

EGG-LOFT-5276  
October 1980

CYY

LOFT MONTHLY PROGRESS REPORT  
FOR SEPTEMBER 1980

**MASTER COPY  
DOES NOT CIRCULATE**

INEEL Technical Library



173176

N. C. Kaufman

**Does not contain Export Controlled information**  
Export Control Review Number 46168  
Date of Review 8/22/11  
Reviewer Initials AKB

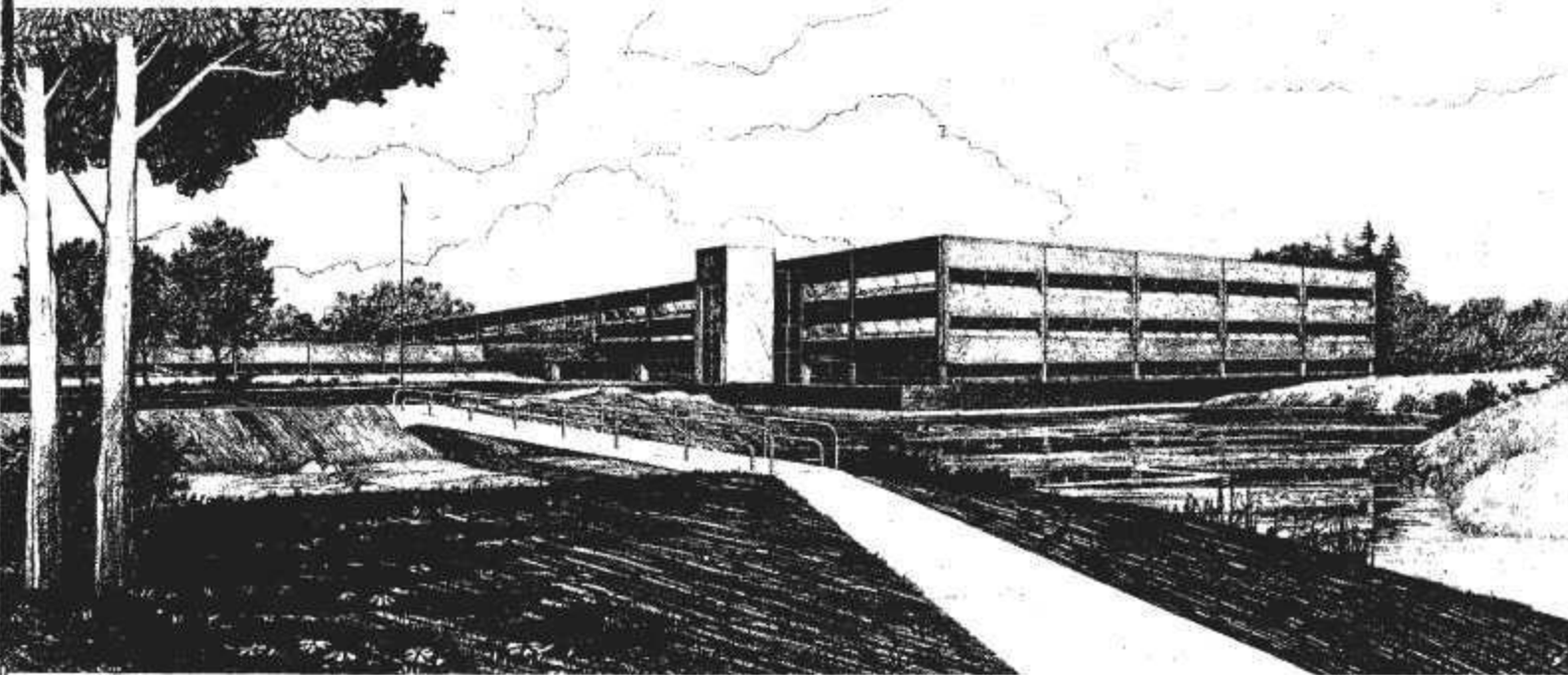
**RECEIVED**  
EG&G Idaho, Inc.

NOV 17 1980

INEL  
TECHNICAL LIBRARY

**U.S. Department of Energy**

Idaho Operations Office • Idaho National Engineering Laboratory



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

Prepared for the  
U. S. Nuclear Regulatory Commission  
Under DOE Contract No. DE-AC07-76ID01570  
FIN No. A6048

Digitized  
07-11-11





173176

## INTERIM REPORT

Accession No. \_\_\_\_\_

Report No. EGG-LOFT-5276

**Contract Program or Project Title:**

LOFT

**Subject of this Document:**

LOFT Monthly Progress Report  
for September 1980

**Type of Document:**

Interim Report

**Author(s):**

N. C. Kaufman

**Date of Document:**

October 1980

**Responsible NRC Individual and NRC Office or Division:**

G. D. McPherson, LOFT

This document was prepared primarily for preliminary or internal use. It has not received full review and approval. Since there may be substantive changes, this document should not be considered final.

EG&G Idaho, Inc.  
Idaho Falls, Idaho 83415

Prepared for the  
U.S. Nuclear Regulatory Commission  
Washington, D.C.  
Under DOE Contract No. DE-AC07-76ID01570  
NRC FIN No. A6048

## INTERIM REPORT



## CONTENTS

DIRECTOR'S MONTHLY SUMMARY .....	1
ACCOMPLISHMENTS .....	2
LOFT FACILITY DIVISION .....	7
LOFT MEASUREMENTS DIVISION .....	8
LOFT PROGRAM DIVISION .....	12
FOREIGN-FUNDED TASK SUMMARIES .....	14
SUMMARY OF JAPANESE-FUNDED (JAERI) TASKS .....	14
SUMMARY OF GERMAN-FUNDED (FRG) TASKS .....	15
SUMMARY OF JAERI/FRG SHARED TASKS .....	16
SUMMARY OF NETHERLANDS-FUNDED (ECN) TASKS .....	16
SUMMARY OF FRENCH-FUNDED (CEA) TASKS .....	19
SUMMARY OF AUSTRIAN-FUNDED (FZS) TASKS .....	19

## FIGURES

1. LOFT management summary schedule .....	21
---	----

## TABLES

1. Foreign Funds Availability at End of September 1980 (In Thousands of Dollars) .....	93
2. Foreign Funded Task Summary at End of September 1980 .....	94
3. LOFT FY-80 Summary Status Report Nuclear Regulatory Commission (In Thousands of Dollars) .....	96
4. LOFT Funding Summary for FY-80 (In Thousands of Dollars) .....	97
5. LOFT FY-80 Summary Budget Status Report of LOFT Foreign Funds (In Thousands of Dollars) .....	98
6. LOFT Capital Equipment Status Report through September .....	99
7. Final Closing Values for Funding Sources .....	100



## LOFT MONTHLY PROGRESS REPORT FOR SEPTEMBER 1980

### DIRECTOR'S MONTHLY SUMMARY

The fourth nuclear powered small break test (L3-5/5A) was conducted on September 29, 1980. The test was initiated from a steady state operating condition wherein the core was generating heat at a maximum rate of approximately 52 kW/m. The test consisted of two parts: L3-5 simulated a 4-in. pipe break in a commercial pressurized water reactor; the second part, L3-5A, was intended to investigate natural circulation and steam generator heat transfer modes and also plan recovery using secondary system control in a situation where the pipe break and the ECCS accumulator are isolated from the primary coolant system. Initial test data indicated that all systems functioned as expected. The several hundred measurements of system coolant and reactor core conditions made during the three hour duration of the test will continue to be analyzed over the next several months.

Preparations were also underway for conducting three tests in the Anticipated Transient Series. These tests, designated L6-1, L6-2, and L6-3 will provide information on plant control systems and operator response to transients in which the initiating event is not a loss-of-primary coolant. The transient tests to be conducted during September and others scheduled in the future will add greatly to understanding responses necessary to a transient condition.

September 1980 marked the successful completion of FY-1980. Final closing values for each of the funding sources are included as part of this report (see Table 7).

NRC and foreign funded tasks closed FY-1980 with underruns documented by identifying committed and uncommitted carryovers.

## ACCOMPLISHMENTS

### LOFT TECHNICAL SUPPORT DIVISION

1. Two Document Revision Requests (DRRs) (L-3172 and L-4015) were submitted to the Department of Energy-Idaho Office (DOE-ID) for review and approval for updating the LOFT Final Safety Analysis Report (FSAR) to incorporate modifications and additions to the plant design.
2. The Experiment Safety Analysis (ESA) for the conduct of test L3-5/L3-5A was submitted to DOE-ID and received approval. The supporting analysis document, LOFT Technical Report (LTR) L0-11-80-096, has also received EG&G Idaho, Inc. management approval and has been issued.
3. The following Technical Specifications changes have been submitted to DOE-ID for approval:
  - A. DRR L-3851, Rev. 1 (L3-5 Test)--DOE-ID has approved.
  - B. DRR L-3853 (L6-1, L6-2, and L6-3) - DOE-ID is reviewing.
  - C. DRR L-3854 (to correct typographical errors) - DOE-ID is reviewing.
  - D. DRR L-3855 (transversing in-core probe system - (TIPS) use during L3-5) - DOE-ID has approved.
4. The following failure modes effects and consequence analyses (FMECA) were completed:
  - A. System reviews of the primary coolant system, emergency core cooling system, and Loss-of-Coolant Experiment (LOCE) control systems for the conduct of Small Break Test L3-5/L3-5A.
  - B. Overall system review for the conduct of L6-2 and L6-3 (two separate documents).



5. A safety issues letter was prepared which identifies concerns for the conduct of the L3-5/L3-5A experiment that are not published in any other formal safety document.
6. The L3-5/L3-5A small break experiment was conducted successfully.
7. Safety analysis documentation for L6-1, L6-2, and L6-3 was issued.
8. The LOFT Technical Support Center (TSC) was placed in operation, manned by Reactor System Branch personnel, and used successfully during the L3-5 small break test.
9. Critical boron concentration and expected power distribution for LOCE L3-5 (JBB-1-80) was computed.
10. A design review for the linear table assembly of the isotope detection system has been held, and the integrated planning for the electronic fabrication of interfaces has received a complete review from Quality Division and the Project System Engineer. After the incorporation of minor modifications, the Physics Division started the work.
11. Installation of the snubber test stand and its missile barrier has been completed. The test stand was formally accepted by EG&G after the demonstration. Training of operators and technical support personnel was conducted by an MTS Systems Corporation representative during the second week of September.
12. The Inservice Inspection (ISI) evaluation group approved the data packages from L3-5. The ISI manual was completed and has been reviewed by EG&G management. The ISI manual was forwarded to DOE-ID for review four days ahead of schedule.
13. Disposal of the spent resin stored in the Hot Cells has been completed. The cask was emptied, cleaned, decontaminated, and reconditioned; and the transfer system has been modified to receive the resin from the blowdown suppression tank (BST) and/or coolant purification system (CPS) ion exchangers.

