrence Livermore Laboratory
LOC	Loss-of-Coolant
LOCA	Loss-of-Coolant Accident
LOFT	Loss-of-Fluid Test
LPIS	Low Pressure Injection System
LTSF	LOFT Test Support Facility
LVDT	Linear Variable Differential Transformer
LWR	Light Water Reactor
MFD	Master Facility Drawing
MIT	Massachusetts Institute of Technology
MSLB	Main Steam Line Break

NESC	National Energy Software Center
NPRDS	Nuclear Plant Reliability Data System
NPSH	Net Positive Suction Head
NRL	Naval Radiation Laboratory
NRR	Nuclear Reactor Regulation
NSRDC	Naval Ship Research and Development Center
NSSS	Nuclear Steam Supply System
NTOL	Near-Term Operating License
OPTRAN	Operational Transient
OR	Operating Reactor
ORNL	Oakridge National Laboratory
P&IA	Plant and Instrument Air
P&ID	Process and Instrument Diagram
PAS	Probabilistic Analysis Staff
PBF	Power Burst Facility
PCM	Power Cooling Mismatch
PCP	Primary Coolant Pump
PCS	Primary Cooling System
PIE	Postirradiation Examination
PKL	Primary Coolant Loop
PM	Preventive Maintenance
PMG	Program Management Group
PMIS	Performance Management Information System
PNL	Pacific Northwest Laboratory
PORV	Power Operated Relief Valve
PPS	Plant Protection System
PR	Combination of PCM/RIA
PRAC	Power Reactors Advisory Committee
PWR	Pressurized Water Reactor
QA	Quality Assurance
QDR	Quality Discrepancy Report
QLR	Quick Look Report
QPP	Quality Program Plan
RCCS	Reactor and Canal Cleanup System
RCG	Radioactivity Concentration Guide
RES	Office of Nuclear Regulatory Research
RFQ	Request for Quotes
RIA	Reactivity Initiated Accident
RIL	Research Information Letter
ROSA	Rig of Safety Assessment
RPG	Radiation Protection Guide
RSB	Reactor Systems Branch
SAI	Scientific Applications Incorporated
SASA	Severe Accident Sequence Analysis
SBE	Small Break Experiment
SCDAP	Severe Core Damage Analysis Package
SCTF	Slab Core Test Facility

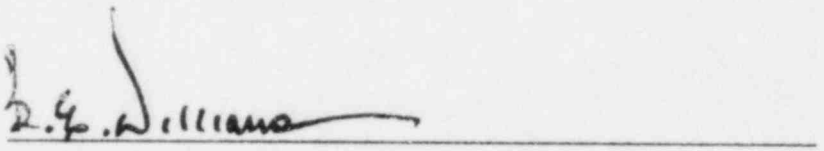
SDD	System Design Description
SEP	Systematic Evaluation Program
SER	Safety Evaluation Report
SHB	Single Heated Bundle
SO	Systems Operations
SOW	Statement of Work
SPERT	Special Power Excursion Reactor Test
SQRT	Seismic Qualification Review Team
SRP	Standard Review Plan
SRV	Safety Relief Valve
SSE	Safe Shutdown Earthquake
SSRT	Senior Seismic Research Team
SSTF	Steam Sector Test Facility
STP	Standard Temperature and Pressure
SWR	Site Work Release
TAN	Test Area North
TC	Thermocouple
TDP	Technical Development Program
TER	Technical Evaluation Report
TFBP	Thermal Fuels Behavior Program
TFCF	Transient Flow Calibration Facility
THTF	Thermal Hydraulic Test Facility
TLTA	Two Loop Test Apparatus
TMI	Three Mile Island
TRR	Test Results Report
TVA	Tennessee Valley Authority
UHI	Upper Head Injection
UIC	Unique Identification Code
USSP	United States Standard Problem
UPTF	Upper Plenum Test Facility
WBS	Work Breakdown Structure
WRRD	Water Reactor Research Department
WRRTF	Water Reactor Research Test Facilities

MONTHLY REPORT FOR

AUGUST 1982



J. A. Dearien, Manager



B. E. Williams
Plans and Budget Branch

MONTHLY REPORT FOR

AUGUST 1982

WATER REACTOR RESEARCH TEST FACILITIES DIVISION

Paul North

P. North, Manager

John P. Crouch

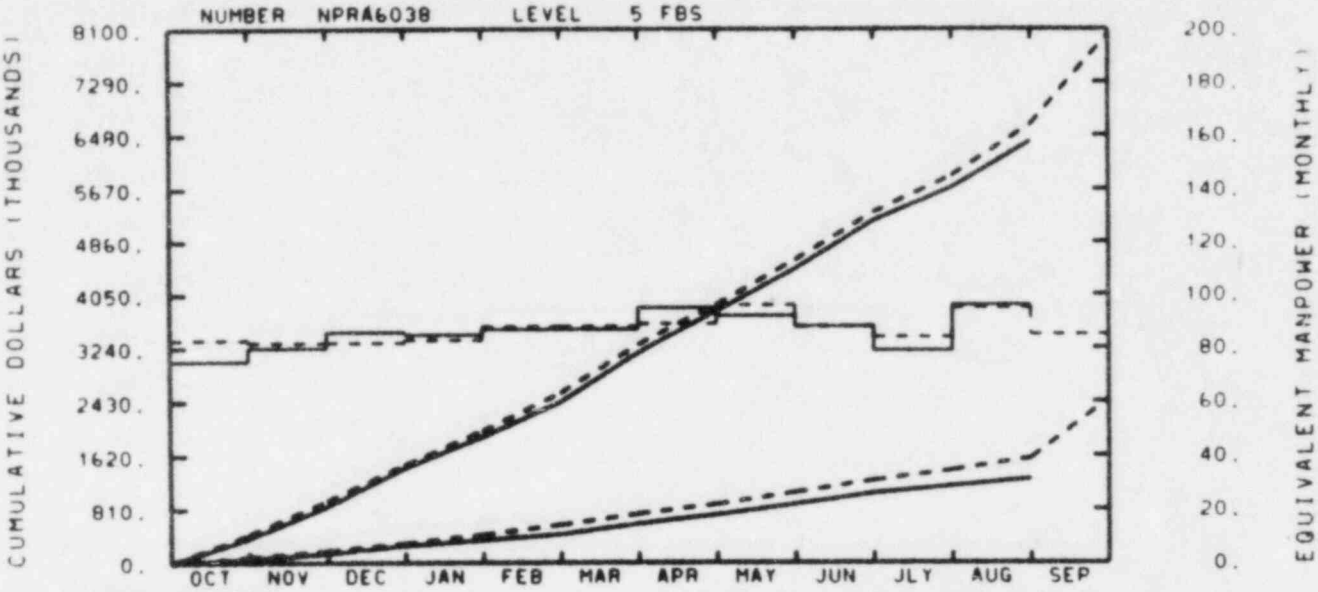
J. P. Crouch
Plans and Budget Representative

ESPONSIBLE
ANAGER
P. NORTH

EG&G IDAHO INC.

SEMISCALE PROGRAM

NUMBER NPRA6038 LEVEL 5 FBS



TOTAL PROGRAM

BUDGET	430	944	1484	1997	2559	3290	3898	4577	5319	5875	6637	8019
ACTUAL	375	856	1435	1905	2424	3165	3796	4441	5189	5697	6387	

MATERIAL

BUDGET	85	187	296	434	576	743	886	1064	1247	1400	1582	2463
ACTUAL	65	141	264	345	435	593	727	885	1052	1162	1270	

MANPOWER

BUDGET	83	82	82	83	88	88	89	96	88	84	95	85
ACTUAL	75	80	86	85	87	87	95	92	88	79	96	

BUDGET - - - - - -

ACTUAL ———

YTD VARIANCE: 250 (4%)

Individual cost graphs will give individual explanations.

Explanations for major 189's will be made if the variance exceeds $25K. Minor 189 graphs will explain variance of over $10K.

PROGRAM MANAGER'S

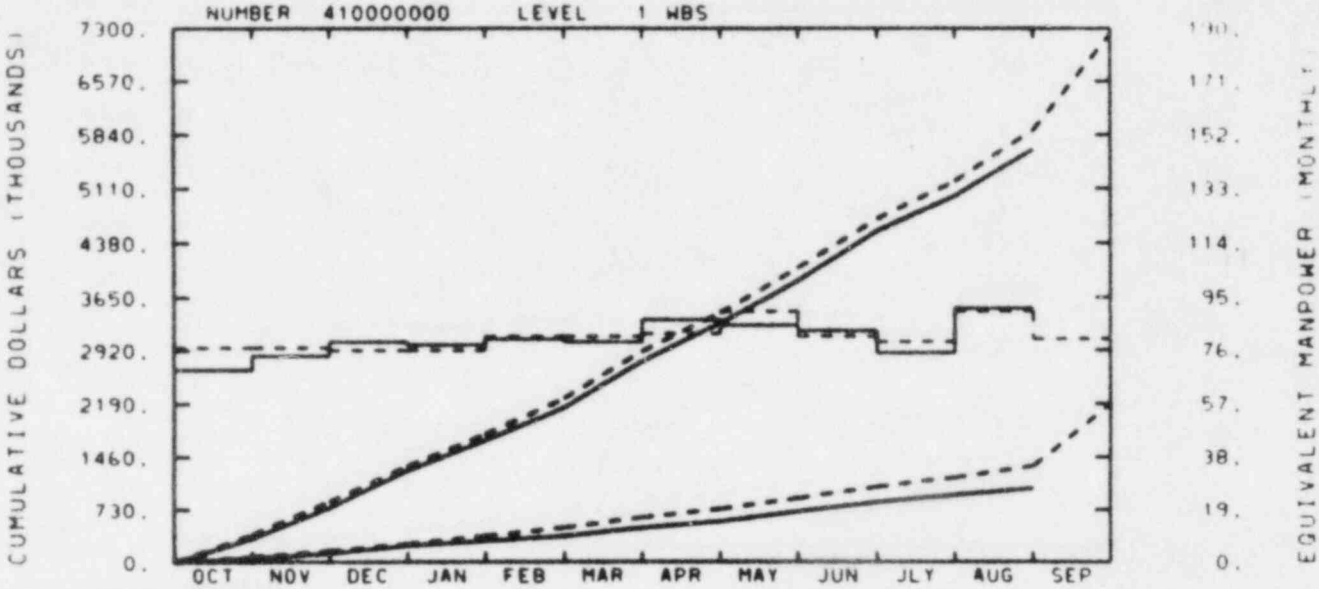
SUMMARY AND HIGHLIGHTS

The Semiscale Mod-2B modifications continue essentially on schedule. The one major item behind schedule is the pressurizer liner. This item is being given careful attention.

Post-CHF (critical heat flux) testing was completed in the Blowdown Loop with a substantial range of data having been gathered. Preparations are underway for the flow-regime and critical flow experiments in the Two-Phase Flow Loop although delays have been incurred because of an attempted early shift to the Candy Cane experiments.

RESPONSIBLE MANAGER
P. NORTH

EG&G IDAHO INC.
SEMISCALE-WRRTF
NUMBER 410000000 LEVEL 1 WBS



TOTAL PROGRAM

BUDGET	384	845	1331	1773	2263	2906	3439	4045	4703	5202	5899	7216
ACTUAL	333	756	1273	1688	2139	2768	3295	3875	4539	5006	5636	

MATERIAL

BUDGET	72	161	257	368	483	623	739	890	1047	1175	1334	2190
ACTUAL	59	123	233	299	366	479	566	703	833	933	1025	

MANPOWER

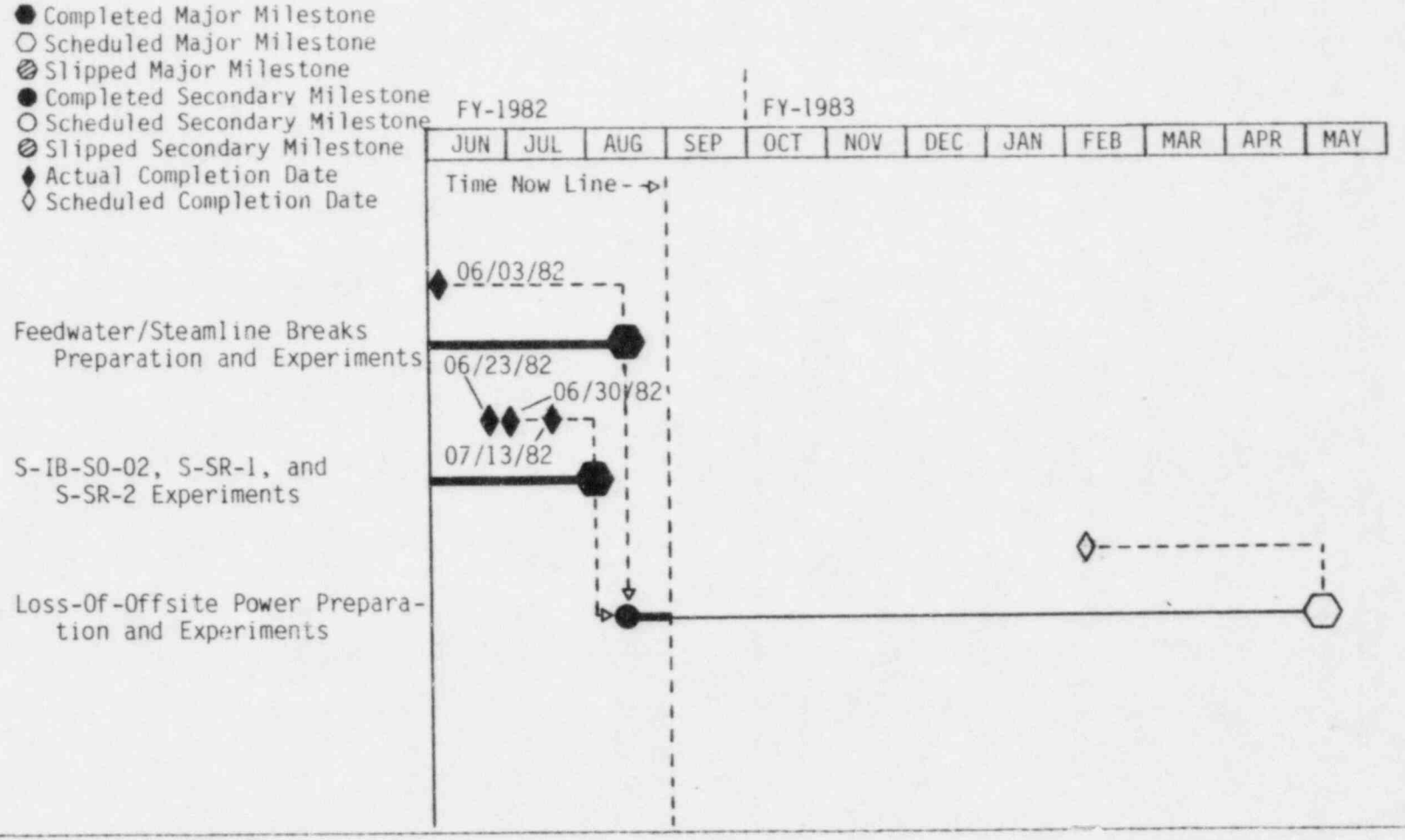
BUDGET	77	77	76	76	81	81	82	90	81	79	90	80
ACTUAL	69	74	79	78	80	79	87	85	83	75	91	

A6038

YTD VARIANCE: 263 (4%)

The year-to-date variance of $263K consists of $46K overrun in labor dollars and an underrun in non-labor of $309K. The labor dollar overrun is due to budget file rates being lower than actuals. The underrun in non-labor is made up of underruns in travel, material purchases, reproduction, computer, and G&A. A carryover of $930K is currently being projected, which will consist of the above underruns in addition to $688K in Management Reserve.

WATER REACTOR RESEARCH TEST FACILITIES DIVISION August 1982



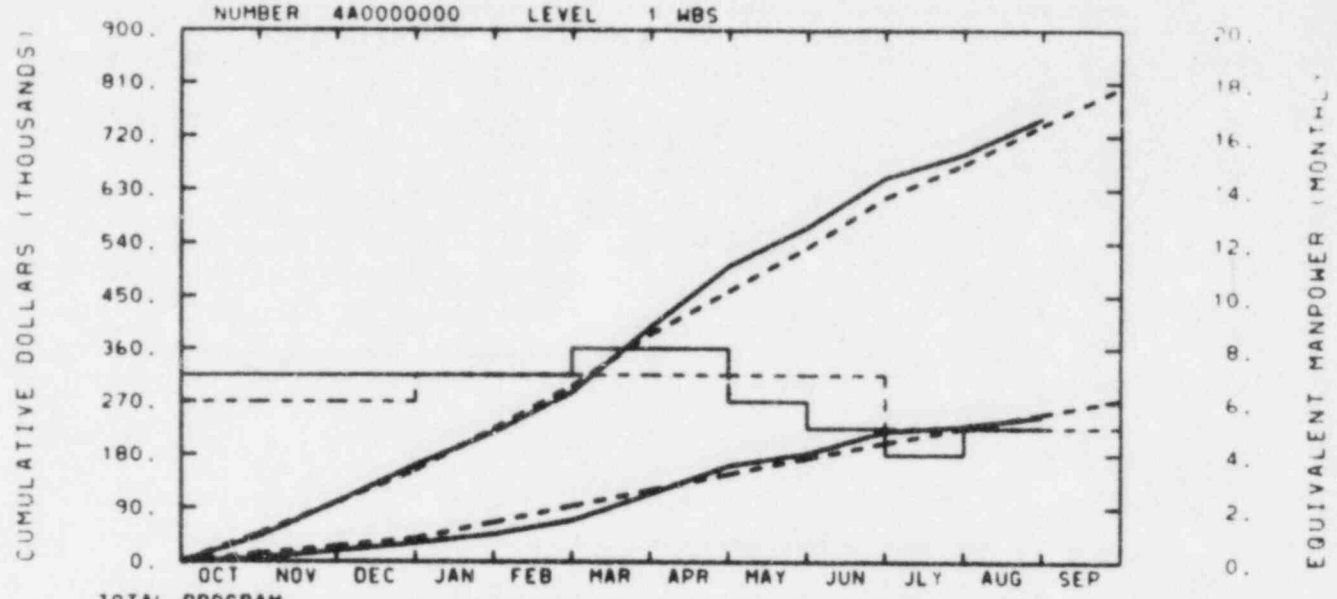
NOTES:

RESPONSIBLE MANAGER
F. AGUILAR

EG&G IDAHO INC.

RELAP5

NUMBER 4A0000000 LEVEL 1 WBS



TOTAL PROGRAM

BUDGET	46	99	153	224	296	384	458	532	616	672	739	802
ACTUAL	42	99	162	218	285	397	501	567	650	690	750	

MATERIAL

BUDGET	13	26	39	66	93	121	147	174	200	225	249	273
ACTUAL	6	18	31	46	69	114	161	182	220	229	245	

MANPOWER

BUDGET	6	6	6	7	7	7	7	7	7	5	5	5
ACTUAL	7	7	7	7	7	8	8	6	5	4	5	

A6038

YTD VARIANCE: <11> (1%)

1. 189a A6038 - Water Reactor Research Test Facilities Division

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

A. 412100000 - Special Projects

1. 412123300 - Special Projects--Engineering

Released shaft balance procedures ANC-70029 and ES-70050 for the high speed broken loop pump.

Issued an EDF justifying the use of on-hand tubing in ASTM A-213 and ASME SA-213 applications for Semiscale/THEF.

Prepared a revised drawing of the high speed pump seal coolant circulating pump.

Repaired the vessel upper head turbine meters. In accomplishing the repair, it was noted that materials in the area of the turbine meters and drag screen were softer than initial condition. Hardness tests indicated possible local annealing. This was checked with Materials Technology (H. Spaletta) and determined not to be a problem, after which the vessel was reassembled. During this vessel disassembly, the downcomer honeycomb insulators were visually examined for defects/damage. No problems were discovered.

Prepared cost estimate to modify the broken loop steam generator working platform to provide increased platform area.

Drawing revisions for the cooled thermocouple pitot tube rake probe have been delayed because of higher priority work.

Preliminary design work on the Semiscale/FIST low energy vessel densitometer system is approximately 60 percent complete. Preliminary discussions with scintillator suppliers indicate that the remote mounted photo multiplier tube concept is feasible.

During the PL shutdown, several system improvements are being incorporated in order to reduce primary system leakage:

3A. Summary of Work Performed in August 1982 (Continued)

a. Replacing the carbon steel spool in the intact loop pump discharge (this is the last carbon steel piping in the primary system).

b. Replacing the flexitallic gasket on both steam generator plenums.

c. Using high strength bolting for the instrument flanges in both loops.

d. Replacing the lawrence pump.

e. Installing thin section O-rings to seal drag disk and video probe penetrations.

f. Inspecting all piping spools and seal rings, and replacing or repairing damaged parts.

B. 413100000 - Steamline/Feedline Break Test Series

1. 413111100--Steamline/Feedline Break Series

Work has restarted on the Quick Look Report for the Steamline Breat Tests, S-SF-4 and S-SF-5. Work was preempted by manpower requirements for primary feed and bleed analysis. The quick look will be completed by September 17.

2. 413111130 - RELAP5 Posttest Documentation--Feedwater

A report was written documenting the posttest analysis of Tests S-SF-1, 2, and 3c and given to management for review. The comments received are being incorporated into the report.

3. 413111135 - RELAP5 Posttest Documentation--Steamline

Posttest RELAP5/MOD1 calculations for the Steamline Break Tests S-SF-4 and 5 were begun. The RELAP models were setup with the boundary conditions from test data, and initial steady-state runs were made.

4. 413122100 - Steamline/Feedline Breaks--Hardware

Completed the as-building of feedline and steamline break drawings to reflect test configuration. All work on this activity is now complete, and it will be dropped from future reports.

3B. Summary of Work Performed in August 1982 (Continued)

5. 413133110 - EDR for S-SF-1, 2, and 3C

Work continued on preparation of the EDR to report data from Tests S-SF-1, S-SF-2, and S-SF-3C. The text went into Technical Editing on August 16, 1982. Technical Editing has scheduled the EDR to be published September 22, 1982.

6. 413133150 - EDR for S-SF-4 and 5

Work continued on preparation of the EDR to report data from Tests S-SF-4 and S-SF-5. Graphics is preparing figures, Word Processing is working on portions of the tables and text, and Data Processing is preparing plots of Data.

C. 414100000 - Level of Effort

1. 414119100 - Supervision

Proper summaries and presentations have been prepared for the Water Reactor Safety Research information meeting. The presentations will cover highlights from the Semiscale and THEF FY-82 and 83 program accomplishments and plans.

2. 414119300 - Unplanned/Unscheduled Work

Analytical work on the transition boiling study is nearly complete. An evaluation has been performed using the TRAC correlation showing it to be lacking in predictive capability. Several other correlations produced similarly poor results. A new correlation has been proposed and verified against both Semiscale and THEF data. Writing of the paper has begun. Completion is expected by mid to late October.

3. 414123100 - Semiscale Engineering--Level of Effort

Provided engineering coordination and technical assistance on procurement of new (higher rate) bearing pre-load springs for high speed pump. An alternate supplier was suggested. These springs are intended to eliminate bearing spin (a minor problem with the existing design).

Work was initiated on the fabrication of funnel holders for filling the densitometer detectors with liquid nitrogen.

3C. Summary of Work Performed in August 1982 (Continued)

4. 414136300 - Mechanical Instrumentation

Mechanical Instrumentation Services were provided to support the PL-Series Shutdown. Turbines were removed, sent to the Standards Lab for calibration, returned, and reinstalled. Differential Pressure and Pressure Cells were removed and sent to the Standards Lab for calibration. Calibration of the "r" factor of all drag screens (except the core drag screen) was completed. The upper plenum and upper head were re-instrumented.

5. 414148100 - DAS and DDAPS Operations

a. Completed Bay Lab Amplifier calibration using Steam-Air-Water Loop (SAW) computer.

b. Completed the wiring between the amplifiers and the Preston ADC system. This includes checking the cabling, sample and hold, and multiplex system and calibrating the sample, hold and ADC.

c. Completed and checked the wiring to the channel monitor system.

d. Ran a bench cal on the drag screens to obtain an "R" factor or ratio between screen force and transducer force.

e. Connected additional disk drive to 1000 system for additional data storage capability.

f. Calculation of uncertainty values for Experimental Data Reports (EDR) for Tests SF-1, 2, 3, SF-4, 5, and SR-1, 2 were completed.

g. Semiscale Uncertainty Report - Methodology NUREG/CR-2459 EGG-2142 was received from the Technical Publications Division and the author review completed. Management approval is scheduled for September 7 through September 9, with printing completed September 16, 1982.

h. Checked the preliminary instrument list for S-PL-1 and S-PL-2 tests for ranging. Prepared a listing of ranges for pressure and differential transducers for the Mechanical Instrumentation Section.

3C. Summary of Work Performed in August 1982 (Continued)

6. 414148110 - Removal of Westinghouse Reactor Vessel Level Indicating System

On August 12, 1982, Westinghouse requested removal of the Westinghouse Reactor Vessel Indicating System, and return of selected hardware. The system hardware has been removed and a shipping container built. The equipment will be shipped by the first week of September.

D. 415100000 - Intermediate Break Test Series

1. 415119600 - EP&A Test Support

Transmitted the Quick Look Report for S-IB-2. Incorporated review comments to the Quick Look Report for S-IB-3 and provided final report to management for approval.

2. 415119700 - Post S-IB Series Analysis

Transmitted the TRR outline to EP&A Branch Manager for approval. Prepared a presentation on comparison of S-IB-3 to LOBI Test B-R1M for delivery to an ISPRA representative in early September. Continued analysis and TRR preparation and estimated activities were 90% and 10% complete respectively at month end.

E. 416100000 - Loss-of-Offsite Power

1. 416119800 - Loss-of-Offsite Power--Pre-Series

RELAP5 scoping calculations for Tests S-PL-2 (with connected steam generators), S-PL-5, S-PL-6, and S-PL-7 were completed. These are the last S-PL series scoping calculation to be performed this fiscal year. More scoping calculations will be performed next fiscal year to support the experiment planning for the ATWS tests.

Completed the first draft of the series EOS and provided to the EP&A Branch Manager for review. Incorporated resolution of 90% of review comments into the RDD. Provided a preliminary measurement requirement list for PL-1 and PL-2 for use in system preparation. Prepared and delivered a summary presentation of PL plans to Dr. K. Soda. Reviewed SO and SC test requirements and plans to aid in preparing final detailed requirements.

3E. Summary of Work Performed in August 1982 (Continued)

2. 416123700 - Loss-of-Offsite Power--Hardware Mods

a. Continued support was provided to support the PL-Series Shutdown. Calibration of the Semiscale Relief Valves was completed. Three deficiencies were noted and parts placed on order to correct these deficiencies, with mid to late September delivery dates for these parts. The overhaul of the makeup pumps was successfully completed. Primary and secondary heat exchangers were hydrostatically tested satisfactorily. Work on the air-operated valves was deferred until early September due to manpower requirements to support SWR work for the PL-Series modifications.

A preliminary instrumentation list for Tests S-PL-1 and S-PL-2 was received August 25, 1982, which has allowed work to begin on installed needed instrumentation.

Review of SO and CC Test Procedures, written by Technical Support has begun. Test Enginering wrote a SC Test to obtain characterization data on the existing High Pressure Injection System (HPIS) and Low Pressure Injection System (LPIS) pumps and this SC Procedure is currently being reviewed.

Test Engineering wrote a revision to Standard Practice 1.12, Semiscale Experiment Data Report, to define placement of EDR data on "Data Bank." This is presently in review.

b. Released SO test procedure for intact loop pump peripheral equipment.

Routed SC test procedure for high speed pump R' determination for review and approval.

Released SWR package to relocate the intact loop pump suction drain valve. The ECC line will be capped.

Completed the installation of high speed intact loop pump, pump support stand and sliding base, and peripherals.

Completed preparation of SO test procedure for the modified hot water makeup system and initiated the formal review and approval process.

3E. Summary of Work Performed in August 1982 (Continued)

Fabrication and installation of the steam generator relief valve modifications is approximately 90 percent complete.

Prepared draft of the steam generator relief valve SO test procedure for review prior to issue.

Designed a support for the pressurizer internal thermocouple rake.

Initiated design for instrument air supply connections to operate valves in the steam generator relief pressurizer and upper head vent systems.

Located the compact condensing system in the position used for the upper head vent system and will plumb the PORV line or UHV line to the condensing coil depending on the test being run. This modification to the design will save time and cost by not having to move the condensing system between tests.

Released the electrical SWR package and drawings required for final hook-up of the intact loop pump, peripherals and control system.

Provided engineering support for the four electrical SWR packages for which work is currently in progress. Crafts work for these four pump SWR's is in varying stages of completion, and is projected to be completed by mid-September.

Issued SWR and drawings for electrical work on the steam generator relief valve sub-system.

Prepared and released two new engineering procedures to perform electrical checkout of the new high speed pump control chassis and display chassis. Performed bench tests on the new chassis.

F. 419100000 - Natural Circulation Test Series

1. 419519600 - EP&A Posttest Analysis of NC Series

All work by EP&A is finished on the Natural Circulation Topical Report. Galley proofs are presently in preparation. The report is expected to be totally finished and distributed within the next 3 to 4 weeks.

3F. Summary of Work Performed in August 1982 (Continued)

Prepared and delivered an overview presentation on WRVLIS performance in Semiscale for Westinghouse personnel interested in Reactor Vessel Level Measurement Techniques applied at INEL.

G. 41B110000 - Feed and Bleed Experiment

1. 41B118100 - Feed and Bleed Experiment Analysis

Semiscale EP&A has coordinated a multifaceted analysis of primary feed and bleed cooling in PWR-type systems. An analysis report was 95% at month's end that incorporates a basic analysis of feed and bleed, Semiscale test results, RELAP5 predictions of the Semiscale results, and large plant calculations made with RELAP5.

RELAP5/MOD1 calculations of the system response in Test S-SR-2 were completed and documented. Baseline calculations, in which all system boundaries except the pressurizer walls were adiabatic, showed substantial agreement with the major test results, including the sensitivity of break flow quality and pressurizer collapsed liquid level to hot leg voiding. Further RELAP5 calculations using mechanistic heat transfer modeling at the primary and secondary system boundaries were used to determine the calculated system sensitivity to heat loss.

In addition, RELAP5 models of the Semiscale Mod-2A and ZION pressurizers were constructed and parametric studies were performed to determine the influence of pressurizer nodalization density, heat loss, surge line resistance, and PORV modeling schemes on the thermal hydraulic responses of the respective pressurizers. The results of these parametric studies were used as the basis for the pressurizer modeling scheme used in the system calculations. The Semiscale system calculations, as well as the pressurizer parametric studies are now being documented in a report on "Feed and Bleed" Recovery procedures.

Transmitted a letter report on results of S-IB-SO-2 to EP&A Branch Manager for review.

2. 41B118103 - Tests S-IB-SO-2, S-SR-1, S-SR-2

Work continued on preparation of an EDR to report data from Tests S-SR-1 and S-SR-2. Graphics is preparing figures, Word Processing is working on portions of the Tables and Text, and Data Processing is preparing plots of Data.

3. Summary of Work Performed in August 1982 (Continued)

H. 9D080000 - Semiscale Equipment

1. 9D0810500 - SAW Loop Upgrade

The hydrostatic test of existing construction was not accomplished due to lack of available Crafts.

2. 9D0820100 - Piping Spool Pieces

Completed the modification of piping spool PC-16 to incorporate an ECC port connection, and completed rework of pump suction spool PC-15 to shorten by approximately 1-1/2 inches (field fit modification).

All work on this activity is now complete, and it will be dropped from future reports.

3. 9D0820200 - Pressurizer Vessel

Completed fabrication of the vessel for leak testing the pressurizer thermal liner.

Completed successful hydrotest of the thermal liner mockup to 2800 psig for ten minutes with no leakage detected on the subsequent helium leak check.

Fabrication of the thermal liner is in progress with a projected completion date of September 7, 1982.

Completed rework of Rocky Mountain Nuclear hub on one end of pressurizer body to remove damaged area from the sealing surface.

Completed installation of the pressurizer support stand.

Completed preliminary drafts of 50% of the CC and SO test plans for pressurizer related piping systems, and control systems.

Finalized the design of the pressurizer missile shield.

Provided engineering assistance on SWR's for pressurizer display chassis modifications and pressurizer electrical interconnection package. Performed bench checkout on the display chassis, control chassis, and external heater chassis.

3H. Summary of Work Performed in August 1982 (Continued)

Provided engineering followup and assistance on subcontracts for A/T/S chassis and pressurizer external heater power supply. Performed source inspection and received the A/T/S chassis from the supplier.

Prepared three new engineering procedures to check out the pressurizer display chassis, pressurizer control chassis, and pressurizer external heater control chassis.

4. 9D0820600 - Intact Loop Pump

a. K-4669 Spare Intact Loop Pump - Associated Machine

Government furnished material was received by the vendor. Vendor furnished material has been ordered. Fabrication will begin next month, after approval of the manufacturing planning.

b. K-4666 Pump Motor Stator - Welco Industries

This subcontract is 80% complete, and the hardware is scheduled for shipment next month.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

A. 412100000 - Special Projects

1. 412123300 - Special Projects--Engineering

Complete installation drawings for high speed pump seal cooling circulating pump and filter.

Issue revised drawing of high speed pump seal coolant circulating pump.

Revise the drawing of cooled thermocouple pitot tube rake.

Discuss alternative encapsulated source and detector design concepts for the low energy vessel densitometer system with both FIST and Semiscale personnel for review and approval.

5. Summary of Work to be Performed in September 1982 (Continued)

B. 413100000 - Steamline/Feedline Break Tests

1. 413111100 - Steamline/Feedline Break Series

The Quick Look Report for Tests S-SF-4 and 5 will be completed and distributed.

2. 413111130 - RELAP5 Posttest Documentation--Feedwater

The report documenting the RELAP5 posttest analysis of Tests S-SF-1, 2, and 3c will be published.

3. 413111135 - RELAP5 Posttest Documentation--Steamline

Posttest RELAP5/MOD1 calculations of Tests S-SF-4 and 5 will be completed. A draft report documenting these calculations will be written. This task will culminate with the publication of a document which assesses the capability of RELAP5/MOD1 to calculate the system thermal hydraulic responses to steam generator steamline breaks.

4. 413113110 - EDR for S-SF-1, 2, and 3C

Continue work on preparation of this EDR with a Technical Editing scheduled date of publication on September 22, 1982.

5. 413133150 - EDR for S-SF-4 and 5

Continue work on preparation of this EDR with a target date of September 20, 1982 for submitting material to Technical Editing.

C. 414000000 - Level of Effort

1. 414123100 - Semiscale Engineering--Level of Effort

Place order for the new (higher rate) bearing pre-load spring for high speed pump.

Issue SWR package to fabricate six drag transducer port plug assemblies.

Provide engineering followup to fabricate stainless 3-inch spool PC-12A to replace the existing carbon steel spool.

5C. Summary of Work to be Performed in September 1982 (Continued)

2. 414136500 - Mechanical Instrumentation

Continue to provide mechanical instrumentation services during the PL-Series shutdown. The month will be used in re-instrumenting the Loop, with major emphasis on the new pressurizer.

3. 414148100 - DAS & DDAPS Operation

Begin labeling of loop isometric drawing showing instrument port locations.

D. 415100000 - Post Intermediate Break Test Series

1. 415119700 - Post S-IB Series Analysis

Present comparison of results of S-IB-3 and LOBI B-R1M experiments to ISPRA representatives. Continue posttest analysis and TRR preparation with target for completion of mid October.

2. 415119730 - Post S-IB Series Analysis

The RELAP5/MOD1.5 (ZELAP) assessment calculation for Test S-IB-3 will be completed and documented. A fuel rod sensitivity calculation using the LOBI heater rod geometry will be completed and documented. RELAP5 calculations will be made to assess the effects of imbalanced steam generator operation in Test S-IB-3.

E. 416100000 - Loss-of-Offsite Power Test Series

1. 416119800 - Loss of Power--Pre-Series

Issue the Series EOS for WRRTFD and DOE review. Complete detailed requirement definition for SC tests. Transmit the RDD to the EP&A Branch Manager.

2. 416119900 - Test Support

Prepare first draft of EOS Appendices for PL-1 and PL-2 and submit for Branch review. Complete all pretest calculations for PL-1 and PL-2. Continue pretest calculations for remaining 5 experiments. Provide test support for SO/SC testing and preparation for PL-1.

5E. Summary of Work to be Performed in September 1982 (Continued)

3. 416123700 - Loss-of-Offsite Power--Hardware Mods

Conduct SO test of pump peripherals.

Prepare and release as-built drawing of pump peripherals.

Issue SO test procedures for hot water makeup and steam generator relief system modifications.

Complete installation of steam generator relief system modifications.

Finalize design for instrument air connections to operate valves in the steam generator relief, pressurizer and upper head vent systems.

Fabricate the support for pressurizer internal thermocouple rake and install in the pressurizer.

Process SWR field change to install pressurizer missile shield.

Prepare SO test procedure for the rupture disc pressurization system used for the pump suction break experiment S-PL-4.

Continue engineering support and field followup on the four pump electrical SWR's and steam generator relief valve SWR.

Issue field change to the upper head vent system SWR to incorporate requirements changes.

Provide electrical engineering support and field followup to install the hot water makeup system electrical hardware/wiring.

Prepare and issue CC and SO test procedure for electrical checkout of the steam generator relief valve system.

4. 416136700 - Power Loss Test Series

Continue to support Crafts in accomplishment of scheduled milestones. Commence SO, CC, and SC testing as needed on new systems as those systems are completed.

Continue preparation of the revision of Standard Practice 1.12, Semiscale Experiment Data Report, following it through appropriate reviews and approvals.

5E. Summary of work to be Performed in September 1982 (Continued)

5. 416148600 - Loss of Power Test Series

a. Complete instrumentation cabling and setup for CC, SO and SC testing and start cabling and setup for the first Power Loss Test.

b. Provide technical assistance to Technical Support Branch for checkout of new process control chassis and equipment.

c. Checkout and begin loading the Semiscale data base measurand book file.

d. A large number of individually small but time and manpower consuming jobs are scheduled. This includes, but is not limited to: calibration of process control transducers and gages; instrumentation of the broken loop pump, intact loop pump, and pressurizer for process control parameters; layout and labeling of experimental instrumentation pit cabling; repair of several defective Bay Lab amplifier racks, signal conditioners and amplifiers.

6. 41711920 - SG Series Pretest Analysis

Pre-series planning for the steam generator tube rupture test series will be initiated.

F. 417100000 - Steam Generator Rupture Test Series

1. 417123100 - Tube Rupture--Hardware Mods

Engineering studies will be started. The initial investigations will focus on two issues: (a) the structural adequacy of the filler pieces, (b) the feasibility of using the U-tube ΔP pressure ports as a primary to secondary blowdown path. This item was scheduled to start in August, but was delayed due to higher priority work.

G. 419519600 - EP&A Posttest Analysis of NC Series

The NC topical will be completed and distributed.

H. 418118100 - Feed and Bleed Experiment Series

1. 418118100 - Feed and Bleed Experimental Analysis

The analysis report on feed and bleed cooling will be completed and distributed.

5H. Summary of Work to be Performed in September 1982 (Continued)

2. 41B118101 - S-IB-SO-2 Support

Transmit a summary letter of results of S-IB-SO-2 to DOE.

3. 41B118103 - Tests S-IB-SO-2, S-SR-1, S-SR-2

Continue work on preparation of the EDR to report Tests S-SR-1 and S-SR-2. The target date to submit this material to Technical Editing is September 27, 1982.

I. 9D0800000 - Semiscale Equipment

1. 9D0810500 - SAW Loop Upgrade

Depending on Craft availability, work will continue to hydrostatically test the first major portion of the upgrade.

2. 9D0820200 - Pressurizer Vessel

Complete leak testing of thermal liner and install liner into the pressurizer assembly.

Complete the preparation and issue of CC and SO test procedures for the pressurizer components/system.

Document the design and issue SWR package for the fabrication and installation of pressurizer missile shield, and complete the installation.

Complete the installation of pressurizer and related systems (vessel, relief line, and surge and spray lines).

Initiate CC testing of pressurizer components and subsystems.

Provide electrical engineering support and field followup on the five pressurizer SWR's currently being worked by the crafts.

Obtain final approval of electrical CC and SO test procedures, and release to the field.

Release engineering procedures for the pressurizer display chassis, control chassis and external heater control chassis.

Complete and issue as-built drawings for pressurizer control chassis and pressurizer external heater control chassis.

51. Summary of Work to be Performed in September 1982 (Continued)

3. 9D0820600 - Intact Loop Pump

a. K-4669 Spare Intact Loop Pump - Associated Machine

Receive and review the manufacturing plan; transmit EG&G engineering comments to the vendor.

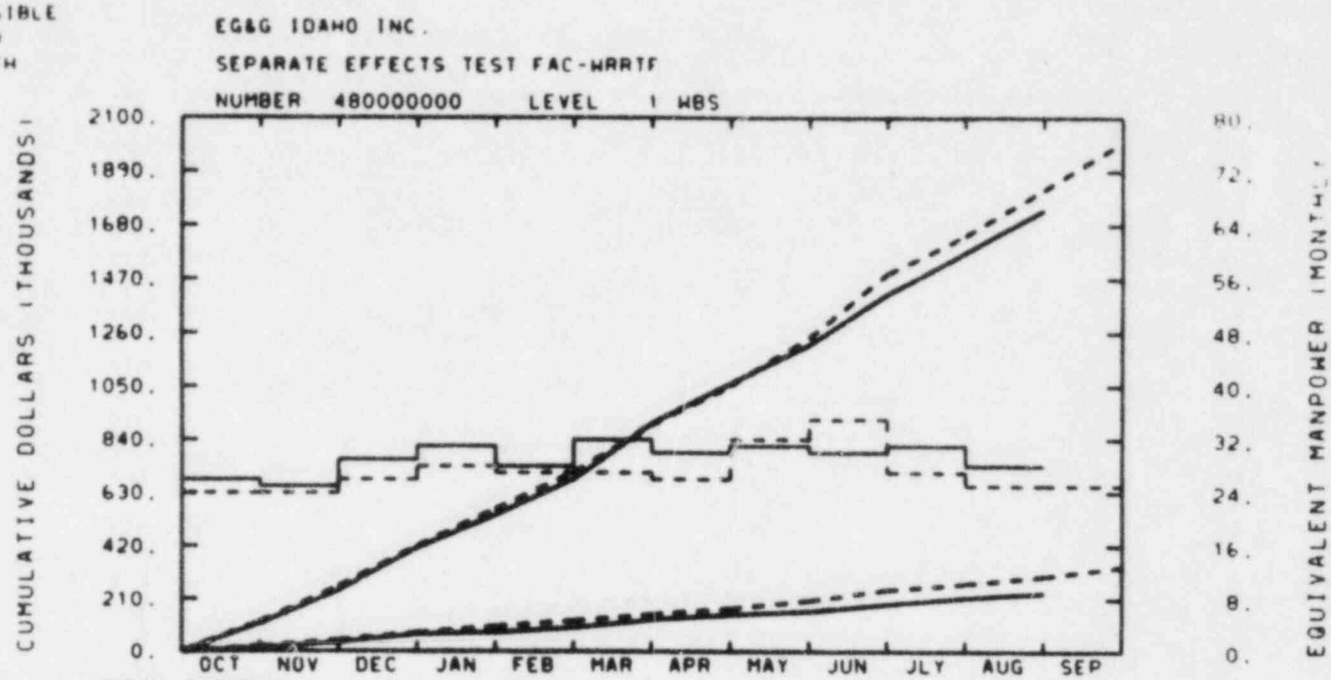
b. K-4666 Pump Motor Stator - Welco Industries

Receive and inspect the motor stator.

6. Problems and Potential Problems

None.

RESPONSIBLE MANAGER
P. NORTH



TOTAL PROGRAM

BUDGET	119	261	420	566	710	898	1052	1242	1490	1639	1819	2003
ACTUAL	112	244	414	542	684	904	1062	1214	1411	1573	1740	

MATERIAL

BUDGET	21	46	75	102	124	149	173	205	248	272	301	339
ACTUAL	15	36	69	77	96	127	148	162	190	216	235	

MANPOWER

BUDGET	24	24	26	28	27	27	26	32	35	27	25	25
ACTUAL	26	25	29	31	28	32	30	31	30	31	28	

BUDGET - - - - - -
ACTUAL ———

A6043 (LOFT Test Support Facility Portion)

YTD VARIANCE: 79 (4%)

The year-to-date underrun of $79K is due to $15K underrun in labor and $64K underrun in material purchases. The labor underrun is caused by a rate differential. The material underrun is caused by a work scope change from Flow Regime to Candy Cane and back to Flow Regime causing material purchases to be curtailed. In addition, the scope change caused a five week schedule slip. The underrun is projected to increase to an estimated $100K to be carried over into FY-1983.

1. 189a A6043 - Thermal-Hydraulic Experiments Facility

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

A. 481000000 - THEF Test Projects

1. 481100100 - Planning and Supervision

Reviewed and statused test project budget and schedule. Participated in proposal preparation for and discussions with Shell Development Company representatives concerning two-phase flow split experiments.

2. 481101100 - Two-Phase Regime and Critical Flow Study

Two-phase flow regime work was temporarily halted and then reinstated by directives from the NRC. Work is underway to recover from these actions and prepare the facility for testing. A redirection of test objectives was also requested by the NRC and work is in progress to rewrite the EOS. A recovery plan was prepared which shows the start of testing around November 1.

3. 481100300 - Two-Phase Flow Loop Characterization

Completed analysis of data from the system characterization tests conducted in the Two-Phase Flow loop under single phase operating conditions. Prepared a detailed report and submitted for review.