14. The 6000-gallon blowdown header decontamination solution hold tank has been delivered. The tank is equipped with controls and support frame. Inspection by the Quality Division is pending.
15. Installation of the intact loop experimental piping configuration (including all supports, hangers, and as-built software) was completed in preparation for L3-5/5A.
16. Several valves were reworked to improve reliability and flow characteristics commensurate with system requirements.
17. An analysis [LOFT Technical Report (LTR) LO-35-80-016] of a potential hydrogen detonation in the containment vessel was prepared. The conservative assumption was made that all the hydrogen generated by a reaction of all the core zirconium with water would mix with air at the optimum ratio in a spherical shape at the containment centerline near the reactor head. The analysis based on this assumption indicated that the pressure wave pulse at the containment vessel wall would be less than 70 psig. No attempt was made to quantify the duration of the pulse wave. This analysis resulted from one of the Three Mile Island (TMI-2) safety issues.
18. The polyethylene neutron shield beneath the mobile test assembly structure was removed. This shield was less effective than the shield that uses dry boric acid. The boric acid shield was installed under the reactor vessel prior to L3-7 and will be retained. Removal of the polyethylene shield reduces the containment combustible inventory.
19. The A3 fuel module assembly at Building TAN-615 was completed.
20. Neutron radiography of the poison rods was completed, and the final report will be issued in October. No defects were noted in the rods. Final assembly of the rods to the spider will begin at Building TAN-615 in October.

21. Phase III examination (channel spacing probe measurements) was completed. No major anomalies were noted, and a report is being prepared by the Fuels and Materials Division.
22. A preliminary design review of the LOFT fuel rod transfer cask was conducted. However, the final review will be delayed until the stress and accident analysis are completed.
23. Fabrication of the boron charging system was completed. Design of the flow skirt removal cask was completed, and the drawings are in checking.
24. Waste Gas Processing System vault ventilation system instrumentation was installed.
25. Secondary coolant system flow transmitters FT-P4-62A and -62B have been installed; the output signals from these instruments have been patched into the PRIME system.

The Heating and Ventilation (HV) System 10 redundant constant air monitors (CAMs) have been installed. A total of four HV System 10 CAMs are now in operation to monitor contamination of air to the LOFT control room under certain accident conditions.

26. A preliminary version of the LOFT instrumentation accuracy analysis LTR has been submitted to LOFT Management for review.
27. A preliminary report, entitled "Reliability Analysis of the LOFT Power Range Nuclear Instrument System," has been completed and distributed for internal review.
28. Specification ES-60337 has been prepared for qualifying the plant protection systems (PPS) A, B, and C distribution panels TPP-1, TPP-3, and PP-5. A work package has been prepared to install the regulators.

29. Design was completed of protective covers for the nuclear instrumentation system cables where they exit the shield tank instrument wells, and the covers have been sent to the field for installation. These covers will protect the cables from abuse from work being done on top of the LOFT shield tank.
30. Design of an instrument buffer seismic test assembly is complete. Assembly will be used to seismically qualify buffers used in LOFT instrumentation systems.
31. The engineering package to route cables between the halon panels in rooms 218 and 219 in Building TAN-630 and the American District Telegraph (ADT) cabinets in room B-104 is ready for field work. The cables will connect the two halon panels to the fire alarm systems.
32. A design package was released to upgrade primary coolant flow channels A and B by installing new Rosemount differential pressure flow transmitters in the channels. The Rosemount transmitters will replace the present Fisher-Porter transmitters and will provide increased accuracy, wider range, and higher reliability than the present units.
33. Seventeen of the 33 safety-related design descriptions (DDs) were submitted to DOE-ID for approval. The remaining 16 DDs are now in the LOFT approval chain.

LOFT FACILITY DIVISION

1. All Inservice Inspection (ISI) surveillance and plant testing required for L3-5 were completed.
2. Test L3-5/5A was completed successfully on September 29, 1980.
3. Preparations were begun for performing tests L6-1, L6-2, and L6-3 scheduled for early October.

## LOFT MEASUREMENTS DIVISION

1. The clad surface thermocouples for the NEPTUN Test Program have been shipped to Switzerland.
2. Six *embedded thermocouples* were fabricated for the REBEKA electrically heated test rods. Final calibration and acceptance testing have not been completed. Exxon Nuclear, which has contracted to perform the installation in the test rods, was given weld samples and 0.030-in. diameter zircaloy cabling for coil winding development. Drafts were completed for all related engineering specifications and thermocouple probe fabrication procedures needed to commence qualified production of probes for the LOFT F1 fuel bundle.
3. The two core inlet modular drag disk turbine transducers (MDTTs) planned for installation into the F1 fuel bundle were found to have bearing and design deficiencies to the extent that a decision was made to replace them. Two new units have been initiated, and flow test calibration was performed this month. The authorizing Change Control Board (CCB) requests have been initiated but may not be approved until the scheduled CCB meeting on October 17.
4. Work was continued to establish the upper useful temperature limits and requirements for the clad surface thermocouples. The testing to measure the thermocouple output drift rates and autoclave testing was completed. *The results are being analyzed and a report will be written.*
5. Kaman Sciences delivered the remaining eight Model A centerline thermocouples.
6. The L3-5 PC-2 MDTT rake was assembled, installed, and operated. All units operated through the initially scheduled test date; however, the A and B turbines failed before the rescheduled test could be run. Operation after the test indicated that the rotors are still intact but may be binding.

7. Period electronic drawings were completed for the modular drag disk turbine.
8. The acoustic emission system sensors were installed on the L3-5 small-break orifice located immediately downstream of the gamma densitometer spool piece. The data from the sensors will be analyzed later by Technology for Energy Corporation to evaluate the possibility of measuring fluid mass flow through the orifice using acoustic emission techniques.
9. Four thermal shields were fabricated for the gamma densitometers. Three were installed at PC-1, PC-2, and BL-1 in time for test L3-5; the fourth will be installed at BL-2 for test L3-6.
10. Data were taken at all installed gamma densitometer locations for the L3-5 experiment.
11. The source cask for the nuclear-hardened PC-3 densitometer was fabricated and shipped to Measurement, Incorporated.
12. Fabrication and testing of the PC-3 nuclear-hardened densitometer detector preamplifiers were completed.
13. Megabyte-stabilized densitometer (MSD) electronics were installed and tested at BL-2A. Preliminary results indicate that the MSD is a viable option for the densitometer system.
14. The new small-break pressure transducers were installed. These transducers will provide information on the primary coolant pressure upstream and downstream of the gamma densitometer spool piece orifice and upstream of the drag disk turbine spool piece.
15. The pressure transducers for measuring blowdown suppression tank level were upgraded, and an additional differential pressure transducer was installed in parallel with the existing transducer installation.

16. All spool piece instrumentation operated properly for the L3-5 test, including the turbine, drag screen, pressure and differential pressures, low energy densitometer, and thermocouples.
17. Final revisions were made in the densitometer uncertainty analysis, and the report was approved and sent to be printed.
18. Steam generator liquid level discrepancies were resolved, DAVDS coefficients were calculated, and density correction formulas were generated for the L3-5 test.
19. Various test data were extensively analyzed to obtain meaningful calibration coefficients for the MDTT in the L3-5 spool piece.
20. The Exxon test of the in-core MDTT was concluded, and the data will soon be evaluated in detail.
21. Software was developed to calculate density and velocity downstream of an orifice, assuming a constant enthalpy and no slip across the orifice.
22. The AI center fuel bundle channel spacing measurements were completed. Preliminary data evaluation indicates all rod-to-rod and rod-to-guide-tube spacings are greater than the minimum spacings specified for new fuel bundles. This bundle has been subjected to two large break LOCAs as well as operation at full power (16 kW/ft).
23. The fuel modules component final design description, CDD 1.1.1.1C, was issued.
24. An evaluation was made of the Exxon Nuclear and EG&G predictions of the capability of fuel rods (which have damaged annealed cladding) in the LOFT peripheral fuel bundle to withstand (a) the power ramp in operational transient L6-3 and (b) the results of power escalations in the LOFT lead rod test. The resulting recommendations were (a) to precondition the fuel at or above the peak power expected in the test for 4 to 8 hours and (b) to relax the power escalation limits of



the LOFT reactor in a manner that could accelerate the L3-5, L6-2, and L6-3 test sequence by approximately 4 days.

25. The A3 center fuel module was completed and is ready for installation. This module features advanced instrumentation including inlet flow meters, fuel centerline thermocouples, and fuel-rod-length measurement.
26. Exxon Nuclear completed 1500 hours of flow life testing of the inlet flow meter. No structural damage occurred to the mounting brackets or fasteners. The flow meter turbine bearing failed at 460 hours in the model with first generation graphite bearings and at approximately 1000 hours in the model with improved graphite bearings.

## LOFT PROGRAM DIVISION

1. The initial calculations of noncondensable effects on steam generator heat transfer and natural circulation in the LOFT system during LOCA conditions have been completed. For LOFT small break experiments, the results of the initial calculations indicate that the effect of realizable noncondensable gas concentration on either natural circulation or steam generator heat transfer is small. These results are based on the assumptions that the ECC performs as designed and by doing so prevents significant fuel cladding failure. Further refinements of the calculations and parametric analyses are being done.
2. A draft of a paper, titled "A Correlation for Phase Separation in a Tee," was completed. This work is relevant to LOFT Experiments L3-5/5A and L3-6/L8-1 where the small break is created with a tee assembly connected to the intact loop cold leg piping. The draft of the paper is currently in review.
3. Development of a model for the leakage through the reflood assist bypass valves (RABVs) was completed and documented by letter. The description of the model (equations) is in a form that can be used by LOCE L3-1 standard problem participants.
4. The calibration of the LOCE L3-5 flow spool was completed. Additional analysis will be done to reduce the uncertainties in the calibration of the drag screen before L3-6.
5. The RELAP4/MOD7 code has been used to calculate the ZION large cold leg break transient in essentially the same manner as with RELAP4/MOD6. The RELAP4/MOD6 code was used in a prototypicality study between LOFT and ZION for LOCE L2-3. The RELAP4/MOD7 code is being used to recalculate the ZION transient using data on ZION supplied by Westinghouse. Agreement between RELAP4/MOD7 and RELAP4/MOD6 is essential to this calculation.
6. The Experimental Prediction Report for LOFT LOCA L3-5/L3-5A was issued.

7. Calculations and a draft report for tests L6-1, -2, -3, and -5 Experimental Prediction were completed.
8. A preliminary posttest analysis letter on test L6-5 using RETRAN was issued.
9. The Experiment Operation Specification (EOS) was issued for tests L6-1, L6-2, and L6-3 after comments received during the August review were resolved. These tests are scheduled for early October.
10. The EOS for tests L3-5/L3-5A was issued. This test was successfully performed on September 29, 1980.
11. Test support of Experiment Operating Procedure (EOP) L3-5/L3-5A was provided by participating in Data Integrity Review Committee (DIRC) activities to qualify the test data.
12. The results of a study undertaken to review existing fuel-cladding test data were issued to provide a comparison of cladding burst temperature versus internal fuel rod pressure. These data suggest that fuel cladding failure should not occur until performance of test L2-6 using 750 psig pressurized fuel rods. Test L2-6 is currently scheduled for May 1982.
13. A draft of the Experiment Definition Document (EDD) for test L3-6/L8-1, providing a preliminary discussion of test initial conditions and operating requirements, was prepared and submitted for review. Test L3-6/L8-1 is currently scheduled for December 1980.
14. The results of a study performed to determine the effect of various initial blowdown suppression tank pressures on the break characteristics of test L5-1 (scheduled for August 1981) was listed. There were no observable effects on break characteristics from varying initial suppression tank pressures.

## FOREIGN-FUNDED TASK SUMMARIES

Foreign-funded and in-kind LOFT support projects are summarized in this section.

### SUMMARY OF JAPANESE-FUNDED (JAERI) TASKS

#### 1. Task 5F8C1 -- JAERI Management

The new work breakdown structure was approved this month, and all JAERI tasks were rebudgeted as appropriate.

#### 2. Task 5F8C4 -- Advanced DTT

Testing was performed on the LOFT pressure balanced drag turbine using the LOFT Technical Support Facility (LTSF) Blowdown Facility. Data review and analysis are underway, and preliminary assessment of that data indicates the existing design is not suited for transient blowdown testing as might be expected in LOFT.

#### 3. Task 5F8C6 -- Reevaluation of LOFT Experiments

No progress was achieved this month.

#### 4. Task 5F8C7 -- Miscellaneous Code Studies

This task was inactive this month.

#### 5. Task 5F8C8 -- LTSF Suppression Tank

A final task report was issued. This task is complete, except for final cost resolution.

#### 6. Task 5F8CA -- PC-3 and Small-Break Densitometers

##### A. PC-3 Gamma Densitometer

- (1) The source cask was fabricated by L&S Machine. The source was loaded by Gamma Industries and shipped to Measurements, Inc. (MI).
- (2) All document submittals by MI have been approved by EG&G with exception of the stress analysis. Fabrication release has been given.
- (3) Fabrication and testing of the detector preamplifiers was completed. Four of the eight photomultiplier tubes have been received.

B. Small-Break Instruments

Test L3-5 was conducted using the small break instruments developed by this task. Preliminary data from the small break gamma densitometer, turbine, drag screen, and thermocouples appear clear with low uncertainties. All instruments functioned properly, and high reliability is expected to continue. This task is complete.

7. Task 5F8CB -- Post-CHF Heat Transfer

A conceptual design and sketches of the test section and planning for installation into the blowdown loop at LTSF are nearly complete. A list of required hardware has been compiled. Several sources for a new low-voltage, high-current power supply have been investigated.

SUMMARY OF GERMAN-FUNDED (FRG) TASKS

1. Task 5F7C1 -- FRG Management

The new work breakdown structure was approved, and appropriate tasks were rebudgeted. A new three-year FRG-NRC LOFT agreement was approved.

2. Task 5F7C4 -- Miscellaneous Tasks

This task was inactive in September.

3. Task 5F7C5 -- Steam Probe

This task was inactive in September.

4. Task 5F7C8 -- LOFT State Vector Cost Estimate

No progress was reported in September.

SUMMARY OF JAERI/FRG-SHARED TASKS

1. Task 5FC94 -- Two-Phase Loop Boiler Building

Construction of the building was completed. The first construction inspection found several items improperly performed by the contractor. The contractor has agreed to correct the deficiencies by October 15.

SUMMARY OF NETHERLANDS-FUNDED (ECN) TASKS

1. Task 5FNC2 -- Program Development and Analysis

A new work package, "Internal Cladding Thermocouple Design (in REBEKA Heater Rod)," was approved and work is in progress at Exxon Nuclear.

The "Wyle Data Analysis" work package has been completed and two LOFT Technical Reports written. The major conclusions of this work are as follows:

- A. The densitometer and drag disk rake combination gives quite accurate mass flow measurements, with errors in the total (time integrated) mass flow of not more than 6.3% of reading.

- B. The densitometer and turbine rake combination gives consistently low estimates of the mass flow, with errors as large as 22% of reading in the total mass flow.
- C. The densitometer and pitot tube rake combination gave results that varied substantially from one test to the next with no discernible, consistent cause. Unlike the drag disk and turbine results, the results for the pitot tubes depended strongly on what kind of symmetry was assumed when extrapolating the  $\rho v^2$  (density times velocity squared) profile from the local pitot tube measurements. The assumptions that the  $\rho v^2$  profile symmetry should match the density profile symmetry usually gave substantially greater mass flow estimates than did the assumption that the  $\rho v^2$  profile was symmetrical about the rake and independent of the density profile. The lower mass flow values resulting from the second assumption were usually more accurate than the values obtained with the first assumption. Even with the better assumption, there were errors as large as 27% of reading in the total mass flow estimate.
- D. The turbine and drag disk combination usually gave low estimates for the total mass flow, with errors as large as 34% of reading. These tests did not use in-place calibrations, which have been found to substantially enhance the accuracy of turbine flow meters in LOFT. Thus, it seems that, without in-place calibration, the drag disk-densitometer combination gives better mass flow measurements, than other instrument combinations give.

Progress on the "Critical Flow Scaling Studies" work package continued with examination of LTSF calibration data on Semiscale 0.11- and 0.028-in. nozzle due to low water quality during testing. Effort is proceeding to analyze remaining data to provide Henry-Fauske, Moody and modified Burnell critical flow data base.

Under "Analysis of PNA Techniques" work package the analytical study of the N-16 transport from the tagging to the detector positions has

been initiated under Task II. A computer program is being developed which will simulate the detector counting spectrum versus time for an irradiated single-phase laminar flow.

The simulation is done by dividing radially and axially the 112 irradiated water regions into smaller control volumes. These control volumes have a velocity that depends on their radial positions (the parabolic velocity profile for laminar flow is being considered), and an initial N-16 activity that depends on their radial and axial position from the source(s). Therefore, through this transport the program couples together the axial and radial profiles of the induced N-16 activity at the source(s) position with the axial and radial profiles at the detector position. The analysis of the mass-weighted velocity from the resultant time profile is also included.

The program is being tested for a single-phase laminar flow when water is flowing in a 14-in. schedule 160 pipe at a mean velocity of 0.05 cm/s (to ensure  $Re < 2000$ ). The distance from the midplane of the neutron source to the midplane of the detector is assumed to be 127 cm.

This program will also be used for the transport of the laminar liquid phase of a two-phase stratified flow.

The Rensselaer Polytechnic Institute (RPI) work package on modeling critical flow in an orifice has been completed and documented. One of the original objectives of the research contract was to develop a model of critical flow through an orifice such that with only measurements of the upstream stagnation conditions ( $P, T, \rho$ ), the model could be used to predict the discharge mass flow through an orifice. The results obtained indicate that Dr. Gay has gone a long way toward achieving the objective.

## 2. Task 5FNC3 -- Component Development

The two-phase loop platform and stairs addition was completed. A new task to develop a conceptual design and cost estimate for mounting



internal zircaloy-clad thermocouples in a heater rod zircaloy clad was approved, and work is underway at Exxon Nuclear.

#### SUMMARY OF FRENCH-FUNDED (CEA) TASKS

##### 1. Task 5FFC2 -- Program Development and Analysis

A new French Commissariat a l'Energie Atomique (CEA) - USNRC LOFT agreement was approved in September. This agreement is for a three-year period, and two CEA delegates are expected to join the EG&G staff soon in the LOFT Program Office.

#### SUMMARY OF AUSTRIAN-FUNDED (FZS) TASKS

##### 1. Task 5FAC2 -- Program Development and Analysis

Minor information was exchanged between LOFT and the Austrian staff during this period. The Austrian Studiengesellschaft fuer Atomenergie (SGAE) has been renamed to Austrian Forschungszentrum Seibersdorf Gesellschaft mbH (FZS). This reflects the need for FZS to consider projects other than nuclear-related ones.

##### 2. FZS In-Kind Support to LOFT

The FZS staff have performed some preliminary autoclave tests to ensure that they can perform the desired tests on EG&G-provided optic window and insulator samples. The LOFT chemistry oxygen low limits cannot be achieved, so the tests will be conducted using the least oxygen content achievable by FZS. Production testing is scheduled to start October 7.

FZS questions related to design of a steam-water mixer were resolved between LOFT and FZS. A fabrication for the mixer has been identified, and FZS is in the process of funding the task.

## SUMMARY OF SWITZERLAND IN-KIND (EIR) SUPPORT

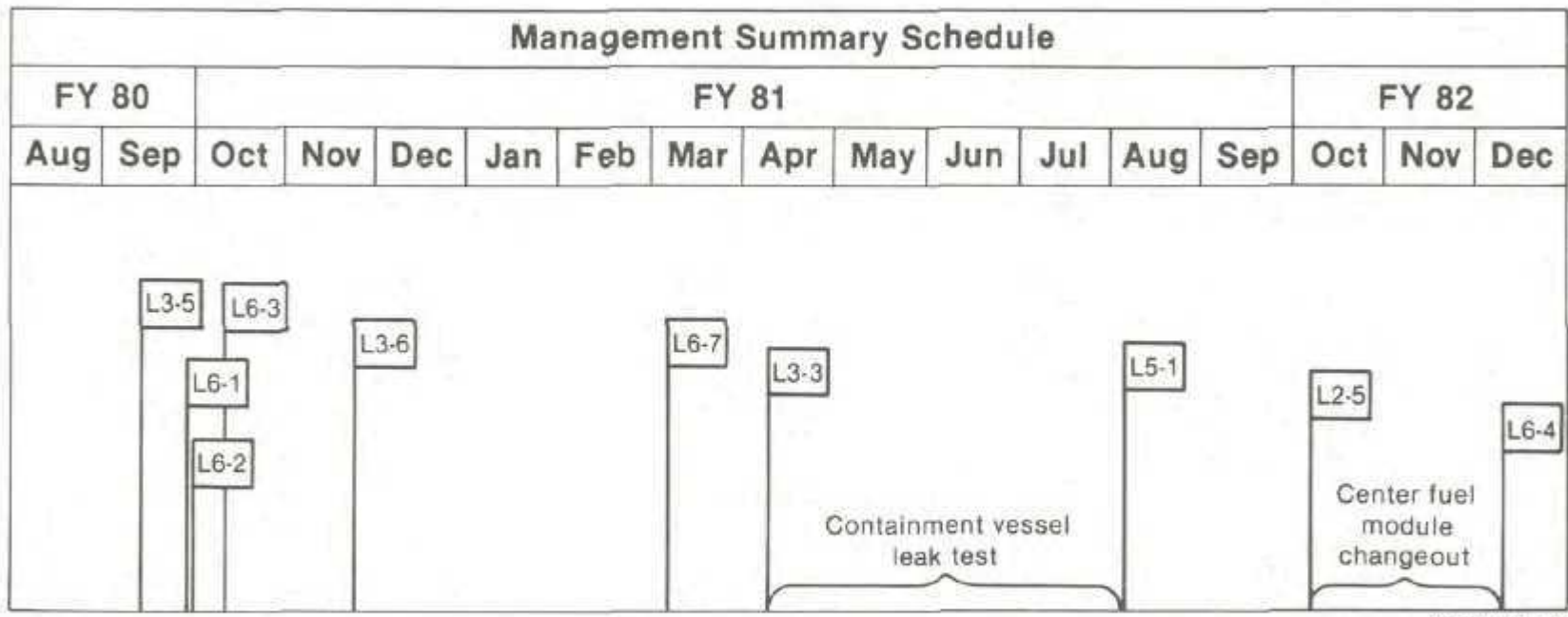
### 1. NEPTUN Reflood Test Program

The Inconel thermocouples, dummy segments, and spare thermocouple material were shipped to Switzerland. The Swiss were asked to evaluate if zircaloy clad heater rods could be fabricated for LOFT-NEPTUN support.