4. 481101500 - Candy-cane Bubble Dynamics

At the request of the NRC a study has been undertaken to evaluate the need for, and possible test matrix for tests in THEF that will study bubble behavior in a piping configuration typical of a B&W plant hot leg. The first stage of the study involved analyzing potential flow-stalling scenarios with respect to pressure/temperature response, and delineation of phenomena important to vapor condensation.

3A. Summary of Work Performed in August 1982 (Continued)

5. 481202010 - THEF Engineering

Provided engineering support on the Post-CHF testing. Mechanical and electrical modifications were completed to (a) improve the densitometer measurement, (b) improve uniformity of test section heat input.

Work was resumed on the two-phase loop upgrade.

Completed preparation of CC test procedure for two-phase loop makeup system. Procedure is in final review prior to issue.

B. 481301000 - Operations Test Projects

1. 481301009 - Operations Post CHF

Testing, using shift work, continued through the month of August. The following test related problems occurred during the month, but resolution was accomplished.

- The Surge Tank developed a gasket leak. The gasket was replaced to allow continued testing.
- The Steam Aspirator Probes failed and were replaced. This caused a delay due to difficulty in getting replacement thermocouples.
- Two rods failed in the Warm-up Heater Rod Bundle. Rods were replaced and testing continued.
- The plugs in the aspirator vent valves twisted off in the seats, requiring new plugs. The plugs were fabricated in the TAN shops, installed, and checked out.
- The Densitometer continued to be a problem with new brackets and braces being made for the tube. This work continues with the Densitometer measurement still being uncertain.

Despite the noted problems, test runs number 111 through approximately 200 will be accomplished during the month of August.

With additional heater rod failures, the loop clean-up and chemistry control is continuing as testing permits.

Post CHF testing should be completed August 27, 1982.

3B. Summary of Work Performed in August 1982 (Continued)

2. 481301011 - Two Phase Flow Regime Testing

The makeup pump hydrostatic test and work package was completed.

Work on the Test Operative Procedure (TOP) will begin as Post CHF testing is completed.

C. 481401000 - DAS Test Projects

1. 481401009 - Post CHF Test

Maintained and operated the data acquisition system and maintained the Blowdown Loop control system during Post CHF testing.

2. 481401011 - Two-Phase Regime Studies

No progress.

3. 481402010 - DAS Facility Maintenance

a. No work accomplished on installing software into the Data Reduction System (DRS) computer. Job remains 90% complete. Work will continue when Post CHF testing is completed.

b. Installed one-inch turbine with tungsten-carbide bearings in the Blowdown Loop. Turbine still operating at 120 hours of run time.

c. Two Phase Flow Loop graphics display system had no progress due to lack of software support.

d. Modification of level measurement on two phase steam tanks is 5% completed.

D. 48199AA00 - Nine Rod Quench Tests

No work was performed on this task. The final report has been reviewed and comments will be incorporated in September.

E. 5J1251200 - Post-CHF Heat Transfer Tests

Densitometer mounting brackets were modified and reinstalled and operation was continued with upper test section power connection modifications. Testing is scheduled for completion on September 1. Prepared an abstract for a paper to be presented at the ASME-JSME Thermal Engineering Joint Conference and submitted for review and consideration.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

A. 481100000 - Planning and Supervision

1. 481100100 - Planning and Supervision

Review and status test project budget and schedule. Participate in FY-83 planning. Review the nine rod-bundle experiment NUREG and Two-Phase Loop System Characterization reports.

2. 481101100 - Two-Phase Regime and Critical Flow Study

Assembly of the two-phase flow loop should be nearly completed by the end of September. SO test procedures will be written and reviewed. Changes to the EOS will be written and submitted for review.

3. 481100300 - Two-Phase Loop Characterization

Complete incorporation of review comments for the System Characterization report and submit for final approval.

4. 481101500 - Candy-cane Bubble Dynamics

An evaluation of candy-cane bubble dynamics and possibly a proposal for testing will be submitted for review and transmittal to the NRC.

5. 481202010 - THEF Engineering Support

Prepare CC and SO test procedures for two-phase loop upgrade and critical flow tests.

Provide engineering support for installation and hydrotesting of the two-phase loop and critical flow test system.

Provide engineering support to follow the electrical checkout of the makeup pump for the two phase loop. Document the installation by as-building drawings to show electrical installation.

Continue work on preparation of the Test Operating Procedure (TOP). Continue support of assembly of the Test Loop.

5A. Summary of Work to be Performed in September 1982 (Continued)

6. 481401009 - Post CHF Test

Complete support of Post CHF testing and release Preliminary Data Report.

7. 481401011 - Two Phase Regime Studies

Continue software implementation on the DRS computer and the Two Phase graphics display system.

B. 48199AA00 - Nine-Rod Quench Tests

Complete incorporation of review comments, final graphs, and submit the NUREG for approval and signatures.

C. 48199AD00 - L5-1 Analysis/Report

The EDR for tests conducted on the LOFT L5-1 break spool drag disk rake will be prepared and submitted for first reviews.

D. 5J1251200 - Post-CHF

Testing will be completed and analysis of data will be initiated. A presentation on preliminary results will be prepared and delivered to LOFT/WRRTFD personnel.

6. Problems and Potential Problems

None.

MONTHLY REPORT FOR

AUGUST 1982

THERMAL FUELS BEHAVIOR PROGRAM

W. A. Spencer, Manager

T. A. Olsen by Ben [illegible]

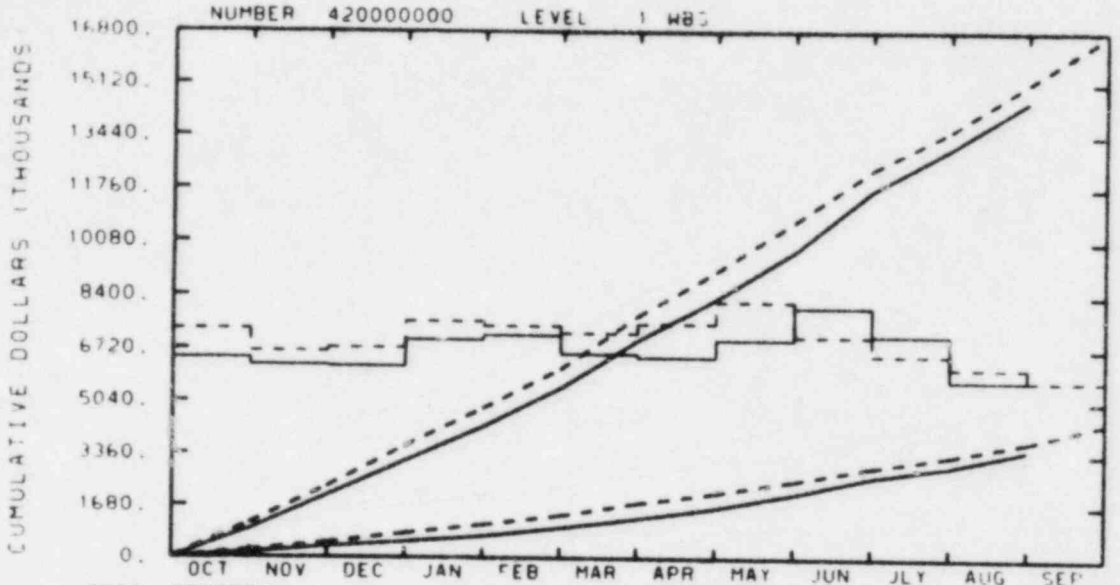
T. A. Olsen
Plans and Budget Representative

RESPONSIBLE MANAGER
W. A. SPENCER

EG&G IDAHO INC.

TFBP PROGRAM

NUMBER 420000000 LEVEL 1 WBS



TOTAL PROGRAM

BUDGET	1110	2297	3598	4819	6093	7767	9157	10713	12377	13622	15155	16710
ACTUAL	918	2012	3120	4220	5470	7003	8301	9779	11712	13056	14567	

MATERIAL

BUDGET	237	488	792	1072	1369	1771	2099	2498	2943	3320	3787	4390
ACTUAL	162	358	518	701	974	1275	1620	2074	2616	2981	3520	

MANPOWER

BUDGET	201	192	185	208	204	198	206	225	195	179	168	157
ACTUAL	176	170	169	192	196	180	177	192	220	196	157	

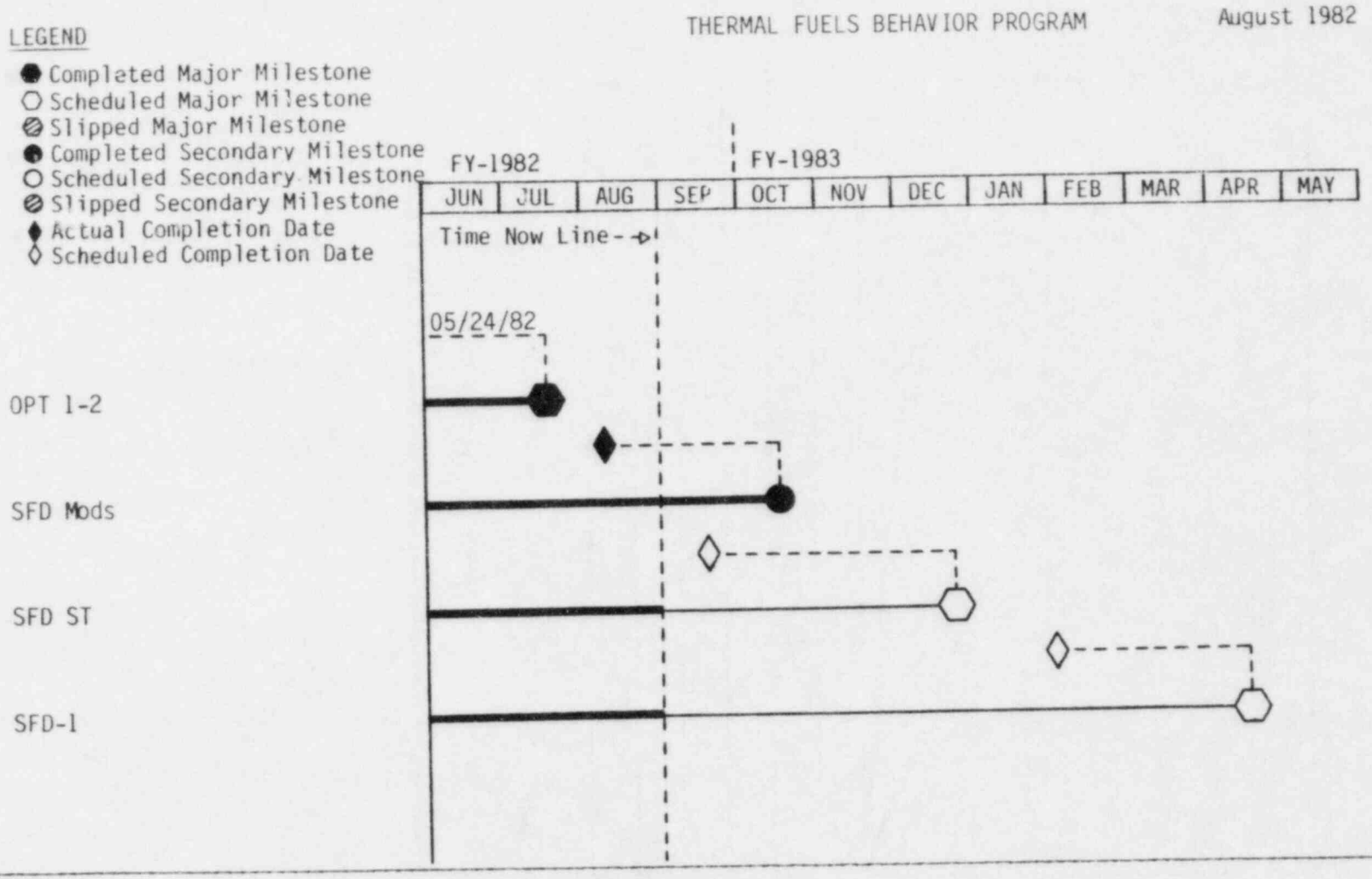
YTD VARIANCE: 588 (4%)

Individual cost graphs will give individual explanations.

Explanations for major 189's will be made if the variance exceeds $25K. Minor 189 graphs will explain variance of over $10K.

The approved baseline budget is $16,710K shown, however, actual FY-1992 funding is $16,222K. The spending rate is consistent with the authorized funding.

THERMAL FUELS BEHAVIOR PROGRAM August 1982



NOTES: SFD Mod "installations" were completed August 6, 1982.

PROGRAM MANAGER'S

SUMMARY AND HIGHLIGHTS

System Operational (SO) testing of the new plant modifications for the Severe Fuel Damage (SFD) Test Series continued. The test train for the Scoping Test was installed in the in-pile tube. Hydrostatic pressure testing revealed some leakage, and the test train was removed to repair the problems. Testing will resume with the experiment to follow as soon as proper operation is verified.

The Fission Product Detection System upgrade for the SFD tests was completed, except for the SO testing. The upgrade, which incorporates three gamma spectrometers and five gross radiation monitors, will allow the time-dependent measurement of short-lived fission products released to the steam and water coolant during the tests. These data will aid in the evaluation of fission product source terms for severe accidents.

Visual examination of the OPTRAN 1-2 rods was completed with no abnormalities noted in the experimental rods. The failure detected by the fission product detection system was confirmed to be in the cladding of the heater rods.

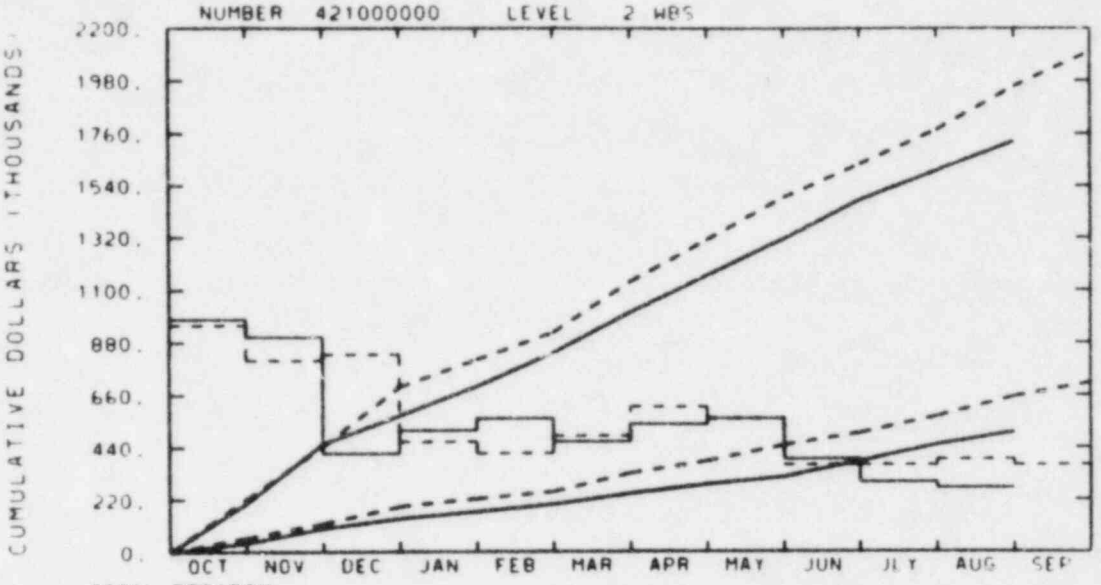
Program funding is tracking properly toward the total allowed by available funding. Work has been initiated to identify the costs associated with changes to the fission product sampling system discussed with NRC representatives during their July visit.

RESPONSIBLE MANAGER
P. E. MACDONALD

EG&G IDAHO INC.

TFBP EXPER DESIGN & ANALYSIS

NUMBER 421000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	220	445	693	809	922	1134	1310	1490	1631	1776	1956	2100
ACTUAL	203	455	575	696	837	1006	1161	1315	1479	1605	1728	

MATERIAL

BUDGET	60	121	191	223	253	332	383	449	500	572	656	712
ACTUAL	38	100	140	169	200	245	285	315	381	452	506	

MANPOWER

BUDGET	39	33	34	19	17	20	25	23	15	15	16	15
ACTUAL	40	37	17	21	23	19	22	23	16	12	11	

A6041

YTD VARIANCE: 228 (21%)

This 189 will be closed out at fiscal year-end. No underrun is anticipated.

1. 189a A6041 - Experiment Design & Analysis

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

a. Power-Cooling-Mismatch Test Series

The Test PCM-7 Fuel Rod Materials Behavior Report was revised on a limited basis as time permitted.

b. Operational Transient (OPTRAN) Test Series

All of the Test OPT 1-2 fuel rods were visually examined at the hot cell. Failure of the heater rods due to cladding melting occurred, although the rods appeared to be intact.

c. Loss-of-Coolant Accident Test Series

Review of the Test LOC-6 Fuel Rod Behavior Report has been delayed.

d. Reactivity Initiated Accident Test Series

The Test RIA 1-4 Fuel Behavior Report was retyped.

e. Zircaloy Oxidation Embrittlement Topical Report

The Zircaloy Oxidation Embrittlement Report was published.

f. Fission Product Behavior Research

The Thermal Reactor Safety Meeting paper on fission product release from past tests was completed.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

a. Power-Cooling-Mismatch Test Series

The Test PCM-7 Fuel Rod Materials Behavior Report will be revised as time permits.

5. Summary of Work to be Performed in September 1982 (Continued)

b. Operational Transient (OPTRAN) Test Series

Visual examination of the Test OPT 1-2 fuel rods will be completed. Preparation of the Test OPT 1-1 Fuel Behavior Report will be initiated.

c. Loss-of-Coolant Accident Test Series

Review of the Test LOC-6 Fuel Rod Behavior Report is still pending.

d. Reactivity Initiated Accident Test Series

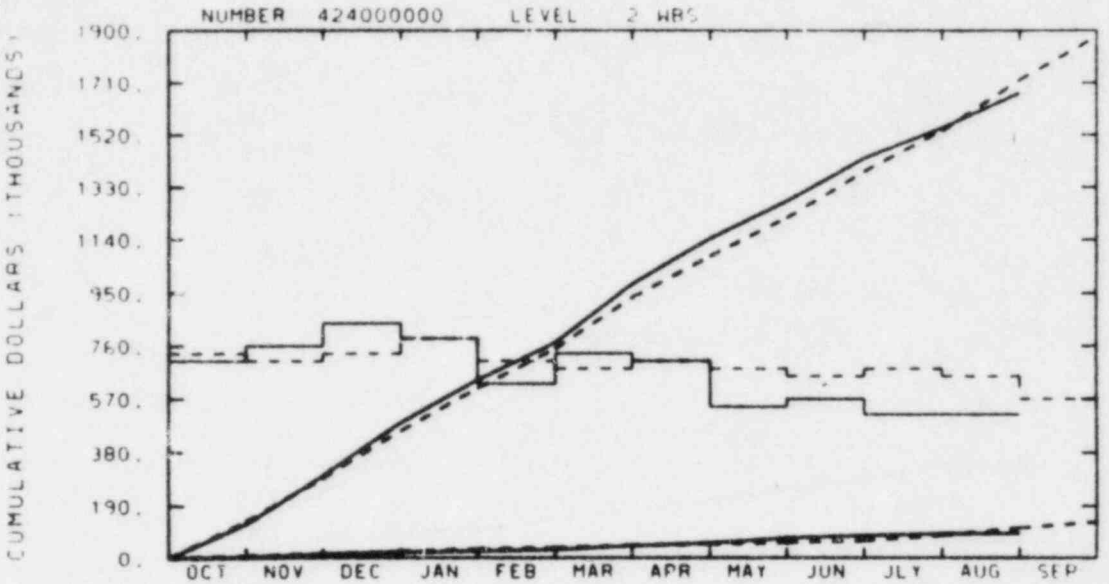
The Test RIA 1-4 Fuel Behavior Report will be reviewed by management.

6. Problems and Potential Problems

None.

RESPONSIBLE MANAGER
C. P. KESTER

EG&G IDAHO INC.
PBF ENGINEERING
NUMBER 424000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	135	288	456	609	750	933	1079	1218	1386	1534	1720	1877
ACTUAL	125	297	486	638	772	982	1143	1279	1435	1545	1673	

MATERIAL

BUDGET	7	16	25	33	38	47	52	57	64	84	110	132
ACTUAL	4	15	22	26	31	45	55	74	82	90	90	

MANPOWER

BUDGET	27	26	27	29	26	25	26	25	24	25	24	21
ACTUAL	26	28	31	29	23	27	26	20	21	19	19	

BUDGET
ACTUAL

A6044

YTD VARIANCE: 47 (3%)

The 3% underrun is primarily a result of allocating an additional $50K to the budget to allow repair of the loop pump. Time-phasing of these pump funds has not been incorporated in the budget. A CCB (82-59) returning $6K to the Management Reserve to account for reduced scope on the liquid nitrogen system modification has been approved but is not reflected in the budget figures. Some underrun at year-end is expected in the Response Upgrade Items, primarily in the safety analysis area. September costs are expected to increase somewhat as a reflection of final SFD Mod test closeout.

1. 189a A6044 - PBF Design Engineering

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

a. Severe Fuel Damage (SFD) Modifications

Component checkout was completed and System Operational (SO) testing of the Shroud Pressurization Systems and the Emergency Quench System was completed. SO testing of the Sample System was started. Except for minor control valve rework required on the Sample System, test results to date have shown that the new systems meet all design requirements.

b. Liquid Nitrogen Supply for the Reactor Building

Checkout of the interim system was completed and has demonstrated acceptable operation.

c. PBF Spare Loop Pump Repair

Repair efforts included the machining of weld qualification specimens, removal of the rotor and stator cans, and completion of the design for fixtures that are required for currently identified operations.

d. SFD Steam Sample Box Blower

Design of a blower system was completed to provide cooling and dilution of potential hydrogen release in the steam sample containers (bombs) which are housed in a shielded box. Installation was started.

e. Technical Specification

The revised canal fuel handling limits were approved by DOE-ID and issued as Revision 43 of the PBF Technical Specification.

The upgraded neutron fluence limits and loop water chemistry requirements are in review by DOE-ID. When approved, these limits will be implemented as Technical Specification, Revision 44.

The Technical Specification revisions for the Severe Fuel Damage Test Series are in review by DOE-ID. When approved, this will be issued as Revision 45.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

a. Severe Fuel Damage Modifications

The System Operational tests will be completed and the new system will be certified as operational for performance of the SFD-Scoping Test.

b. PBF Spare Loop Pump Repair

Welder qualification for the can-to-rotor and can-to-stator welds is scheduled to be completed. Weld preparations on the rotor will be machined. Delivery of the replacement cans is anticipated near the end of the month.

c. SFD Steam Sample Box Blower

Installation of the blower system will be completed.

d. SFD 1-1 Low Bundle Flow Inspection Pump

Preliminary design will be started for a low flow (0.005 to 0.033 gallon per minute) injection system to provide coolant to the SFD 1-1 experiment bundle. The new system is required to meet the much lower inlet flow rate currently anticipated for the second SFD test.

e. Technical Specifications

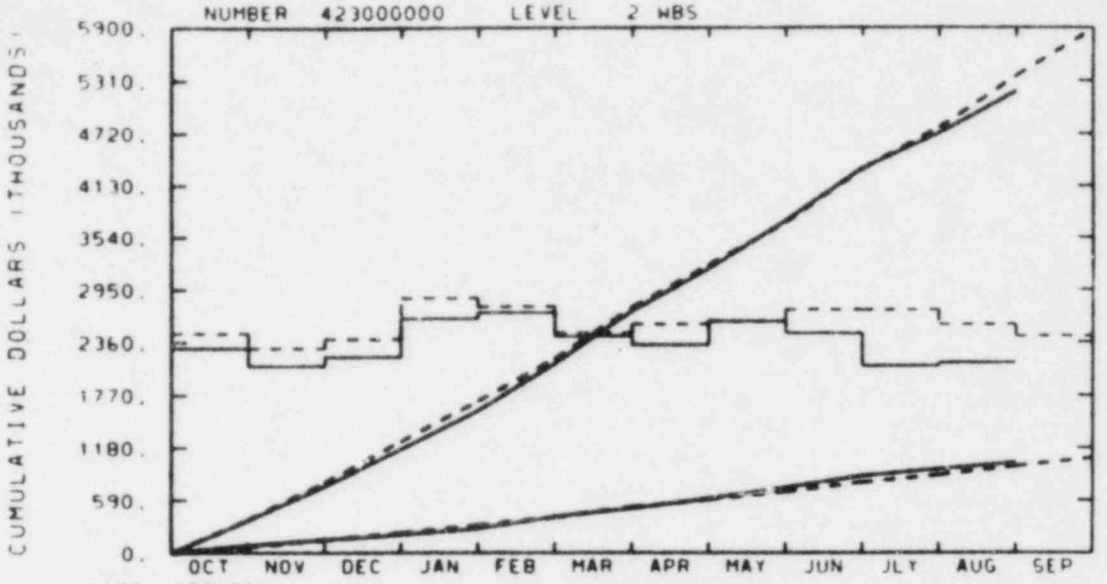
Revisions 44 and 45 of the Technical Specifications will be issued prior to SFD Scoping Test startup (see paragraph 3.e on previous page).

6. Problems and Potential Problems

None.

RESPONSIBLE MANAGER
C. O. DOUCETTE

EG&G IDAHO INC.
PBF OPERATIONS
NUMBER 423000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	372	789	1250	1705	2172	2745	3224	3708	4316	4787	5363	5887
ACTUAL	365	746	1161	1595	2122	2705	3186	3727	4326	4722	5194	

MATERIAL

BUDGET	68	144	228	314	401	511	598	686	791	872	972	1065
ACTUAL	85	151	205	272	405	499	607	731	866	940	1013	

MANPOWER

BUDGET	75	70	73	87	84	75	78	79	83	83	78	74
ACTUAL	70	64	67	80	82	74	71	79	75	64	65	

A6057

YTD VARIANCE: 169 (3%)

The $169K underrun is due primarily to $85K worth of requisitions written but not yet costed. Also, approximately $24K of the underrun is because of G&A savings. The month of September's expenditure rate is expected to increase due to overtime in preparation of running the Severe Fuel Damage Scoping Test.

1. 189a A6057 - PBF Operations

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

a. PBF Plant Operations

The work performed during this reporting period was primarily directed toward System Operational (SO) testing of the new plant modifications in preparation for performance of the upcoming Severe Fuel Damage Scoping Test (SFD-ST).

SO testing of the Shroud Pressurization System and portions of the Sampling System were completed. Trouble was experienced with the control valves for the separator in the Sampling System. New valve trims are being installed to correct the control problems. Installation of the SFD-ST test train was completed in preparation for the completion of the SFD Modification SO tests and a hydrostatic pressure test was performed. Leakage was detected through a braze plug, an experiment cooling line, and the melt detection cavity sensing tube. Removal of the test train from the in-pile tube was completed to repair the leaks.

The Instrument and Data Section completed calibration of the SFD-ST instrumentation in support of the SFD Modification SO tests. Plant and instrument calibrations in preparation to conduct the SFD-ST are continuing.

b. PBF Operations Support

Preventive Maintenance (PM) examinations for June, July, and August were completed. September examinations have been issued and are scheduled to start during the week of September 6, 1982. In addition, the Reactor Building Leak Rate Test was completed.

In-service inspections completed during this reporting period include the thermal swell accumulator and acoustic filter bolting inspections.

Corrective Maintenance efforts include special handling of radioactive liquid waste, the planning and correction of plant deficiencies, and scheduling and support of SFD Modifications.

3. Summary of Work Performed in August 1982 (cont'd)

b. The SFD Fission Chamber Instrumentation System installation was completed. Data Qualification for the Operational Transient Tests 1-1 (OPT 1-1) and OPT 1-2 is continuing. A final Data Integrity Review Committee meeting was held for OPT 1-1. An Engineering Design File comparing the predicted and actual measurement uncertainties for thermocouples was completed. The Data Acquisition Specification and Data Acquisition and Reductions System directory for the SFD-ST was prepared.

A review meeting was held to complete a final version of the SFD-ST Experiment Operating Procedure (EOP). Comments have been incorporated and final approval will be obtained in early September.

Three new Plant Operating Manual chapters, which incorporate the SFD Modification Systems, have been written and final review approvals obtained.

4. Scheduled Milestones for September 1982

Node	Description	Due Date	Actual Date
N/A	Severe Fuel Damage Scoping Test	12-23-82	

5. Summary of Work to be Performed in September 1982

a. The PM examinations for September will be completed.

b. The Load Test for the Reactor Building 15-ton crane will be completed.

c. The semiannual Silver Zeolite Efficiency Test will be completed.

d. Review and approval of the SFD-ST EOP will be completed.

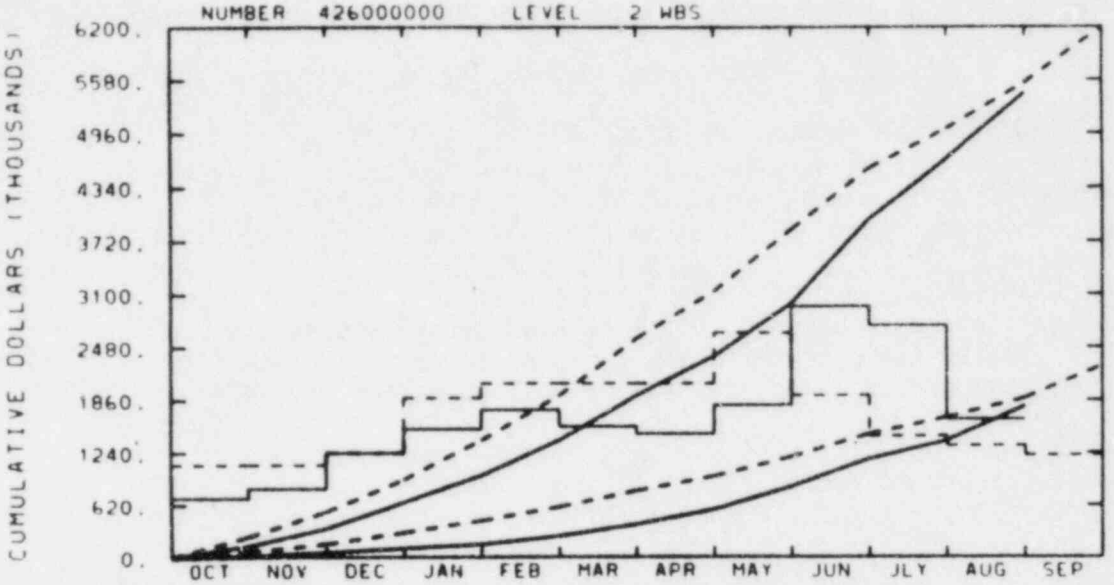
e. The SFD-Scoping Test will be completed.

6. Problems and Potential Problems

None.

RESPONSIBLE MANAGER
B. L. BUESCHER

EG&G IDAHO INC.
SEVERE FUEL DAMAGE
NUMBER 426000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	246	543	927	1388	1914	2583	3136	3855	4558	5007	5541	6191
ACTUAL	139	345	656	973	1387	1913	2378	2993	3974	4662	5426	

MATERIAL

BUDGET	71	159	296	437	601	790	963	1192	1460	1654	1882	2260
ACTUAL	20	58	108	155	251	388	567	841	1169	1380	1788	

MANPOWER

BUDGET	39	39	44	67	73	73	73	94	68	51	47	43
ACTUAL	25	29	44	54	62	55	52	64	105	97	58	

A6305

YTD VARIANCE: 115 (2%)

Outstanding commitments amount to $375.4K of which $230.0K is not expected to be costed during FY-1982. It appears at this time that A6305 will underrun by approximately $400K, which is a necessity due to TFBP funding constraints. (The $6,191K figure represents the baseline budget which is greater than approved funding.)

1. 189a A6305 - TFBP Severe Fuel Damage Studies

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

a. Safety Analyses - Severe Fuel Damage Scoping Test (SFD-ST)

The SFD-ST Experiment Safety Analysis (ESA) was issued as report PR-TF-82-101 dated August 1982. Revisions to the ESA prior to the start of SFD-ST are anticipated.

b. Power Burst Facility (PBF) Power Measurements

Report ED-E3-82-016, July 1982, PBF Chamber Calibration for OPTRAN 1-1 was issued in August 1982.

c. Severe Fuel Damage (SFD) Test 1 Experiment Prediction Analysis

The analysis with low inlet flow continues. Boiling off at 30 kW with an inlet flow of 0.6 g/s results in an initial heatup rate of 2.8 K/s, which is unacceptably high.

d. Severe Fuel Damage (SFD) Test 2 Experiment Prediction Analysis

The TRAC quench analysis has been completed and efforts continue on the TMI-2 analysis.

e. Severe Fuel Damage (SFD) Test 3 and Test 4 Experiment Specification Document (ESD)

Efforts toward setting the fresh rod enrichments continue.

f. Severe Fuel Damage (SFD) Test 1 Experiment Operating Specification

The draft EOS for Test SFD-1 was issued for review.

g. Postirradiation Examination (PIE) and Hot Cell Support

Fabrication of numerous hot cell items for handling SFD assemblies has been delayed somewhat by a high work load at the Test Reactor Area (TRA) shops; some tasks have been shifted to Test Area North (TAN) Manufacturing. After internal review of a conceptual design, final design and

3. Summary of Work Performed in August 1982 (Continued)

g. Postirradiation Examination (PIE) and Hot Cell Support (Continued)

drafting were initiated for the PBF in-canal gross gamma scanner. Neutron radiographs of the SFD mock-up were tomographically reconstructed into a highly satisfactory cross-sectional image. Preliminary discussions were held on developing PIE techniques for characterizing rubble beds and other quench-induced fuel formations. Neutron attenuations measurements at Argonne National Laboratory-West (ANL-W) have confirmed that polyurethane foam could be used to protect delicate SFD and TMI fuel structures during shipment without compromising neutron radiography.

h. Severe Fuel Damage Analysis

Technical editing of the topical report on fuel foaming was resumed.

i. Severe Fuel Damage Fission Product Studies

The fission product detection system (FPDS) upgrade was completed in August. The System Operational (SO) test for the PDP 11/34 - NOVA 4/s part of the system was completed satisfactorily on August 30. The PDP 15 Fabritek Subsystem and the Gross Detector Subsystem SO tests should be completed in early September. The hydrogen monitor was calibrated on August 30.

j. Instrument Development and Fission Chamber

The PBF fission chamber instrumentation hardware has been completed and the software is nearly complete. There are no significant problems. The University of Washington has read the EG&G Idaho tapes from the fission chamber simulator, but have not finished the data analyses.

k. Test Train Assembly Facility (TTAF)

The SFD-ST test train was shipped to the PBF. The preparation of final assembly documentation for the SFD-1 test train continued. The part fabrication and instrument procurement for the SFD-2 test train continued.

l. Phase II Program Development

The Experiment Specification Document (ESD) and Design Basis document for Series 2 test trains are approximately 25% complete. Difficulties encountered in producing the document mainly exist in the area of fission products and aerosols. Development of specifications for upper plenum hardware and materials in the

3. Summary of Work Performed in August 1982 (Continued)

1. Phase II Program Development (Continued)

test train have been delayed due to a lack of basic information about the expected behavior of gases and aerosols in a conventional PWR plant during accidents, and methods of studying these processes in the much reduced scale of PBF experiments.

Physics calculations and thermal calculations are well underway and have already shown that the conceptual design proposed will adequately insulate and power a 28-rod bundle of high burnup BR-3 fuel rods (Eo = 5.7%) together with 4 control rods.

The contract for development of thoria tiles for the conceptual design was received by the Los Alamos National Laboratory Ceramics Division and work has begun.

m. Modifications

Fifty percent of the System Operational Testing for the basic Severe Fuel Damage modifications has been completed. Revisions to the Plant Operating Manuals were completed.

n. Fission Product Signature Analysis

Review of the report on the RFKM computer model continued. The Thermal Reactor Safety Meeting paper on the feasibility of on-line fuel condition monitoring was completed.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

a. Safety Analyses - Severe Fuel Damage Scoping Test (SFD-ST)

Analysis to increase the maximum allowable operating bundle power level during the SFD-ST temperature transient will be completed. Technical support during the test will be provided. Thermal power measurements and chamber calibration will be performed.

b. SFD-1 Safety Analysis

Efforts on the SFD-1 ESA will continue.

5. Summary of Work to be Performed in September 1982 (Continued)

c. Severe Fuel Damage (SFD) Test 1 Experiment Prediction Analysis

Efforts will continue on the analysis of the boiloff and heatup at reduced power to reduce the initial heatup rate to a target of 0.5 K/s.

d. Severe Fuel Damage (SFD) Test 2 Experiment Prediction Analysis

The TMI-2 analysis will continue.

e. Severe Fuel Damage (SFD) Test 3 and Test 4 Experiment Specification Document (ESD)

The Physics analysis used to set the fresh rod enrichments will be completed.

f. Severe Fuel Damage (SFD) Test 1 Experiment Operating Specification

Comments received from the draft review will be incorporated.

g. Postirradiation Examination (PIE) and Hot Cell Support

Fabrication will be completed on most hot cell items for handling SFD assemblies. Drafting of the PBF gross gamma scanner will be finished, a final design review will be held, and fabrication of the housing/collimator will be initiated. A cost and schedule estimate for quenched-structure PIE hardware and development will be prepared. Effects of radiation exposure on polyurethane foam will be assessed to further determine its suitability for preserving irradiated fuel structures during shipping and handling.

h. Severe Fuel Damage Analysis

Processing of the fuel foaming topical report will continue.

i. Severe Fuel Damage Fission Product Studies

The SO tests for the PDP 15 Fabritek Subsystem and the Gross Detector Subsystem will be completed in early September. The FPDS and hydrogen monitor will be used during the SFD-ST.

j. Instrument Development and Fission Chamber

The fission chamber instrumentation will be used during the SFD-ST and test data will be sent to the University of Washington. Personnel from the University of Washington will participate in the preconditioning and transient part of the test.

5. Summary of Work to be Performed in September 1982 (Continued)

k. Test Train Assembly Facility (TTAF)

The final assembly planning for the SFD-ST test train will be completed and the final assembly activities will be initiated. The parts fabrication and instrument procurement activities for the SFD-2 test train will be completed and the final assembly documentation preparation initiated.

l. Phase II Program Development

A draft of the ESD for Series 2 will be submitted for review in late September.

m. Modifications

System operational testing for basic modifications is expected to be complete. Sample bomb handling procedures will be complete.

n. Fission Product Signature Analysis

The informal report on the RFKM model will be published. A letter report on the feasibility of on-line fuel condition monitoring will be completed.

6. Problems and Potential Problems

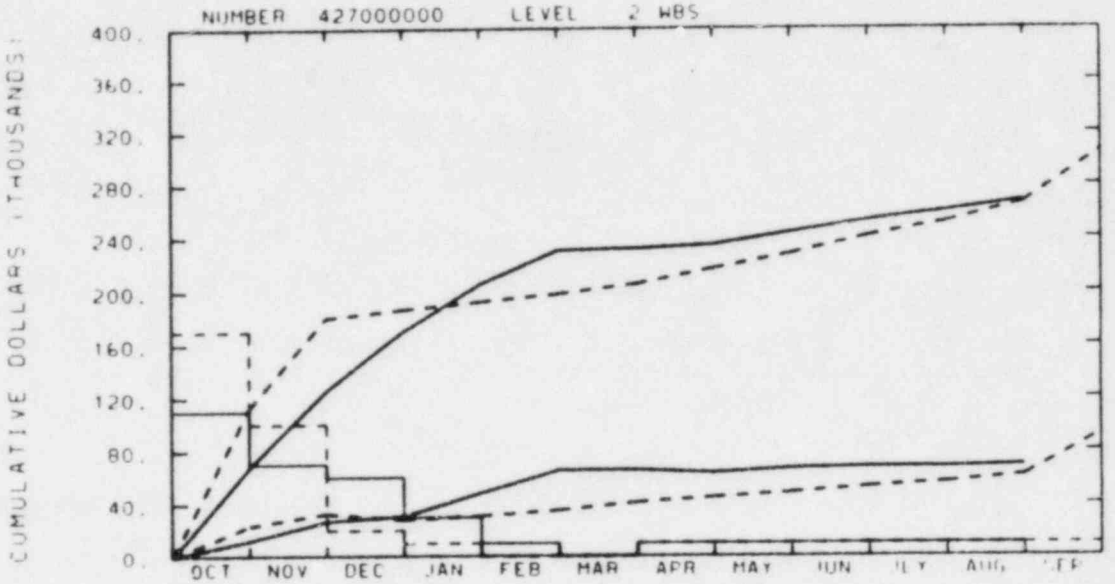
Rerunning the SFD-1 analysis to attain a slower heatup rate will impact the completion schedule and budget.

RESPONSIBLE MANAGER
W. J. REILLY

EG&G IDAHO INC.

CORE MELT MITIGATION SYSTEM

NUMBER 427000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	112	180	187	192	198	205	217	228	241	252	264	[illegible]
ACTUAL	68	125	170	206	230	232	235	244	253	260	268	

MATERIAL

BUDGET	24	33	28	31	35	41	45	48	53	56	61	[illegible]
ACTUAL	12	27	31	48	65	65	63	67	68	68	69	

MANPOWER

BUDGET	17	10	2	1	0	0	1	1	1	1	1	1
ACTUAL	11	7	6	3	1	0	1	1	1	1	1	

A6351

YTD VARIANCE: <2> (1%)

189a A6351

1. 189a A6351 - Core Melt Mitigation

2. Scheduled Milestones for August 1982

None

3. Summary of Work Performed in August 1982

Completed writing of final report.

4. Scheduled Milestones for September 1982

Forward Internal Report on Risk Reduction Studies to NRC (by 9-30-82).

5. Summary of Work to be Performed in September 1982

Complete management reviews on final report, and forward to DOE-ID for transmittal to NRC.

6. Problems and Potential Problems

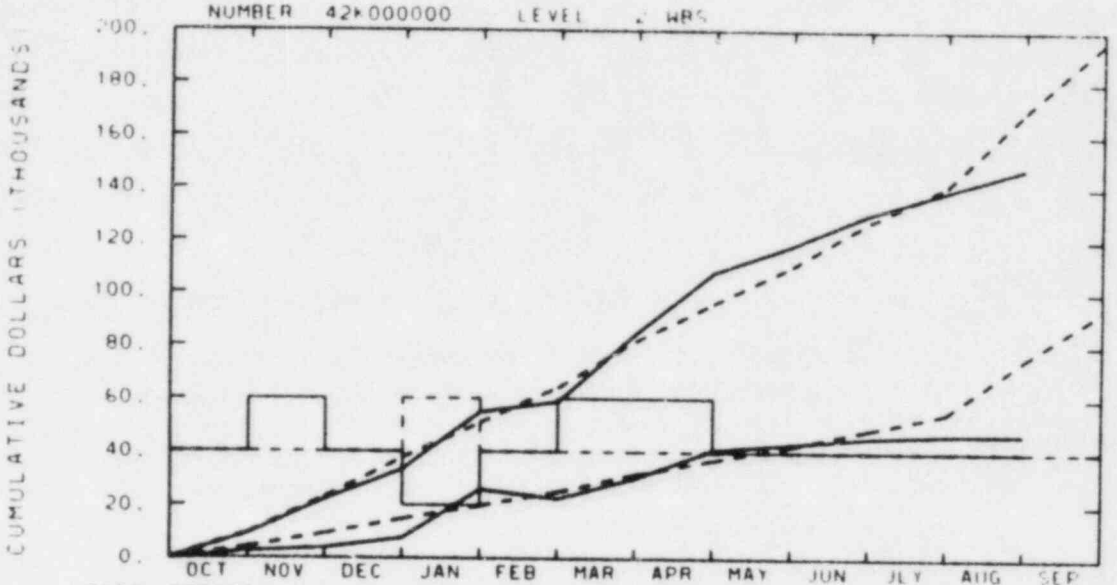
None.

RESPONSIBLE MANAGER
R.R. HOBBINS

EG&G IDAHO INC.

NRC REP TO XFR

NUMBER 42X000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	10	23	38	51	64	82	96	110	127	141	170	196
ACTUAL	9	22	33	55	59	84	108	118	130	139	148	

MATERIAL

BUDGET	4	9	15	20	25	32	37	42	49	55	75	77
ACTUAL	3	4	8	26	23	30	41	43	46	47	47	

MANPOWER

BUDGET	2	2	2	3	2	2	2	2	2	2	2	2
ACTUAL	2	3	2	1	2	3	3	2	2	2	2	

BUDGET

ACTUAL

A6352

YTD VARIANCE: 22 (13%)

The underrun is due to charges not being accumulated for the $20K outstanding on a fuel procurement contract (of which $10K is expected not to be costed during this fiscal year). Also, living expenses for the two foreign representatives were not costed for August.

1. 189a A6352 - NRC Representative to KfK

2. Scheduled Milestones for August 1982

   None.

3. Summary of Work Performed in August 1982

   This task is reported separately in bimonthly reports prepared by the NRC representative to KfK and are transmitted under separate cover.

4. Scheduled Milestones for September 1982

   None.