The NEPTUN test program is not firm at this time, and tests to uncover the core are being considered for the first major test series.

## FOREIGN COOPERATIVE SUPPORT TO LOFT

No progress was reported during September on the FRG programs being conducted to provide added insight on LOFT clad thermocouple behavior.

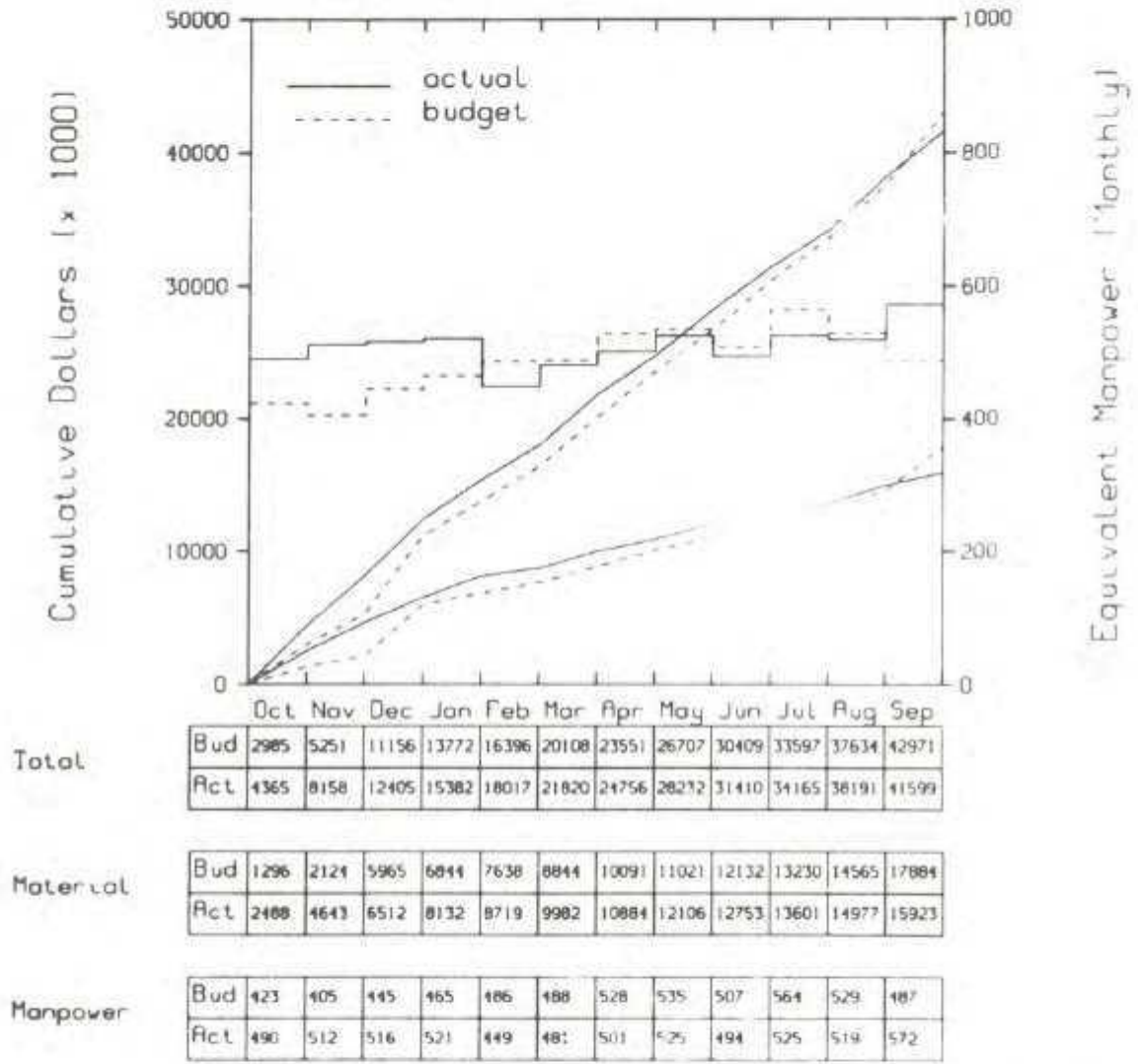


INEL-A-16 160

Figure 1. LOFT management summary schedule.



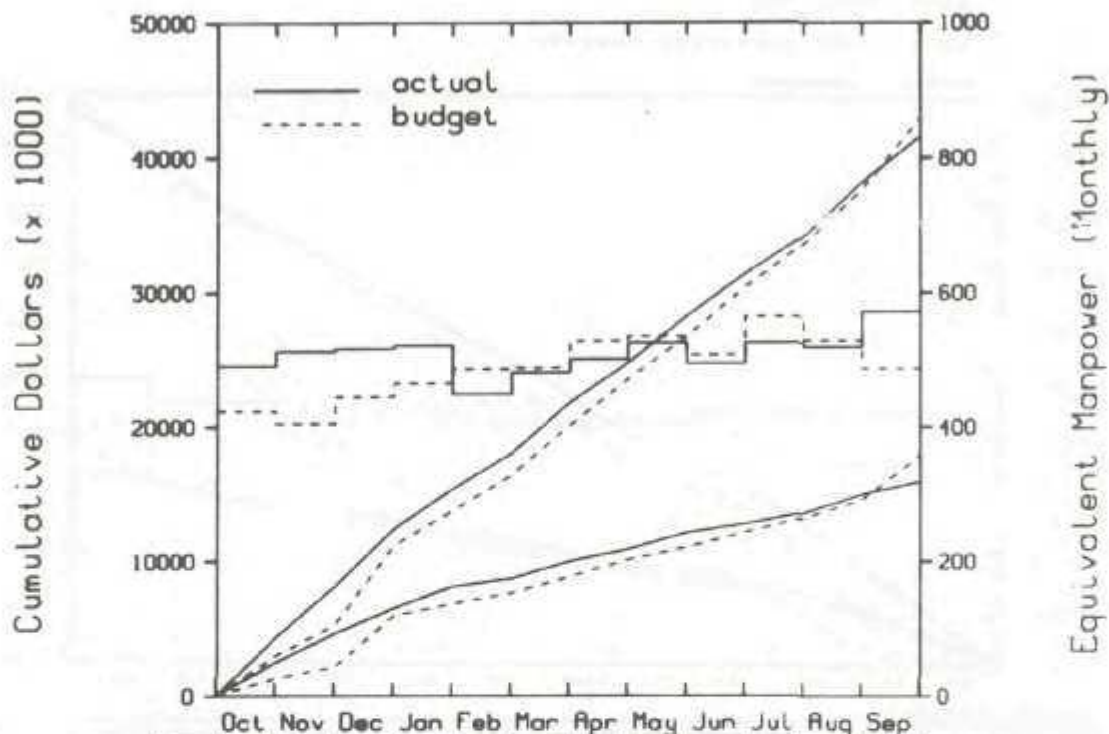
### LOFT Program Cost/Budget Summary LOFT OVERALL FUNDING



The Nuclear Regulatory Commission (NRC) and foreign-funded budgets reflect the LOFT Q80-5 Rev 0/4 baseline approved in September 1980. Refer to the Director's Monthly Summary for comments.

5N--NRC Operating Funding  
5F--Foreign Funding

LOFT Program Cost/Budget Summary  
LOFT OVERALL FUNDING



Total

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Bud	2085	5251	11156	13772	16398	20108	23551	26707	30409	33597	37634	42971
Act	4385	8158	12405	15382	18017	21820	24756	28232	31410	34165	38191	41599

Material

Bud	1296	2124	5065	6844	7638	8844	10091	11021	12132	13230	14565	17084
Act	2488	4643	8512	8132	8719	9982	10884	12106	12753	13601	14977	15923

Manpower

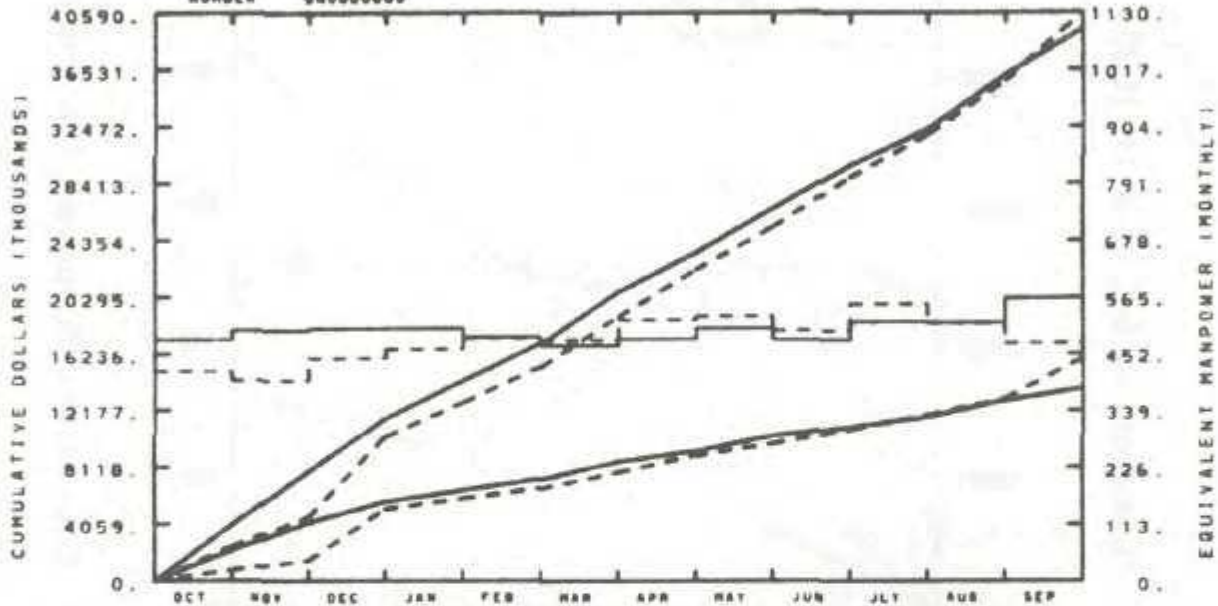
Bud	423	405	445	465	486	488	528	535	507	564	529	487
Act	480	512	516	521	449	481	501	525	494	525	519	572

Refer to the summary cost accounts for comments.