5. Summary of Work to be Performed in September 1982

6. Problems and Potential Problems

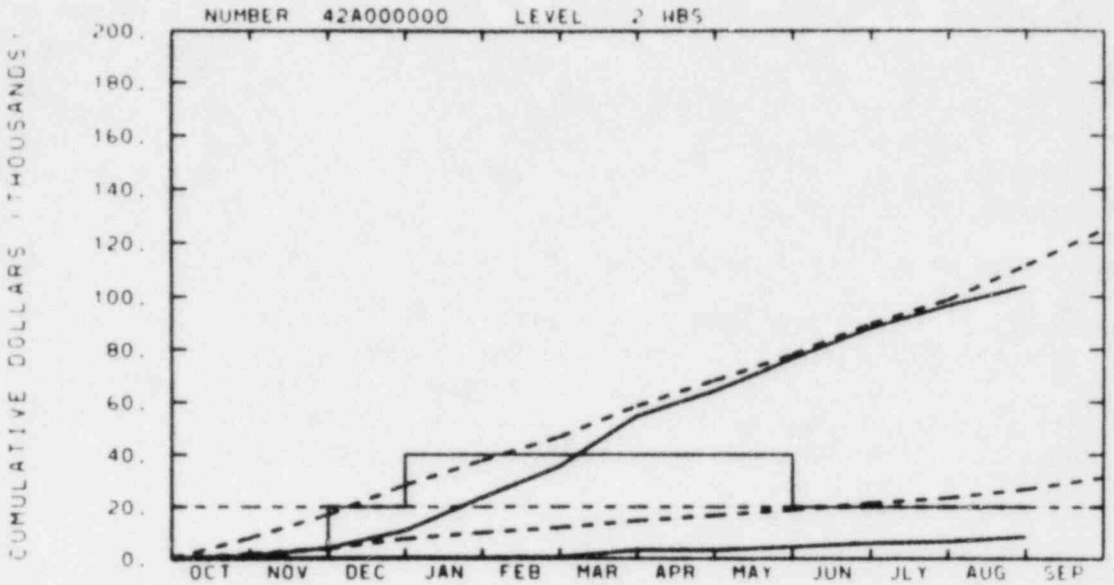
   None.

RESPONSIBLE MANAGER
D.W. CROUCHER

EG&G IDAHO INC.

FIS PROD BEHAV - PAST ACCIDENTS

NUMBER 42A000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	8	17	28	38	47	59	68	78	90	99	112	125
ACTUAL	1	4	11	24	36	55	64	76	88	97	104	

MATERIAL

BUDGET	2	4	8	10	12	15	17	19	21	24	27	31
ACTUAL	0	0	0	0	1	3	3	5	6	7	9	

MANPOWER

BUDGET	1	1	1	1	1	1	1	1	1	1	1	1
ACTUAL	0	0	1	2	2	2	2	2	1	1	1	

A6372

YTD VARIANCE: 8 (7%)

An anticipated $19K is expected to carryover from FY-1982 to complete scheduled work scope.

1. 189a A6372 - Fission Product Behavior During Past Accidents

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Review of the informal report was completed. The report is being processed for publication by about September 15, 1982. The ORIGEN code was run for the Plutonium Recycle Test Reactor (PRTR); its calculated fission product inventories agree favorably with earlier analysis. Preliminary CORRAL-2 runs were completed for TMI-2.

4. Scheduled Milestones for September 1982

Node	Description	Due Date	Actual Date
N/A	General Review of Past Accidents and Destructive Tests (Informal Report)	09-01-82	09-15-82E

5. Summary of Work to be Performed in September 1982

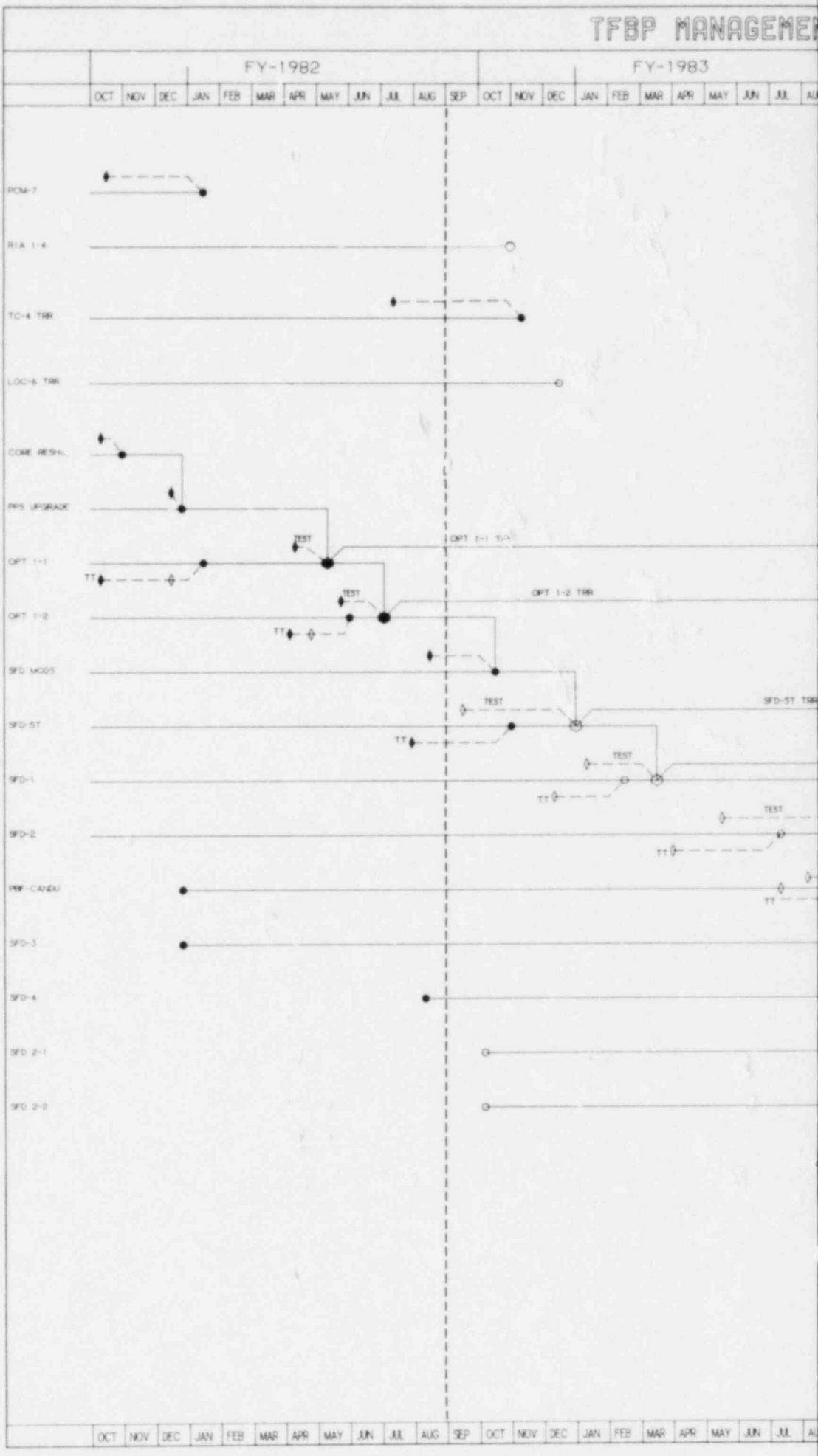
Efforts to explain the reason for the wide spread in noble gas release rates in the PRTR will continue. The CORRAL-2 code will be run for PRTR to determine its sensitivity to fuel temperature and flow rate.

6. Problems and Potential Problems

None.

THERMAL FUELS BEHAVIOR PROGRAM

MANAGEMENT SUMMARY SCHEDULE


TFBP MANAGEMEN
FY-1982
FY-1983
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL
POM-7
R1A 1-4
TC-4 TRR
LOC-6 TRR
CORE RESHL
PPS UPGRADE
OPT 1-1
TEST
TT
OPT 1-1 TRR
OPT 1-2
TEST
TT
OPT 1-2 TRR
SFD MODS
SFD-ST
TEST
TT
SFD-ST TRR
SFD-1
TEST
TT
SFD-2
TEST
TT
PRF-CANDU
TT
SFD-3
SFD-4
SFD 2-1
SFD 2-2
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL

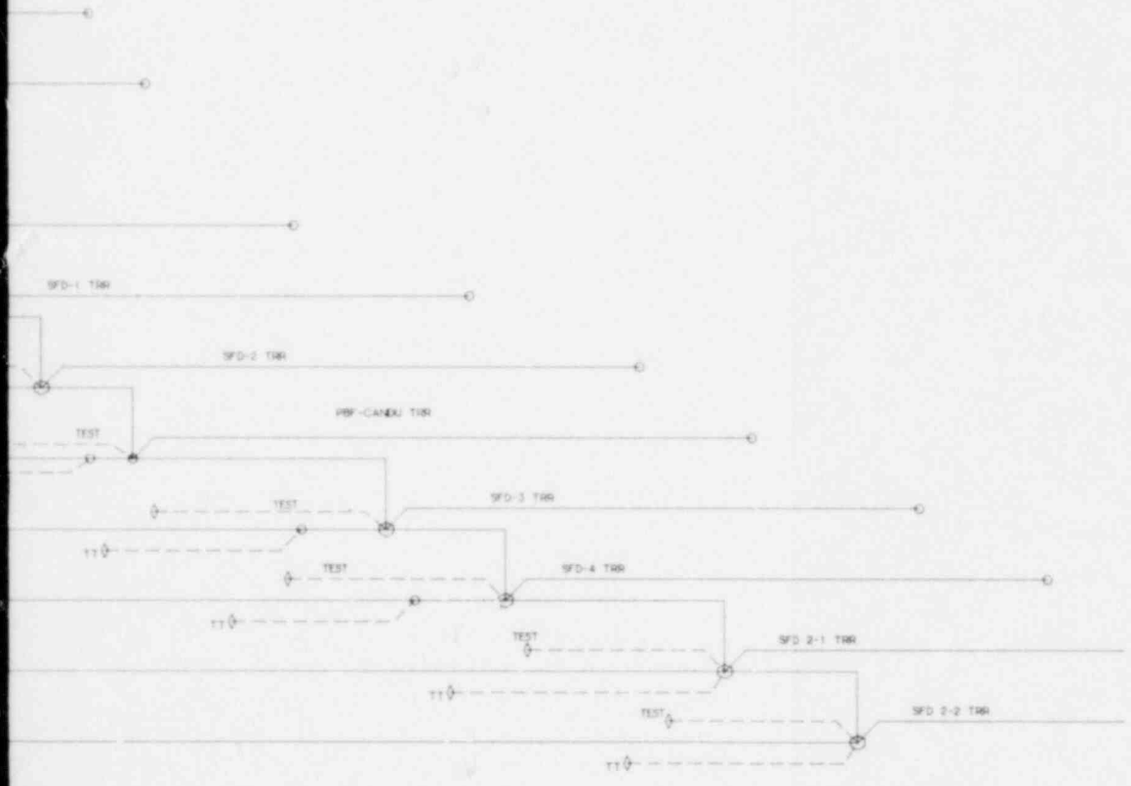
NT SUMMARY SCHEDULE

FY-1984 | FY-1985

SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP

LEGEND:

◊	WORKING SCHEDULE
○	MAJOR MILESTONE
○	SECONDARY MILESTONE
LOC	LOSS OF COOLANT
OPT	OPERATIONAL TRANSIENT
PBF CANDU	PBF CANADIAN LOSS OF COOLANT
PCM	POWER COOLANT MISMATCH
RIA	REACTIVITY INITIATED ACCIDENT
SFD	SEVERE FUEL DAMAGE
TC	THERMOCOUPLE
TRR	TEST RESULTS REPORT
TT	TEST TRAIN



SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP

THERMAL FUELS BEHAVIOR PROGRAM

CHANGE CONTROL BOARD ACTIONS

CHANGE CONTROL BOARD STATUS

Cost Account	CCB #	Description	Status	Date
42XXXXX	82-01	TFBP Test Schedule	Approved	01/24/82
42XXXXX	82-02	TFBP FY-1982 Baseline	Approved	02/04/82
4245F53	82-03	PPS Upgrade for OPTRAN	Approved	01/24/82
42M1112	82-04	Discretionary Reserve	Disapproved	01/24/82
4261824	82-06	Foreign Fuel Procurement	Approved	01/24/82
4261210	82-07	Severe Fuel Analysis	Approved	01/24/82
4233M10	82-08	PBF Visitor Display	Approved	02/23/82
4219C64	82-09	OPT 1-2 TRR	Approved	01/24/82
42M1112	82-10	Discretionary Reserve	Approved	01/24/82
423XXXX	82-11	PBF Operations	Approved	01/24/82
4262110	82-14	MTR Canal Alarm Power Change	Disapproved	02/04/82
4262110	82-15	Removal of Radiation Hazard (Pipe)	Approved	02/04/82
4244BXX	82-16	Small Loop Break/Loop and IPT Analysis	Approved	01/24/82
42XXXXX	82-17	Test Completion Schedule	Canceled	02/04/82
42XXXXX	82-18	Add $75K to A6372 and Re-establish A6355	Approved	02/04/82
4264110	82-19	FCV-1 Manual Positioner	Approved	02/04/82
4262410	82-20	Hot Cell Equipment and Procedure Development	Approved	02/04/82
4261510	82-21	FPDS Upgrade	Canceled	02/04/82
4263423	82-23	SFD-2 Test Train Design	Approved	02/23/82
4219C2X	82-24	OPT 1-2 Test Train	Approved	02/23/82
4264170	82-25	FPDS Sample System	Approved	02/23/82
4219BXX	82-26	OPT 1-1 Test Schedule	Approved	02/23/82
42XXXXX	82-27	Test Schedule (OPT 1-2, SFD Mods, SF-ST)	Approved	02/23/82
4233F51	82-28	SFD "C" Thermocouple	Approved	03/24/82
4219C26	82-29	OPTRAN 1-2 Test Train	Approved	03/24/82
4233D81	82-30	Corrective Maintenance	Approved	04/29/82
4292BXX	82-32	SFD 2-1 Test Series	Approved	04/15/82
4216F64	82-36	LOC-6 TRR	Approved	04/29/82
4245D91	82-37	PPS Investigation		

CHANGE CONTROL BOARD STATUS (Continued)

Cost Account	CCB #	Description	Status	Date
4264170	82-38	Sample Shielding - SFD Mods	Approved	04/29/82
42XXXXX	82-39	Series II and SFD-ST Test Train Requirements	Approved	04/29/82
4219C32	82-40	OPTRAN 1-2 ESA	Approved	04/29/82
42M1112	82-41	Discretionary Reserve	Approved	05/27/82
4261510	82-42	FPDS Upgrade	Approved	05/27/82
4263126	82-43	SFD-ST/SFD-1 Test Trains	Approved	05/27/82
4233D91	82-44	Craft Shutdown Maintenance	Approved	07/20/82
42622i0	82-47	Systems Analysis - Transfer of Funds to Management Reserve	Approved	07/02/82
4264XXX	82-48	SFD Mods - Engineering Overrun	Approved	07/02/82
4264XXX	82-49	SFD Mods - Construction Overrun	Approved	07/02/82
4292B23	82-50	SFD Series II Test Train Design	Approved	07/02/82
4244B9X	82-51	Safety Upgrades	Approved	07/02/82
42631FP/ 4261510	82-52	FPDS Upgrade	Approved	07/02/82
4232A11	82-53	Operating Crews	Approved	07/02/82
4233XXX	82-54	Schedule 189, A6057	Approved	07/20/82
4263523	82-55	SFD-3 Test Train Design	Approved	07/20/82
42641XX	82-57	SFD Mods - Overrun	Withdrawn	07/20/82
42XXXXX	82-58	TFBP Test Schedule Revision	Approved	08/20/82
4242C91	82-59	Plant System Cognizant Engineer	Approved	08/20/82
4262410	82-62	SFD Posttest Equipment and Procedure Dev.	Pending	08/29/82
4262140	82-64	Foreign Fuel Procurement	Pending	08/29/82
4263132	82-65	SFD-ST ESA		

CHANGE CONTROL BOARD ACTION

($000)

CCB #	Description	FY-1982	FY-1983	FY-1984/Beyond	Total Approved Action
82-01	TFBP Test Schedule	N/A			N/A
82-02	TFBP Baseline	16,292.6			16,292.6
82-03	PPS Upgrade for OPTRAN	33.7			33.7
82-06	Foreign Fuel Procurement	10.0			10.0
82-07	Severe Fuel Analysis	20.0			20.0
82-08	PBF Visitor Display	29.7			29.7
82-09	OPT 1-2 TRR	< 80.0>	80.0		0.0
82-10	Discretionary Reserve	34.0			34.0
82-11	PBF Operations	25.0			25.0
82-15	Removal of Radiation Hazard	2.5			2.5
82-16	Small Loop Break/Loop and IPT Analysis	25.0			25.0
82-18	Add $75K to A6372 and Re-establish A6355	101.3			101.3
82-19	FCV-1 Manual Positioner	10.5			10.5
82-20	Hot Cell Equipment and Procedure Development	77.6			77.6
82-21	FPDS Upgrade	142.0			142.0
82-24	OPT 1-2 Test Train	32.7			32.7
82-25	FPDS Sample System	105.0			105.0
82-26	OPT 1-1 Test Schedule	N/A			N/A
82-27	Test Schedule (OPT 1-2, SFD Mods, SF-ST)	N/A			N/A
82-28	SFD "C" Thermocouple	10.0			10.0
82-29	OPTRAN 1-2 Test Train	10.8			10.8
82-30	Corrective Maintenance	100.0			100.0
82-32	SFD 2-1 Test Series	200.0			200.0
82-36	LOC-6 TRR	20.0			20.0
82-37	Reactor and Control	8.0			8.0
82-38	SFD Sample System Shielding Transport Plan	10.0			10.0

< > Return to Management Reserve

CHANGE CONTROL BOARD ACTION (Continued)

($000)

CCB #	Description	FY-1982	FY-1983	FY-1984/Beyond	Total Approved Action
82-39	SFD-ST Test Train/Series II Funding Requirements	<367.3>			<367.3>
82-40	OPTRAN 1-2 ESA	19.1			19.1
82-41	Discretionary Reserve	25.0			25.0
82-42	FPDS Upgrade	16.0			16.0
82-43	SFD-ST/SFD-1 Test Trains	212.5			212.5
82-44	Craft Shutdown Maintenance	54.0			54.0
82-47	Systems Analysis - Transfer of Funds to Management Reserve	<30.0>			<30.0>
82-48	SFD Mods - Engineering Funding	91.8			91.8
82-49	SFD Mods - Construction Funding	170.0			170.0
82-50	SFD Series II Test Train Design	50.0			50.0
82-51	Safety Upgrades	<55.0>			<55.0>
82-52	FPDS Upgrade	45.0			45.0
82-53	Operating Crews	<50.0>			<50.0>
82-54	Schedule 189, A6057	<42.0>			<42.0>
82-55	SFD-3 Test Train Design	<50.0>			<50.0>
82-57	SFD Mods - Funding Requirements	201.0			201.0
82-59	Plant System Cognizant Engineer	<6.0>			<6.0>
82-62	SFD Posttest Equipment and Procedure Dev.	32.1			32.1

< > Return to Management Reserve

THERMAL FUELS BEHAVIOR PROGRAM

STATUS BY 189

($000)

189 Number	New 189 Total
A6041	$ 2,100.8
A6044	1,871.0
A6057	5,887.2
A6305	6,154.1
A6351	305.5
A6352	195.7
A6355	26.3
A6372	125.0
A6454*	0.8
Subtotal	$16,666.4
Management Reserve	46.9
Discretionary Reserve	4.8
TOTAL	$16,718.1

The $16,718.1K figure represents the Thermal Fuels Behavior Program baseline budget. However, actual funding amounts to only $16,222.9K which is the FY-1982 cost ceiling for the Thermal Fuels Behavior Program.

* NRR Funding.

MONTHLY REPORT FOR

AUGUST 1982

2D/3D PROGRAM

Paul North

P. North, Manager

Paul Keele

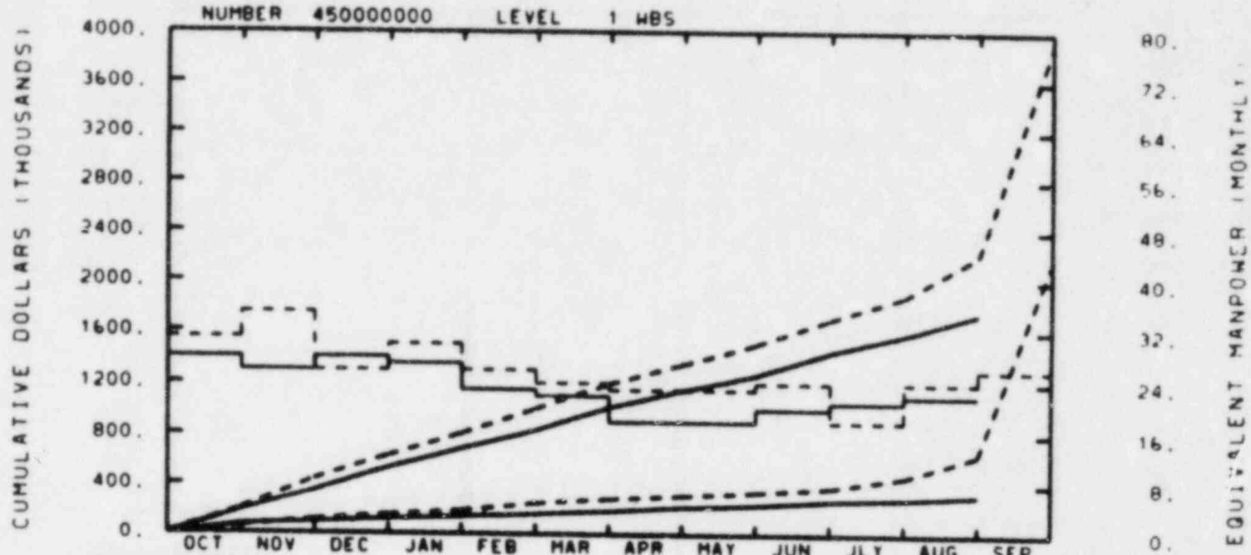
P. B. Keele
Plans and Budget Representative

RESPONSIBLE MANAGER
JB COLSON

EG&G IDAHO INC.

2D-3D PROGRAM

NUMBER 450000000 LEVEL 1 WBS



TOTAL PROGRAM

BUDGET	200	441	629	805	1000	1195	1348	1501	1699	1879	2213	3900
ACTUAL	187	348	530	684	832	1012	1147	1267	1444	1575	1742	

MATERIAL

BUDGET	61	113	156	189	250	286	313	342	379	465	642	2167
ACTUAL	71	94	119	140	163	188	222	239	275	291	320	

BUDGET - - - - - -

ACTUAL ———

MANPOWER

BUDGET	31	35	26	30	26	24	23	23	24	18	24	24
ACTUAL	28	26	28	27	23	22	18	18	20	21	22	

YTD VARIANCE: 471 (21%)

Individual cost graphs will give individual explanations.

Explanations for major 189's will be made if the variance exceeds $25K. Minor 189 graphs will explain variance of over $10K.

PROGRAM MANAGER'S

SUMMARY AND HIGHLIGHTS

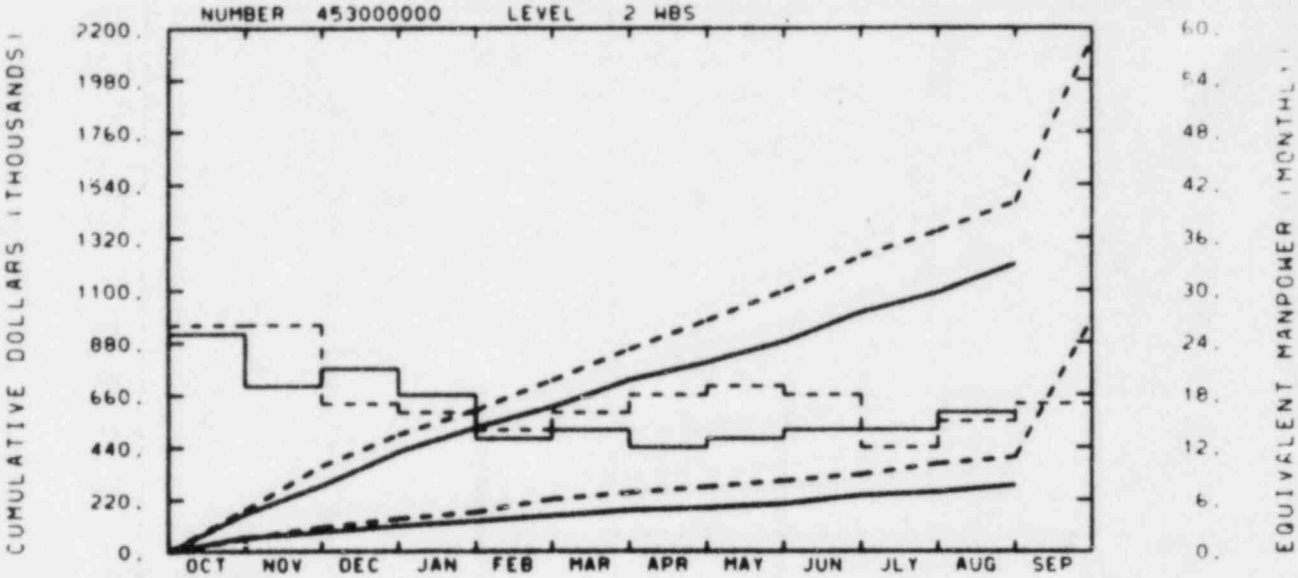
Newly designed turbine capsules with graphite bearing were fabricated and assembled. These turbines are designed for installation into Germany's Upper Plenum Test Facility and are to provide longer life and better response to low flow rates than provided by previous designs.

RESPONSIBLE MANAGER
IB COLSON

EG&G IDAHO INC.

A6100 TECH SUPPORT & INSTRUMENT

NUMBER 453000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	176	362	493	596	720	850	972	1096	1242	1347	1468	2149
ACTUAL	169	280	421	523	609	723	797	883	1006	1090	1210	

MATERIAL

BUDGET	57	104	140	167	222	250	274	299	326	371	398	976
ACTUAL	60	83	110	130	153	176	186	202	238	253	282	

MANPOWER

BUDGET	26	26	17	16	14	16	18	19	18	12	15	17
ACTUAL	25	19	21	18	13	14	12	13	14	14	16	

BUDGET - - - - - -

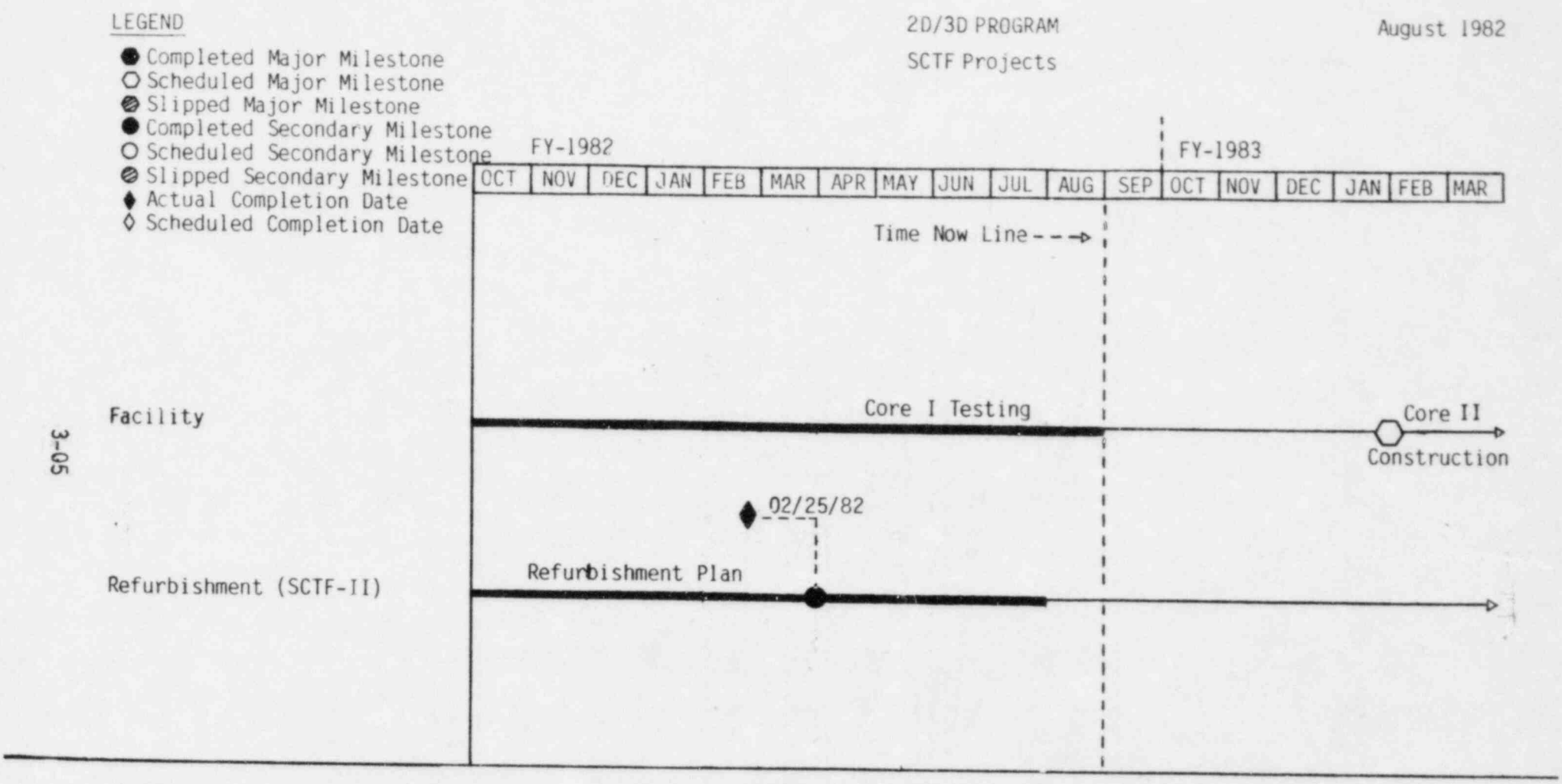
ACTUAL ———

A6100

YTD VARIANCE: 258 (18%)

Work scope associated with UPTF Instrumentation continues to run behind the original FY-1982 baseline. A lack of specifications has resulted in this underrun, however, interface meetings were held in Germany in late July and most specification problems have now been resolved. The current underrun will continue through FY-1982, but, with the establishment of the FY-1983 baseline in October, schedules will be updated to reflect the agreements reached in Germany and the Sandia produced networks.

CCB 3D 82-08 was submitted and approved by DOE-ID


LEGEND
Completed Major Milestone
Scheduled Major Milestone
Slipped Major Milestone
Completed Secondary Milestone
Scheduled Secondary Milestone
Slipped Secondary Milestone
Actual Completion Date
Scheduled Completion Date
2D/3D PROGRAM
SCTF Projects
August 1982
FY-1982
FY-1983
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR
Time Now Line
Facility
Core I Testing
Core II
Construction
02/25/82
Refurbishment Plan
Refurbishment (SCTF-II)

NOTES:

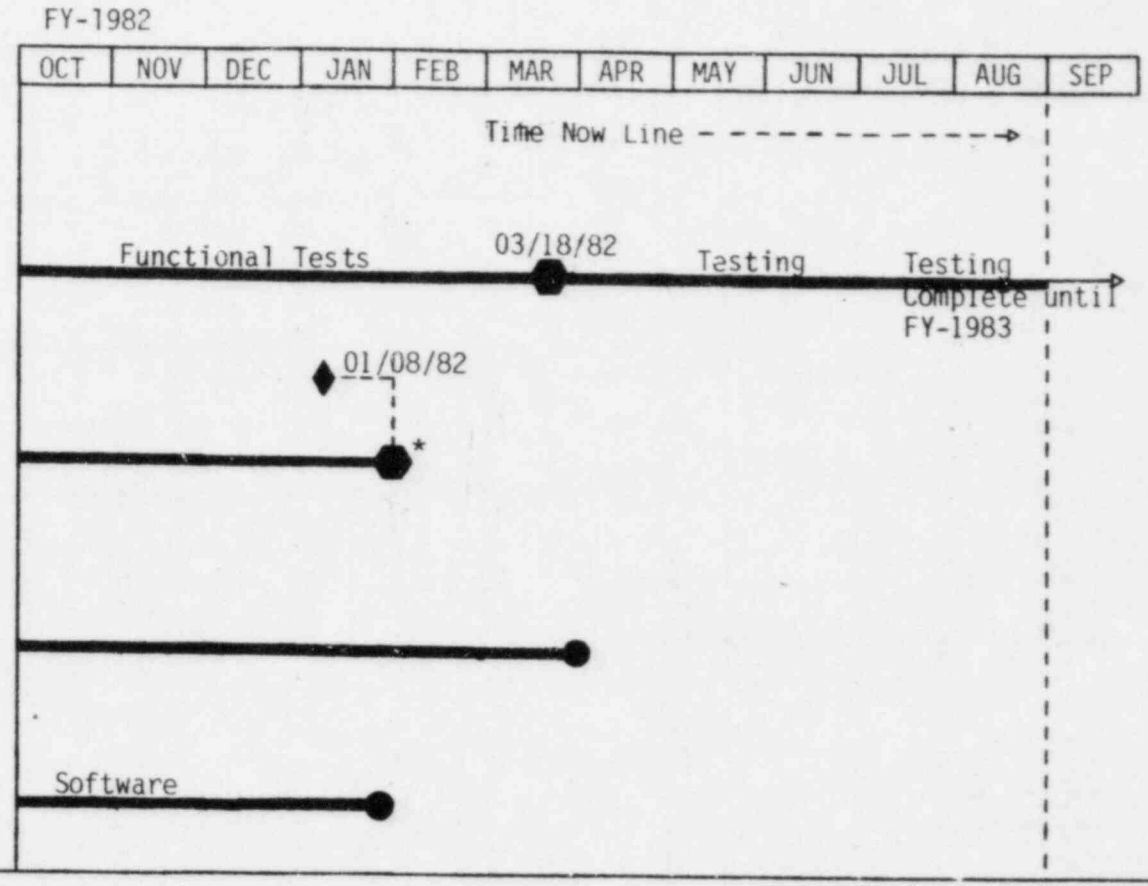
LEGEND

- Completed Major Milestone
- Scheduled Major Milestone
- Slipped Major Milestone
- Completed Secondary Milestone
- Scheduled Secondary Milestone
- Slipped Secondary Milestone
- Actual Completion Date
- Scheduled Completion Date

2D/3D PROGRAM

CCTF-II Projects

August 1982



NOTES: * Allow one month from shipment dates shown for delivery to meet JAERI requested schedule.

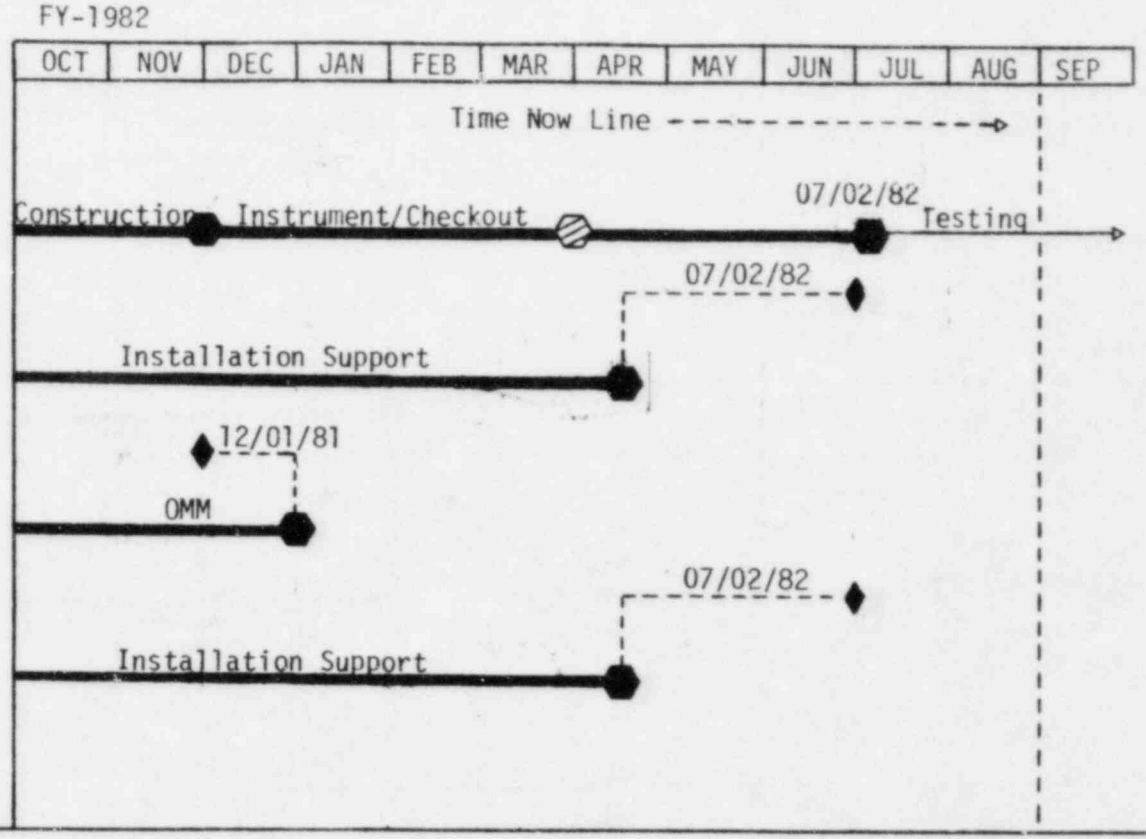
LEGEND

- Completed Major Milestone
- Scheduled Major Milestone
- Slipped Major Milestone
- Completed Secondary Milestone
- Scheduled Secondary Milestone
- Slipped Secondary Milestone
- Actual Completion Date
- Scheduled Completion Date

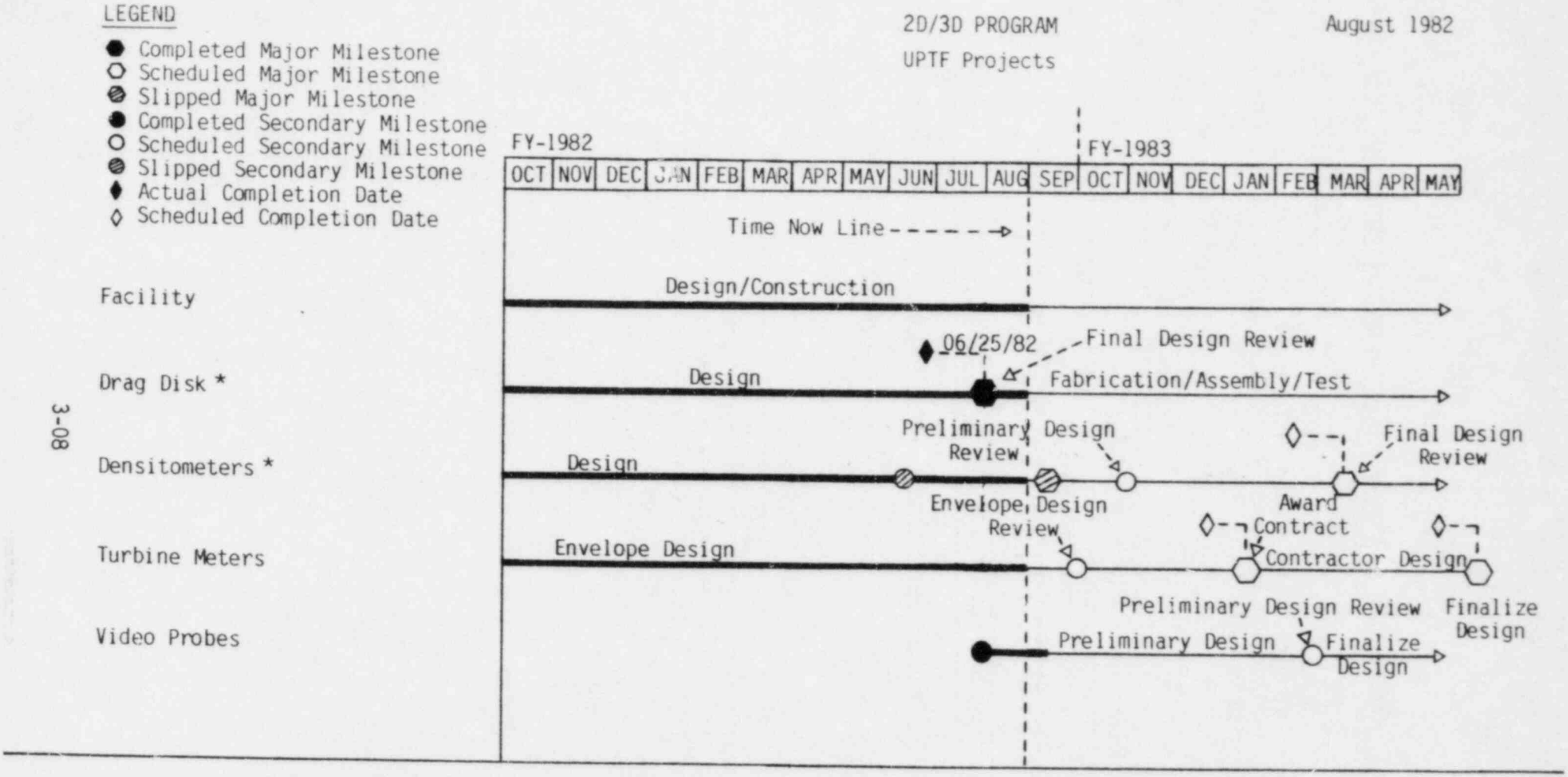
2D/3D PROGRAM

PKL Projects

August 1982



NOTES: Instrument installation support and checkout is complete except resolution of problems encountered in checkout testing.



NOTES: * CCB 3D 82-08 was approved to establish a new baseline schedule.

1. 189a A6100 - 3D Technical Support and Instrumentation

2. Scheduled Milestones for August 1982

None

3. Summary of Work Performed in August 1982

A. Federal Republic of Germany (FRG) Primary Coolant Loop Instrument

1. 453051000 - Conductivity Liquid Level Measurement System

Complete - No activity.

2. 453052000 - Spool Pieces

Three Bay Lab amplifiers were supposedly shipped to San Ramon from PKL for repair. The paperwork arrived with a box full of diodes and the whereabouts of the amplifiers is not certain. Apparently the mix up occurred at the PKL shipping point.

B. FRG Upper Plenum Test Facility

1. 453071000 - Drag Disks

The final design review report has been issued; action items from the design review are being resolved. The drag-disk electronic fabrication has progressed to 90% completion. Machining parts for the drag-disk coil assemblies is 50% complete.

2. 453072000 - Gamma Densitometers

The optimization tests are 75% complete. Design drawings of the racks and densitometer electronics are 50% complete.

3. 453073000 - Turbine Meters

Turbine capsules with graphite bearings were fabricated and assembled preparatory to conducting performance testing. Fabrication of slotted guide tubes for supporting the turbine stalks in the UPTF facility was completed. Arrangements for source inspection at the vendor have been made. The envelope design for the UPTF turbines was completed for 49 of 63 probes and drafting was initiated.

3. Summary of Work Performed in August 1982 (continued)

C. Japan Atomic Energy Research Institution (JAERI) Cylindrical Core Test Facility Core II Instruments

1. 453082000 - Spool Piece & Drag Disk Refurbishment

No activity.

D. JAERI Slab Core Test Facility

1. 453091000 - Core II Refurbishment

The drawing for the gadolinium source was revised. New conductivity probes have been obtained from a previous project. The MgO cable and conax seals have been received.

2. 453092000 - Core III Refurbishment

No activity.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

A. FRG Primary Coolant Loop Instruments

1. 453051000 - Conductivity Liquid Level Measurement System

Complete - No activity planned.

2. 453052000 - Spool Pieces

Rework and repair activities on the PKL instruments will resume following the August holidays and is expected to be completed by month end.

B. FRG Upper Plenum Test Facility

1. 453071000 - Drag Disks

All action items from the design review will be resolved. Procurement of drag-disk hardware will continued commensurate with fabrication to begin on 10-1-82.

5B. Summary of Work to be Performed in September 1982 (continued)

2. 453072000 - Gamma Densitometers

The optimization tests will be completed. The results of the tests will be analyzed to select design parameters. Design drawings of the racks and densitometer electronics will be 90% completed.

3. 453073000 - Turbine Meters

Testing of the graphite turbine bearing will be completed. The slotted guide tubes for supporting turbine stalks will be shipped to Germany. The envelope design & drawings for the turbine probes will be completed and a design review held.

C. JAERI Cylindrical Core Test Facility Core II Instruments

1. 453082000 - Spool Piece and Drag Disk Refurbishment

No activity planned.

D. JAERI Slab Core Test Facility

1. 453091000 - Core II Refurbishment

The purchase requisition for nine new gadolinium sources for use on the CCTF-II and SCTF-II spool pieces will be submitted. The new conductivity probes will be modified in preparation for assembly. The conax seals for turbine meters will be sent to JAERI.

2. 453092000 - Core III Refurbishment

No activity planned.

6. Problems and Potential Problems

A. FRG PKL Spool Pieces

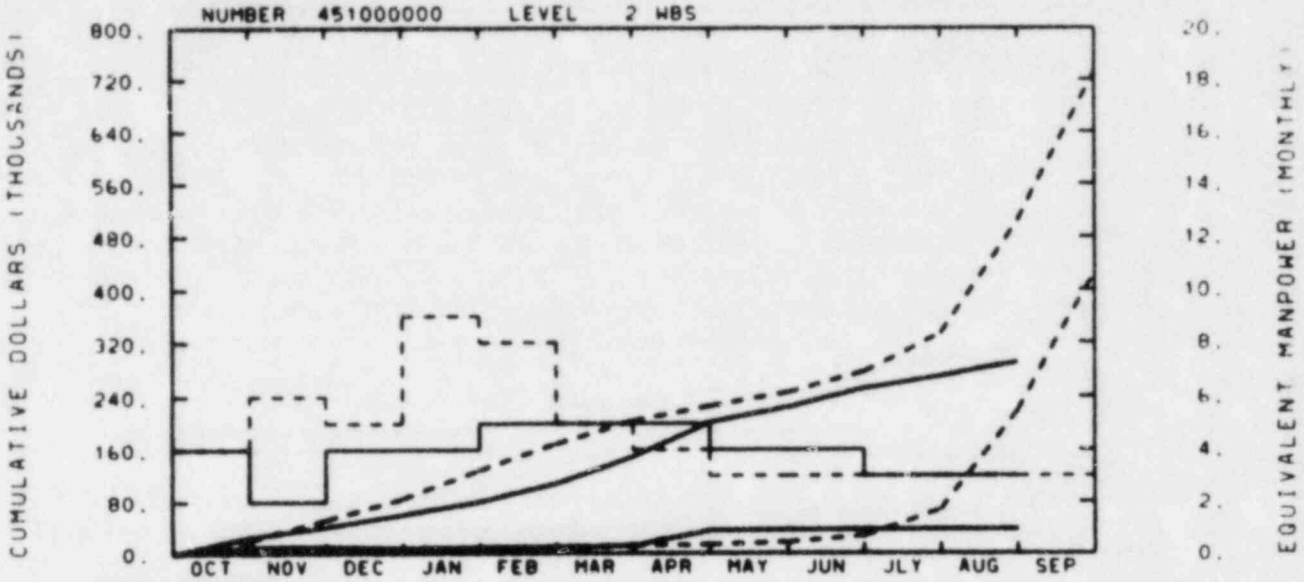
The loss of Bay Lab Amplifiers in shipping from PKL to EG&G San Ramon will cause a delay in rework of the instrumented spool piece electronics.

RESPONSIBLE MANAGER
JB COLSON

EG&G IDAHO INC.

A6282 FLUID DISTRIBUTION GRIDS

NUMBER 451000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	21	52	85	129	169	204	226	246	276	333	504	730
ACTUAL	26	41	60	80	108	149	201	224	252	269	290	

MATERIAL

BUDGET	1	2	4	7	9	13	14	18	27	68	218	425
ACTUAL	10	11	8	10	10	12	36	37	37	38	38	

MANPOWER

BUDGET	4	6	5	9	8	5	4	3	3	3	3	3
ACTUAL	4	2	4	4	5	5	5	4	4	3	3	

A6282

YTD VARIANCE: 214 (42%)

Work scope associated with the UPTF FDG continues to run behind schedule. The increase in the underrun position in August is primarily due to material purchases budgeted but not costed for Optical Probe materials. An increase in this underrun is projected for September. It is now anticipated that these purchases will be costed early in FY-1983, with no adverse affects to delivery schedules.

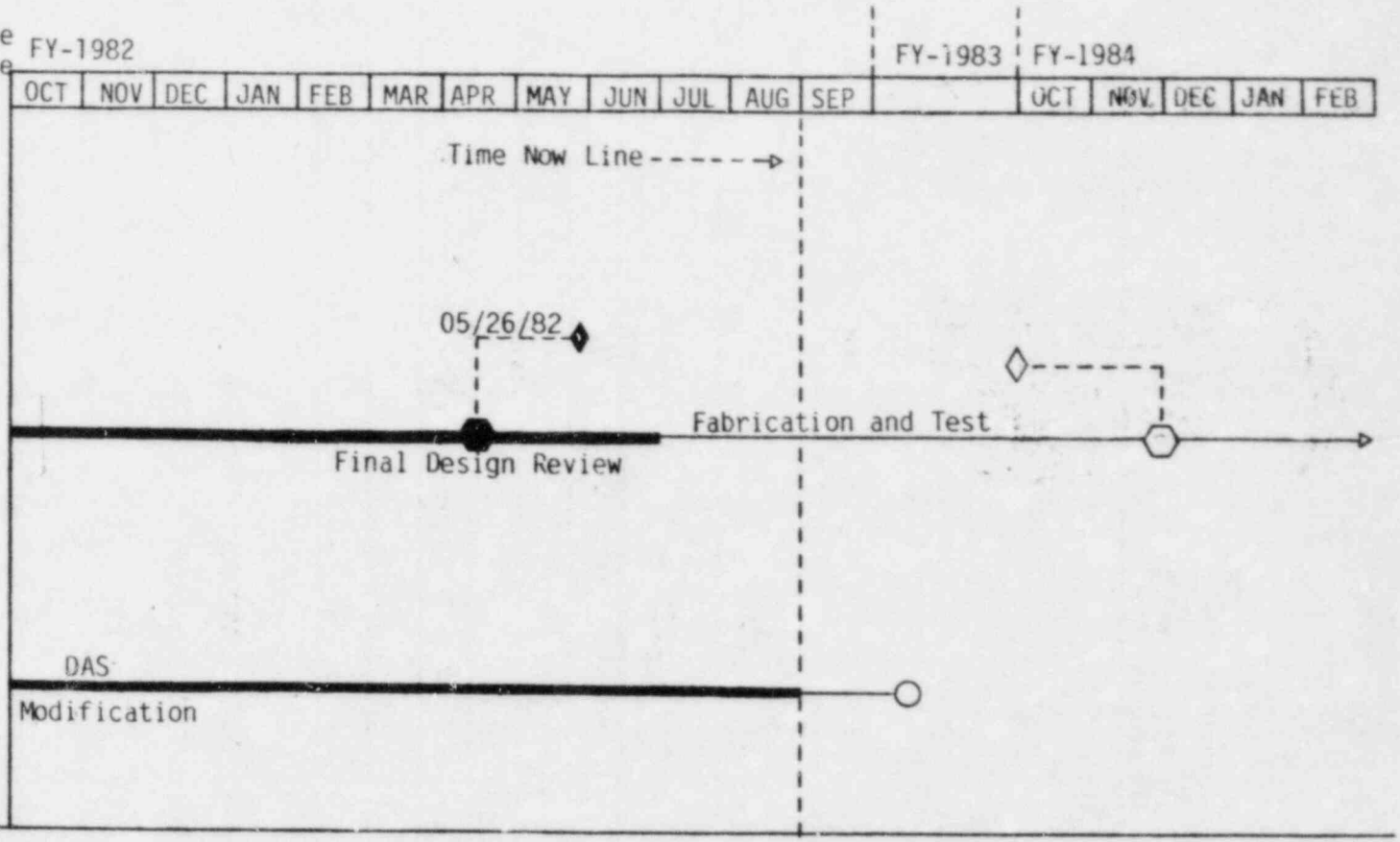
LEGEND

- ● Completed Major Milestone
- ○ Scheduled Major Milestone
- ◍ Slipped Major Milestone
- ● Completed Secondary Milestone
- ○ Scheduled Secondary Milestone
- ◍ Slipped Secondary Milestone
- ♦ Actual Completion Date
- ◊ Scheduled Completion Date

2D/3D PROGRAM

Fluid Distribution Grids

August 1982



NOTES: * Allow one month from shipment dates shown for delivery to meet facility requested schedule.

CCB 3D 82-06 was approved to establish a new baseline schedule.

1. 189 A6282 - Fluid Distribution Grid System for 3D Program Facilities

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

A. 451012000 - JAERI Cylindrical Core Test Facility Core-II Fluid Distribution Grid

Coding was essentially completed in August. All coding, except for the Color Display Programs that operate with the AED Color Graphics Terminal, has been checked out and verified. Checkout of the Color Display Programs was delayed because of a problem in the vendor software. The vendor (AED) is working the problem and when it is fixed the checkout should be completed in about two weeks. Outlines and some of the writing for the support document were completed.

B. 451013000 - FRG Upper Plenum Test Facility

The upper plenum LLD stalk supports were fabricted and sent to Germany as scheduled. Quotes have been received from vendors on the optical tips, optical fibers, and stainless steel sheath tubing. The optical fiber sheath has been changed from stainless steel to Inconel. A DCN was issued to change the radius on the optical tip to conform to what was used on the CCTF-II OLLD project. The nozzles for the downcomer probes has been changed by Germany from a DN 40 to a DN 50.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

A. 451012000 - JAERI Cylindrical Core Test Facility Core II Fluid Distribution Grid System

If the AED software is corrected by the vendor, all program checkout should be completed. Support documentation will be completed in draft form, ready for the approval cycle.

5B. Summary of Work to be Performed in September 1982 (continued)

B. 451013000 - FRG Upper Plenum Test Facility Distribution Grid System

A quality survey will be performed on the optical tip manufacturer. New quotes on Inconel tubing for optical fibers will be received. The optical fiber quotes will be evaluated and a vendor selected. A SWR will be prepared for the alignment plates for the FDG/LLD stalks. Open items from the electrical design review will be resolved. The routing of the optical leads to the signal conditioners will be evaluated.

6. Problems and Potential Problems

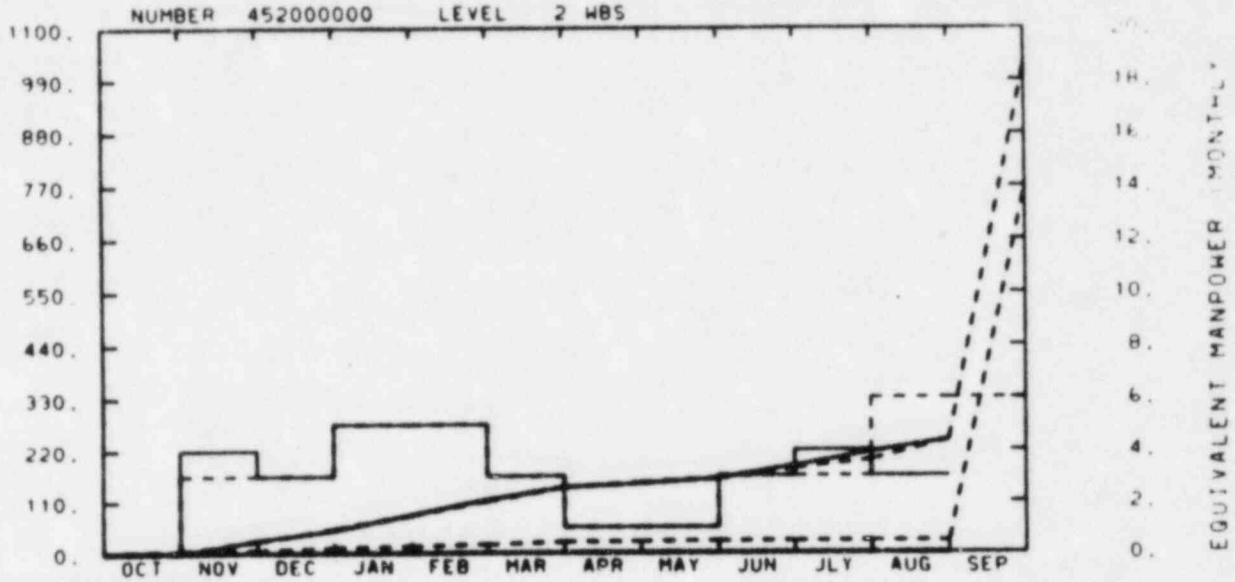
The AED software has a problem that must be corrected by the vendor. The LSI-II hardware from JAERI, upon which the software will eventually be demonstrated, has several problems that should be corrected before a demonstration is held.

RESPONSIBLE
MANAGER
JB COLSON

EG&G IDAHO INC.

A6289 UPTF DAS

NUMBER 452000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	3	27	51	80	111	141	150	160	181	199	242	1021
ACTUAL	0	27	49	82	114	141	149	160	186	216	241	

MATERIAL

BUDGET	3	7	11	15	18	23	24	25	25	25	26	766
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	

MANPOWER

BUDGET	0	3	3	5	5	3	1	1	3	3	6	6
ACTUAL	0	4	3	5	5	3	1	1	3	4	3	

A6289

YTD VARIANCE: 1

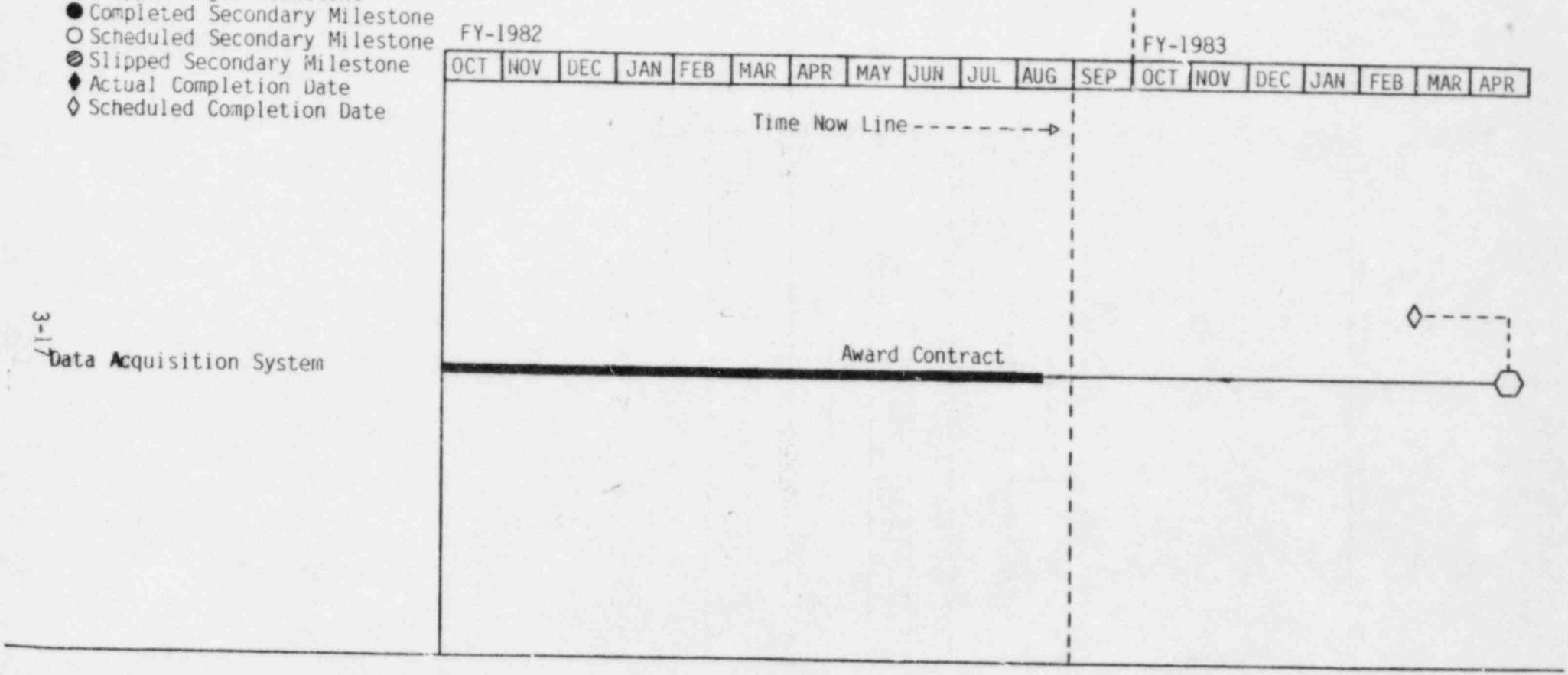
LEGEND

- ● Completed Major Milestone
- ○ Scheduled Major Milestone
- ▨ Slipped Major Milestone
- ● Completed Secondary Milestone
- ○ Scheduled Secondary Milestone
- ▨ Slipped Secondary Milestone
- ♦ Actual Completion Date
- ◊ Scheduled Completion Date

2D/3D PROGRAM

UPTF Data Acquisition System

August 1982



NOTES:

1. 189 A6289 - FRG Upper Plenum Test Facility Data Acquisition System

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Vendor responses to the RFI were completed. Meetings and telecons were held to clarify their responses and questions about our specification. Twenty-six expressions of interest, some containing preliminary proposals, were received. The system study for the FDG system was completed and as a result we will include the requirement for FDG DAS hardware in the RFP for the Main DAS; i.e., we will subcontract the FDG DAS hardware also. The LOFT Option Study was completed, showing a significant cost savings but anticipating technical and performance problems. A draft implementation plan for the Main DAS hardware was completed. FRG comments on the UPTF DAS plan resulted in a revision of our proposed grounding plan, a decrease in the number of channels, and an increase in the sampling rate on some channels. Work will continue on the Main DAS specification revision. Remaining unresolved issues include FDG interface details, densitometer interface details, and detailed electrical characteristics of interfacing transducers.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

Work will continue tying down the remaining interface details on the Main DAS and incorporating FDG DAS requirements into the Main DAS specification. The specification should be essentially complete at the end of September, in preparation for a design review scheduled for Mid-October. Work will start on a Software Requirements Specifications for the Main DAS. Work will continue on the Implementation Plan.

6. Problems and Potential Problems

None.

MONTHLY REPORT FOR

AUGUST 1982

CODE DEVELOPMENT DIVISION

F. Aguilar, Manager

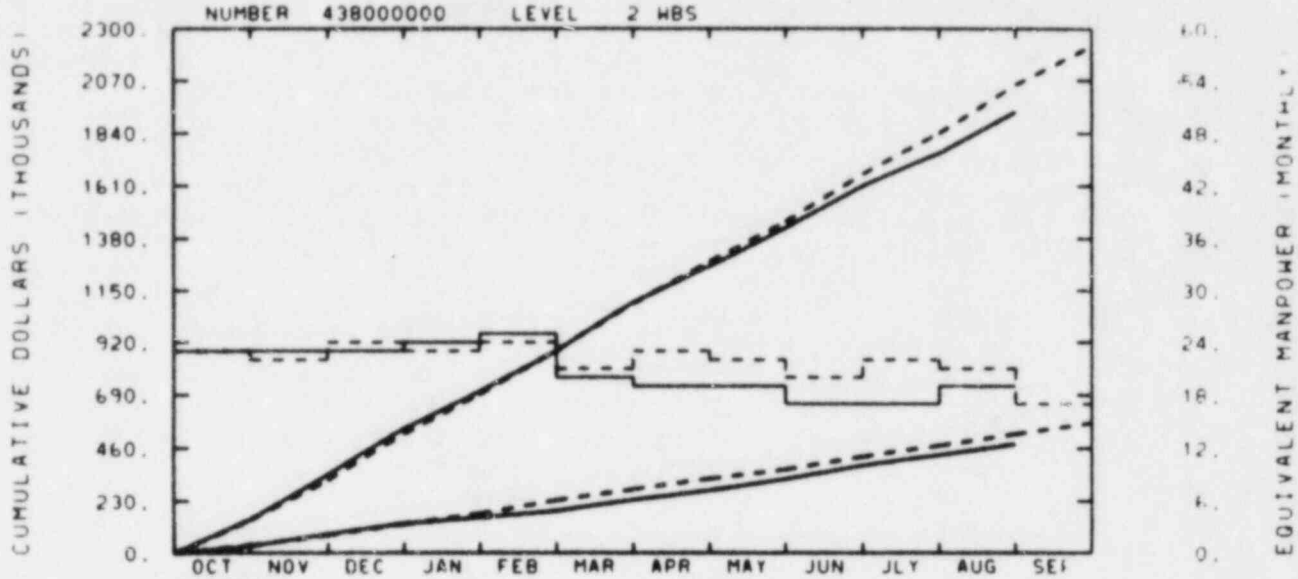
L. Morgan
Plans and Budget Representative

RESPONSIBLE MANAGER
F. AQUILAR

EG&G IDAHO INC.

RES - CODE DEVELOPMENT

NUMBER 438000000 LEVEL 2 WBS



TOTAL PROGRAM

BUDGET	147	321	522	693	885	1093	1279	1454	1663	1840	2051	2223
ACTUAL	150	347	543	705	882	1097	1259	1427	1611	1754	1934	

MATERIAL

BUDGET	35	79	129	175	234	282	329	368	424	472	522	569
ACTUAL	32	85	131	158	187	237	277	327	386	431	478	

MANPOWER

BUDGET	23	22	24	23	24	21	23	22	20	22	21	17
ACTUAL	23	23	23	24	25	20	19	19	17	17	19	

YTD VARIANCE: 117 (6%)

Individual cost graphs will give individual explanations.

Explanations for major 189's will be made if the variance exceeds $25K. Minor 189 graphs will explain variance of over $10K.

PROGRAM MANAGER'S

SUMMARY AND HIGHLIGHTS

The SCDAP/MOD0 checkout has encountered a larger number of coding problems than anticipated. The checkout is progressing slower than planned, and the September 30 checkout completion milestone will be slipped. Checkout completion may be as early as mid-October or as late as the end of November. Appropriate resources have been committed and management actions taken to minimize schedule slippage.

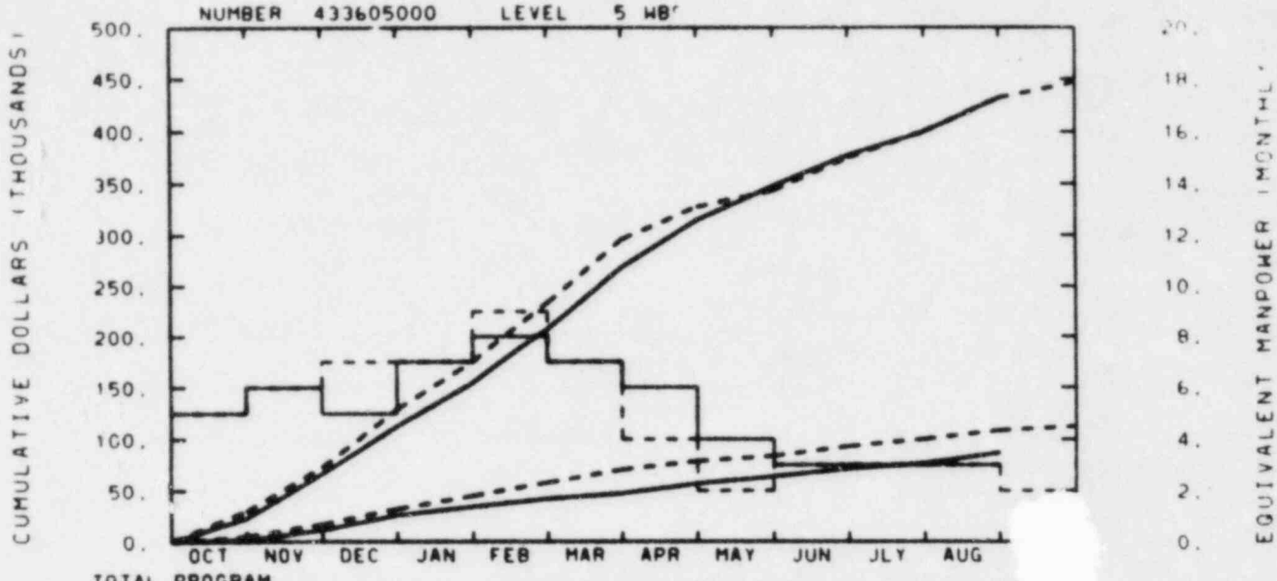
Committed model development for TRAC-BD1/MOD1 is progressing satisfactorily, although de-bug of the feedwater heater model has been more difficult than anticipated. The feedwater model is the last item in the committed scope of model development. Appropriate actions have been taken to recover the schedule. It is anticipated now that TRAC-BD1/MOD1 will be completed as scheduled.

RESPONSIBLE MANAGER
F AGUILAR

EG&G IDAHO INC.

FUEL BEHAVIOR MODEL DEV A6050

NUMBER 433605000 LEVEL 5 WBS



TOTAL PROGRAM

BUDGET	30	73	129	175	233	296	328	344	375	400	432	447
ACTUAL	23	67	113	155	207	268	315	348	378	400	432	

MATERIAL

BUDGET	5	17	32	45	58	71	79	84	93	100	109	113
ACTUAL	2	12	26	34	42	47	57	64	71	77	87	

MANPOWER

BUDGET	5	6	7	7	9	7	4	2	3	3	3	2
ACTUAL	5	6	5	7	8	7	6	4	3	3	3	

BUDGET - - - - - -

ACTUAL ———

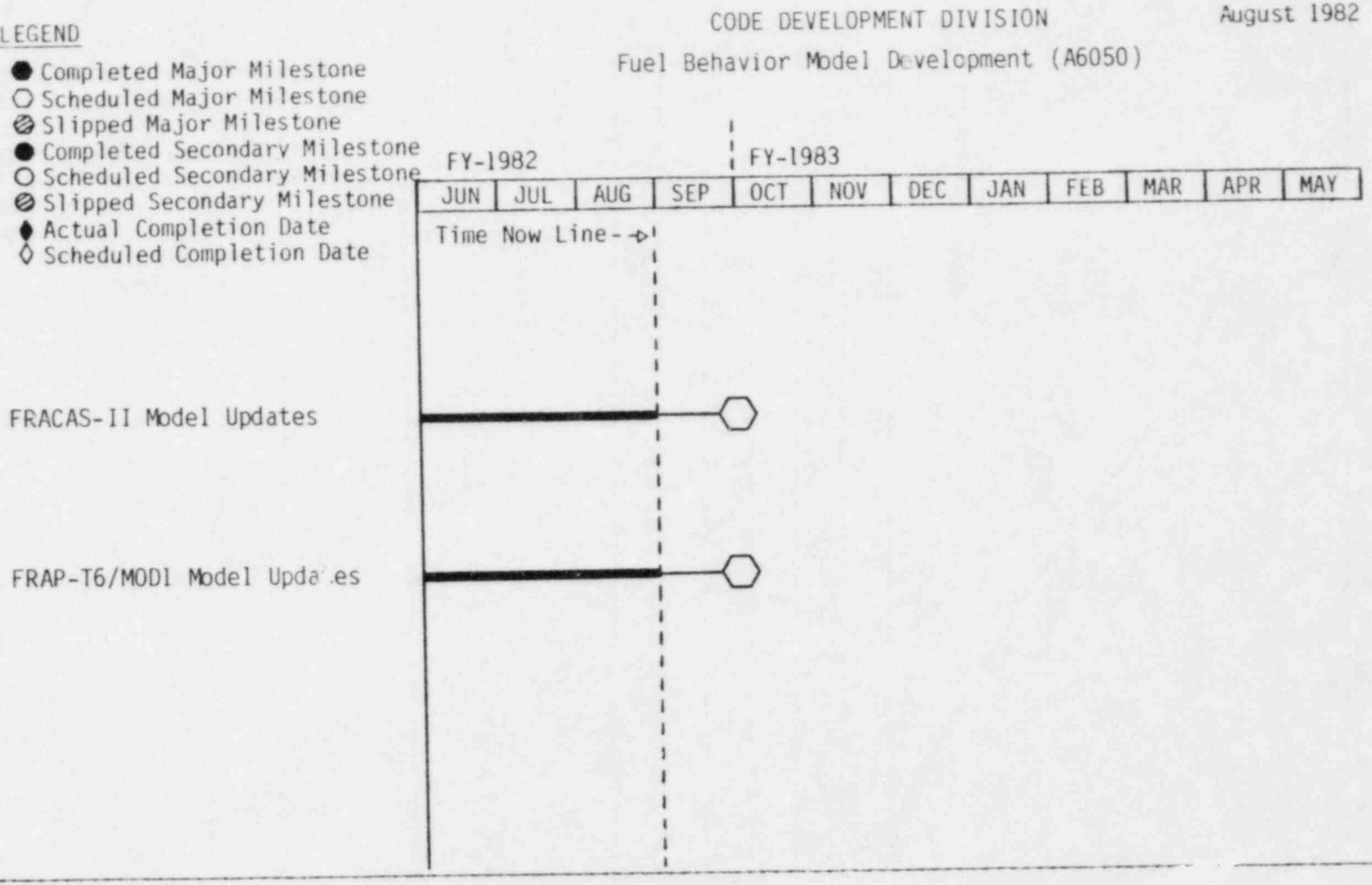
A6050

YTD VARIANCE: 0

CODE DEVELOPMENT DIVISION

August 1982

Fuel Behavior Model Development (A6050)



NOTES:

1. 189a A6050 - Fuel Behavior Model Development

2. Scheduled Milestones for August 1982

None

3. Summary of Work Performed in August 1982

a. MATPRO

The position paper describing materials properties data needs for severe core damage code development and experiment analysis was completed and issued to DOE and NRC.

b. FRACAS-II

Coding and testing of the axial-radial pellet-cladding mechanical interaction (PCMI) model and the new power and burnup dependent fuel relocation model were completed. Coding of the trapped-fuel stack model was completed, and testing of the model is in process and will be completed during early September. Documentation of the models was begun during August and will be completed during September. Integration of the models was begun during August and will be completed by the September 30, 1982 milestone date.

c. FRAP-T6

The design description report for the modified irradiation annealing model was completed during August. The new stress-corrosion cracking model and the change to prevent instabilities were incorporated in FRAP-T6 and tested. In addition, an automated time-step reduction feature was incorporated into FRAP-T6 and tested. This allows the user to specify large time steps and receive small time steps whenever ballooning or significant oxidation occur. The new FASTGRASS version was not received from PNL during August. Due to this delay, this FASTGRASS version will not be incorporated into FRAP-T6/MOD1 until FY-1983.

d. Transient Fuel Behavior Models

The MacDonald-Weisman gas release model was tested against PARAGRASS during August. The test revealed that the MacDonald-Weisman model was not a satisfactory model for preliminary use in SCDAP/MODO. An alternative model was developed and is in the process of being tested. Testing and documentation of the model will be completed during September.

4. Scheduled Milestones for September 1982

Node	Description	Due Date	Actual Date
NA	FRACAS-II Model Updates	09/30/82	
NA	FRAP-T6/MOD1 Model Updates	09/30/82	

5. Summary of Work to be Performed in September 1982

a. MATPRO

No work is planned during September.

b. FRACAS-II

Testing of the trapped-fuel stack model and integral testing of the trapped-fuel stack, axial-radial PCMI, and new fuel relocation models will be completed during September. Documentation of the model and test cases will be completed by the September 30, 1982 milestone date.

c. FRAP-T6

The FRACAS-II model updates will be incorporated into FRAP-T6, and the code will be tested. In light of the inavailability of the new FASTGRASS code, this will complete work planned as part of the September 30, 1982 milestone.

d. Transient Fuel Behavior Models

Testing and documentation of the preliminary fission gas release model for SCDAP/MOD0 will be completed. A listing of the gas release subroutines and calling routines of SCDAP/MOD0 will be provided to ANL to be used as a guide for restructuring PARAGRASS for subsequent incorporation into SCDAP.

6. Problems and Potential Problems

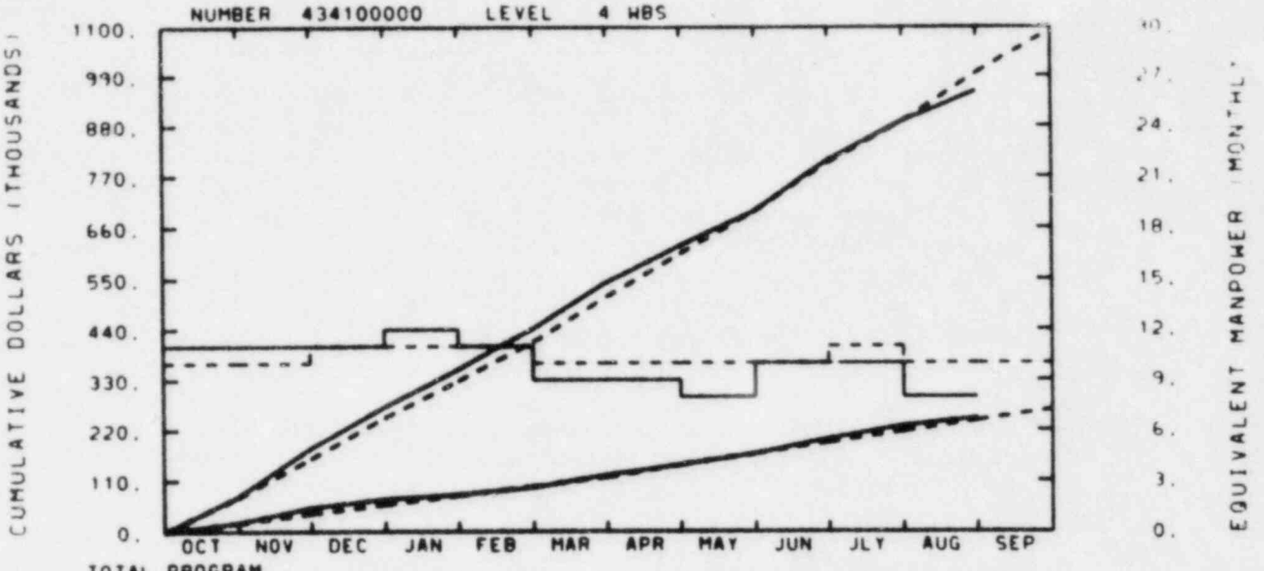
None

RESPONSIBLE MANAGER
F. AQUILAR

EG&G IDAHO INC.

LOSS-OF-COLNT ACC (A6052)

NUMBER 434100000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	74	158	248	328	412	511	605	695	799	889	996	1093
ACTUAL	76	181	272	353	441	542	622	695	804	890	956	

MATERIAL

BUDGET	19	39	58	78	97	117	144	168	192	217	241	265
ACTUAL	20	52	70	79	95	122	144	168	201	229	246	

MANPOWER

BUDGET	10	10	11	11	11	10	10	10	10	11	10	10
ACTUAL	11	11	11	12	11	9	9	8	10	10	8	

A6052

YTD VARIANCE: 40 (4%)

The current underrun of $40K is planned and will be carried over into FY-1983 to implement the FRAP Fuel Model into TRAC/BD1 MOD1.

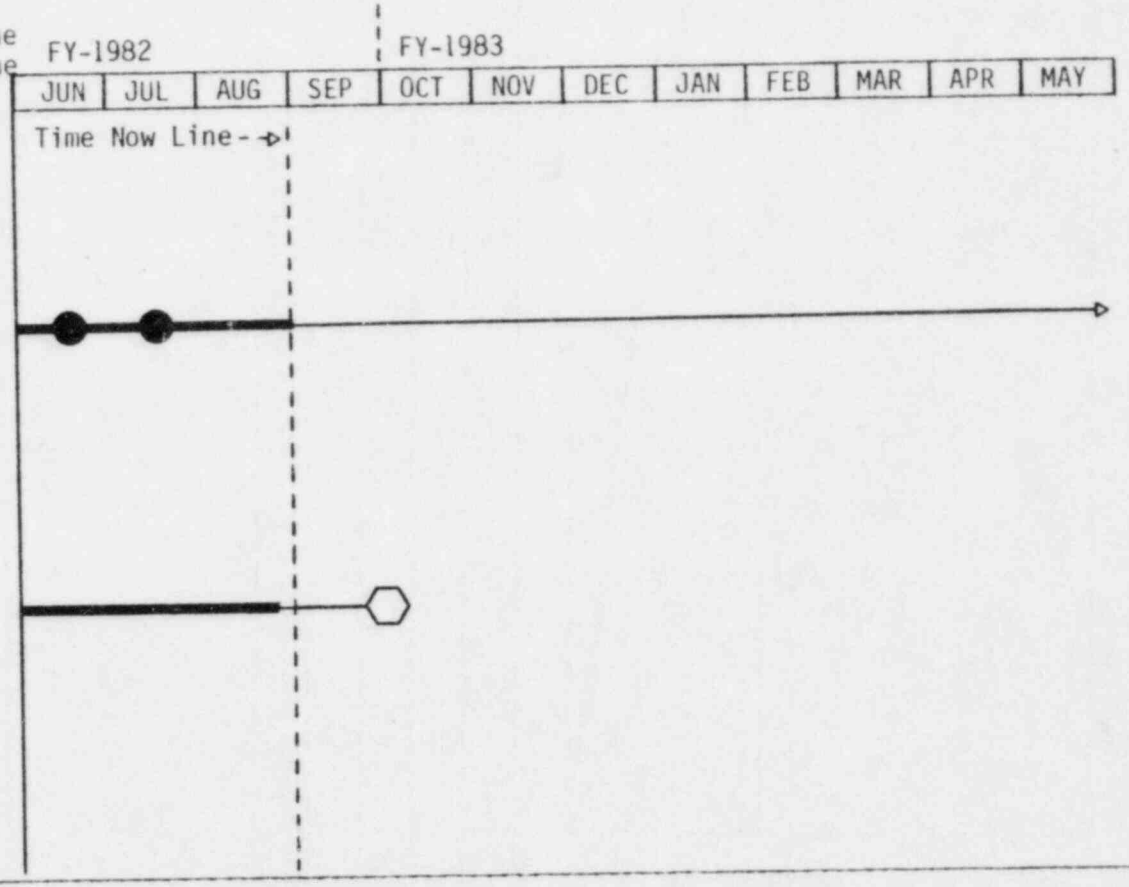
CODE DEVELOPMENT DIVISION

August 1982

TRAC-B Development (A6052)

LEGEND

- Completed Major Milestone
- Scheduled Major Milestone
- Slipped Major Milestone
- Completed Secondary Milestone
- Scheduled Secondary Milestone
- Slipped Secondary Milestone
- Actual Completion Date
- Scheduled Completion Date



NOTES:

1. 189a A6052 - Loss-of-Coolant Accident Analysis

2. Scheduled Milestones for August 1982

   None

3. Summary of Work Performed in August 1982

   a. Boiling Water Reactor (BWR) TRAC Development

      The completion report for the BWR initialization task was issued. Draft completion reports for the turbine model, the containment model, and the Brown's Ferry developmental assessment calculation were received and are being typed and reviewed. Work continued on the feedwater heater model.

      A presentation was made to the Code Assessment Coordination Meeting held in Washington, D.C. on August 23, 1982.

      The recommendations concerning interfacial shear received at the ACRG at INEL on July 27, 1982 were implemented and tested. They have greatly reduced but not completely eliminated the instability problems encountered in the analysis of the Lehigh post-CHF test data. Further recommendations were received from Dr. Ishii of Argonne National Laboratory (ANL). The new recommendations are being implemented and tested.

      Work was begun on evaluating the GE level model. The other GE models have not yet been received which has delayed their implementation into FY-1983.

   b. RELAP4/MOD5 and MOD7 Maintenance

      "Level 1" maintenance was provided.

4. Scheduled Milestones for September 1982

Node	Description	Due Date	Actual Date
NA	Completion of TRAC-BD1/MOD1 Model Development	09/30/82	

5. Summary of Work to be Performed in September 1982

a. Boiling Water Reactor (BWR) TRAC Development

Completion reports for the turbine model, containment model, and Brown's Ferry developmental assessment will be issued. The feedwater heater model will be completed and a draft completion report prepared. The committed workscope for FY-1982 will be completed with the issuance of the completion report for the feedwater heater model. Work will continue on implementing the latest interfacial shear recommendations from Dr. Ishii at ANL. Work will continue on evaluating the GE level model.

An INEL-GE code development coordination meeting will be held on September 21, 1982. The completion report for the GE separator-dryer model should be received at that time. Completion dates for the remainder of the GE models should also be received at this meeting.

b. RELAP4/MOD5 and MOD7 Maintenance

"Level 1" maintenance will be provided.

6. Problems and Potential Problems

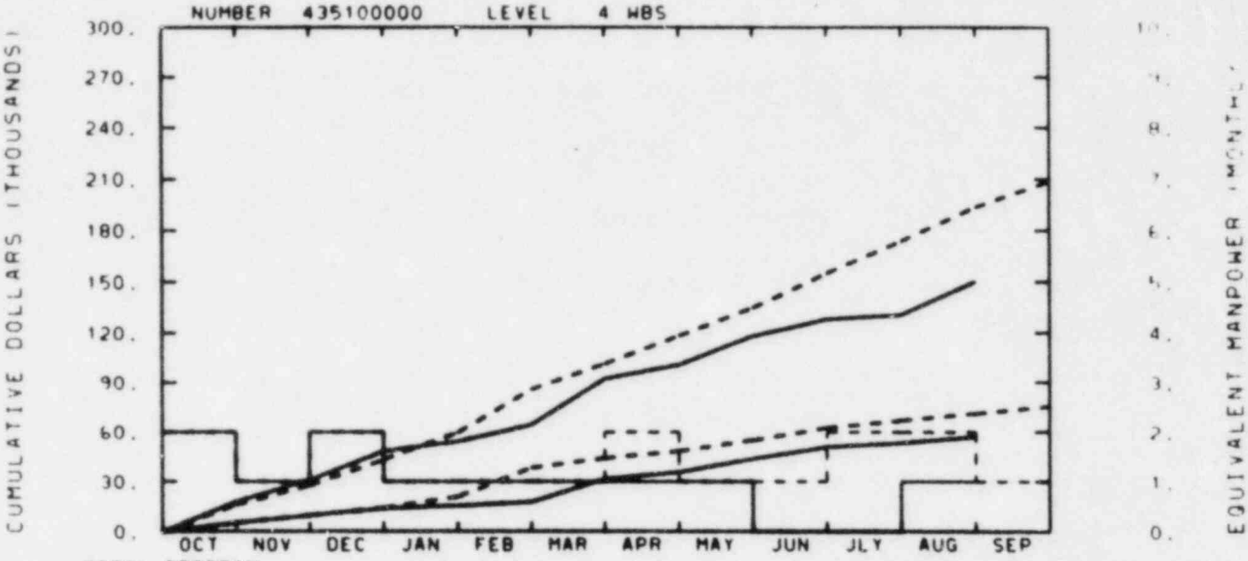
The debugging of the feedwater heater model has been progressing slower than originally anticipated. This slow progress may delay the completion of this model which is the last item of the committed work scope for FY-1982. Management actions have been taken to recover the schedule, and adequate resources are being applied to this activity. At this writing, schedule recovery is likely.

RESPONSIBLE MANAGER
F. AGUILAR

EG&G IDAHO INC.

HET TRAN CORRLATN (A6278)

NUMBER 435100000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	16	28	43	60	86	101	118	135	155	174	194	209
ACTUAL	18	31	48	54	64	92	101	118	128	131	150	

MATERIAL

BUDGET	5	10	14	21	38	44	48	55	62	67	71	75
ACTUAL	5	10	14	16	18	31	36	44	51	53	57	

MANPOWER

BUDGET	2	1	2	1	1	1	2	1	1	2	2	1
ACTUAL	2	1	2	1	1	1	1	1	0	0	1	

A6278

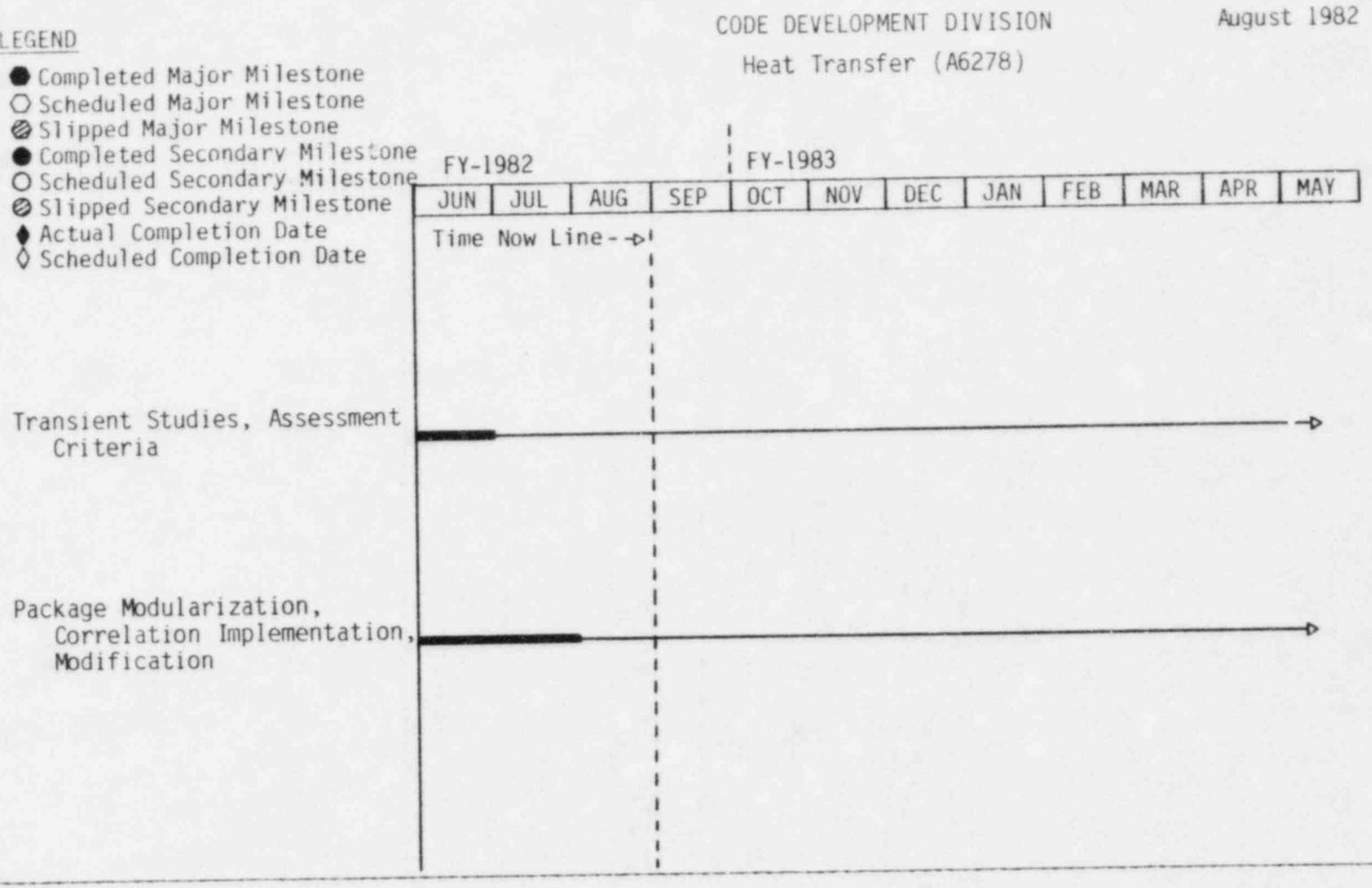
YTD VARIANCE: 44 (23%)

The $44K underrun consists of $8K unused NRC technical assistance, $6.5K HTFS subcontract for subscriptions, $24K labor, and $5.5K computer that has not been costed due to the problem with the Interfacial Shear Package. It is anticipated that this 189 will close out at $47K under budget in FY-1982, which will be carried over into FY-1983 to complete the Transient Sensitivity Study.