EG&G IDAHO INC.

LOFT - NRC OPERATING FUNDING

NUMBER 590000000



TOTAL PROGRAM

BUDGET	2464	4950	10284	12743	15303	18407	22254	25295	28851	31922	35733	40581
ACTUAL	4023	7798	11598	14902	16972	20597	23456	26627	29679	32320	36141	39407

MATERIAL

BUDGET	802	1673	3161	5084	6624	7766	8948	9796	10807	11822	13019	15910
ACTUAL	2189	4183	6673	6479	7263	8518	9277	10353	10949	11696	12895	12724

MANPOWER

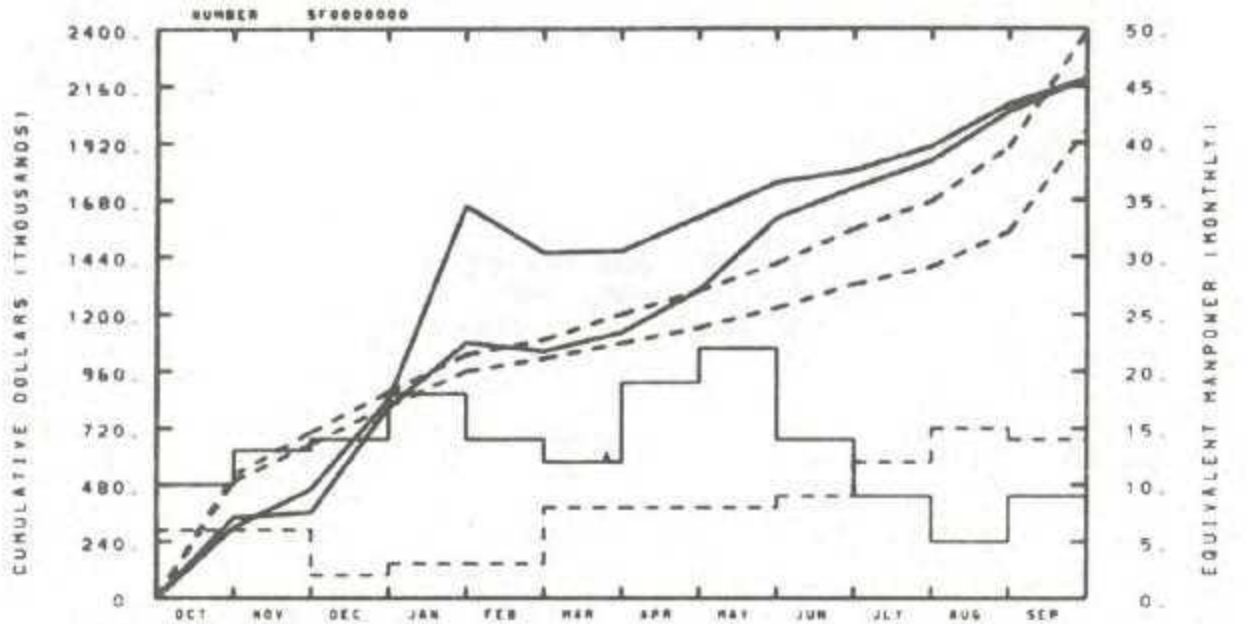
BUDGET	417	399	443	462	483	480	520	527	498	552	514	473
ACTUAL	489	599	502	583	485	469	482	503	486	516	514	563

BUDGET  
- - - -  
ACTUAL

Refer to summary cost accounts for comments.



EG&G IDAHO INC.  
LOFT - FOREIGN FUNDING



TOTAL PROGRAM												
BUDGET	521	701	872	1029	1093	1201	1297	1412	1558	1675	1901	2390
ACTUAL	342	360	807	1080	1045	1123	1300	1603	1731	1845	2050	2192

MATERIAL												
BUDGET	454	651	814	960	1014	1078	1143	1225	1325	1398	1546	1974
ACTUAL	299	460	839	1653	1456	1464	1607	1753	1804	1905	2082	2189

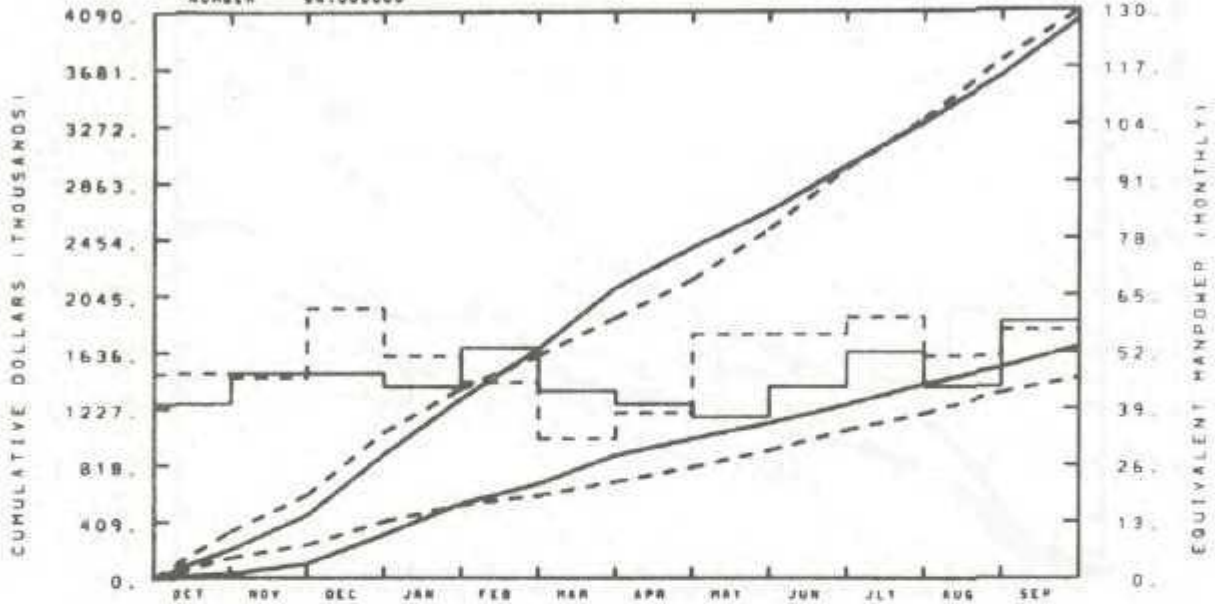
MANPOWER												
BUDGET	6	6	7	3	3	8	8	8	9	12	15	14
ACTUAL	10	13	14	18	14	12	15	22	14	9	5	5

Refer to the summary cost accounts for components.



Year	LOFT 189a Summary	5NX--NRC 189a	5FXX--Foreign 189a
1980	100	80	60
1981	95	75	55
1982	90	70	50
1983	85	65	45
1984	80	60	40
1985	75	55	35
1986	70	50	30
1987	65	45	25
1988	60	40	20
1989	55	35	15
1990	50	30	10
1991	45	25	5
1992	40	20	0
1993	35	15	0
1994	30	10	0
1995	25	5	0
1996	20	0	0
1997	15	0	0
1998	10	0	0
1999	5	0	0
2000	0	0	0

EG&G IDAHO INC.  
 NRC 189A A6048 - EXPER PROGRAM  
 NUMBER 8N1000009



TOTAL PROGRAM												
BUDGET	332	598	1052	1368	1608	1883	2157	2520	2960	3310	3739	4084
ACTUAL	302	452	894	1294	1656	2100	2389	2693	2977	3288	3621	4026

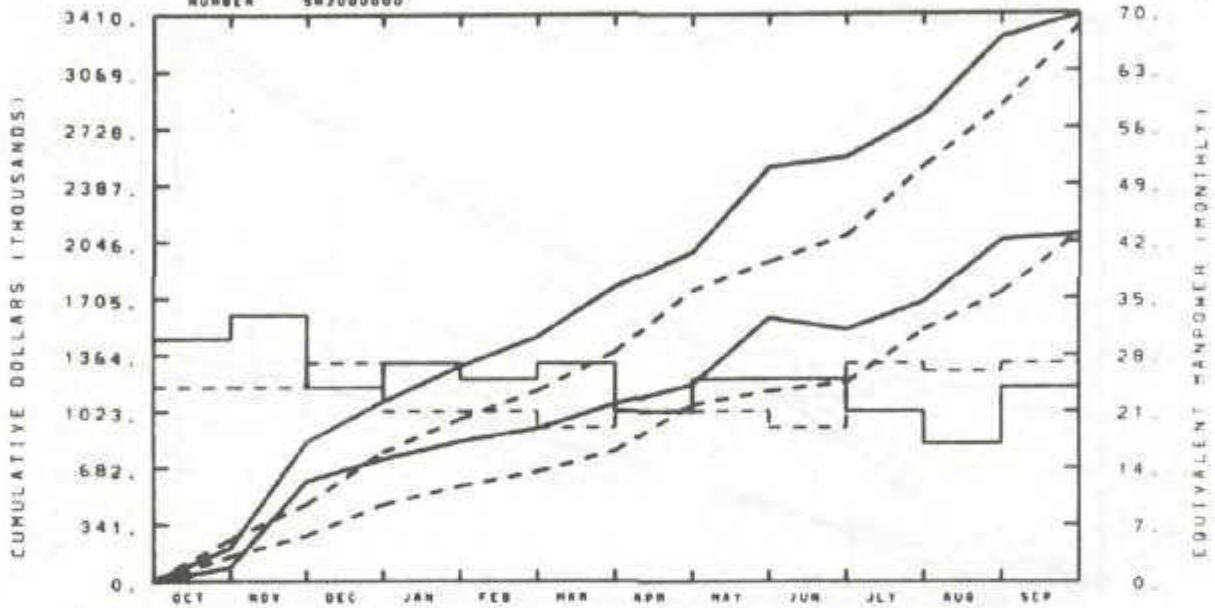
MATERIAL												
BUDGET	141	259	407	529	598	697	801	922	1067	1189	1341	1450
ACTUAL	30	103	312	537	602	887	1008	1120	1252	1400	1524	1673

MANPOWER												
BUDGET	47	46	52	51	45	32	38	56	56	60	51	57
ACTUAL	40	47	47	44	53	43	40	37	44	52	44	59

BUDGET  
 -----  
 ACTUAL  
 \_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
 NRC 189A A6053 - FUEL  
 NUMBER 5W2000000



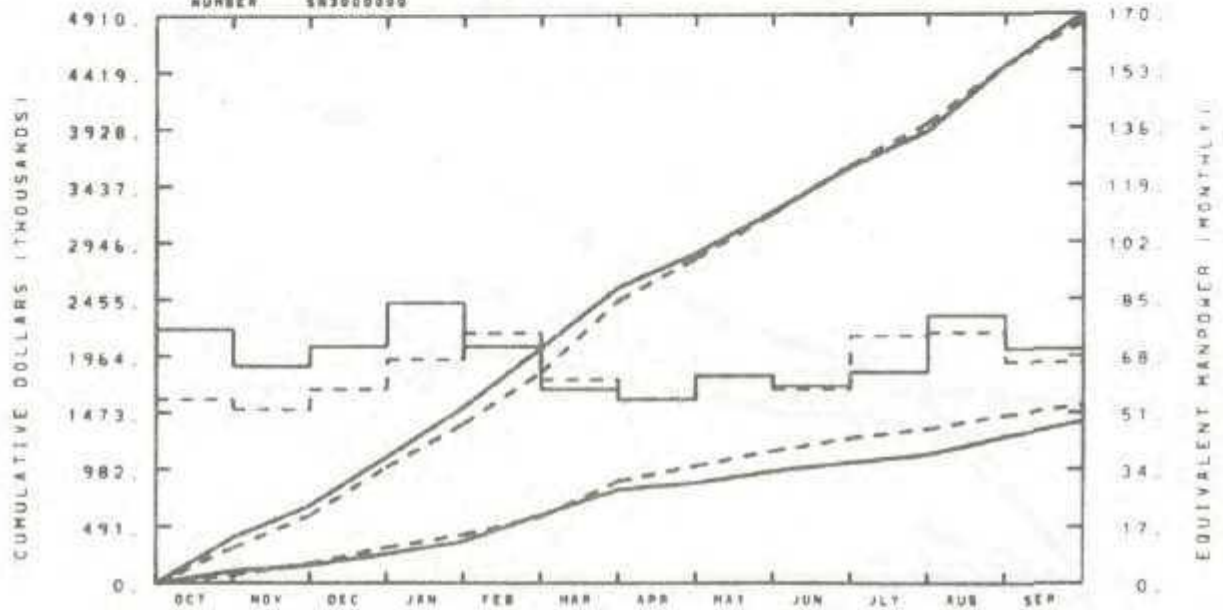
TOTAL PROGRAM												
BUDGET	245	463	776	976	1147	1381	1752	1927	2084	2502	2861	3338
ACTUAL	200	838	1082	1295	1473	1774	1984	2495	2555	2808	3269	3401

MATERIAL												
BUDGET	148	274	460	574	658	786	1063	1146	1198	1516	1738	2099
ACTUAL	82	603	739	843	919	1067	1186	1587	1517	1686	2058	2087

MANPOWER												
BUDGET	24	24	27	21	21	19	21	21	19	27	26	27
ACTUAL	30	33	24	27	25	27	21	25	28	21	17	24

No significant variance.

EG&G IDAHO INC.  
 NRC 189A A6043 -- EXPER INSTR  
 NUMBER SN3000000



TOTAL PROGRAM												
BUDGET	303	587	1004	1375	1823	2448	2909	3196	3610	3971	4468	4839
ACTUAL	314	671	1091	1523	2037	2662	2992	3213	3595	3904	4466	4902

MATERIAL												
BUDGET	76	172	311	422	577	885	1014	1140	1251	1324	1446	1628
ACTUAL	106	156	253	363	594	811	867	965	1081	1111	1262	1395

MANPOWER												
BUDGET	55	52	58	67	78	81	95	62	58	74	75	66
ACTUAL	76	65	71	84	71	58	55	62	59	63	80	70

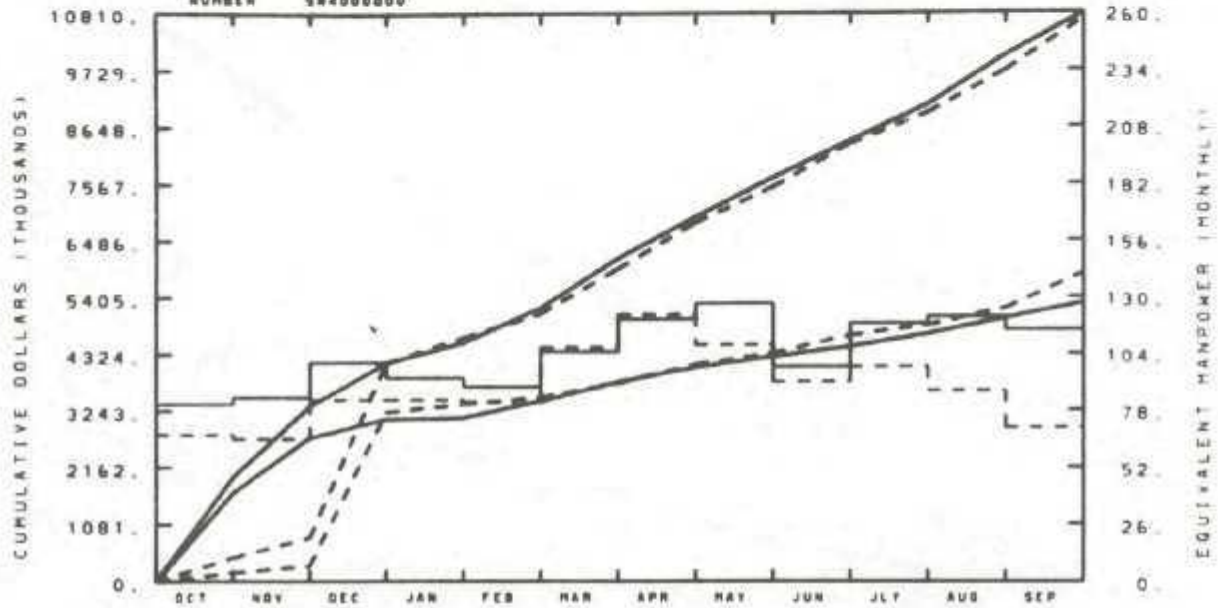
BUDGET  
 - - - -  
 ACTUAL

No significant variance.

EG&G IDAHO INC.

NRC 189A 86107 - PLANT SUPPORT

NUMBER 544000000



TOTAL PROGRAM

BUDGET	446	825	4149	4633	5092	5946	6820	7498	8326	8916	9718	10498
ACTUAL	1982	3325	4149	4534	5204	6144	6922	7676	8379	9072	10004	10802

MATERIAL

BUDGET	162	292	3209	3363	3489	3764	4117	4333	4671	4871	5189	5859
ACTUAL	1681	2725	3078	3105	3430	3789	4067	4264	4457	4700	5002	5291

HANPOWER

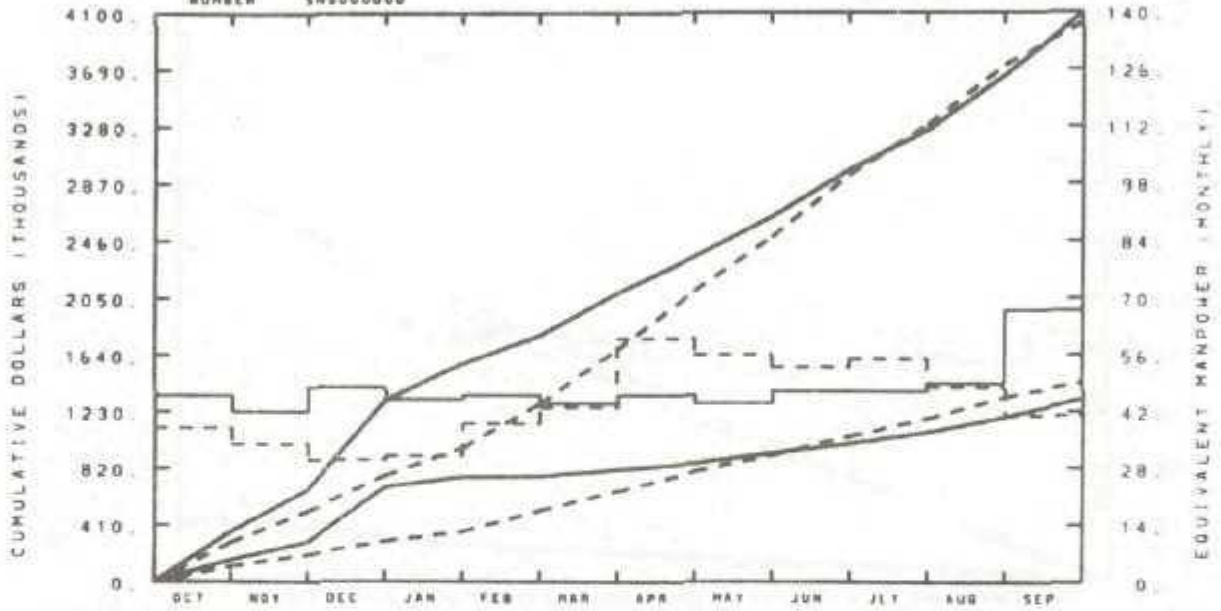
BUDGET	67	65	83	83	82	107	122	108	91	98	87	70
ACTUAL	81	84	100	93	89	105	120	127	98	118	121	119

BUDGET

ACTUAL

No significant variance.