CODE DEVELOPMENT DIVISION

August 1982

Heat Transfer (A6278)



NOTES: The TRAC BWR Heat Transfer milestone chart is adapted from FA-68-81 and has been revised as per FA-154-81.

1. 189a A6278 - Heat Transfer Correlation Development and Assessment

2. Scheduled Milestones for August 1982

None

3. Summary of Work Performed in August 1982

The recommendations regarding the interfacial shear which were received at the ACRG meeting at INEL on July 27, 1982 were implemented and tested. They have significantly reduced but not completely eliminated the interfacial shear instability encountered in analysis of the Lehigh post-CHF data. Further recommendations were received from Dr. Ishii at ANL. These new recommendations are being implemented and tested. The transient sensitivity study has been delayed until the interfacial shear problems are fixed. The low pressure portion of the transient sensitivity study has been delayed by the instability problem caused by the interfacial shear. The high pressure portion could be completed now but would have to be redone after the interfacial shear modifications were completed and the instability problem resolved because the interfacial shear has a large effect on the results. Rather than perform the high pressure portion of the study twice, it has been delayed until the interfacial shear problem is resolved. A paper describing the BWR heat transfer work performed in FY-1982 was prepared for presentation at the 10th Water Reactor Safety Research Information Meeting in October 1982.

4. Scheduled Milestones for September 1982

None

5. Summary of Work to be Performed in September 1982

The testing of the new interfacial shear recommendations received from Dr. Ishii at ANL will continue. A preliminary work plan for FY-1983 will be prepared, reviewed and issued.

6. Problems and Potential Problems

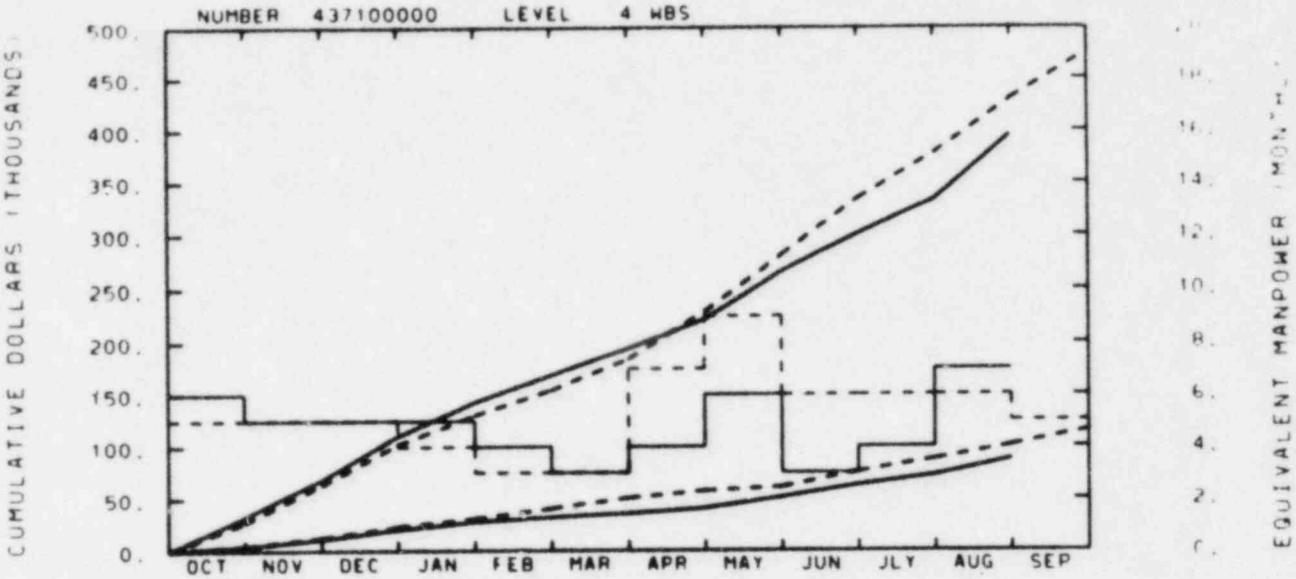
The interfacial shear problems revealed in the analysis of the Lehigh post-CHF data has severely impacted the completion of the transient sensitivity study. This study can only be completed after the problems have been corrected. At present, new recommendations for the resolution of this problem are being tested and the schedule for the transient sensitivity study cannot be revised until the problems are corrected. The testing of the new recommendations should be completed during September 1982.

RESPONSIBLE MANAGER
F. AGUILAR

EG&G IDAHO INC.

MOL SEV FUEL DAM (A6360)

NUMBER 437100000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	28	63	102	130	154	184	229	281	334	377	430	475
ACTUAL	33	69	110	143	169	194	222	266	301	333	395	

BUDGET - - - - - -
ACTUAL ———

MATERIAL

BUDGET	5	13	24	31	41	51	58	61	76	88	101	116
ACTUAL	5	12	21	28	32	36	41	51	63	72	88	

MANPOWER

BUDGET	5	5	5	4	3	3	7	9	6	6	6	5
ACTUAL	6	5	5	5	4	3	4	6	3	4	7	

A6360

YTD VARIANCE: 35 (8%)

An increase in labor and computer usage, which started in August and is planned to continue through September, will use the present underrun and close FY-1982 with no variance.

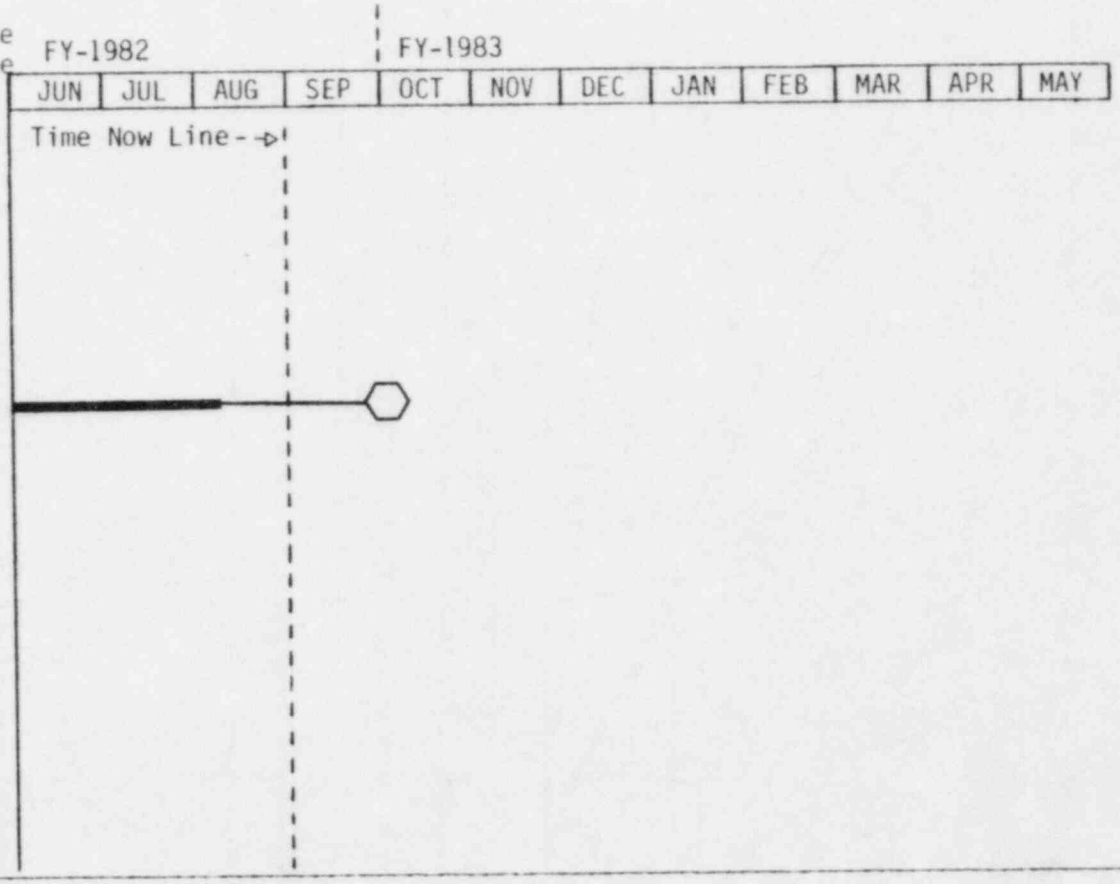
CODE DEVELOPMENT DIVISION

August 1982

Modeling Severe Fuel Damage (A6360)

LEGEND

- Completed Major Milestone
- Scheduled Major Milestone
- Slipped Major Milestone
- Completed Secondary Milestone
- Scheduled Secondary Milestone
- Slipped Secondary Milestone
- Actual Completion Date
- Scheduled Completion Date



NOTES:

1. 189a A6360 - Modeling Severe Fuel Damage

2. Scheduled Milestones for August 1982

None

3. Summary of Work Performed in August 1982

a. Debris Transition Model

Writing of the final sections of the report describing the debris transition models began during late August. The report will be completed during early October.

b. SCDCOMP Checkout and Testing

Checkout of the ballooning and control rod models continued during August but was not completed as planned. Functionality of the SCDCOMP subcode is now expected during September. The subcode was modified to accept the fission gas release models during August. The models will be incorporated into SCDCOMP during early September. An analysis of the TMI-2 accident was performed, and a paper for the October WRSR Information Meeting describing results of these calculations was written. Also, a study to show the effects of fuel rod length on hydrogen generation and material flow and freezing behavior was outlined. These analyses will be completed during September and results provided to DOE and NRC during October. Preparation of the SCDCOMP user's manual began during August. This manual will be incorporated into the SCDAP/MODO user's manual during early October.

c. SCDBUND Checkout and Testing

Checkout of SCDBUND continued during August but was not completed as planned. Functionality is not expected until early October.

d. SCDAP/MODO Checkout and Testing

Checkout of the debris transition and behavior portion of SCDAP/MODO began during August. However, these models were not made functional by the end of August as planned. This effort will not be completed until the latter part of September. Preparation of the SCDAP/MODO user's manual began during late August. The manual will be completed by about mid-October. It is not expected that checkout and testing of SCDAP/MODO will be completed until mid-October.

4. Scheduled Milestones for September 1982

Node	Description	Due Date	Actual Date
NA	Test/Checkout SCDAP/MODO	09/30/82	

5. Summary of Work to be Performed in September 1982

a. Debris Transition Model

The model will be modified to include calculation of an additional variable needed for the fission gas release models and to resolve logged deficiencies. These tasks are expected to be completed during late September or early October. Writing of the model description report will continue during September and the report is expected to be completed during early October.

b. SCDCOMP Checkout and Testing

Functionality of the SCDCOMP subcode is expected by mid-September. This will include completion of the ballooning and control rod models checkout, inserting the fission gas release models, and connecting several logged deficiencies. An analysis of the PBF-SFD-ST experiment and the TMI-2 accident will be performed using the entire set of SCDCOMP models. Preparation of a report describing SCDCOMP and its application to the above test cases will begin. The report will be completed during early October. Work will continue on preparation of the SCDCOMP user's manual during September. The manual will be completed during early October. Analyses for the length effects study will be completed during September. Results will be provided to DOE and NRC during October. Several model design reports will be updated to reflect modeling changes since the original model development and documentation.

c. SCDBUND Checkout and Testing

Checkout of SCDBUND will continue during September. It is expected that SCDBUND will be fully functional by early October. Preparation of a report describing the SCDBUND subcode will begin during late September and the report will be completed during early October. A description of the SCDBUND inputs will be completed during September for incorporation into the SCDAP/MODO user's manual. Analysis of SCDBUND for PBF-SFD-ST and TMI-2 will begin during late September and be completed during early October.

d. SCDAP/MODO Checkout and Testing

Checkout of the debris transition and behavior modeling portion of SCDAP/MODO will be completed during September. Checkout of SCDAP/MODO is expected to continue through mid-October. Preparation of the SCDAP/MODO user's manual will continue during September. The manual expected to be completed by about mid-October.

6. Problems and Potential Problems

The SCDAP/MODO checkout activity will not be completed by the September 30, 1982 milestone date. It is expected that all work will be completed by about mid-October but the checkout could extend well beyond this date to late November depending upon the extent and nature of problems encountered. Management actions have been taken and will continue to be taken to minimize the schedule delays. Adequate and full resources are being applied to this activity.

MONTHLY REPORT FOR

AUGUST 1982

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION

B. F. Saffell, Jr., Manager

E. L. Pierson
Plans and Budget Representative

PROGRAM MANAGER'S

SUMMARY AND HIGHLIGHTS

A6047: Documentation of the TLTA DBA and small break assessment calculations with TRAC-BD1 was completed.

A6283: Three reports were completed and issued to NRC during August:

a. The Users' Guide to BFR was printed and a camera-ready copy was sent to the NRC.

b. The pump common cause report was completed and printed and a camera-ready copy sent to the NRC.

c. The Instrumentation and Controls (I&C) common cause report was completed and a camera-ready copy was sent to the NRC.

A6290: The Users' Manual for LER One-Liners was completed and submitted to the NRC.

A6294: The draft report entitled, "Development of Improved Emergency Operating Procedures Guidelines" was completed.

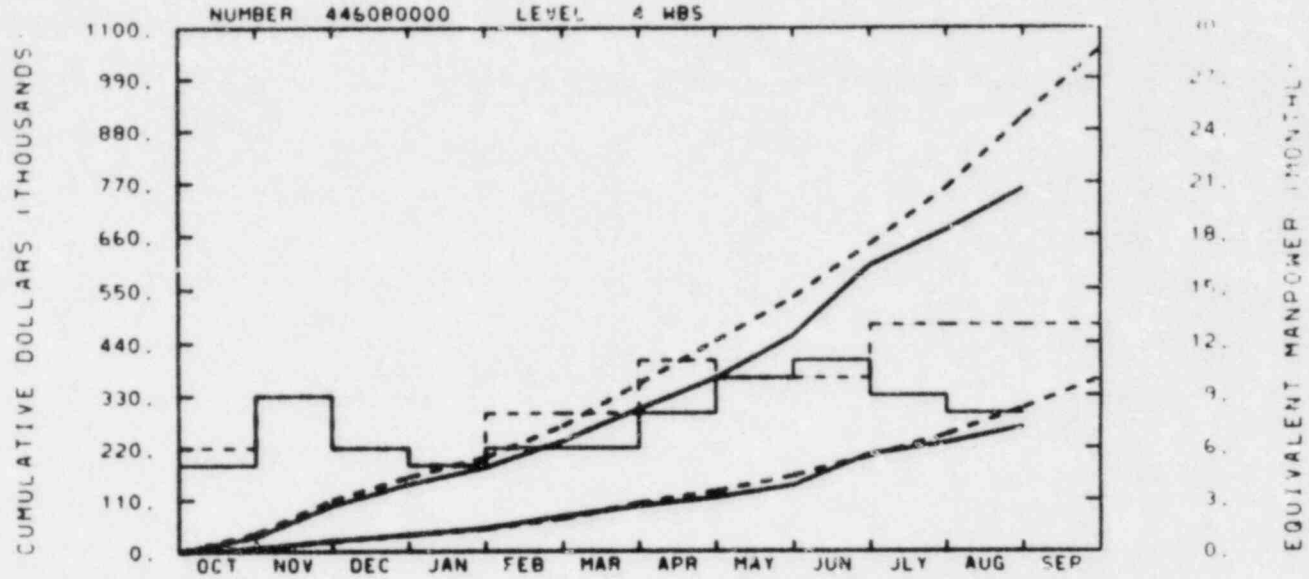
A6354: Documentation of the Browns Ferry scram discharge volume break analysis was completed.

RESPONSIBLE MANAGER
B F SAFFELL

EG&G IDAHO INC.

TECHNICAL SURVEILLANCE A6039

NUMBER 446080000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	38	110	159	200	265	355	443	533	641	758	906	1053
ACTUAL	32	98	143	178	234	302	367	455	598	671	757	

MATERIAL

BUDGET	7	23	36	48	69	102	128	161	202	248	303	366
ACTUAL	7	23	36	50	75	96	115	141	206	230	264	

MANPOWER

BUDGET	6	9	6	5	8	8	11	10	10	13	13	13
ACTUAL	5	9	6	5	6	6	8	10	11	9	8	

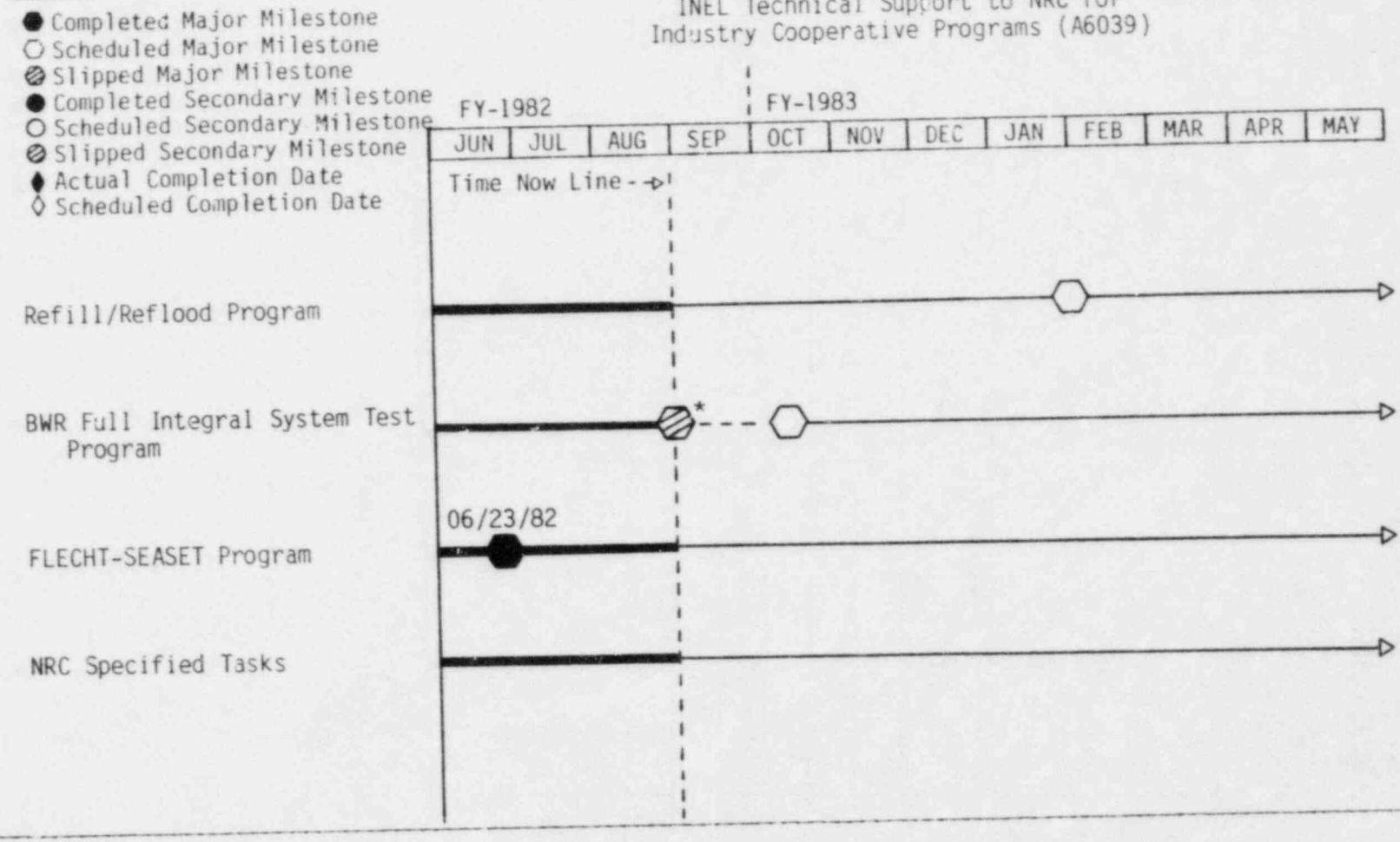
A6039

YTD VARIANCE: 149 (16%)

Because of delays in experimentally furnished information, three tasks have been delayed or postponed such that the planned carryover to FY-1983 is now approximately $160K. The spending rate is considered commensurate with these conditions.

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION August 1982

INEL Technical Support to NRC for
Industry Cooperative Programs (A6039)



NOTES: * The milestone slip is a result of the need for additional calculations for a better understanding of the BWR/6-FIST comparative behavior (as approved by DOE-ID and the NRC).

189a A6039

1. INEL Technical Support to NRC for Industry Cooperative Programs

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Boiling Water Reactor (BWR) Full Integral Simulation Test (FIST) Program: Work continued on the Automated Data Qualification (ADQ) software and the design of vessel Gamma Densitometers. ADQ is approximately 25% complete and the densitometer design is 10% complete. The BWR/6 and FIST calculations were reviewed and it was decided that both should be rerun. General Electric (GE) is providing a new update for level tracking and additional guidelines on the level tracking options. Calculational progress will be reviewed on September 1.

BWR Refill/Reflood (R/R) Program: All Single Heated Bundle (SHB) data was received from GE.

The 30°F Steam Sector Test Facility (SSTF) data was reviewed and information gaps identified to GE.

Full Length Emergency Cooling Heat Transfer-System Effects and Separate Effects Tests (FLECHT-SEASET) Program: The blockage data evaluation task was continued. The software necessary to derive enhancement factors from rod temperature data is being developed. Enhancement factors will be derived from the Flooding Experiment with Blocked Arrays (FEBA) data and compared with FLECHT-SEASET blockage data to determine the consistency of the data bases.

Personnel participated in the FLECHT-SEASET Program Management Meetings in San Jose.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

BWR-FIST Program: The BWR/6-FIST scaling study will be concluded and documented. The CDC data reduction software will be exercised as soon as a test data tape is available from GE. Work will begin on the FIST power transient study.

5. Summary of Work to be Performed in September 1982 (Continued)

BWR-R/R Program: INEL will continue to review SHB and SSTF data as it is incorporated into the NRC/DAE Data Bank.

FLECHT-SEASET Program: The blockage data evaluation task will continue.

6. Problems and Potential Problems

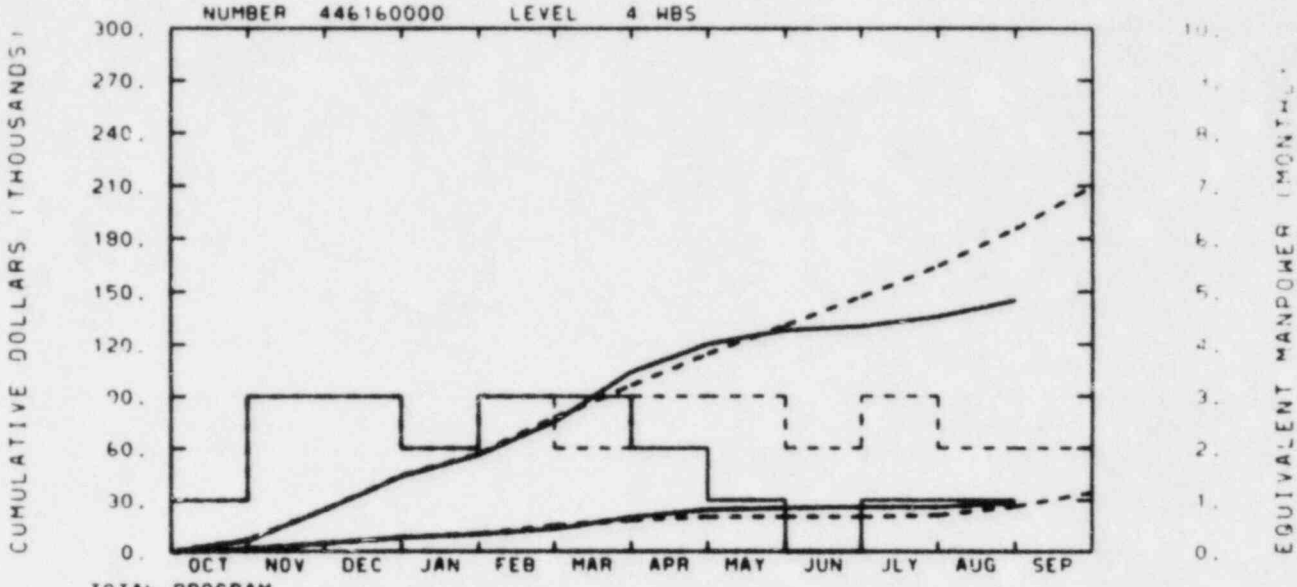
None.

RESPONSIBLE MANAGER
B. F. SAFFELL

EG&G IDAHO INC.

FUEL BEHAVIOR ANALYSIS A6046

NUMBER 446160000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	7	25	44	57	78	96	115	131	147	164	185	210
ACTUAL	7	24	44	56	75	104	120	128	130	136	145	

MATERIAL

BUDGET	2	5	8	10	15	18	20	20	20	21	26	34
ACTUAL	2	5	8	10	13	20	24	25	26	26	28	

MANPOWER

BUDGET	1	3	3	2	3	2	3	3	2	3	2	2
ACTUAL	1	3	3	2	3	3	2	1	0	1	1	

A6046

YTD VARIANCE: 40 (22%)

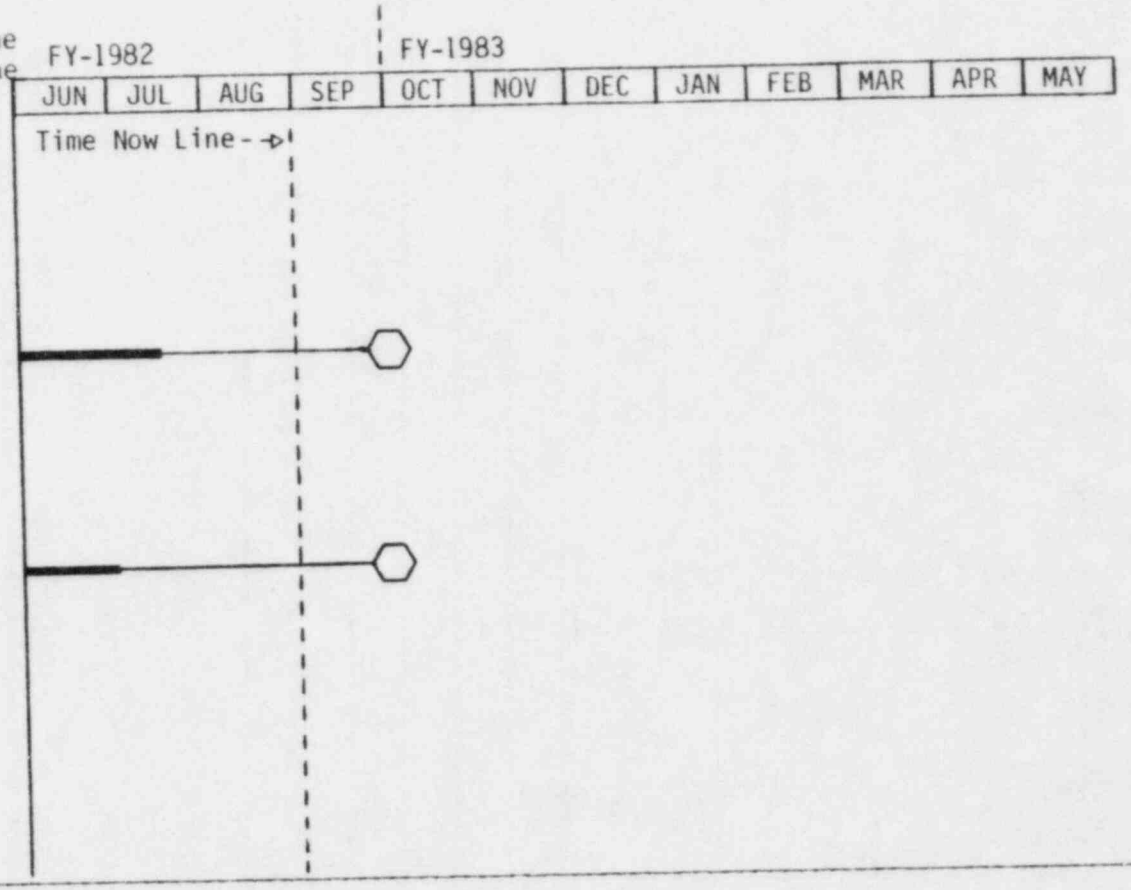
There has been a delay in receipt of SCDAP/MODO for assessment. Funding of $55K will be carried into FY-1983 to complete the SCDAP assessment.

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION August 1982

Fuel Code Assessment (A6046)

LEGEND

- Completed Major Milestone
- Scheduled Major Milestone
- Slipped Major Milestone
- Completed Secondary Milestone
- Scheduled Secondary Milestone
- Slipped Secondary Milestone
- Actual Completion Date
- Scheduled Completion Date



NOTES:

189a A6046

1. Fuel Behavior Analysis Assessment

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Data from the Nuclear Regulatory Commission's (NRC's) Halden test rigs IFA-527 and -513 are being added to the Fuels Data Bank.

Input for redoing the pretest calculation for the Power Burst Facility (PBF) Severe Fuel Damage Scoping Test using the SCDAP/MOD0 program is complete. The actual calculation has been temporarily suspended while last minute code modifications are being made.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Update Data Bank	9-30-82T	

5. Summary of Work to be Performed in September 1982

Addition of data to the Fuels Data Bank will be completed.

SCDAP/MOD0 assessment will continue when code modifications are completed.

6. Problems and Potential Problems

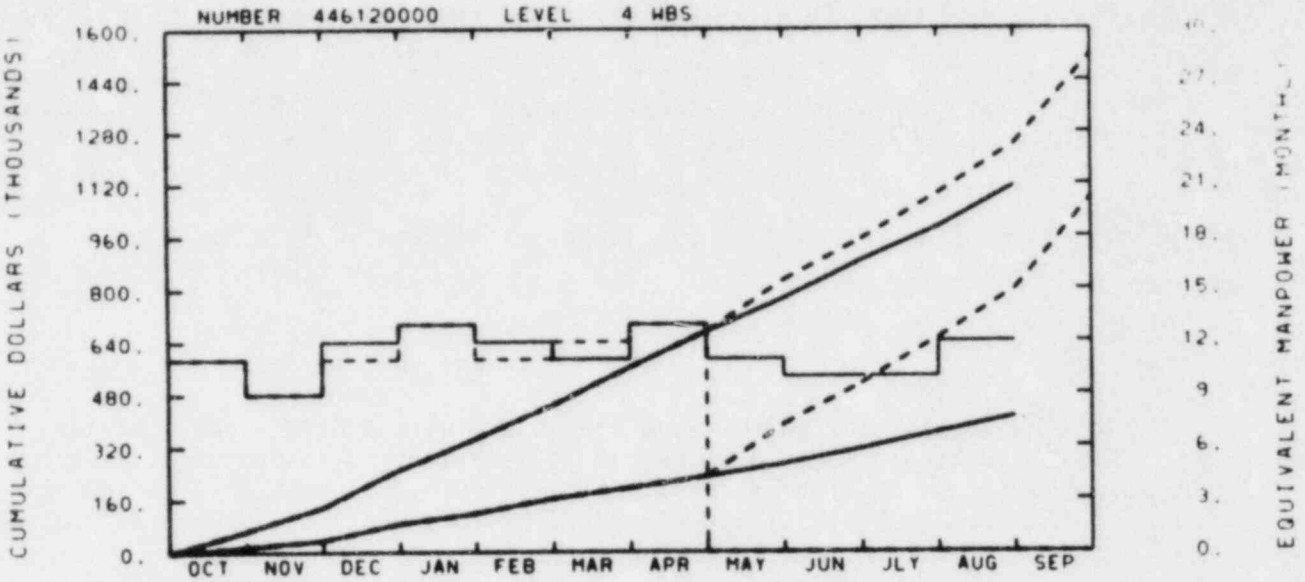
None.

RESPONSIBLE MANAGER
R F SAFFELL

EG&G IDAHO INC.

LOCA ANALYSIS ASSESSMENT A6047

NUMBER 446120000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	66	137	252	345	446	561	670	827	951	1089	1240	1519
ACTUAL	67	138	252	345	446	561	669	771	887	987	1113	

MATERIAL

BUDGET	18	37	88	119	163	195	230	387	511	649	798	1077
ACTUAL	18	38	88	119	163	195	229	267	313	362	410	

MANPOWER

BUDGET	11	9	11	13	11	12	13	0	0	0	0	0
ACTUAL	11	9	12	13	12	11	13	11	10	10	12	

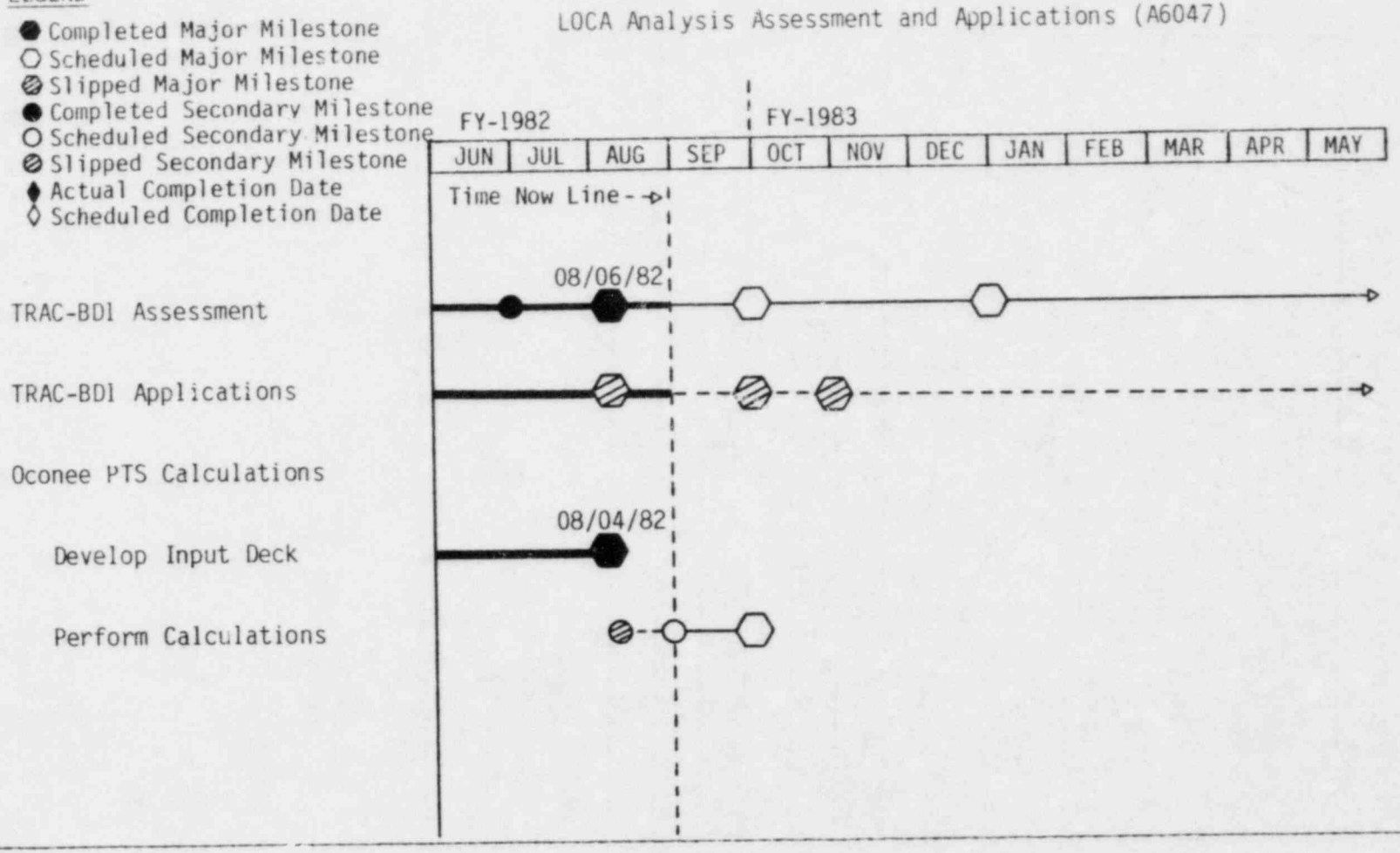
A6047

YTD VARIANCE: 127 (10%)

Carryover funding of approximately $210K is anticipated. The work scope to be carried into FY-1983 is consistent with the funding.

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION August 1982

LOCA Analysis Assessment and Applications (A6047)



NOTES:

189a A6047

1. LOCA Analysis Assessment and Applications

2. Scheduled Milestones for August 1982

Description	Due Date	Actual Date
Document Two-Loop Test Apparatus (TLTA) Assessment	8-9-82T	8-6-82C Saf-325-82

3. Summary of Work Performed in August 1982

Documentation of the TLTA Design Basis Accident (DBA) and Small Break assessment calculations with TRAC-BD1 was completed and issued. The TRAC-BD1 assessment calculations using FRIGG data were completed and the documentation started. A presentation summarizing the Idaho National Engineering Laboratory (INEL), FY-1982, TRAC-BD1 assessment results was given to the Nuclear Regulatory Commission (NRC) staff on August 23, 1982. The TRAC-BD1 assessment with data from the Steam Sector Test Facility (SSTF) reference Boiling Water Reactor (BWR)/6 test was continued.

A trip was taken to Middle South Energy (MSE) to gather information to build the Grand Gulf BWR/6 TRAC-BD1 model. A great deal of information was collected and also some needed proprietary information was defined. MSE proved to be very cooperative during the effort.

A presentation summarizing the assessment and applications of RELAP5 at the INEL was made at an assessment status meeting at the NRC on August 24, 1982.

The calculation of a steady state for Oconee 1 using the integrated control system was continued.

An initial calculation of a main steam line for the Oconee 1 plant was initiated. Several problems were encountered in the calculation of the secondary side of the steam generator. The problems were referred to the code development section.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
FRIGG Assessment	9-30-82T	

5. Summary of Work to be Performed in September 1982

The TRAC-BD1 assessment with SSTF BWR/6 test data will continue. An interim report documenting the TRAC-BD1 assessment with FRIGG test data will be completed and issued.

Construction of the Grand Gulf TRAC-BD1 models will continue. Also work will continue to complete analysis of the Dresden 3 reload audit calculations the results will be reported.

The calculation of four transients in support of pressurized thermal shock will be continued.

6. Problems and Potential Problems

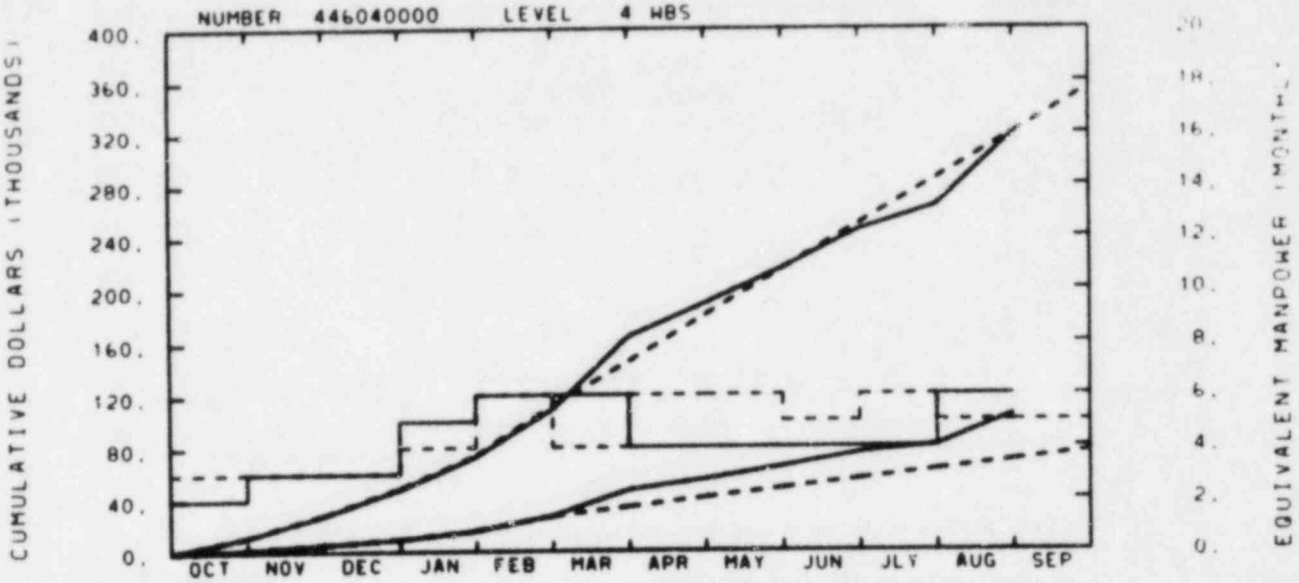
If a steady state with the full Oconee-1 model using the integrated control system cannot be completed by September 6, 1982, the four transients identified to be performed for the pressurized thermal shock task will probably not be completed by September 30, 1982.

RESPONSIBLE
MANAGER
B F SAFFELL

EG&G IDAHO INC.

DATA BANK A6102

NUMBER 446040000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	12	29	49	74	112	145	180	215	250	285	319	354
ACTUAL	12	28	48	73	109	164	189	216	245	264	319	

MATERIAL

BUDGET	2	6	10	16	27	34	41	48	55	62	69	76
ACTUAL	2	6	10	16	27	47	55	65	75	81	104	

MANPOWER

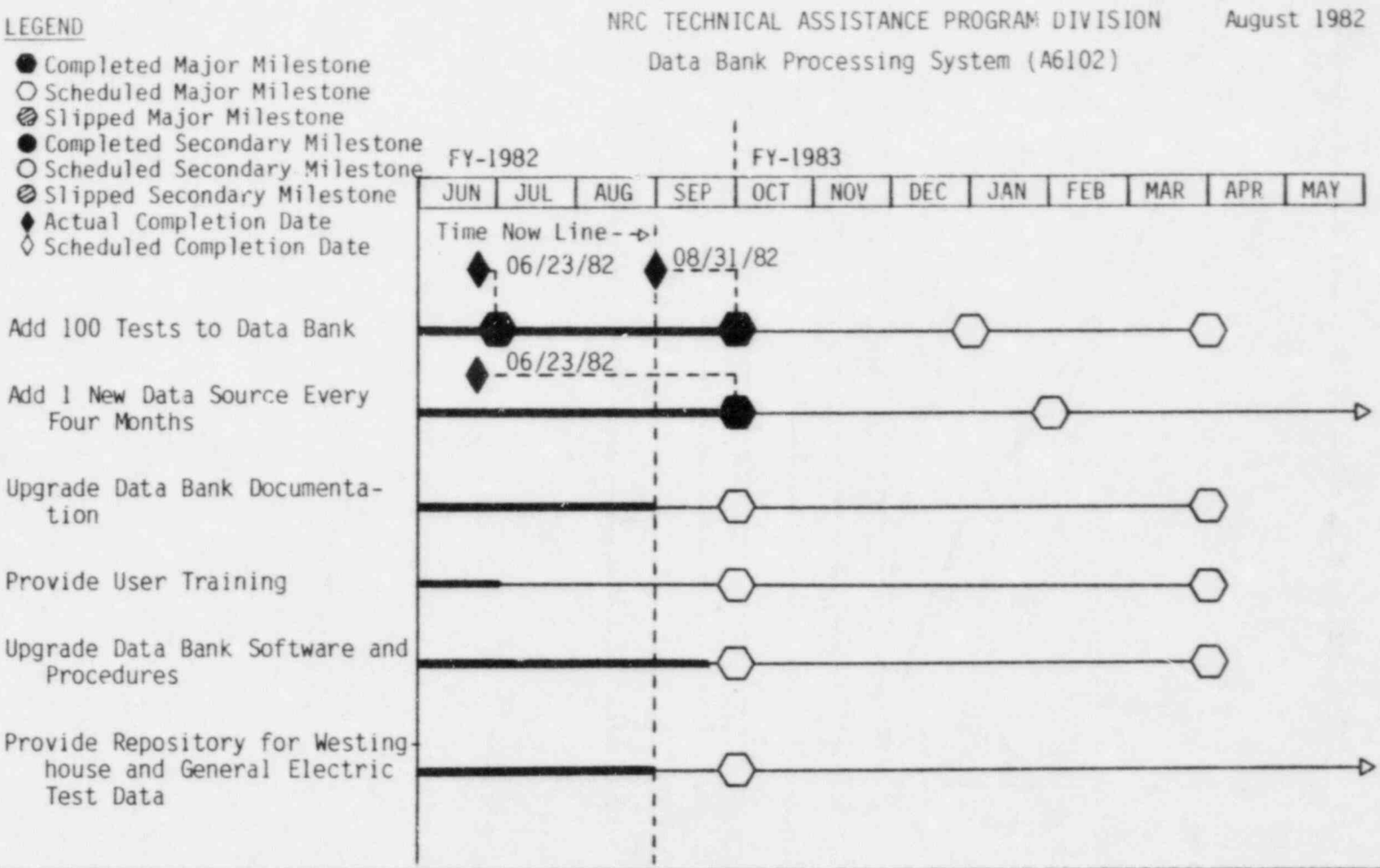
BUDGET	3	3	3	4	6	4	6	6	5	6	5	5
ACTUAL	2	3	3	5	6	6	4	4	4	4	6	

A6102

YTD VARIANCE: 0

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION August 1982

Data Bank Processing System (A6102)



NOTES:

189a A6102

1. NRC/DAE Data Bank

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Data from several tests were added to the Data Bank, namely, LOFT L2-5, Semiscale NC-09, FLECHT-SEASET 42108A and 43208A, and SHBF 2037 and 2101.

Work on the Data Bank Entry Standard Procedures report continued. Sections were added regarding password protection.

Letters were mailed to 60 prospective Data Bank users.