EG&G IDAHO INC.  
 NRC 189A A6122 - CORE & SAFE SPT  
 NUMBER 545000000



TOTAL PROGRAM												
BUDGET	284	505	764	967	1208	1678	2101	2489	2935	3293	3724	4024
ACTUAL	365	654	1311	1575	1778	2088	2348	2632	2972	3254	3652	4056

MATERIAL												
BUDGET	113	198	292	361	515	655	794	913	1051	1179	1325	1443
ACTUAL	160	289	604	755	742	808	855	928	998	1080	1190	1323

MANPOWER												
BUDGET	38	34	30	31	39	43	60	56	53	55	48	41
ACTUAL	46	42	48	65	46	44	46	44	47	47	49	67

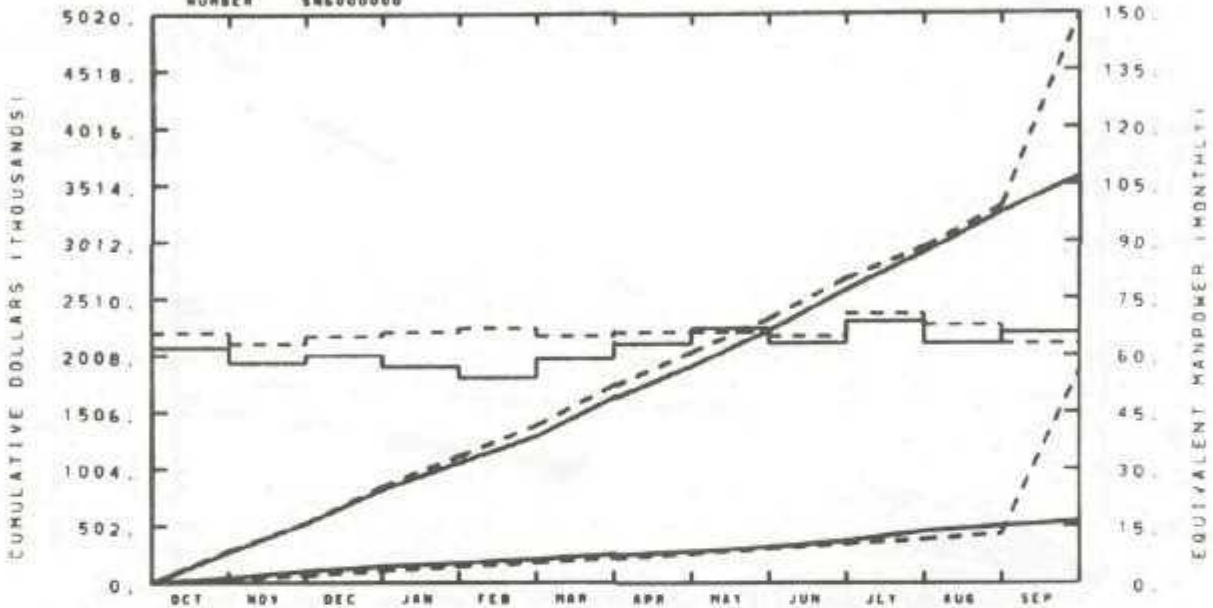
BUDGET  
 - - - -  
 ACTUAL

No significant variance.

EG&G IDAHO INC.

NRC 189A A6110 - COMMON SUPPORT

NUMBER 846000000



TOTAL PROGRAM

BUDGET	282	523	848	1116	1385	1738	2032	2327	2681	2960	3329	5014
ACTUAL	267	521	820	1057	1290	1629	1910	2220	2582	2914	3273	3582

MATERIAL

BUDGET	36	66	107	141	175	215	258	298	345	383	432	1875
ACTUAL	42	103	142	174	207	248	275	315	368	455	502	543

HANPOWER

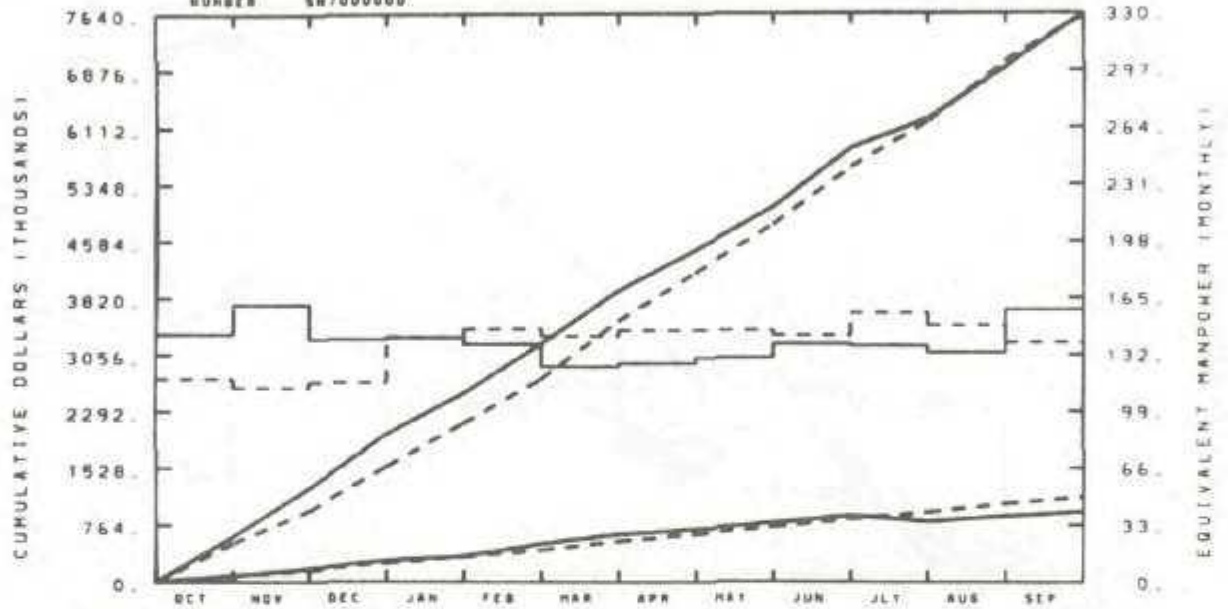
BUDGET	66	63	65	66	67	65	66	66	65	71	68	63
ACTUAL	62	58	60	57	54	59	63	67	62	69	62	66

BUDGET  
-----  
ACTUAL  
\_\_\_\_\_

No significant variance. Budget includes management reserve of \$1409K.



EG&G IDAHO INC.  
 NRC 189A A6054 - FACILITY OPER  
 NUMBER SN7000000



TOTAL PROGRAM												
BUDGET	517	957	1551	2131	2728	3513	4158	4803	5578	6191	6997	7611
ACTUAL	612	1264	1985	2537	3203	3918	4460	5040	5834	6229	6927	7637

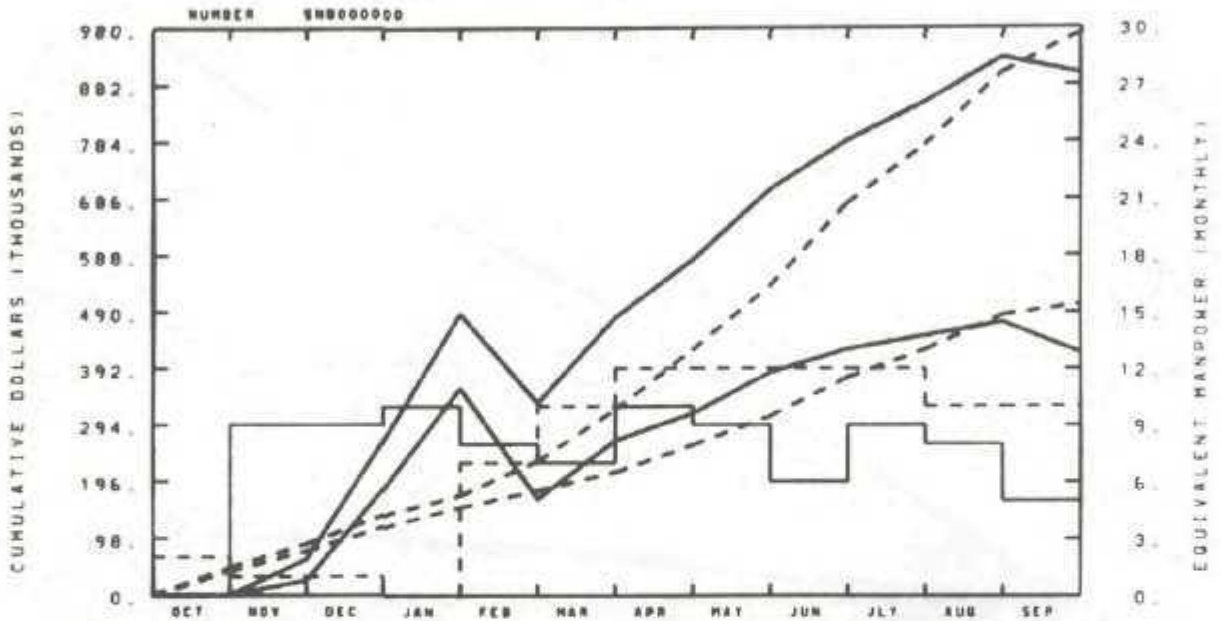
MATERIAL												
BUDGET	85	157	255	343	431	548	641	735	847	935	1052	1141
ACTUAL	87	179	288	345	516	641	706	790	890	816	885	942

MANPOWER												
BUDGET	118	113	116	142	147	143	146	146	143	156	149	135
ACTUAL	144	161	161	142	138	125	127	130	128	137	133	158

BUDGET  
 - - - -  
 ACTUAL  
 \_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
 A6108 - AUGEM OPER CAPABILITY



TOTAL PROGRAM

BUDGET	48	88	138	172	222	321	425	535	678	778	903	971
ACTUAL	0	62	266	487	322	480	580	701	786	852	929	902

MATERIAL

BUDGET	41	76	117	152	181	212	259	309	376	425	485	503
ACTUAL	0	25	182	358	166	267	314	385	425	469	472	420

MANPOWER

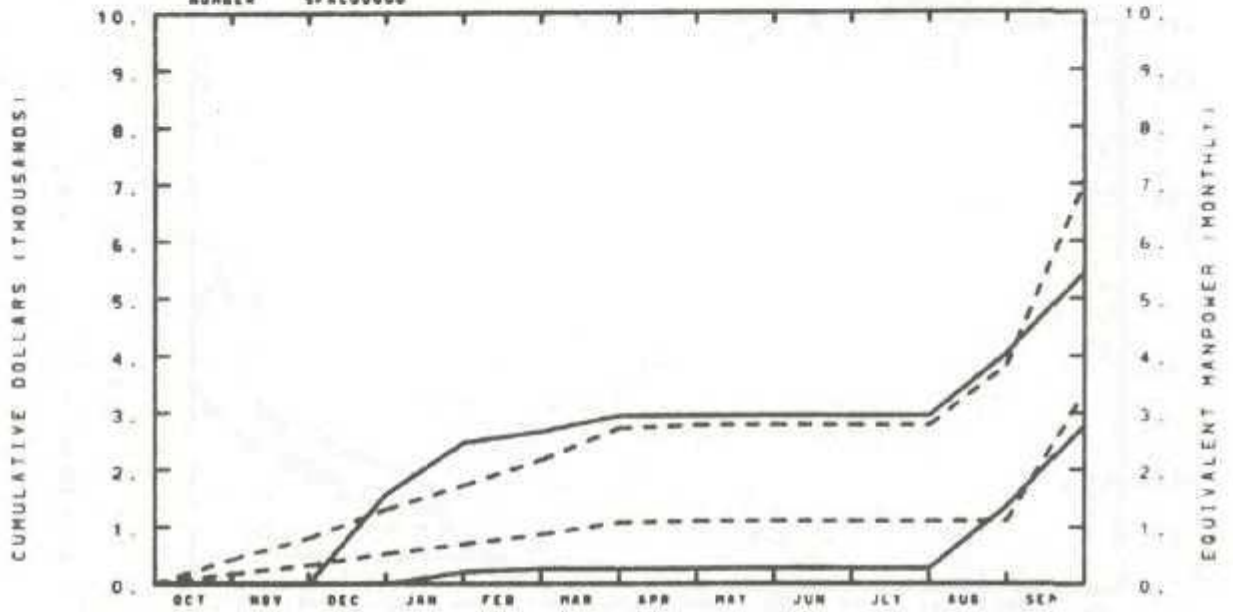
BUDGET	2	1	1	0	7	10	12	12	12	12	10	10
ACTUAL	0	9	9	10	8	7	10	9	6	9	8	5

BUDGET  
 - - - -  
 ACTUAL

No significant variance.