A presentation was prepared for the 10th Water Reactor Safety Information Meeting.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Add tests to Data Bank	9-30-82T	
Upgrade Data Bank Documentation	9-30-82T	
Provide User Training	9-30-82T	
Upgrade Data Bank Software and Procedures	9-30-82T	
Provide General Electric (GE), Westinghouse, data reporting	9-30-82T	

5. Summary of Work to be Performed in September 1982

Data entry and user services will continue.

The Standard Procedures report will be issued.

The Data Bank Users Manual residing in the Data Bank software will be updated to reflect recent changes in LOGIN procedures.

6. Problems and Potential Problems

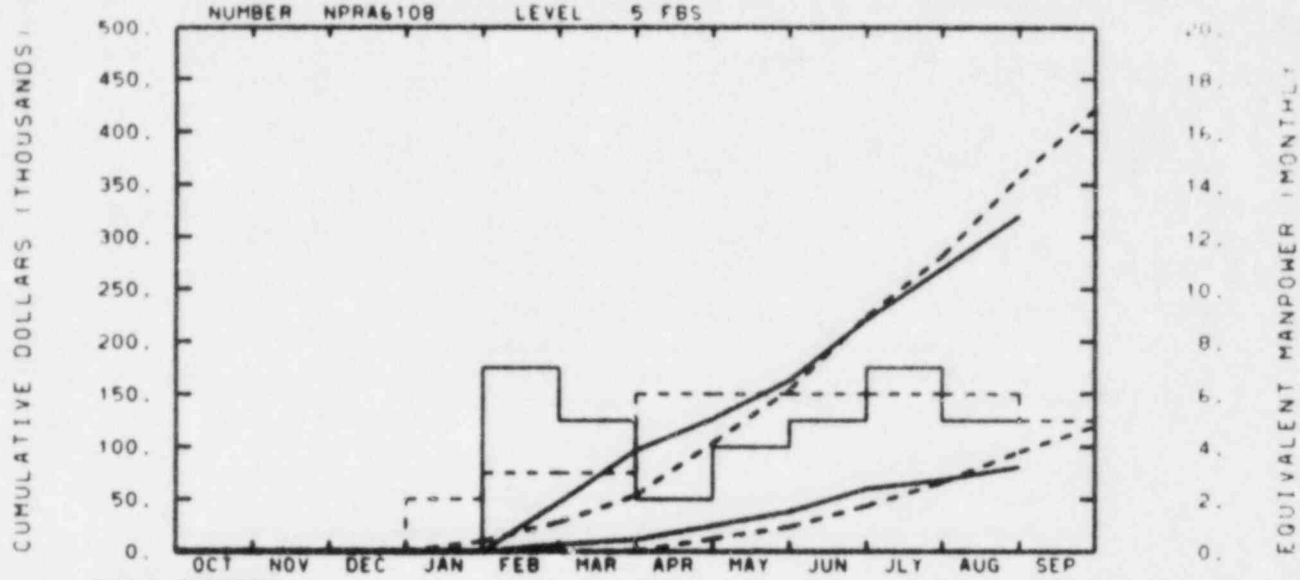
None.

RESPONSIBLE MANAGER POINTER

EG&G IDAHO INC.

DIAGNOSTIC GRAPHICS RES A6108

NUMBER NPRA6108 LEVEL 5 FBS



TOTAL PROGRAM

BUDGET	0	0	0	10	28	54	104	154	224	282	358	421
ACTUAL	0	0	0	0	47	97	127	163	221	270	321	

MATERIAL

BUDGET	0	0	0	0	0	1	12	24	44	66	95	119
ACTUAL	0	0	0	0	7	12	25	38	60	68	81	

MANPOWER

BUDGET	0	0	0	2	3	3	6	6	6	6	6	5
ACTUAL	0	0	0	0	7	5	2	4	5	7	5	

A6108

YTD VARIANCE: 37 (10%)

Work is proceeding as scheduled. It is expected and desired that funds from this task will be carried over into FY-1983.

189a A6108

1. Diagnostic Graphics Research

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Task 1 - Effects of Control Room Modifications: Report printed and distributed as of September 3, 1982. Task is now complete.

Task 2 - Advanced Display Concepts: Response Tree, Prediction Display and Safety Parameter Display System report preparation has proceeded on schedule.

Task 3 - Graphics Display Research Facility (GDRF): Completed in June with the publication of NUREG/CR-2711.

Task 4 - Upgrade Experimental Capability: Construction work on structural tasks for experiment room was completed. Specifications and plans for lighting and sound-damping additions have been completed. Experiment console specifications have been prepared.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Draft Response Tree report	9-30-82E	
Draft Prediction Display report	9-30-82E	
Letter report on Safety Parameter Display System Survey	9-30-82E	

5. Summary of Work to be Performed in September 1982

Task 1 - Effects of Control Room Modifications: Previously complete.

Task 2 - Advanced Display Concepts: Report preparation will continue to support September milestones.

Task 3 - Graphics Display Research Facility: Previously complete.

Task 4: Upgrade Experimental Capability: Work will continue on sound damping and lighting modifications to experiment room. Bids will be sought for experimental console.

6. Problems and Potential Problems

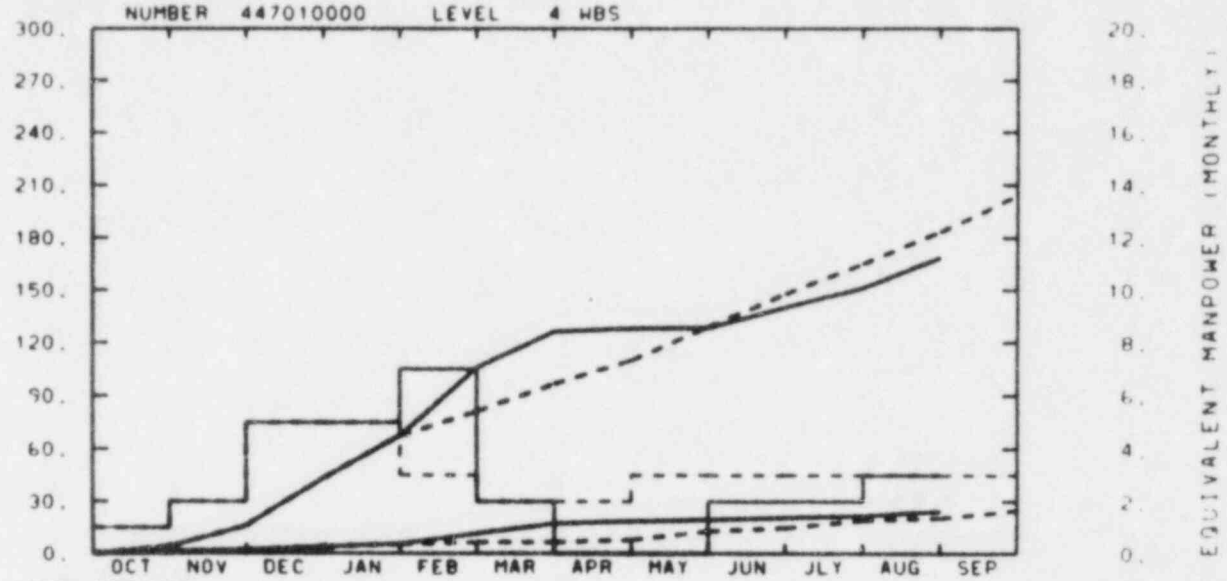
None.

RESPONSIBLE
MANAGER
B F SAFFELL

EG&G IDAHO INC.

LER FAILURE RATE A6276

NUMBER 447010000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	4	16	43	67	81	97	110	129	148	165	183	204
ACTUAL	4	16	43	67	106	126	128	128	140	151	168	

MATERIAL

BUDGET	1	2	4	5	7	7	8	13	15	19	20	25
ACTUAL	2	2	4	6	12	17	19	20	21	22	24	

MANPOWER

BUDGET	1	2	5	5	3	2	2	3	3	3	3	3
ACTUAL	1	2	5	5	7	2	0	0	2	2	3	

BUDGET - - - - - -

ACTUAL ———

A6276

YTD VARIANCE: 15 (8%)

Project costs and projected expenditures are consistent with work scope and will result in a projected carryover of $19K.

189a A6276

1. Licensee Event Report (LER) Failure Rate Analysis

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

The results of the special study on batteries and battery chargers were incorporated in an interim report.

The updating of the instrumentation and control (I&C) component coding from the first I&C LER summary (NUREG/CR-1740) was completed. The I&C one-line records were reviewed for completeness and accuracy. Population information for failure rate estimation was obtained.

The work scope carryover from FY-1982 to 1983 is consistent with the projected budget carryover.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
I&C Update Draft Report	9-30-82	

5. Summary of Work to be Performed in September 1982

Computer runs generating rate estimates and plots, as well as summary tables and bar charts, will be completed. The text of NUREG/CR-1740 will be updated with the new information, and portions will be rewritten to reflect the improved methodology. A draft of the report for internal review will be available by the end of the month. The estimated milestone date indicated in Item 4 will be slipped back to allow time for completion of typing and internal review, with NRC approval. This is in accordance with the projected 10K carryover for this project.

During September, an interim report describing the battery and battery charger special study will be transmitted by letter to the NRC, thus completing that effort.

6. Problems and Potential Problems

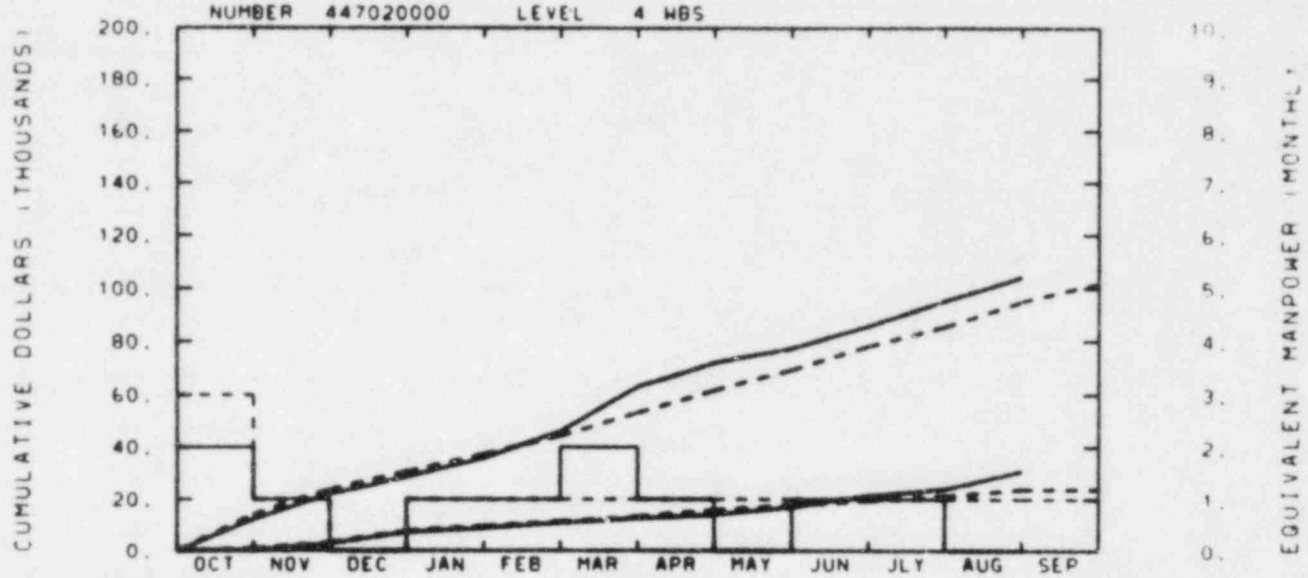
None.

RESPONSIBLE
MANAGER
B F SAFFELL

EG&G IDAHO INC.

COMMON CAUSE STAT MODELING A6283

NUMBER 447020000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	14	24	31	37	44	53	62	69	78	85	95	102
ACTUAL	12	22	29	36	46	63	72	77	86	95	102	

MATERIAL

BUDGET	1	3	8	10	11	13	16	18	19	21	24	24
ACTUAL	0	3	7	9	11	13	14	17	21	24	31	

MANPOWER

BUDGET	3	1	0	1	1	1	1	1	1	1	1	1
ACTUAL	2	1	0	1	1	2	1	0	1	1	0	

BUDGET
- - - - - -
ACTUAL

A6283

YTD VARIANCE: <7> (7%)

189a A6283

1. Common Cause Data Analysis

2. Scheduled Milestones for August 1982

Description	Due Date	Actual Date
Pumps Common Cause NUREG	8-31-82T	8-18-82C Saff-340-82

3. Summary of Work Performed in August 1982

The Users Guide to BFR was printed, and a camera-ready copy was sent to the Nuclear Regulatory Commission (NRC), for publication as a NUREG.

The pump common cause report was completed and printed and a camera-ready copy was sent to the NRC.

The Instrumentation and Control (I&C) common cause report was completed. A camera-ready copy was sent to the NRC.

The valve report was in editing.

This project is on budget and ahead of schedule.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Valves Common Cause NUREG	9-30-82	
I&C Common Cause NUREG	9-30-82T	8-31-82C Saff-355-82
Users Guide to BFR	9-30-82T	8-3-82C Saff-320-82

5. Summary of Work to be Performed in September 1982

The valve report will be printed. A camera-ready copy will be sent to the NRC.

6. Problems and Potential Problems

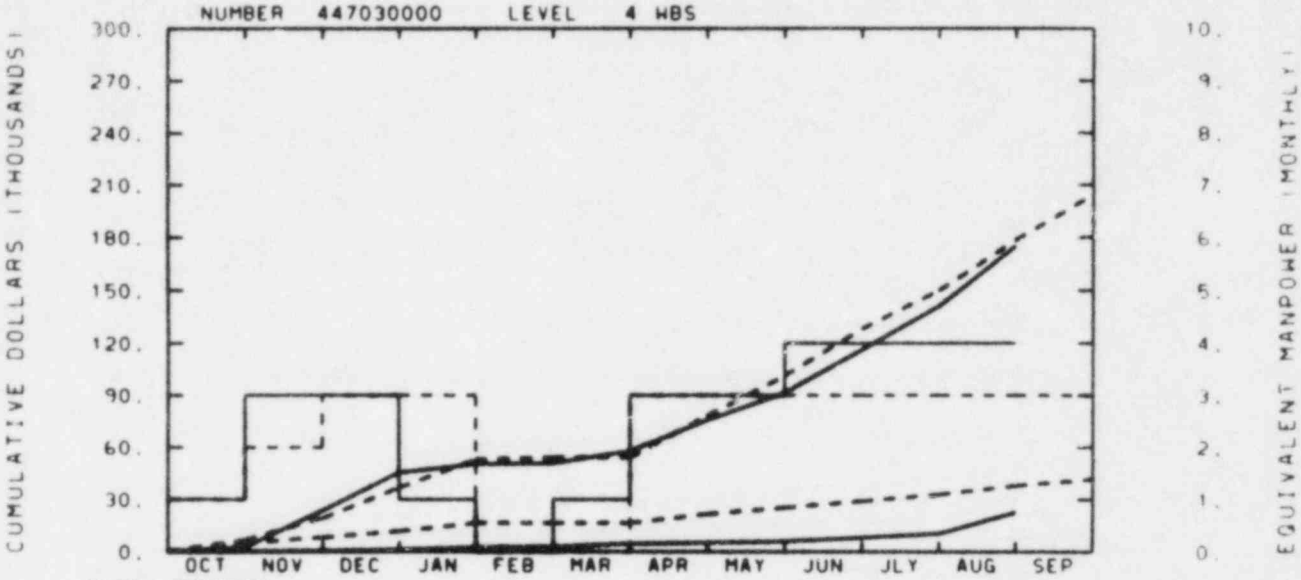
None.

RESPONSIBLE
MANAGER
F F SAFFELL

EG&G IDAHO INC.

NPRDS DATA ANALYSIS A6290

NUMBER 447030000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	7	19	37	53	54	54	78	101	128	150	178	204
ACTUAL	2	24	45	50	51	58	76	91	116	141	175	

MATERIAL

BUDGET	5	8	12	17	17	17	22	25	29	33	38	42
ACTUAL	0	1	1	2	3	5	5	6	8	11	23	

MANPOWER

BUDGET	1	2	3	3	0	0	3	3	3	3	3	3
ACTUAL	1	3	3	1	0	1	3	3	4	4	4	

BUDGET

ACTUAL

A6290

YTD VARIANCE: 3 (2%)

189a A6290

1. Nuclear Plant Reliability Data System (NPRDS) Data Analysis

2. Scheduled Milestones for August 1982

Description	Due Date	Actual Date
Interim letter report on second-sample analysis	8-20-82T	8-19-82C Sullivan-to-Dennig Notegram
Users Manual for LER One-liners	8-31-82T	8-31-82C Saff-354-82

3. Summary of Work Performed in August 1982

The two milestones in Item 2 were completed.

The Licensee Event Reports (LERs) for the third sample have been received and have been analyzed.

The project is on budget and the work is proceeding consistent with the receipt of LERs and NPRDS data.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

Upon receipt of the second quarter of CY-1982 NPRDS data, they will be analyzed and a report initiated.

6. Problems and Potential Problems

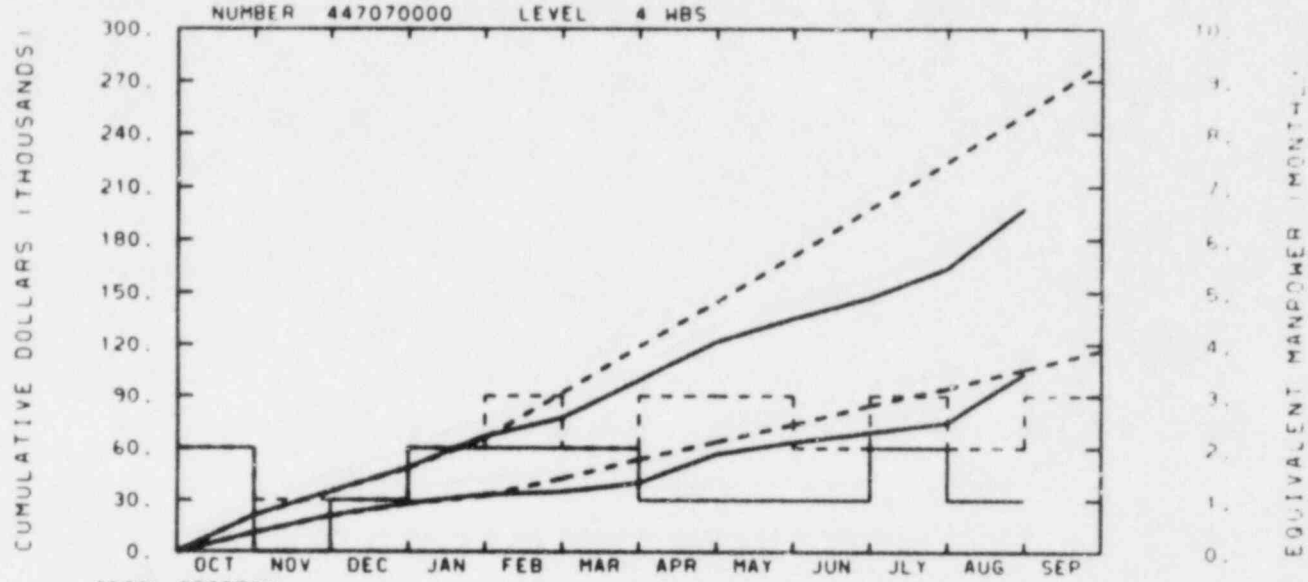
None.

RESPONSIBLE MANAGER
B F SAFFELL

EG&G IDAHO INC.

PLANT STATUS MONITORING A6294

NUMBER 447070000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	21	35	48	66	92	119	145	171	198	224	251	280
ACTUAL	21	35	49	67	77	99	122	135	147	164	198	

MATERIAL

BUDGET	11	21	28	33	43	54	64	74	85	95	106	117
ACTUAL	11	21	28	33	35	40	57	63	69	75	103	

MANPOWER

BUDGET	2	1	1	2	3	2	3	3	2	3	2	3
ACTUAL	2	0	1	2	2	2	1	1	1	2	1	

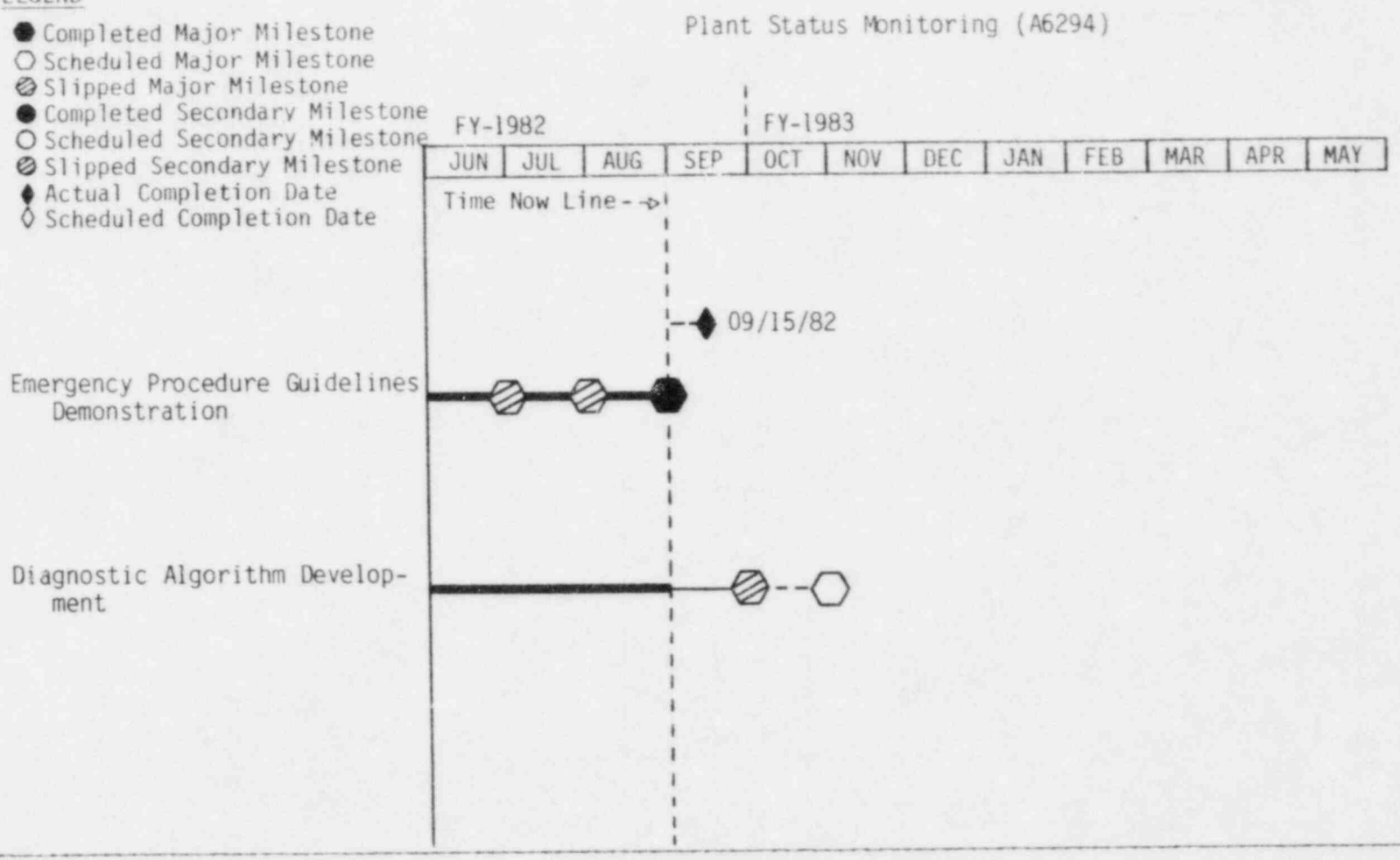
A6294

YTD VARIANCE: 53 (21%)

The underrun is mainly due to the delayed initiation of the development of diagnostic algorithms and the late initiation of the subcontract work to demonstrate the usefulness of operator action event trees in the development of emergency procedure guidelines. The final decision to proceed with the diagnostic algorithm development was made in the program midyear review held in March. Work on both tasks is in progress. The anticipated FY-1982 carryover is $30K. This will be used to complete the diagnostic algorithm development, complete the emergency procedure guideline work for Westinghouse plants, and to support the emergency procedure guideline work for General Electric Plants (A6331).

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION August 1982

Plant Status Monitoring (A6294)



NOTES: This schedule will be revised in the near future to reflect additional tasks congruent with work scope agreements between NRC and EG&G Idaho.

189a A6294

1. Plant Status Monitoring

2. Scheduled Milestones for August 1982

Description	Due Date	Actual Date
EPG Demonstration	8-31-82T	9-15-82C Saff-382-82

3. Summary of Work Performed in August 1982

The draft report entitled, Development of Improved Emergency Operating Procedure Guidelines, was completed. The report documented the operator action event tree based method used in developing improved emergency operating procedures. It also documented the application of the method to the Westinghouse Owners Group Emergency Procedure Guidelines. The report will be transmitted to Nuclear Regulatory Commission (NRC) for review in September.

The diagnostic algorithm task continued in preparation for writing the report.

A presentation outlining this program and other related programs was made to NRC-Office of Nuclear Regulatory Research (RES) and NRC-Nuclear Reactor Regulation (NRR) human factors personnel at the Idaho National Engineering Laboratory (INEL).

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

A draft report will be written documenting the diagnostic algorithm development.

6. Problems and Potential Problems

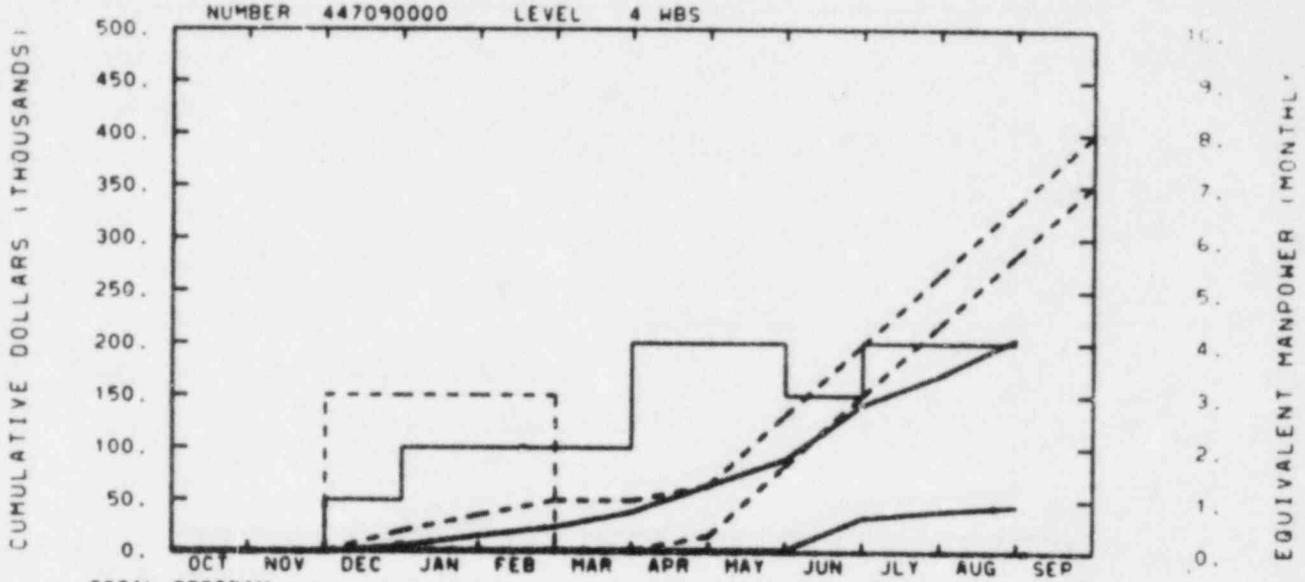
None.

RESPONSIBLE
MANAGER
B F SAFFELL

EG&G IDAHO INC.

ACCIDENT SEQ EVALUATION A6301

NUMBER 447090000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	20	36	50	50	64	131	198	266	333	400
ACTUAL	0	0	6	15	24	39	65	89	141	170	205	

MATERIAL

BUDGET	0	0	2	2	2	2	16	83	150	217	285	352
ACTUAL	0	0	1	1	2	2	2	2	33	40	45	

MANPOWER

BUDGET	0	0	3	3	3	0	0	0	0	0	0	0
ACTUAL	0	0	1	2	2	2	4	4	3	4	4	

BUDGET

ACTUAL

A6301

YTD VARIANCE: 128 (38%)

The project is adhering to the latest schedule. Costs are consistent with that schedule and the projected carryover to FY-1983.

189a A6301

1. INEL Accident Sequence Evaluation Program (ASEP)

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Sensitivity analyses for the Phase II report were completed. Workshop participants have been selected and notified. Contracts for their participation are being negotiated. The draft of the Phase II report was reviewed.

We participated in the first IDCOR/Nuclear Regulatory Commission (NRC) technical interchange meeting in Knoxville, Tennessee.

The project is on schedule and the budget is consistent with the projected carryover.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

We will assist Sandia in completing and transmitting the Phase II report review package. The work package will be reviewed by Idaho National Engineering Laboratory (INEL) technical experts in preparation for the October workshop.

6. Problems and Potential Problems

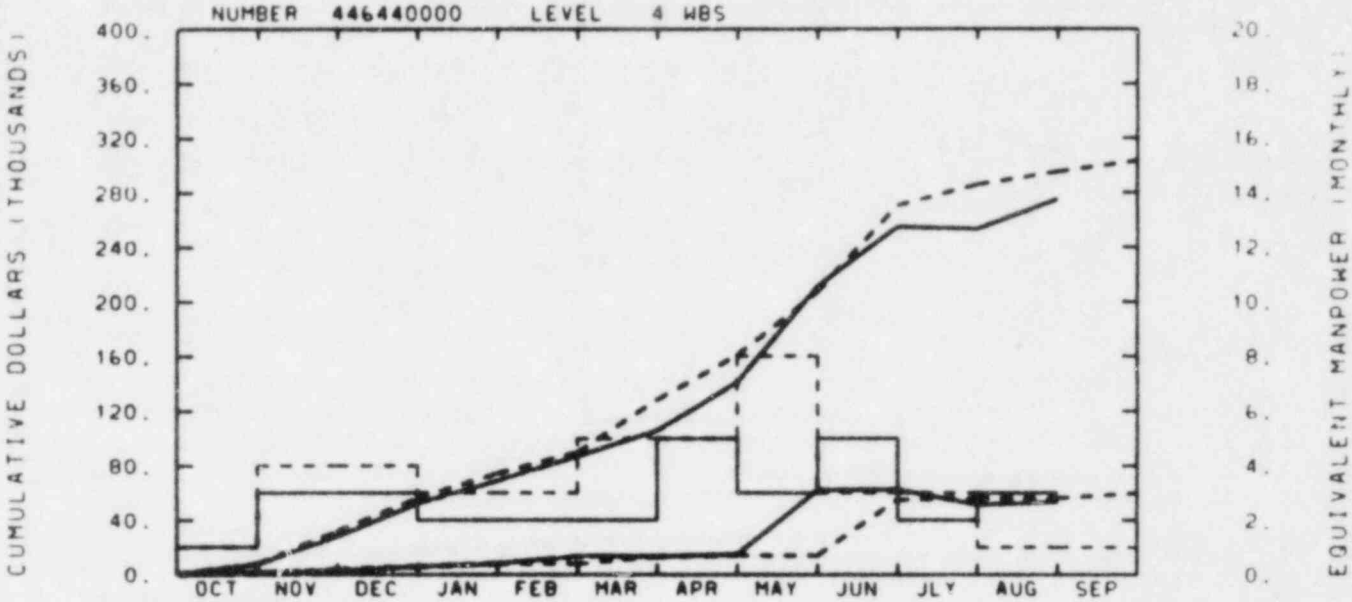
None.

RESPONSIBLE MANAGER
B F SAFFELL

EG&G IDAHO INC.

HDR EVALUATION A6306

NUMBER 446440000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	8	32	56	74	90	128	161	207	270	286	295	303
ACTUAL	8	28	52	69	87	106	141	211	255	253	275	

MATERIAL

BUDGET	1	4	6	8	8	13	14	14	55	56	56	60
ACTUAL	2	3	6	8	14	13	15	62	63	51	53	

MANPOWER

BUDGET	1	4	4	3	3	5	5	8	3	3	1	1
ACTUAL	1	3	3	2	2	2	5	3	5	2	3	

BUDGET - - - - - -

ACTUAL ———

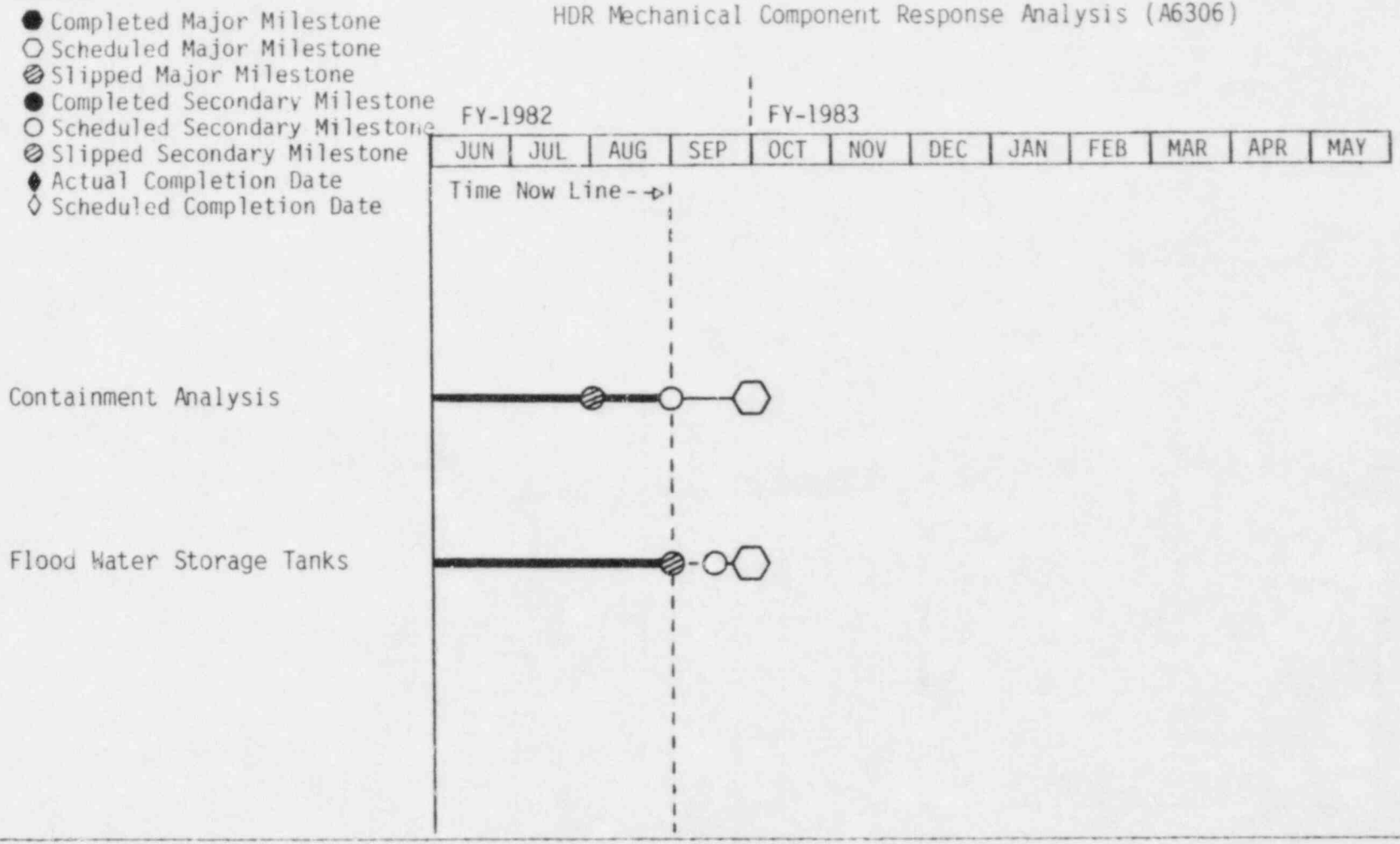
A6306

YTD VARIANCE: 20 (7%)

Lower than anticipated travel and shipping costs coupled with decreased costs for the HDR testing have resulted in a $20K underrun. An accelerated effort will bring costs and budget more in line, however, a carryover of $4K is anticipated.

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION August 1982

HDR Mechanical Component Response Analysis (A6306)



NOTES: All nodes are subject to change based on HDR's schedule.

189a A6306

1. Heiss Dampf Reaktor (HDR) Mechanical Component Response Analysis Testing

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Data obtained at HDR for the containment continued to be reduced such that modal properties (frequencies, mode shapes and dampings) were determined.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

Data reduction will be completed for the containment and floodwater storage tank, comparisons will be made for different excitations, and a draft report will be completed.

6. Problems and Potential Problems

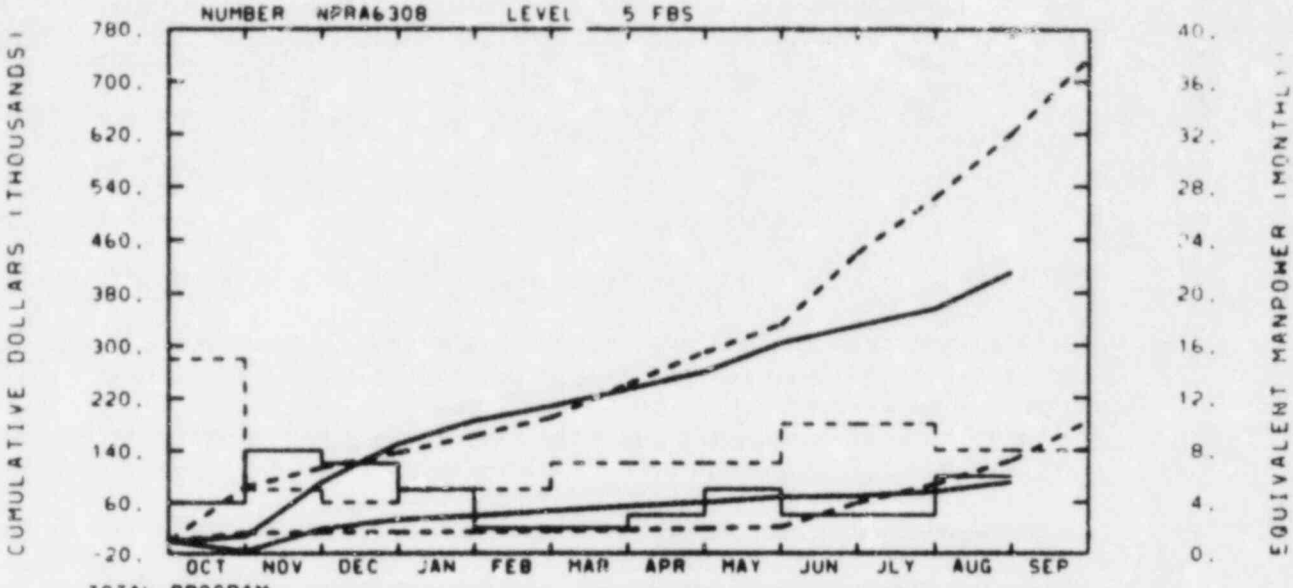
None.

RESPONSIBLE MANAGER
T F POINTER

EG&G IDAHO INC.

DISPLAY DESIGN AND EVAL A6308

NUMBER NPRA6308 LEVEL 5 FBS



TOTAL PROGRAM

BUDGET	84	114	137	162	190	241	289	331	439	523	621	736
ACTUAL	7	91	150	185	207	233	259	303	330	356	411	

MATERIAL

BUDGET	13	13	13	14	15	17	19	21	59	88	124	184
ACTUAL	-15	19	33	39	47	54	60	68	70	76	91	

MANPOWER

BUDGET	15	5	4	5	5	7	7	7	10	10	8	8
ACTUAL	4	8	7	5	2	2	3	5	3	3	6	

BUDGET - - - - - -

ACTUAL ———

A6308

YTD VARIANCE: 210 (34%)

Work is proceeding as scheduled. It is expected and desired that funds from this task will be carried over into FY-1983.

189a A6308

1. Display Design and Evaluation

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Simulator-based pilot test display evaluation experiment began. Data from several subjects has been collected.

The Lexidata graphics system was made ready to support simulation experiments.

A pressure-temperature map specification was prepared. Consideration is being given to using a RELAP5 code simulation of an Oconee nuclear power plant (Babcock & Wilcox) for display evaluation of a pressure-temperature map.

Work on year-end reports has progressed on schedule.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Human Engineering Design Considerations for CRT Displays	9-30-82	
Multimethod Display Evaluation	9-30-82	
Multivariate Rating Scale Display Evaluation	9-30-82	
Detection and Recognition Measures of SPDS Formats	9-30-82	

5. Summary of Work to be Performed in September 1982

Draft reports described under September milestones will be prepared.

Pilot test data will be collected and analyzed.

6. Problems and Potential Problems

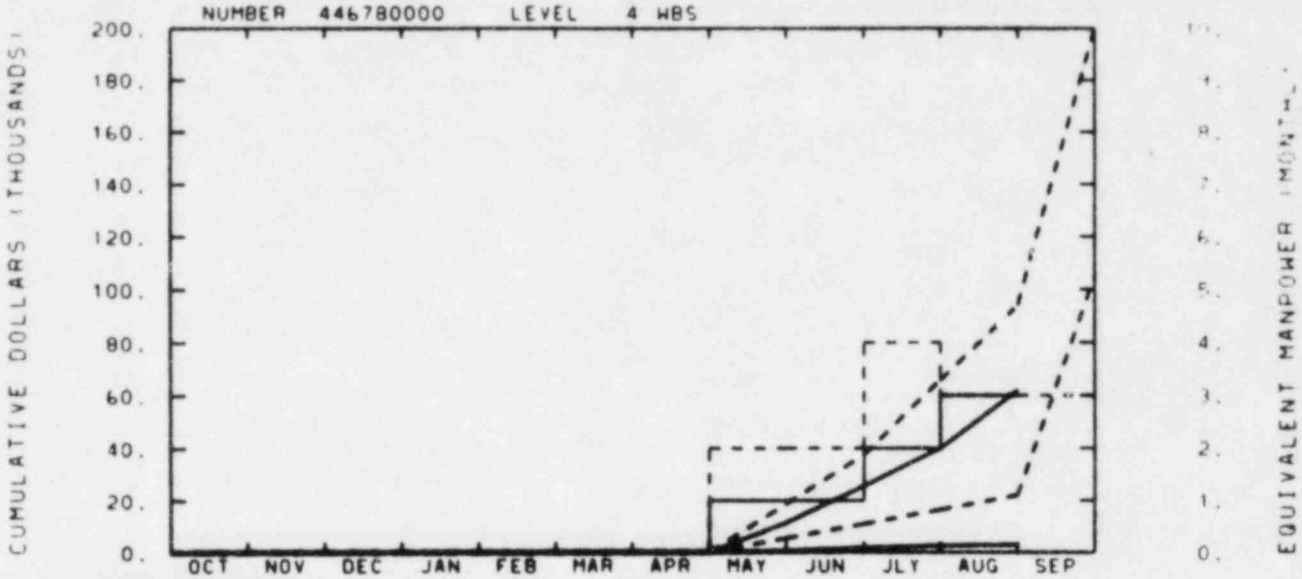
None.

RESPONSIBLE MANAGER
R F GAFFELL

EG&G IDAHO INC.

LOW LEVEL WASTE RISK METH A6310

NUMBER 446780000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	0	0	0	19	37	66	94	200
ACTUAL	0	0	0	0	0	0	0	11	26	40	62	

MATERIAL

BUDGET	0	0	0	0	0	0	0	5	11	16	22	105
ACTUAL	0	0	0	0	0	0	0	1	2	3	3	

MANPOWER

BUDGET	0	0	0	0	0	0	0	2	2	4	3	3
ACTUAL	0	0	0	0	0	0	0	1	1	2	3	

A6310

YTD VARIANCE: 32 (34%)

Progress and costs are consistent with projected FY-1982 to FY-1983 carryover.

189a A6310

1. Low Level Waste Risk Methodology Development

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Exercising the Code - In previous months, the Shallow Land Burial (SLB) Code, BURYIT, was run interactively using all pathway models except UNSAT and AQUIFR. UNSAT, which feeds AQUIFR, required storage space in excess of that available for the interactive mode. The batch input mode will be used as needed. Investigation of ways to simplify UNSAT is underway.

Model Verification - BURYIT does not now have a module for computing water erosion. The CREAMS models was examined for possible inclusion. CREAMS was found to be technically suitable for SLB performance modeling. It is now being examined for the feasibility of use in BURYIT. The examination of the basic assumptions and model applicability of the modules EROSIO, DIRECT, AQUIFR, and UNSAT is nearing completion. Comparisons have been made between DIRECT and the ISOSHLD II computer code for several scenarios. Conclusions from these model verification activities have not been fully completed; however, it appears that some minor adjustments to DIRECT may be needed. The verification of ATMOS was initiated near the end of the month.

Reference Site Characteristics - The reference site data input files were examined. They were found to be deficient. Corrections are planned. The input data requirements for BURYIT were found to specify little "real" site specific information, approximately 10%.

Information for Probabilistic Analysis - The compilation of information on the probability, nature, extent of release, and severity of accidents involving the transportation of low level waste by truck, train, and barge was completed. Data from Hanford and from the Radioactive Waste Management Complex in Idaho are being used to develop probabilities for accidents involving waste package handling and storage.

Possible Scenarios from High Level Water Methodology - Numerous documents on the High Level Waste Risk Methodology have been examined for release scenarios potentially applicable to low level waste. Those scenarios appearing to have some potential applicability were the result of external initiating events such as earthquake, volcano eruption, and aircraft crash.

3. Summary of Work Performed in August 1982 (Continued)

During the period July 16 to August 20, personnel time expenditures were 647 hours while cost expenditure was $27,258. Cumulative expenditures for FY-1982 are 1225 hours and $58,358. The accelerated pace in this period was the result of conscious efforts to recover time lost earlier in the program. Projected expenditures for this fiscal year are $85K. There are no apparent problem areas at this time. There is no subcontractor on this program, nor are there uncosted obligations.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Low Level Waste Risk Methodology Development Status	9-30-82	

5. Summary of Work to be Performed in September 1982

All activities described for August will continue. A technical status report covering the work in FY-1982 will be prepared. A demonstration of the operability of UNSAT will be carried out.

6. Problems and Potential Problems

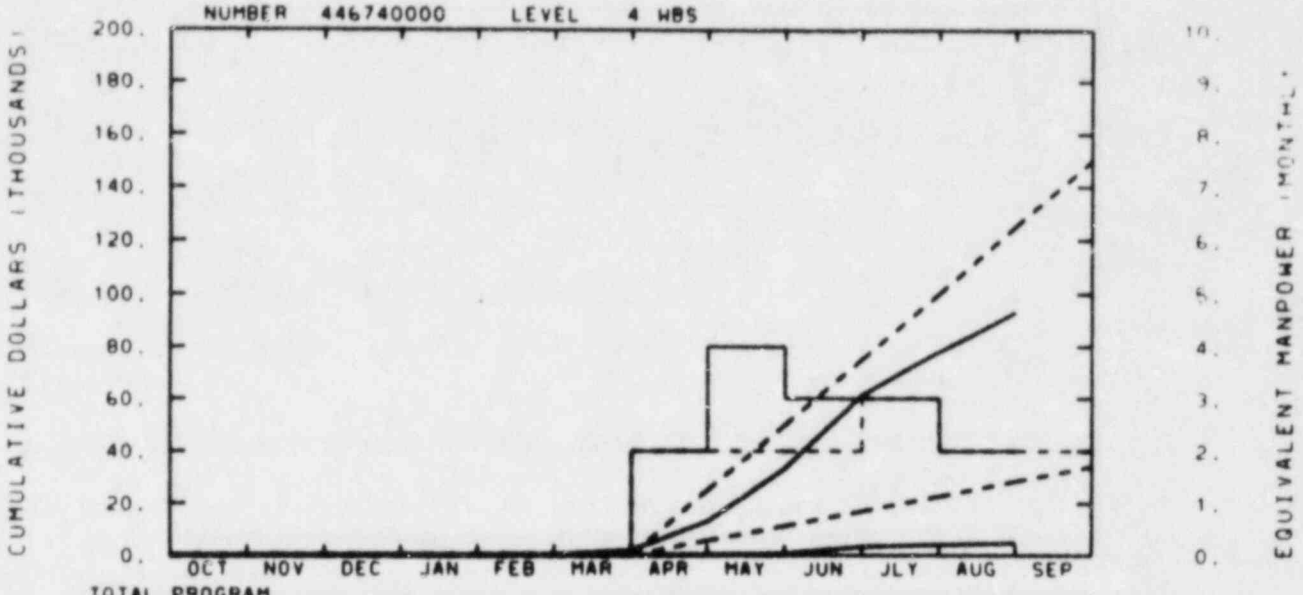
None.

RESPONSIBLE
MANAGER
B F SAFFELL

EG&G IDAHO INC.

INITIATING EVENT DATA EVAL A6313

NUMBER 446740000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	0	0	25	50	75	100	125	150
ACTUAL	0	0	0	0	0	2	13	33	61	78	93	

MATERIAL

BUDGET	0	0	0	0	0	0	6	11	17	23	28	34
ACTUAL	0	0	0	0	0	0	0	1	3	4	5	

MANPOWER

BUDGET	0	0	0	0	0	0	2	2	2	3	2	2
ACTUAL	0	0	0	0	0	0	2	4	3	3	2	

A6313

YTD VARIANCE: 32 (26%)

The work scope carryover from FY-1982 to FY-1983 is consistent with the projected budget carryover.

189a A6313

1. Initiating Event Data Evaluation

2. Scheduled Milestones for August 1982

Description	Due Date	Actual Date
Draft NUREG on LOCA Data Base	8-13-82E	8-19-82C Saff-???-82

3. Summary of Work Performed in August 1982

The internal review of a draft NUREG on loss-of-coolant events (LOCE) at nuclear power plants was completed. The title was changed to describe loss of coolant events to reflect the report's emphasis on all leakage events during power operation that require reporting in the Licensee Event Report (LER) system, no matter how small. The report was transmitted to the NRC for review.

Review of the Electric Power Research Institute (EPRI) report on transient events (EPRI-NP-2230) proceeded slowly during August as major staff efforts were focused on a related project, Data for NREP (A6317).

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

Work will continue on the EPRI transient event report.

6. Problems and Potential Problems

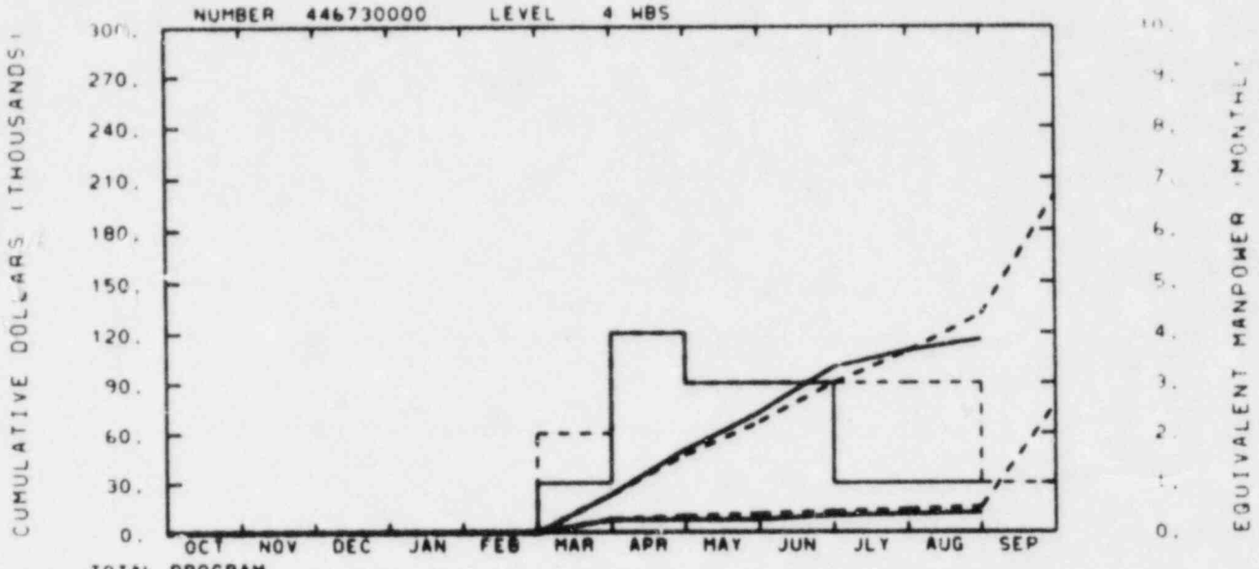
None.

RESPONSIBLE MANAGER
B. F. CAFFELL

EG&G IDAHO INC.

PRELIM HTGR SITING EVAL A6315

NUMBER 446730000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	0	23	47	67	90	109	131	200
ACTUAL	0	0	0	0	0	23	50	72	99	109	116	

MATERIAL

BUDGET	0	0	0	0	0	8	10	11	13	14	15	77
ACTUAL	0	0	0	0	0	8	8	8	10	11	12	

MANPOWER

BUDGET	0	0	0	0	0	2	4	3	3	3	3	1
ACTUAL	0	0	0	0	0	1	4	3	3	1	1	

A6315

YTD VARIANCE: 15 (11%)

Due to delay in progress of the supporting laboratories, the completion date has been extended. Carryover funding of $75K is consistent.

189a A6315

1. Preliminary HTGR Siting Evaluation

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

A draft of the final report section titled "Plant Description" was prepared.

A draft of event tree work by EG&G Idaho was prepared and reviewed.

Project personnel (H. Reilly) met with people at Los Alamos National Laboratory (LANL) on August 26 to discuss Accident Transient Without Scram (ATWS) analysis.

Additional design information was received from General Atomic (GA) in early August. It was insufficient to allow a cost estimate for work on the CARCAS code or to revise the windstorm-floods analysis. EG&G Idaho may send people to GA to try to obtain the needed information.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Develop Sequences	9-30-82T	
Evaluate Susceptibilities	9-30-82T	

5. Summary of Work to be Performed in September 1982

Prepare a letter for transmittal to the Nuclear Regulatory Commission (NRC) containing the results of the EG&G Idaho work to date (see Item 4 above).

Prepare an estimate of cost to perform the Containment Atmosphere Response analysis.

6. Problems and Potential Problems

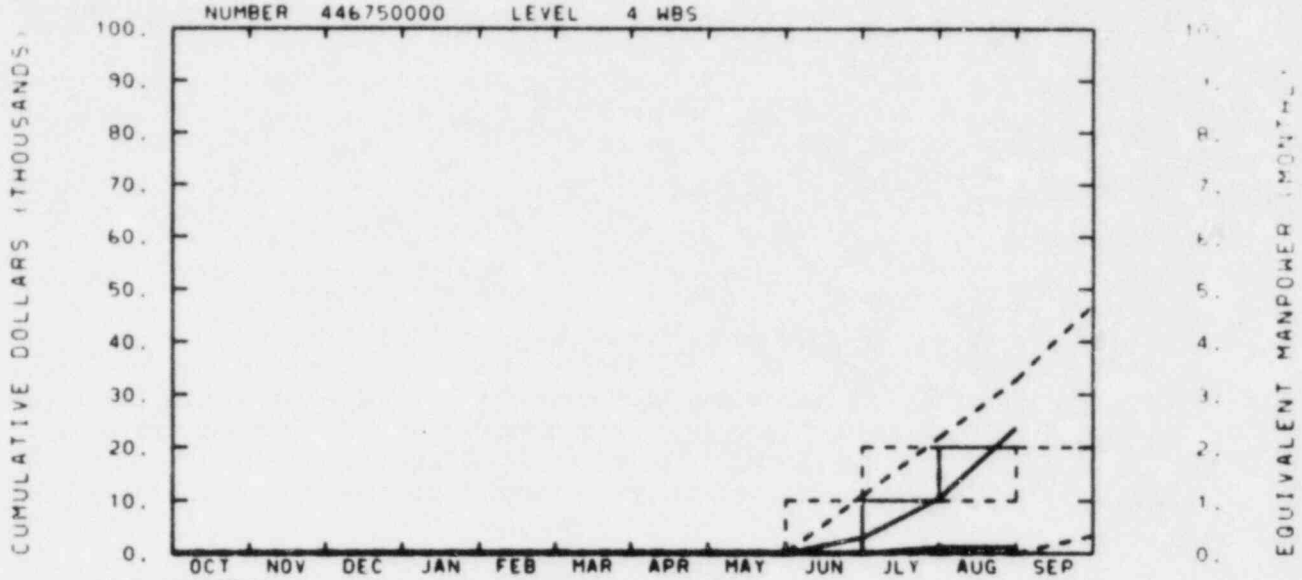
At the May 5 meeting, it was identified that the core heatup work by Brookhaven National Laboratory (BNL) was the critical path for the project and that report inputs from BNL could not be sent to EG&G Idaho until at least two months beyond EG&G Idaho's estimated need date for a January 2, 1983, publication. Plans were made to accommodate this late arrival with minimal impact on publication date. However, schedule now shows February 1, 1982, for publication date, one month later than in the draft schedule. This stretchout of one month has an adverse impact on the project cost. Manloading was adjusted to compensate; however, further slippage by any of the participants would potentially create an overrun of the total funding available to EG&G Idaho for the project.

RESPONSIBLE
MANAGER
B F SAFFELL

EG&G IDAHO INC.

PARAMETERS INFL DAMP PIPNG A6316

NUMBER 446750000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	0	0	0	0	11	22	33	47
ACTUAL	0	0	0	0	0	0	0	0	3	10	24	

MATERIAL

BUDGET	0	0	0	0	0	0	0	0	0	0	0	3
ACTUAL	0	0	0	0	0	0	0	0	0	1	1	

MANPOWER

BUDGET	0	0	0	0	0	0	0	0	1	2	1	2
ACTUAL	0	0	0	0	0	0	0	0	0	1	2	

A6316

YTD VARIANCE: 9 (27%)

189a A6316

1. Parameters Influencing Damping in Piping Systems

None.

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Literature searches and telephone contacts with other organizations involved in damping studies were continued. A survey of facilities at the Idaho National Engineering Laboratory (INEL) was conducted to determine available locations and equipment for carrying out FY-1983 testing.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Issue report on FY-1982 progress		

5. Summary of Work Performed in September 1982

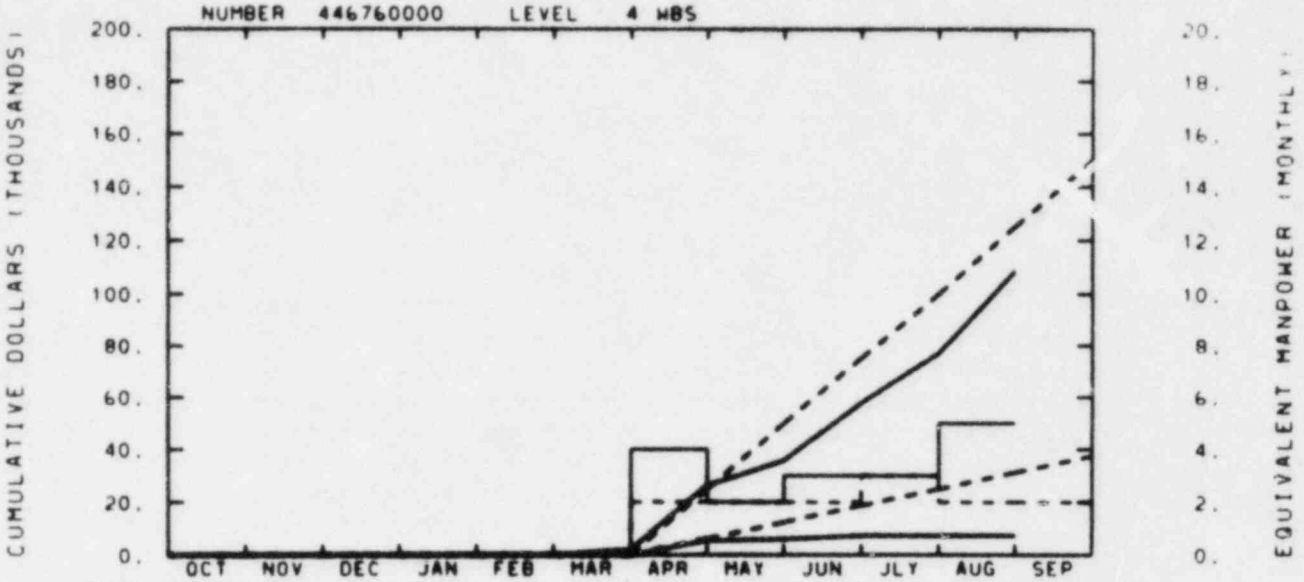
A report summarizing FY-1982 work will be written. Communication with other organizations involved in damping studies (e.g. Pressure Vessel Research Council, Electric Power Research Institute, ANCO Engineers, etc.) will be continued. Planning and procurement for FY-1983 tests will be initiated.

6. Problems and Potential Problems

None.

RESPONSIBLE MANAGER
B F SAFFELL

EG&G IDAHO INC.
DATA FOR NREP A6317
NUMBER 446760000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	0	0	25	50	75	100	125	150
ACTUAL	0	0	0	0	0	2	26	36	58	77	109	

MATERIAL

BUDGET	0	0	0	0	0	0	6	12	19	25	31	37
ACTUAL	0	0	0	0	0	0	5	6	7	7	7	

MANPOWER

BUDGET	0	0	0	0	0	0	2	2	2	3	2	2
ACTUAL	0	0	0	0	0	0	4	2	3	3	5	

A6317

YTD VARIANCE: 16 (13%)

The projected carryover of $9K is consistent with the work scope to be carried into FY-1983.

189a A6317

1. Data for NREP

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

A list of sources for a telephone survey of data bases having possible application to reliability studies was completed and a questionnaire was developed and coordinated with Science Applications, Inc., (SAI). Calls to complete the questionnaire have begun.

Seventy percent of the FY-1982 budget has been expended.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

Our phone calls will be completed early in September. We will exchange our phone results with SAI. A rough draft of a report summarizing these results and providing bibliographic information on data bases and their applicablility in nuclear power plant risk assessment will be completed.

6. Problems and Potential Problems

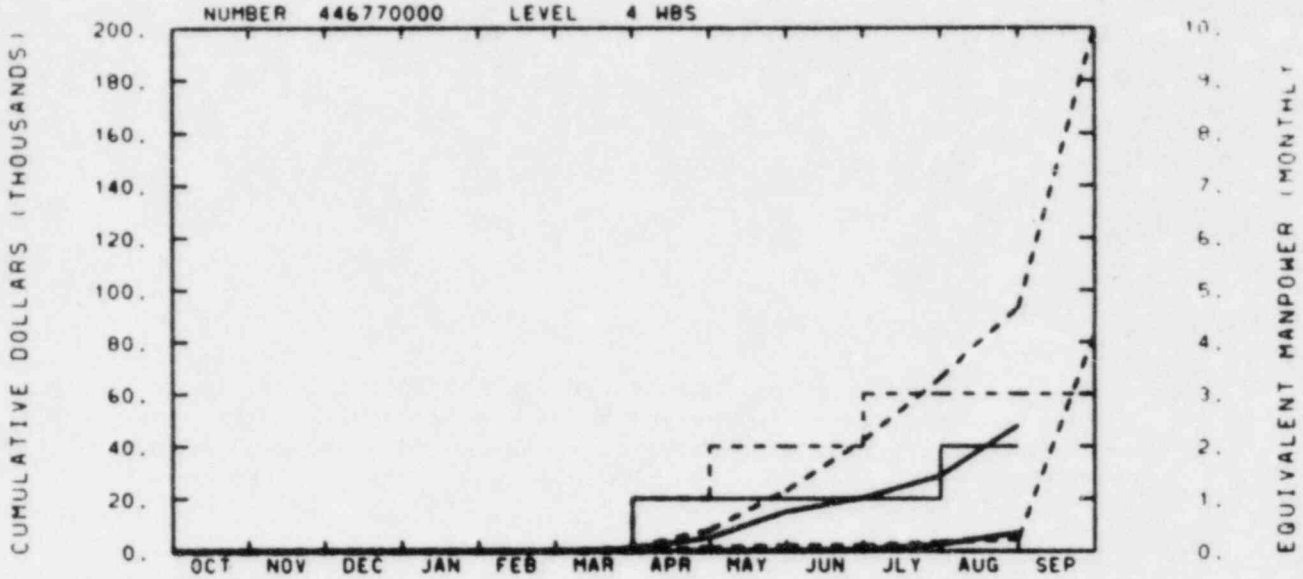
None.

RESPONSIBLE MANAGER
B F SAFFELL

EG&G IDAHO INC.

SYS REQ/STND DEV ANNEAL RPVA6318

NUMBER 446770000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	0	1	8	23	42	66	93	200
ACTUAL	0	0	0	0	0	1	5	15	20	29	48	

MATERIAL

BUDGET	0	0	0	0	0	0	1	2	2	3	5	82
ACTUAL	0	0	0	0	0	0	0	0	1	3	7	

MANPOWER

BUDGET	0	0	0	0	0	0	1	2	2	3	3	3
ACTUAL	0	0	0	0	0	0	1	1	1	1	2	

A6318

YTD VARIANCE: 45 (48%)

Receipt of input data is running behind schedule on this task. Work scope and corresponding funding of $130K will be carried to FY-1983.

189a A6318

1. System Requirements and Standards Development for Annealing of Reactor Pressure Vessels

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

EG&G Idaho personnel have been surveying the Nuclear Industry as to the status of in-situ thermal annealing of reactor pressure vessels. A trip was taken to visit the three reactor vendors (Westinghouse, Combustion Engineering, and Babcock and Wilcox) to obtain their input and views. Details of these discussions will be provided in a comprehensive trip report next month. Other contacts were made with Chicago Bridge and Iron Co., (CB&I), Cooperheat, Pyromet Industries, Bechtel Corporation, and Stone and Webster Co. A trip at the end of this month extending into September will be taken by EG&G Personnel to visit the Electric Power Research Institute (EPRI), Bechtel, and Pyromet Industries.

The EPRI/Westinghouse report was tentatively promised to be available at the August 31, 1982 meeting at EPRI. Difficulty in acquiring this document has seriously impaired this year's schedule. Statistically fit Charpy curves for the Naval Research Laboratory weld data have been generated as well as an initial look at a reference toughness estimation procedure. Letters were sent out to American Society for Testing and Materials (ASTM) E10-02 members to establish a task group on annealing. Only NRC personnel have responded so far.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

Besides the trip to EPRI, Bechtel, and Pyromet, other trips to CB&I, Stone and Webster, and Cooperheat will be evaluated. A comprehensive trip report will be written detailing the findings from these surveys. If the EPRI/Westinghouse Report is received, a complete review will be initiated.

6. Problems and Potential Problems

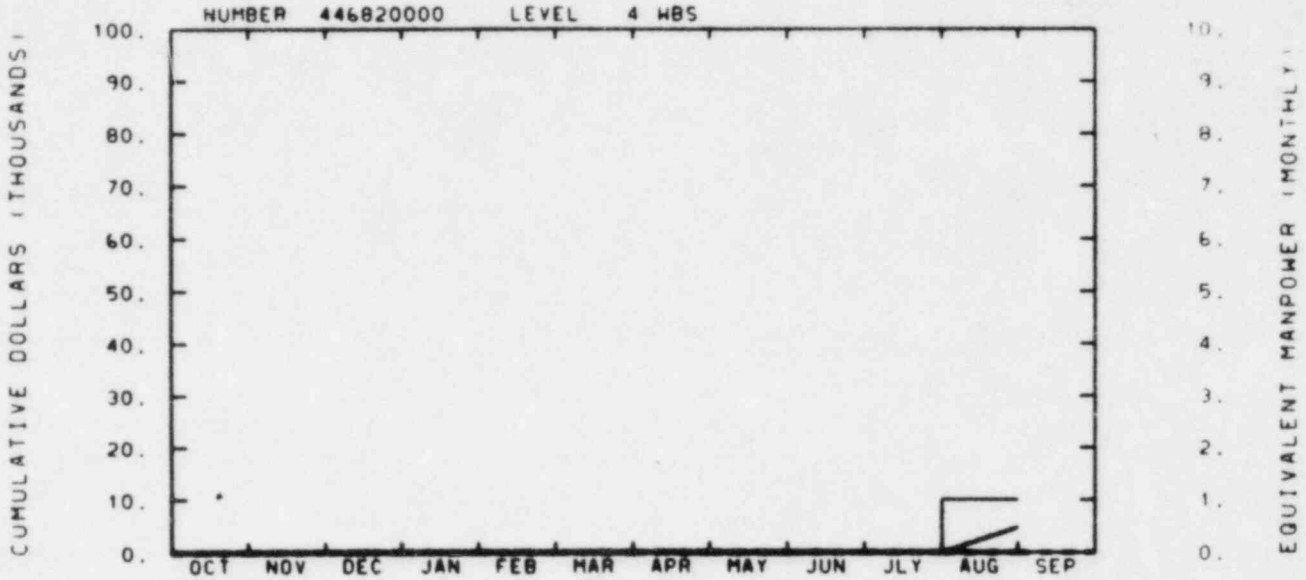
As mentioned last month, the problem in acquiring the EPRI/Westinghouse Report has resulted in significant delays for this fiscal year. Therefore it appears that the original estimated $77K carryover of FY-1982 funds will be $130K.

RESPONSIBLE MANAGER
B.F. SAFFELL

EG&G IDAHO INC.

INTEGRITY OF CPUSALC A6326

NUMBER 446820000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	5	

MATERIAL

BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	

MANPOWER

BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	1	

BUDGET - - - - - -

ACTUAL ———

A6326

YTD VARIANCE: <5>

189a A6326

1. Integrity of Containment Penetrations Under Severe Accident Load Conditions

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

A detailed overall plan of attack consistent with the goals of the problem description stated within the Form 189 was generated, reviewed, and approved. Technical personnel at Sandia National Laboratory were contacted and plans were made to have Sandia personnel review and comment on the preliminary accident scenarios used to select the penetrations most subject to failure and to define the specific tests which will be proposed for selected penetrations. A review of Final Safety Analysis Reports for five different types of containments did not provide the level of detail required on containment penetrations; more detailed information in the form of engineering drawings and existing analytical predictions of failure limits are being obtained from various architect engineering (AE) firms and utilities. This information is being used by EG&G Idaho to test and evaluate the solution plan and provide a preliminary sample of the methodology to aid the NRC in evaluating the merits of the EG&G Idaho solution methodology relative to that proposed by other competing national laboratories.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed Next Month

Plans call for obtaining the remaining detailed data on penetrations from AE firms and utilities and using this data to demonstrate EG&G Idaho's methodology. Cost estimates and suggested facilities will be determined for sample penetrations. This information will appear in the final report.

6. Problems and Potential Problems

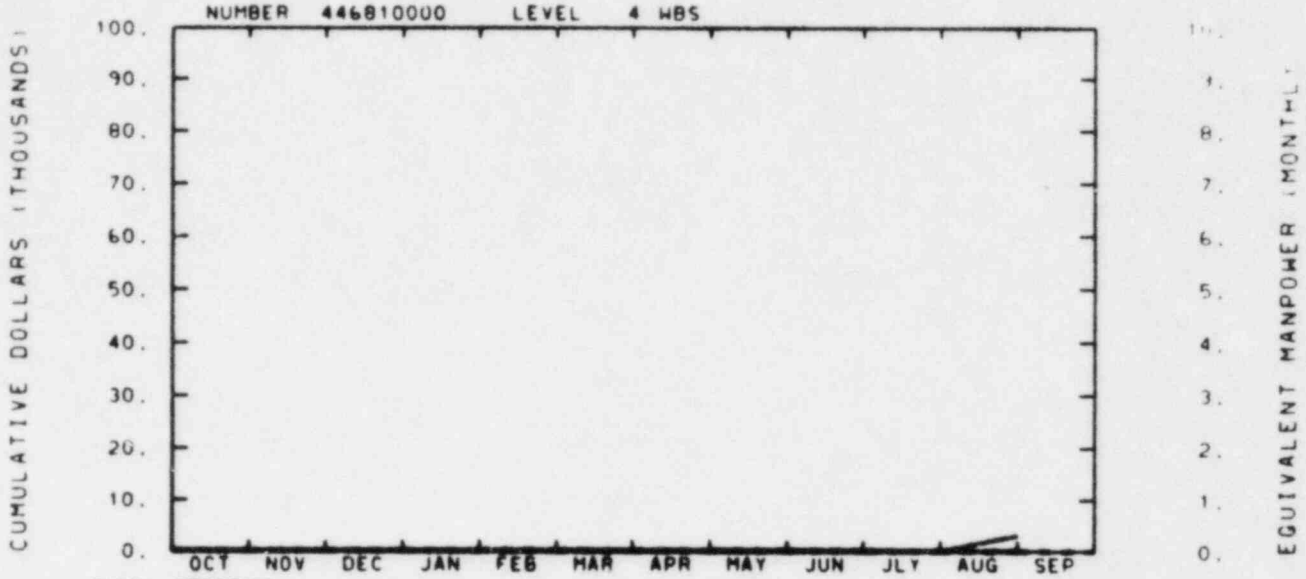
The October 15, 1982 due date for this project is the main problem. This has been discussed with the NRC Technical Monitor; he offered no immediate relief, but did indicate that all competitors on this task would be given the same time to complete the task. At least one month of additional time would greatly increase the quality of the response which EG&G Idaho can provide.

RESPONSIBLE
MANAGER
B.F. SAFFELL

EG&G IDAHO INC.

ENRGY OP PROCD GUIDELINES A6331

NUMBER 446810000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	3	

MATERIAL

BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	

MANPOWER

BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	

BUDGET - - - - - -

ACTUAL ———

A6331

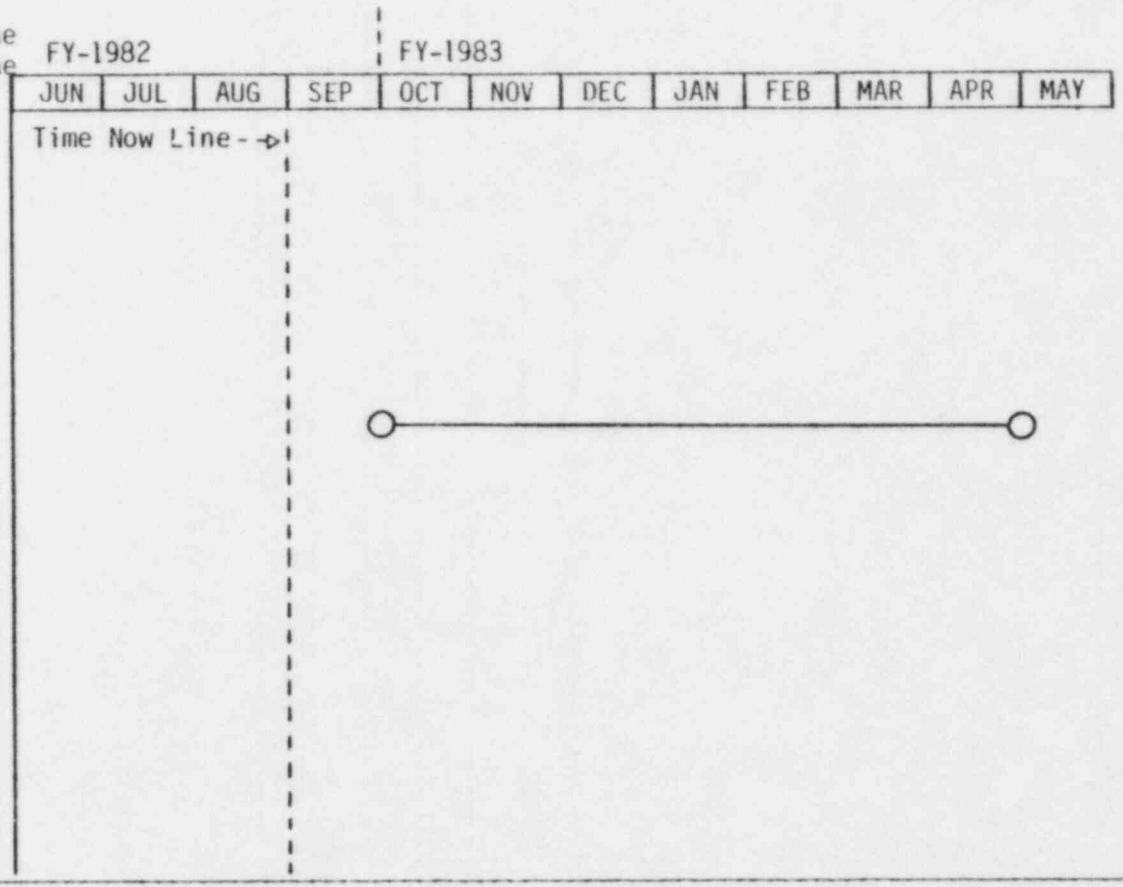
YTD VARIANCE: <3>

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION August 1982

Emergency Operating Procedure Guidelines (A6331)

LEGEND

- ● Completed Major Milestone
- ○ Scheduled Major Milestone
- ⊘ Slipped Major Milestone
- ● Completed Secondary Milestone
- ○ Scheduled Secondary Milestone
- ⊘ Slipped Secondary Milestone
- ♦ Actual Completion Date
- ◊ Scheduled Completion Date



GE Emergency Procedure Guideline Demonstration

NOTES:

189a A6331

1. Emergency Operating Procedure Guidelines

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

A subcontract was generated to apply the operator action event tree based methodology to the evaluation of General Electric (GE) emergency operating procedure guidelines.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed Next Month

The subcontract for the GE work will be placed.

6. Problems and Potential Problems

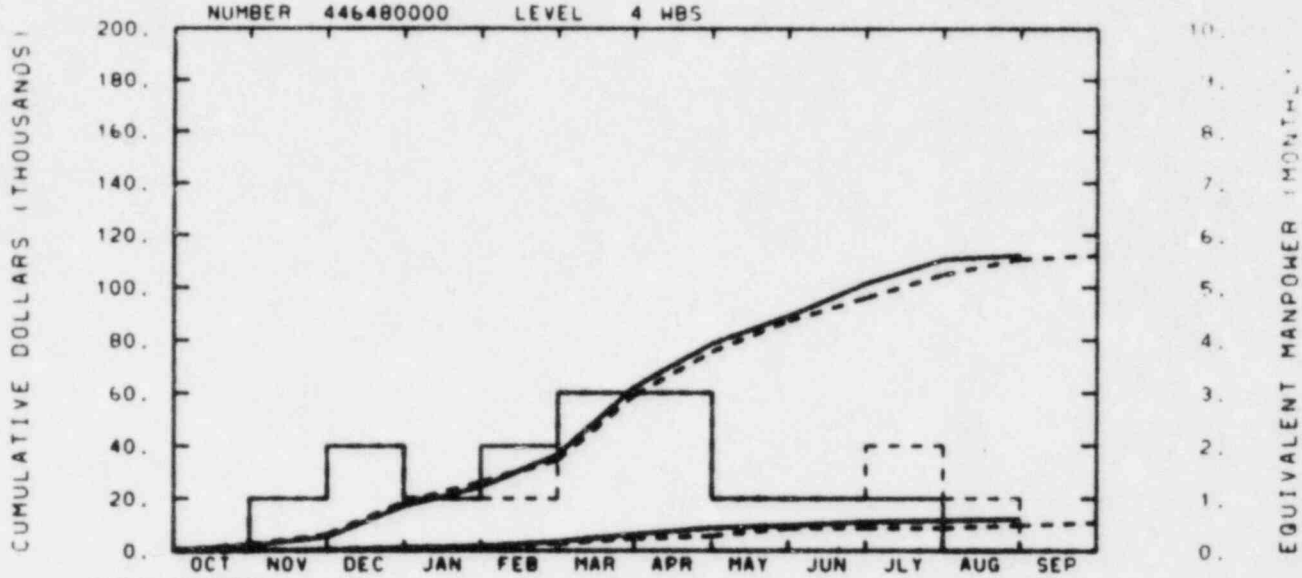
None.

RESPONSIBLE
MANAGER
B F SAFFELL

EG&G IDAHO INC.

KUOSHENG SRV DISCHARGE A6353

NUMBER 446480000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	2	6	19	26	35	59	76	87	96	105	111	112
ACTUAL	2	5	17	24	37	62	79	89	102	111	112	

MATERIAL

BUDGET	0	0	1	2	3	5	6	9	9	9	10	11
ACTUAL	0	0	1	2	4	6	9	10	11	12	12	

MANPOWER

BUDGET	0	1	2	1	1	3	3	1	1	2	1	0
ACTUAL	0	1	2	1	2	3	3	1	1	1	0	

A6353

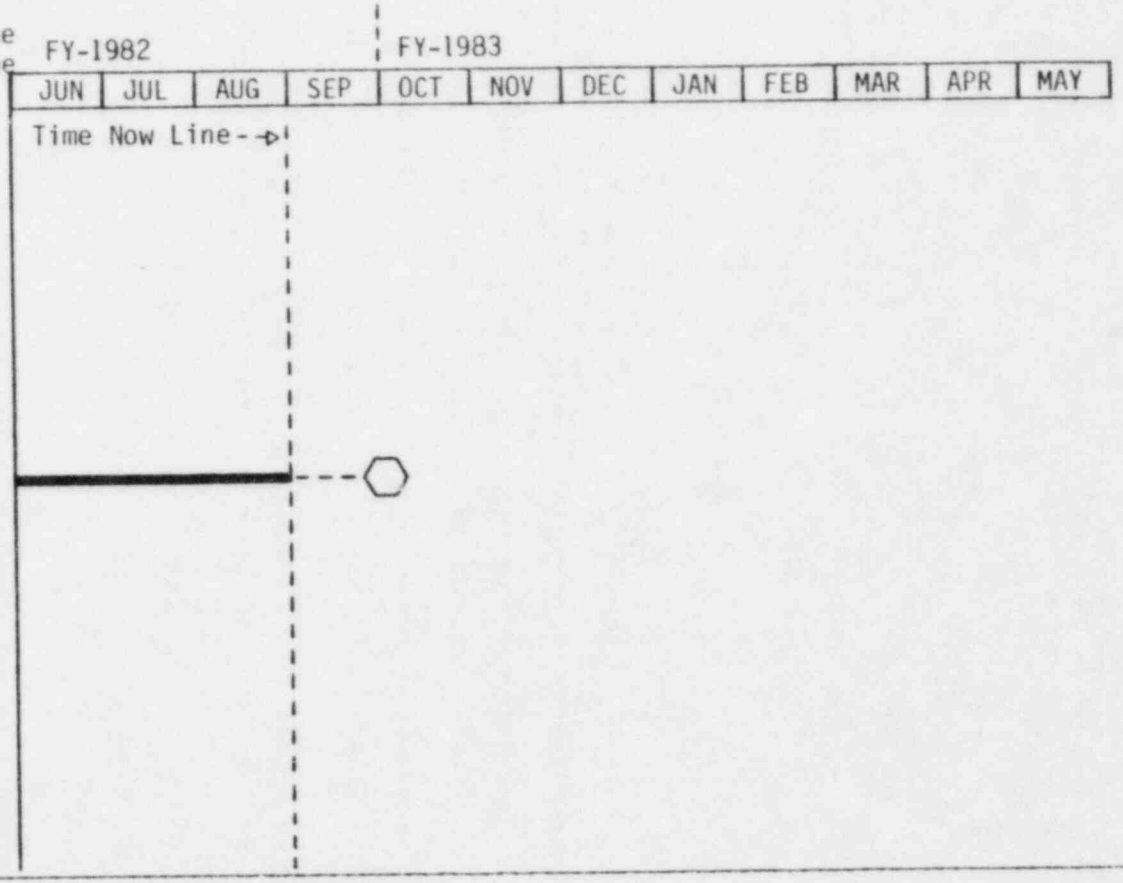
YTD VARIANCE: <1>

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION August 1982

Kuo-Sheng (A6353)

LEGEND

- ● Completed Major Milestone
- ○ Scheduled Major Milestone
- ▨ Slipped Major Milestone
- ● Completed Secondary Milestone
- ○ Scheduled Secondary Milestone
- ▨ Slipped Secondary Milestone
- ♦ Actual Completion Date
- ◊ Scheduled Completion Date



Safety Relief Valve (SRV) Prediction

NOTES:

189a A6353

1. Kuosheng Safety Relief Valve (SRV) Discharge and Piping Vibrational Tests

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

The report preparation on the analysis of the Safety Relief Valve (SRV) discharge piping was continued.

Progress was made in characterizing hydrodynamic loading in the suppression pool area based on accelerometer data previously acquired from Nutech.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed Next Month

Report preparation on the SRV discharge analysis will continue.

Characterization of the hydrodynamic loading in the suppression pool area will be completed.

The report presenting Nutech's experimental data for the containment area will be completed.

6. Problems and Potential Problems

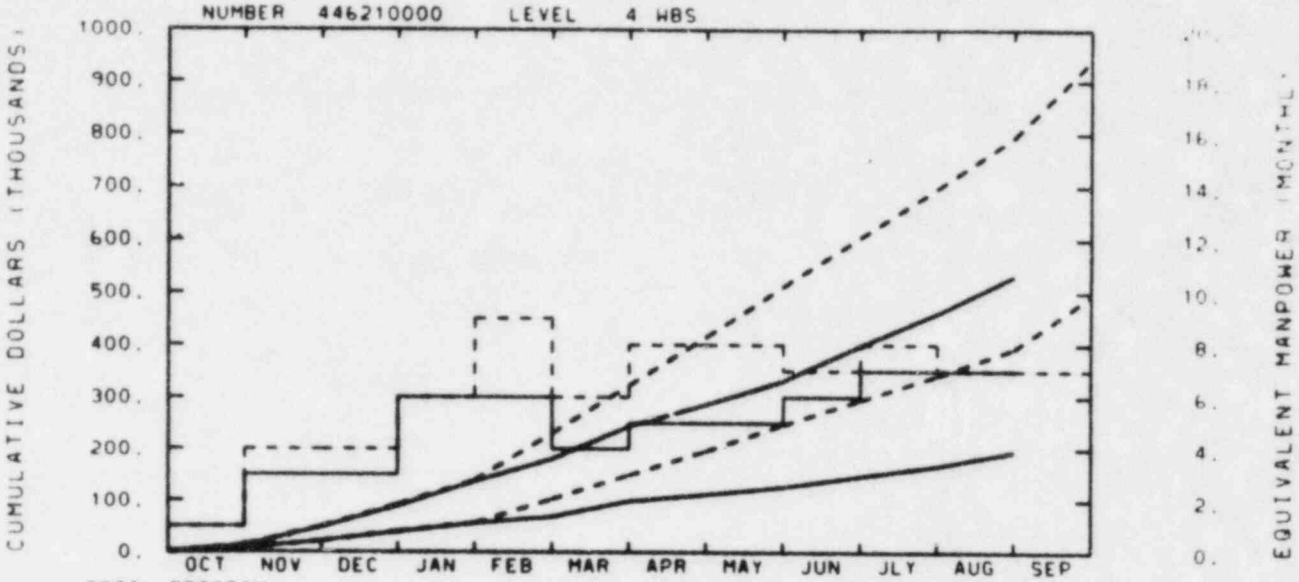
None.

RESPONSIBLE MANAGER
B. F. SAFFELL

EG&G IDAHO INC.

SEVERE ACCIDENT SEQ ANAL A6354

NUMBER 446210000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	14	50	92	138	230	322	415	512	604	697	794	941
ACTUAL	13	48	89	136	180	244	286	331	398	460	532	

MATERIAL

BUDGET	7	22	41	56	103	149	196	247	294	341	392	495
ACTUAL	7	22	39	56	69	99	112	126	147	167	195	

MANPOWER

BUDGET	1	4	4	6	9	6	8	3	7	8	7	7
ACTUAL	1	3	3	6	6	4	5	5	6	7	7	

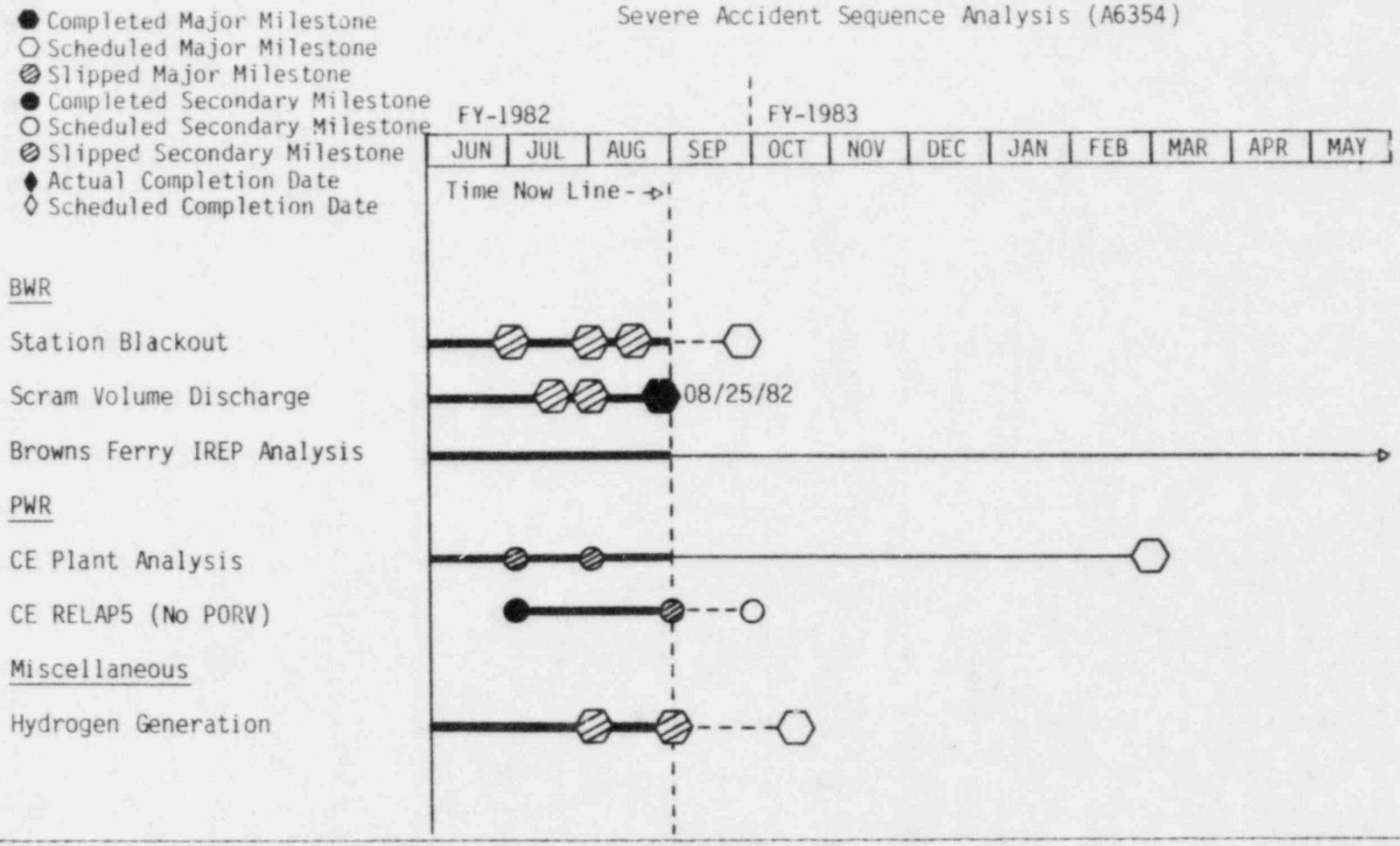
A6354

YTD VARIANCE: 262 (33%)

The $262K underrun is due to the delay in the initiation of the in-depth analysis of CE plants, the delay in ATWS evaluation, and the deletion of the diagnostic algorithm development task from SASA. The CE analysis is now in progress. The anticipated FY-1982 carryover is $307K.

NRC TECHNICAL ASSISTANCE PROGRAM DIVISION August 1982

Severe Accident Sequence Analysis (A6354)



NOTES:

189a A6354

1. Severe Accident Sequence Analysis Program (SASA)

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

The RELAP5 CESSAR-80 input model was received from Argonne National Laboratory (ANL) with the assistance of the Reactor Systems Branch, Nuclear Reactor Regulation (NRR). The CESSAR-80 plant model engineering data was previously received from Combustion Engineering (CE). Calculations will begin after familiarity with the model is achieved.

The ANO-2 RELAP5 model was checked out for a short transient. The model input was verified for RELAP5, MOD 1.5. The calculation of the loss of feedwater, loss of offsite power transient was initiated. This analysis will support the development of depressurization strategies for CE plants without power operated relief valves.

The Browns Ferry RELAP5 analysis of the scram discharge volume break was completed. The report documenting this work was published.

Several tasks were conducted in support of the Browns Ferry IREP analyses. A preliminary work scope was written for a BWR/4 containment analysis. Initial RELAP5 and containment calculations will focus on small break, with the failure of decay heat removal function. The containment analysis will be performed with the CONTEMPT code. Geometric input and heat structure modeling was completed for the containment analysis. This work is being performed in cooperation with the Oak Ridge National Laboratory (ORNL)/Severe Accident Sequence Analysis (SASA) program. The CONTEMPT analysis will characterize rapidly changing containment conditions better than MARCH. The RELAP5 Browns Ferry model was also modified to conduct these small break calculations.

The RELAP5 Browns Ferry jet pump model was modified by incorporating the jet pump M-N curve. This improved model will be used to perform the indepth thermal hydraulic RELAP5 analysis of Browns Ferry. The analysis will be based on IREP identified sequences.

The SCDAP/MOD0 hydrogen source term calculations were completed. These calculations will attempt to replicate previous MARCH hydrogen source term analyses. Documentation in letter report form is in progress.

Two presentations to be made at the Water Reactor Safety Research Information Meeting were prepared.

3. Summary of Work Performed in August 1982 (Continued)

The SASA-ASEP-IDCOR technical exchange meeting was also participated in by INEL SASA personnel.

The SASA/Bellefonte plan was finalized in cooperation with SNL.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Station Blackout BWR	9-1-82	
Scram Volume Discharge	9-1-82	8-25-82C Saff-349-82

5. Summary of Work to be Performed in September 1982

Familiarization with the RELAP5 CESSAR-80 model will be accomplished in preparation for the indepth analysis of the CESSAR-80 plant design.

The RELAP5 analysis of the depressurization strategies for CE plants without power operated relief valves for loss of feedwater and loss of offsite power events will be completed and documented.

A meeting with Tennessee Valley Authority (TVA) will be conducted with Sandia National Laboratory (SNL) to discuss the SASA Bellefonte analysis. The meeting will focus on the accident sequences to be considered and the information required to conduct the SASA analyses.

The Browns Ferry station blackout report will be published.

The RELAP5 Browns Ferry IREP based analysis will continue. Activity will focus on the containment analysis with CONTEMPT and on the reactor system analysis with RELAP5. Control system models for such systems as the feedwater and recirculation systems will also be developed.

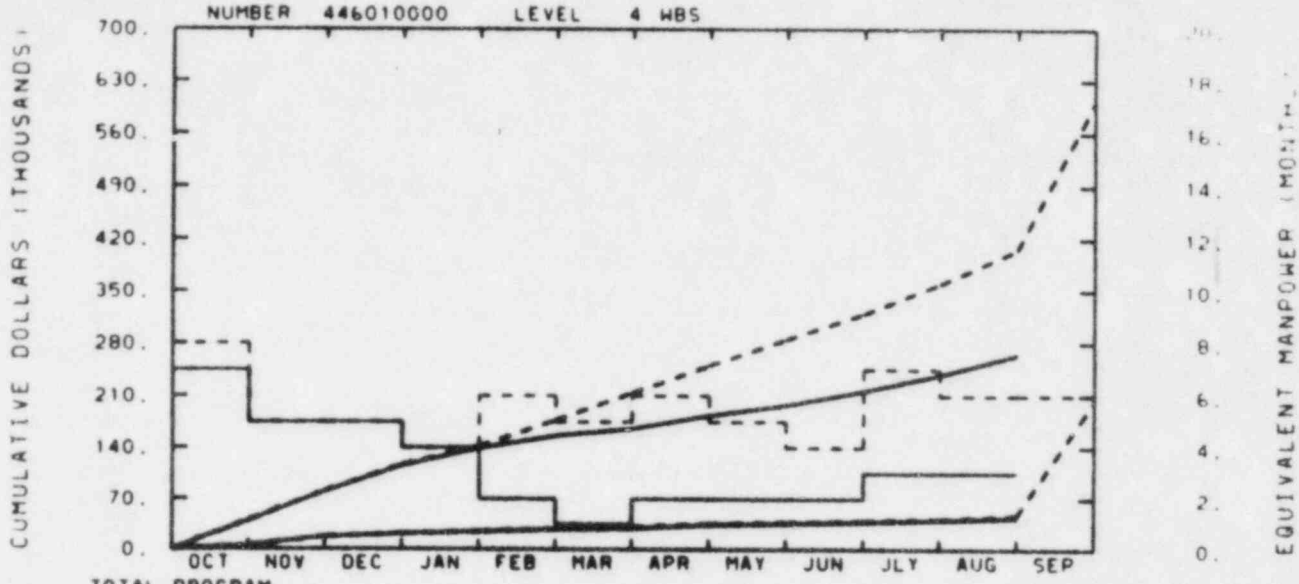
The SCDAP/MOD0 hydrogen source term work will be completed. A letter report will be drafted.

6. Problems and Potential Problems

None.

RESPONSIBLE MANAGER
B F SAFFELL

EG&G IDAHO INC.
SAFETY & RELIEF VAL A6356
NUMBER 446010000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	40	81	117	142	177	214	250	285	319	360	406	601
ACTUAL	40	80	115	139	156	166	184	198	216	238	265	

MATERIAL

BUDGET	5	18	22	25	28	32	36	38	40	42	47	203
ACTUAL	5	18	22	25	28	29	35	36	38	41	44	

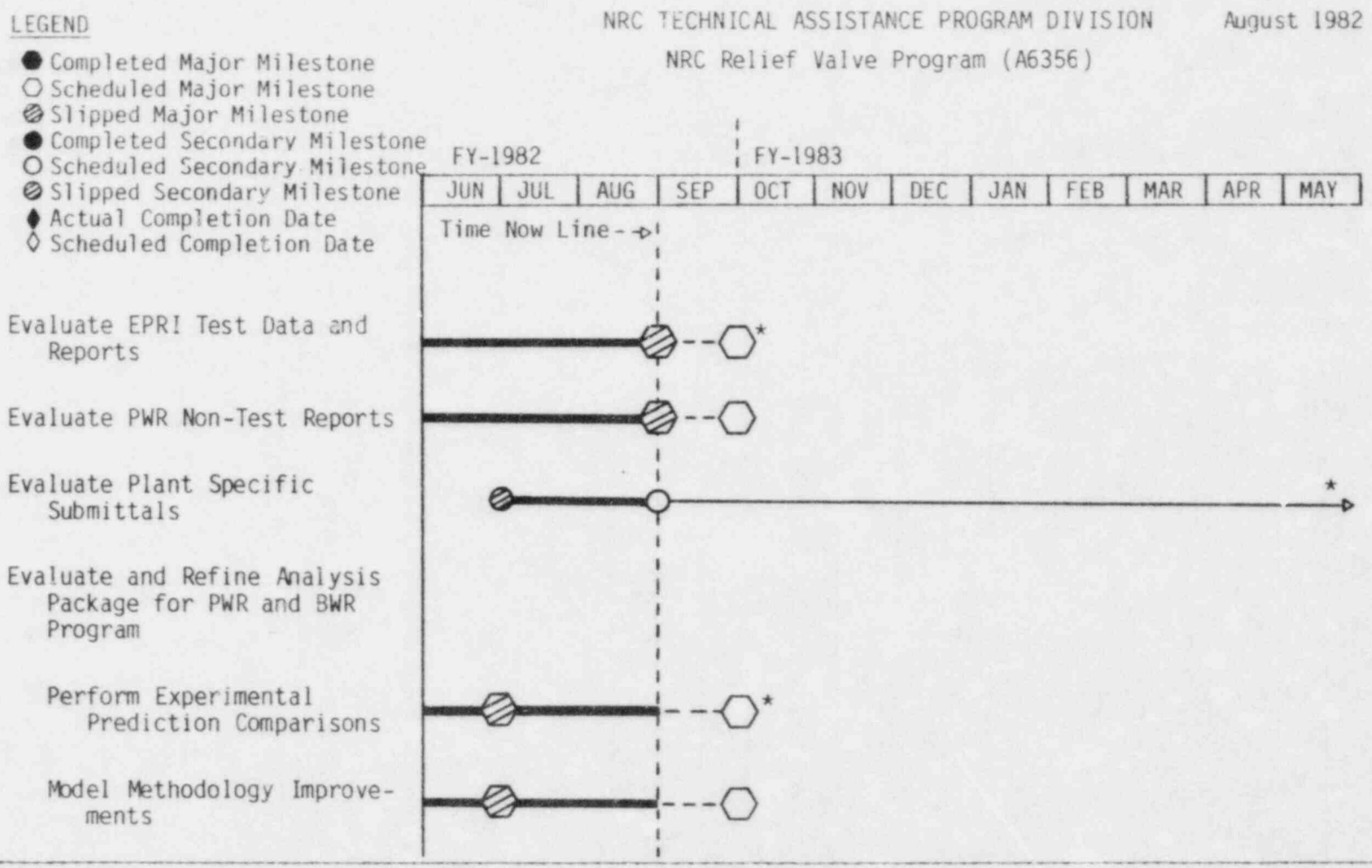
MANPOWER

BUDGET	8	5	5	4	6	5	6	5	4	7	6	6
ACTUAL	7	5	5	4	2	1	2	2	2	3	3	

A6356

YTD VARIANCE: 141 (35%)

The underrun is due in part to the delay in receiving PWR/EPRI reports for evaluation and the lack of detail for evaluation in the BWR plant specific submittals. This lack of detail reduced the anticipated scope of the initial evaluation. This information has now in large part been received. The evaluations will be initiated in September. The anticipated FY-1982 carryover of $170K will be applied toward the plant specific submittal evaluation and confirmatory analyses.



NOTES: * Completion depends on the date that data, reports, and plant specific submittals are made available to NRC and EG&G Idaho by EPRI and the PWR and BWR Owners.

189a A6356

1. NRC Safety/Relief Valve Program

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

A draft report describing an improved method for calculating hydraulic forces from RELAP5 output was finalized. The improved method will result in more accurate force calculations in safety/relief valve systems.

Evaluation of seven Pressurized Water Reactor/Electric Power Research Institute (PWR/EPRI) test data and test justification reports continued. A letter reporting the evaluation of the EPRI/ITI report entitled "Application of RELAP5/MOD1 for Calculation of Safety and Relief Valve Discharge Piping Hydrodynamic Loads" was completed. It will be transmitted to NRC in September.

The review of the PWR block valve report was completed. A letter report documenting the review will be issued in September.

Work continued to activate the direct integration version of NUPIPE-II on the Idaho National Engineering Laboratory (INEL) computer system. This expanded structural modeling capability will allow the high frequency response of a valve blowdown system to be modeled. This will enhance the plant specific confirmatory analysis capability.

Several tasks were planned to further evaluate recommendations made by EPRI/ITI for modeling plant systems with RELAP5. Effort was started to determine the effect of eliminating the code choking option at junctions other than the valve and pipe exit. The purpose of this task is to verify if the elimination of junction choking results in higher loads on a piping system. A simplified calculation was also started to determine an upper bound on hydraulic loads possible in a pipe system.

A presentation to be made at the Water Reactor Safety Research Information Meeting was prepared.

Plans are under development to evaluate PWR and BWR plant specific submittals received from the NRC. First priority will be given to the San Onofre and Shoreham submittals.

A comparison between the measured flow rate of subcooled liquid through the safety valves tested in the EPRI/CE valve tests with RELAP5 calculated flow is in progress. The results of this comparison will support NRC ATWS rulemaking activities.

3. Summary of Work Performed in August 1982 (Continued)

A presentation was made to the NRC ATWS working group. The presentation discussed the results of the comparison between measured flow rate of subcooled liquid through tested safety valves of the PWR/EPRI program with RELAP5 calculated flows.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Model Methodology Improvement	9-30-82	

5. Summary of Work to be Performed in September 1982

The report describing an improved method for calculating hydraulic forces from RELAP5 output will be completed.

The work activating the direct integration version of NUPIPE-II on the INEL computer system will be completed.

The study evaluating the effect of elimination of the choking option in RELAP5 on the calculated hydraulic forces will be completed.

A simplified calculation bounding the hydraulic loads possible in a piping system will be completed.

A study evaluating the EPRI/ITI recommendation as to the number of volume nodes necessary to represent a piping leg in RELAP5 to obtain appropriate values of the hydraulic loads will begin.

A study to determine a bounding assumption for the initial distribution of the liquid contained in a loop seal will begin. The study will be done with RELAP5. This study will further evaluate EPRI/ITI assumptions used to analyze the EPRI/CE safety valve test results.

Evaluation of the PWR and BWR plant specific submittals will continue. Evaluation of the San Onofre and Shoreham submittals will continue. A draft SEP of the Shoreham submittal will be written.

Evaluation of the PWR/EPRI test reports and test condition justification reports will continue.

6. Problems and Potential Problems

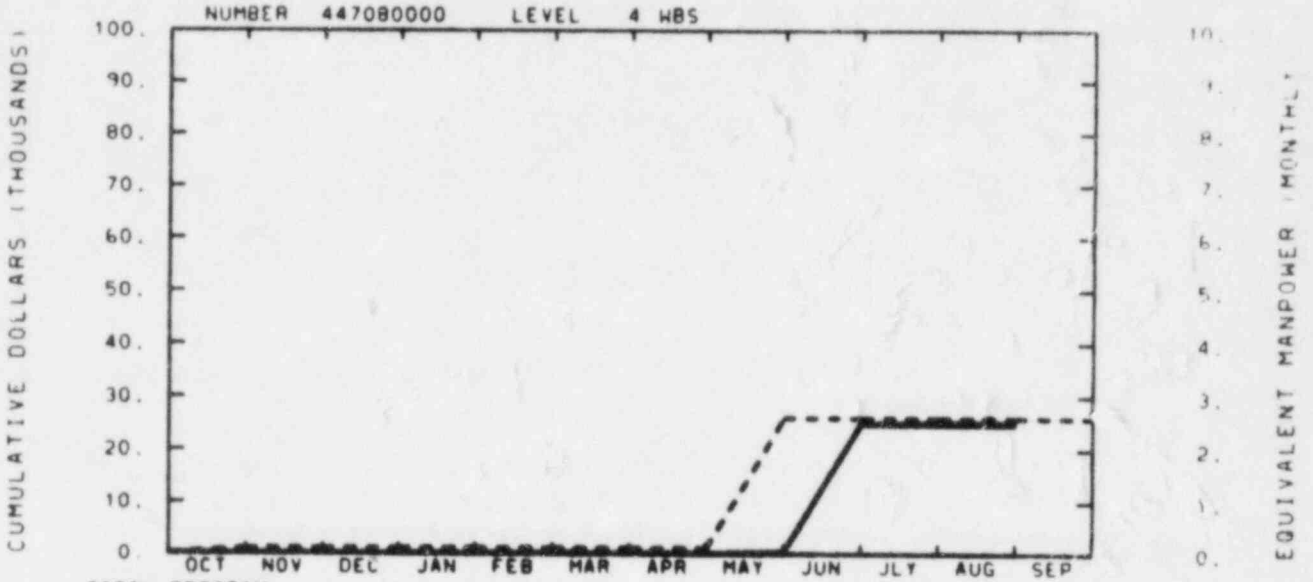
None.

RESPONSIBLE
MANAGER
R F SAFFELL

EG&G IDAHO INC.

APPLIED JAMES/STEIN A6358

NUMBER 447080000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	1	1	1	1	1	1	1	26	26	26	26	26
ACTUAL	0	0	0	0	0	0	0	1	25	25	25	

MATERIAL

BUDGET	1	1	1	1	1	1	1	26	26	26	26	26
ACTUAL	0	0	0	0	0	0	0	0	25	25	25	

MANPOWER

BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	

A6358

YTD VARIANCE: 1 (4%)

189a A6358

1. Applied James-Stein Estimators

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Theoretical development of methods for determining tolerance bounds continued. A thesis describing the theory underlying James-Stein Estimators was received and patent clearance is being sought prior to publishing the document as a NUREG/CR report. The preparation of a thesis describing the simulation of the data used for test purposes was temporarily suspended but will resume next month.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

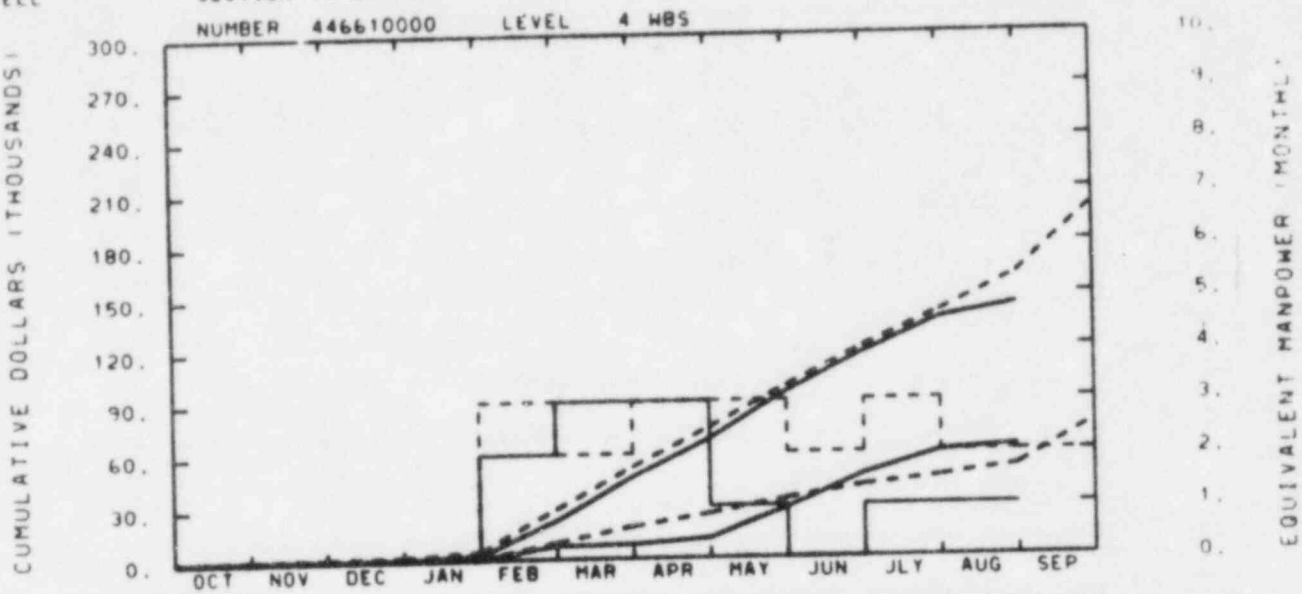
The James-Stein theory will be published. Preparation of the thesis on data simulation will resume. Work will continue on the theoretical development for tolerance bounds.

6. Problems and Potential Problems

None.

RESPONSIBLE MANAGER
B F SAFFELL

EG&G IDAHO INC.
SECTION XI SUPPORT A6367
NUMBER 446610000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	1	2	2	5	29	53	75	98	120	140	161	201
ACTUAL	0	0	0	3	22	47	68	95	117	136	144	

MATERIAL

BUDGET	0	0	0	0	10	19	26	34	41	46	52	76
ACTUAL	0	0	0	0	8	8	12	29	47	60	63	

MANPOWER

BUDGET	0	0	0	0	3	2	3	3	2	3	2	2
ACTUAL	0	0	0	0	2	3	3	1	0	1	1	

A6367

YTD VARIANCE: 17 (11%)

Delay in initiation of Task 11 (Statistical Sampling Plan) has resulted in a $17K underrun. Work scope and carryover dollars are consistent.

189a A6367

1. Support of NRC on ASME Code Section XI Activities

2. Scheduled Milestones for August 1982

Description	Due Date	Actual Date
Task 10, Draft Final Report	8-31-82T	8-27-82C Saff-347-82

3. Summary of Work Performed in August 1982

Task 4: In accordance with the additional work scope on Task 4 of FIN A6367, the leakage of water and air through assumed valve seat imperfections was calculated to determine the sensitivity of leakage to laminar vs. turbulent flow, and critical vs. non-critical flow equations. It was found that for liquid leakage through a short discrete leak path, the flow will be turbulent and proportional to $(\Delta P)^{1/2}$, whereas for a distributed leakage gap, the flow will be laminar and proportional to ΔP. These results apply to valves from 2 to 14 inches in diameter, and leakage from 3 to 20 gpm. For air flow, the upstream volumetric flow rate was found to be insensitive to critical vs. non-critical flow assumptions up to a pressure, ratio of 0.75.

Other work performed on this task included telephone contacts with valve manufacturers regarding valve construction and leakage.

Contacts with Architect & Engineering (A&E) firm personnel regarding leakage assumptions used in overpressure protection analysis have so far produced no useful information.

Task 6: Comments from the Nuclear Regulatory Commission (NRC) on the preliminary report were received.

Task 7: There was no activity on this task during August.

Task 9 The Lawrence Livermore Laboratory (LLL) stress information still has not been received. There is a possibility that the Applied Mechanics Branch at EG&G Idaho can perform the necessary calculations if LLL does not respond quickly and positively. Resolution of this problem is pending.

Task 10: Processing of the boiling water reactor and pressurized water reactor support data was completed and the draft final report was submitted to the NRC Technical Monitor for review.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Revised/Expanded Draft Report	9/24/82T	

5. Summary of Work to be Performed in September 1982

Task 4: Continue the attempt to determine the leakage allowance used by A&E firms in overpressure protection analysis.

Develop recommendations on primary pressure isolation valve leakage allowance to be specified in plant Technical Specifications.

Complete and issue the final draft report on this task.

Task 6 NRC comments on the preliminary report will be incorporated into the draft report; significant revision of the initial draft will be required.

Task 7: No effort is planned until NRC comments are received on the preliminary report.

Task 9: Once the stress information problem is resolved, a program plan will be drafted to reflect the sample problem to be solved. In the meantime, a surface flaw model for the Zion 1 hot leg safe end weld will be developed reflecting both Sections III and XI of the Code. A new computer subroutine released by EPRI will be requested which will allow calculation of stress intensity factors using influence functions.

Task 10: Pending approval of the NRC Technical Monitor, the draft report will be distributed to the members of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code Section XI Working Group on Component Supports and presented at their September meeting in Mystic, Connecticut. The report will be issued in final form within one month of receipt of NRC review comments on the draft report.

6. Problems and Potential Problems

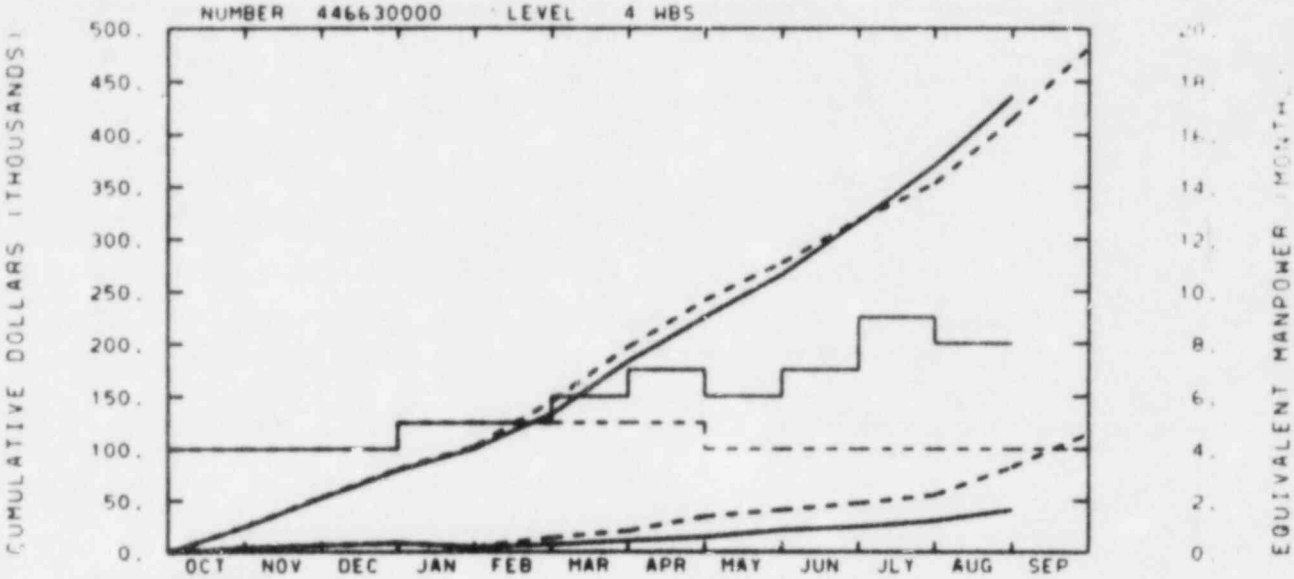
None.

RESPONSIBLE MANAGER
R F SAFFELL

EG&G IDAHO INC.

NUCLEAR POWER PLANT INST A6369

NUMBER 446630000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	25	53	81	103	145	196	242	277	318	353	415	481
ACTUAL	24	53	79	100	133	183	225	266	317	371	436	

MATERIAL

BUDGET	4	7	9	5	14	21	35	41	48	55	83	114
ACTUAL	4	7	9	5	7	11	15	21	25	30	41	

MANPOWER

BUDGET	4	4	4	5	5	5	5	4	4	4	4	4
ACTUAL	4	4	4	5	5	6	7	6	7	9	8	

A6369

YTD VARIANCE: <21> (5%)

Acceleration of this task has resulted in a $21K overrun. A decrease in activity in the next month will bring costs and budget into line. A carryover of approximately $40K is projected at fiscal year-end.

189a A6369

1. Nuclear Power Plant Instrumentation Evaluation

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Work continued to incorporate comments from review of the draft of the Regulatory Guide (RG) 1.97 clarification document.

Preparation of a report giving preliminary recommendations for changes to RG 1.97 continued.

Validation and input of plant data into the data system continued.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Interpretation of RG 1.97 Requirements with Respect to Remote Accuracy Response Time and Qualification	9-30-82	
Preliminary Recommendations for Changes to RG 1.97	9-24-82	
NPPIE Data Base Management System Final Report Including Users Guide	9-30-82	

5. Summary of Work to be Performed in September 1982

NPPIE program personnel will assist the NRC-RES with preparation of a revision to RG 1.97.

Three reports as specified in Item 4 above will be published.

Input of additional plant data into the data system will continue.

6. Problems and Potential Problems

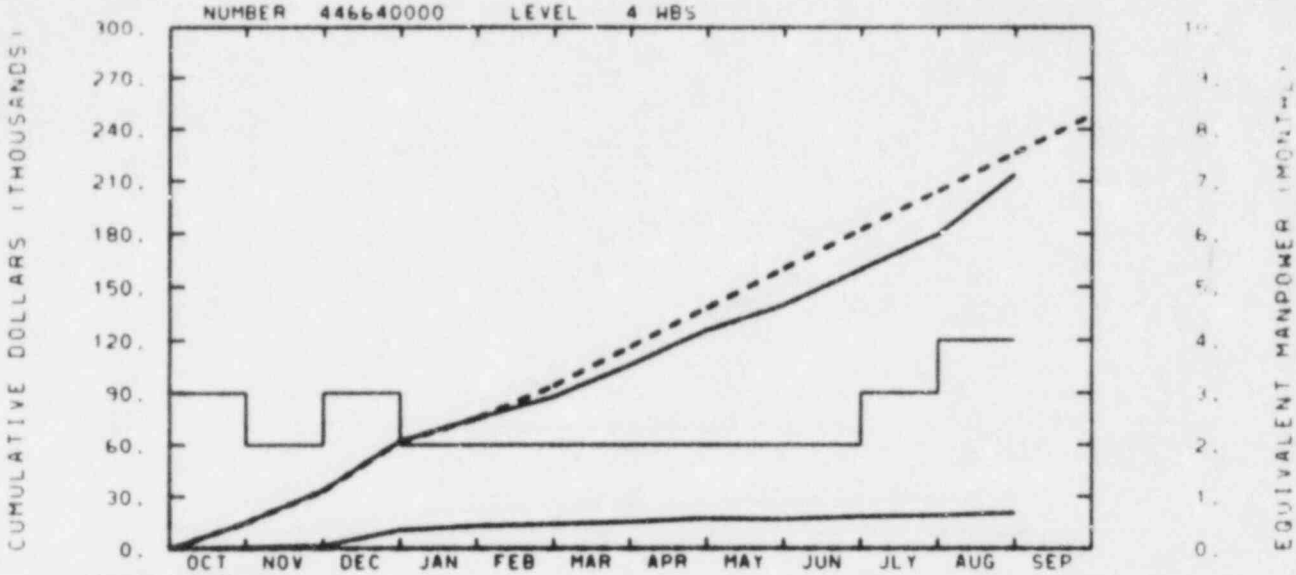
None.

RESPONSIBLE
MANAGER
B F SAFFELL

EG&G IDAHO INC.

RES ASSESS CON AUTO A6370

NUMBER 446640000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	15	33	62	75	94	116	138	160	182	204	226	248
ACTUAL	15	34	62	76	88	106	126	140	160	180	214	

MATERIAL

BUDGET	15	33	62	75	94	116	138	160	182	204	226	248
ACTUAL	1	2	11	13	14	15	17	17	18	19	21	

MANPOWER

BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	3	2	3	2	2	2	2	2	2	3	4	

BUDGET
ACTUAL

189a A6370

1. Microprocessor Based Design and Plant Control Automation

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

EG&G Idaho is preparing a paper for presentation at the 10th Water Reactor Safety Meeting in October. The title of the paper is "Safety Implications of Using Programmable Digital Computers in Nuclear Safety and Control Systems". This paper will be abstracted from the report currently being reviewed by the NRC.

Initial efforts have begun on Backfitting Criteria and Comparative Risk Assessment issues. A plan for follow-on work in these areas is being prepared and will be presented to NRC in October.

EG&G Idaho has had several discussions with Pat Williams, (Westinghouse) at Hanford, Washington about Software Quality Assurance issues. EG&G Idaho personnel will make a trip to Hanford to discuss at length the possible assistance Westinghouse could provide for this project.

Work is continuing on the LER for isolation devices report due in September 1982. In the course of this effort, LERs on stored program computers were also found. This information will also be included.

As part of the isolation task, EG&G Idaho is developing a phased, detailed test plan for NRC approval. Phase I will be used to test procedures and instruments.

EG&G Idaho is sending formal written requests to isolator manufacturers. We have requested information from the following:

a. Foxboro
b. Validyne
c. Rochester Instrument (2 letters)
d. Technology for Energy
e. Forney
f. Energy Incorporated
g. General Atomic
h. Duke Power
i. E Max
j. Transmation

The Form 189 was formally submitted to the Department of Energy for this project.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Feasibility Study Concerning the "retrofitting" of power plants with digital computers	9-30-82	

5. Summary of Work to be Performed in September 1982

EG&G Idaho will complete the Phase I isolation test plan, attend the RRG meeting in September and continue work on safety and quality assurance issues.

EG&G Idaho will also work on the final report "Preliminary Assessment of Design Issues", currently being reviewed by NRC.

6. Problems and Potential Problems

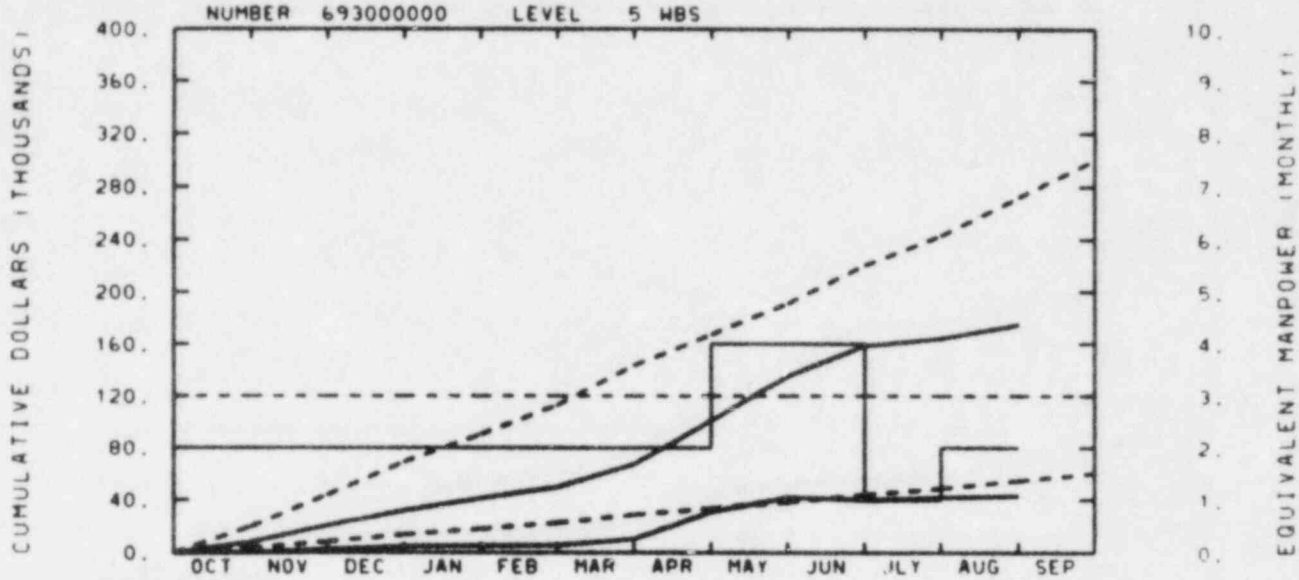
EG&G Idaho has not started work on the "Safety Parameter Display Requirements" pending a review decision by the NRC. We currently have a milestone due in December 1982 on this item. We need to change the date of the milestone pending the NRC's decision.

RESPONSIBLE MANAGER
B L RICH

EG&G IDAHO INC.

RADIOLOGICAL AIR SAMPLING A6371

NUMBER 693000000 LEVEL 5 WBS



TOTAL PROGRAM

BUDGET	20	44	69	90	113	143	167	191	220	243	272	300
ACTUAL	8	21	32	41	50	67	101	135	158	164	175	

MATERIAL

BUDGET	4	9	14	18	23	29	34	38	44	49	55	60
ACTUAL	0	3	5	5	6	11	31	42	40	42	43	

MANPOWER

BUDGET	3	3	3	3	3	3	3	3	3	3	3	3
ACTUAL	2	2	2	2	2	2	2	4	4	1	2	

A6371

YTD VARIANCE: 97 (36%)

The $300K budget was originally planned to cover a two-year period. In FY-1982, $200K will be costed and in FY-1983, $100K will be costed on the following: complete aerosol experiments and test sampling techniques, evaluate current methods of obtaining samples, recommend improved test sampling procedures in NRC licensing procedures, and test and evaluate air sampling/monitoring equipment.

189a A6371

1. Technical Assistance Contract for Evaluation of and Guidance for Radiological Air Sampling

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Review of the Personal Air Sampler evaluation was completed.

Began calibration and performance testing of aerosol generating equipment.

Prepared a mid-project report for the Nuclear Regulatory Commission (NRC); review of the report continues.

Began preparation of recommendations for use of personal air samplers.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

Complete personal air sampler recommendations report for the NRC.

Begin laboratory tests of air sampling equipment using standardized aerosols.

Plan for site visits to nuclear power facilities.

6. Problems and Potential Problems

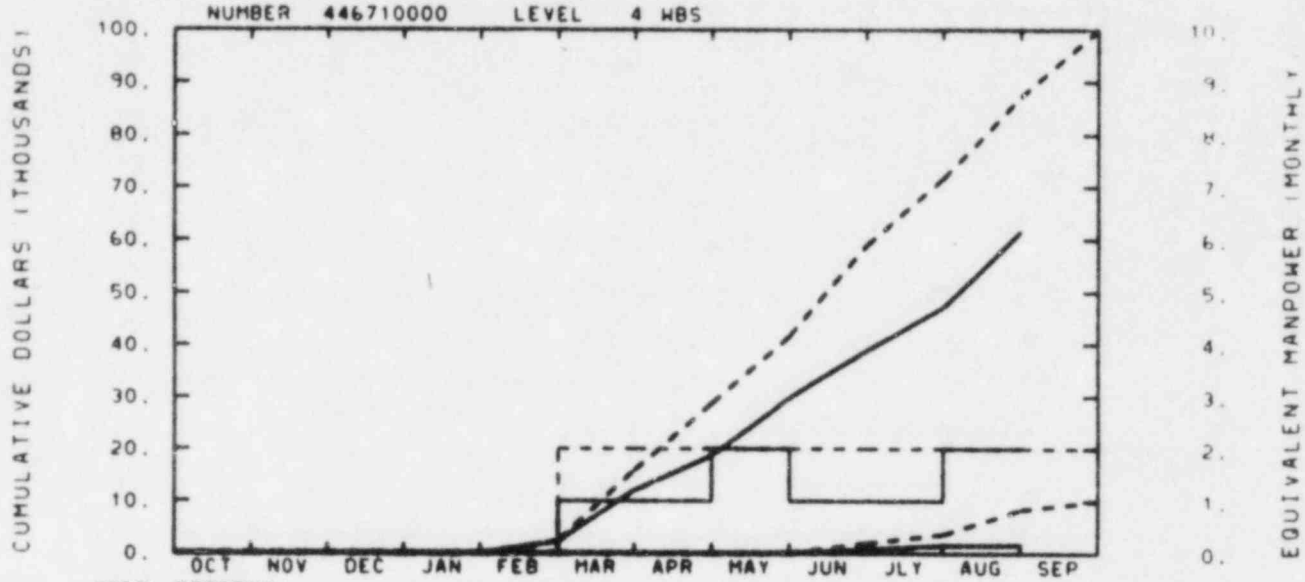
None.

RESPONSIBLE MANAGER
B F SAFFELL

EG&G IDAHO INC.

TWO-PHASE INSTRUMENT EVAL A6376

NUMBER 446710000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	2	16	29	42	59	72	87	100
ACTUAL	0	0	0	0	2	12	19	30	39	47	62	

MATERIAL

BUDGET	0	0	0	0	0	0	0	0	2	4	8	10
ACTUAL	0	0	0	0	0	0	0	0	1	2	2	

MANPOWER

BUDGET	0	0	0	0	0	2	2	2	2	2	2	2
ACTUAL	0	0	0	0	0	1	1	2	1	1	2	

A6376

YTD VARIANCE: 25 (29%)

Negotiations redefining the task are still underway. As soon as work scope is defined, a reevaluation will be reflected in the budget.

189a A6376

1. Two Phase Instrumentation Evaluation

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Continued the literature search and contact with Utility personnel. Finished the draft of the interim report. Continuing to update information as received.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

EG&G Idaho will continue the literature search and establishing contact with utility and vendor personnel. Discussion of the interim report with NRC personnel is expected early in September.

6. Problems and Potential Problems

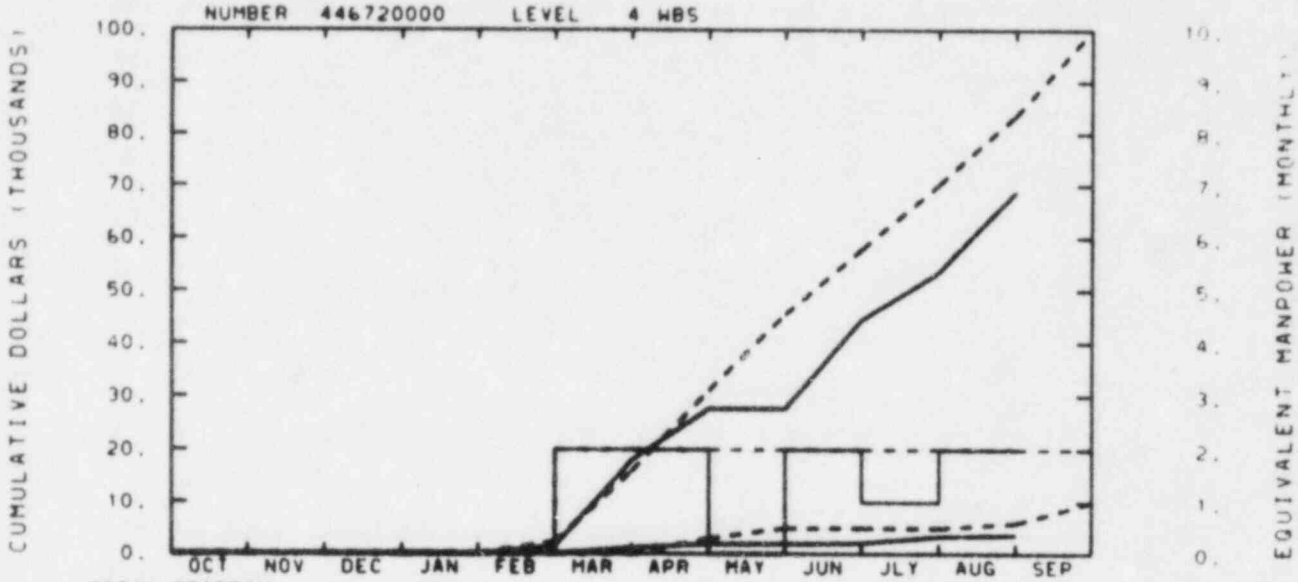
Vendor response is still very sparse.

RESPONSIBLE
MANAGER
B F SAFFELL

EG&G IDAHO INC.

DIAGNOSTIC INSTRUMENT EVAL A6380

NUMBER 446720000 LEVEL 4 WBS



TOTAL PROGRAM

BUDGET	0	0	0	0	2	16	31	45	58	70	84	100
ACTUAL	0	0	0	0	1	18	28	28	44	53	69	

MATERIAL

BUDGET	0	0	0	0	0	0	3	5	5	5	6	10
ACTUAL	0	0	0	0	0	1	2	2	2	3	4	

MANPOWER

BUDGET	0	0	0	0	0	2	2	2	2	2	2	2
ACTUAL	0	0	0	0	0	2	2	0	2	1	2	

A6380

YTD VARIANCE: 15 (18%)

Negotiations redefining the task are still underway. As soon as work scope is defined, a reevaluation will be reflected in the budget.

189a A6380

1. Diagnostic Instrumentation Evaluation

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

Literature on valve and pump failures was reviewed. A draft of the year-end report was completed and sent to Word Processing.

4. Scheduled Milestones for September 1982

Description	Due Date	Actual Date
Year-end draft report to NRC	9-5-82T	
Year-end final report to NRC	9-20-82T	

5. Summary of Work to be Performed in September 1982

NRC personnel are tentatively scheduled to visit EG&G Idaho September 8-10 for technical discussions. Depending on the results of a phone conversation, we may deliver the draft of the year-end report at that time rather than mailing it. In any case, the report will be completed by September 20, 1982.

6. Problems and Potential Problems

None.

1. Sandia Purchase Order - Interim Reliability Evaluation Program (IREP)

2. Scheduled Milestones for August 1982

None.

3. Summary of Work Performed in August 1982

This task has been completed. It will be deleted from the monthly report beginning in September.

4. Scheduled Milestones for September 1982

None.

5. Summary of Work to be Performed in September 1982

None. This task is complete.

6. Problems and Potential Problems

None.

EG&G IDAHO, INC.

GPP ITEM

PROGRAM WATER REACTOR RESEARCH TEST FACILITIES DIVISION

FY-1982

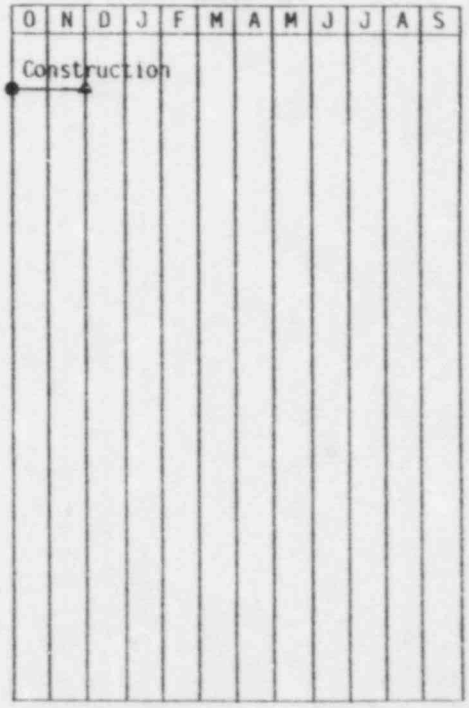
MANAGER P. North

189 No. A6038

($000)

EA No.	Item Description	Original PA Amount	Current Estimated Cost	Project To Date Costs
93520	WRRTF Water Well Upgrade	$ 125	$ 80	EG&G $ 30.3 M-K $ 44.0

Task Initiated ○
Task Completed △



6-02