EQ&B IDAHO INC.  
 A6273-AUSTRIAN FUNDS

NUMBER SPAC00000



TOTAL PROGRAM												
BUDGET	0	1	1	2	2	3	3	3	3	3	4	7
ACTUAL	0	0	2	2	3	3	3	3	3	3	4	5

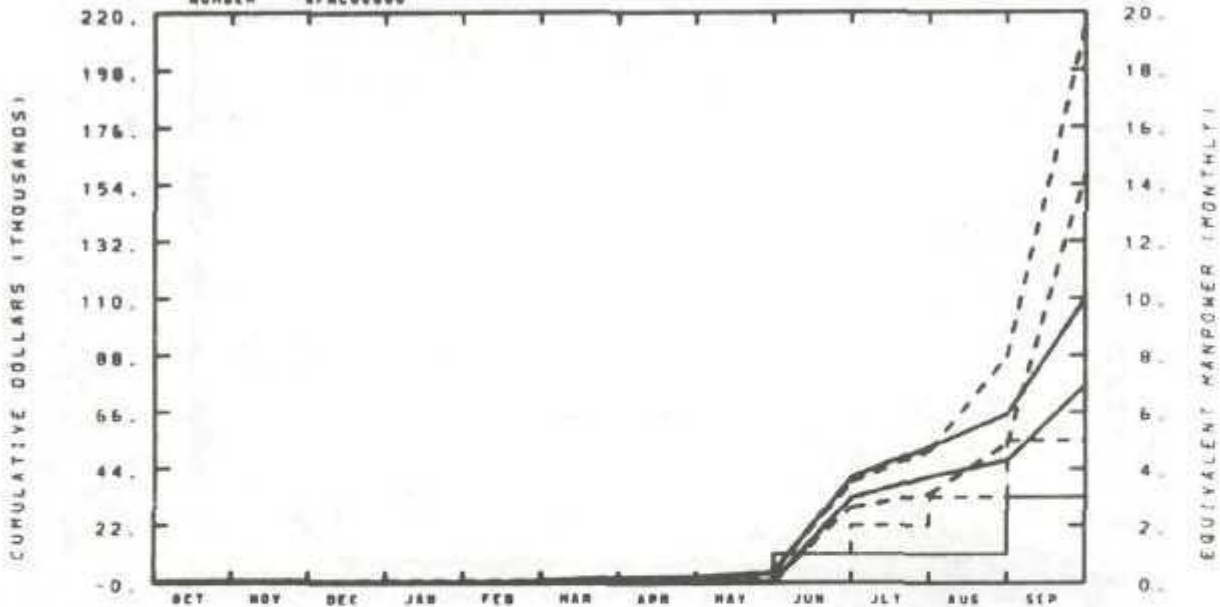
MATERIAL												
BUDGET	0	0	1	1	1	1	1	1	1	1	1	3
ACTUAL	0	0	0	0	0	0	0	0	0	0	1	3

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	0

BUDGET  
 - - - -  
 ACTUAL  
 \_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
 A6271 - NETHERLANDS FUNDS  
 NUMBER SFRC00000



TOTAL PROGRAM

BUDGET	0	0	0	0	0	1	1	4	29	51	87	214
ACTUAL	0	0	0	0	0	2	2	3	40	52	65	109

MATERIAL

BUDGET	0	0	0	0	0	0	0	1	29	34	53	158
ACTUAL	0	0	0	0	0	0	0	0	22	41	47	76

MANPOWER

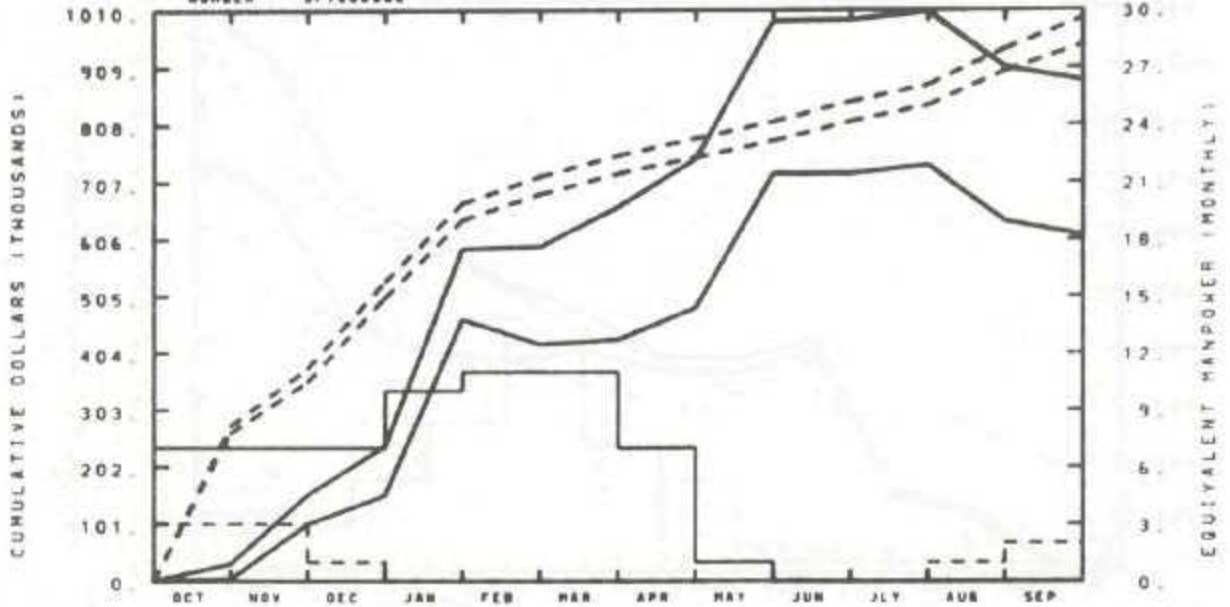
BUDGET	0	0	0	0	0	0	0	0	1	2	3	5
ACTUAL	0	0	0	0	0	0	0	0	1	1	1	3

BUDGET

ACTUAL

Refer to summary cost accounts for comments.

EG&S IDAHO INC.  
 A6104 - GERMAN FUNDS  
 NUMBER SF7C00000



TOTAL PROGRAM												
BUDGET	275	377	531	670	719	754	784	813	848	878	941	956
ACTUAL	31	152	228	509	593	664	748	791	892	1007	909	885

MATERIAL												
BUDGET	262	353	502	641	687	722	751	779	816	842	902	949
ACTUAL	4	100	151	464	420	428	485	722	722	737	638	613

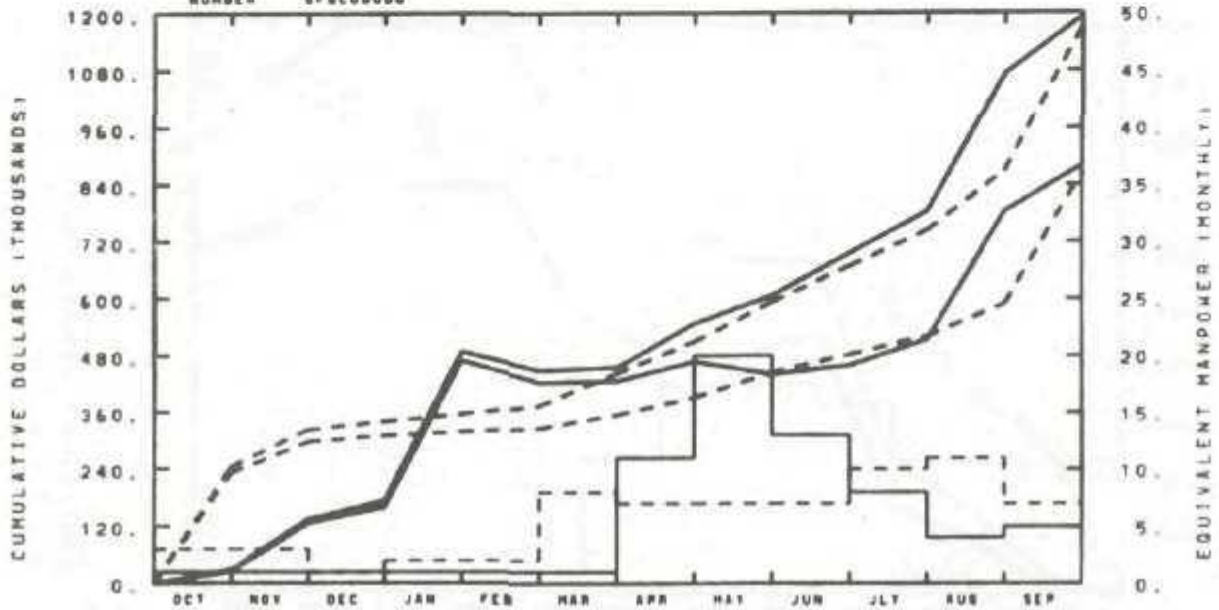
  

MANPOWER												
BUDGET	3	3	1	0	0	0	0	0	0	0	1	2
ACTUAL	7	7	7	10	11	11	7	1	0	0	0	0

No significant variance.

EG&G IDAHO INC.  
A6111 - JAPANESE FUNDS

NUMBER SF8C00000



TOTAL PROGRAM		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BUDGET		246	323	340	357	373	443	509	592	668	743	868	1173
ACTUAL		29	135	174	488	449	455	547	606	696	783	1073	1193

MATERIAL		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BUDGET		232	298	311	318	326	355	391	444	482	521	589	865
ACTUAL		25	126	161	470	423	426	467	440	459	514	783	880

MANPOWER		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BUDGET		3	3	1	2	2	8	7	7	7	10	11	7
ACTUAL		1	1	1	1	1	1	11	20	13	8	4	5

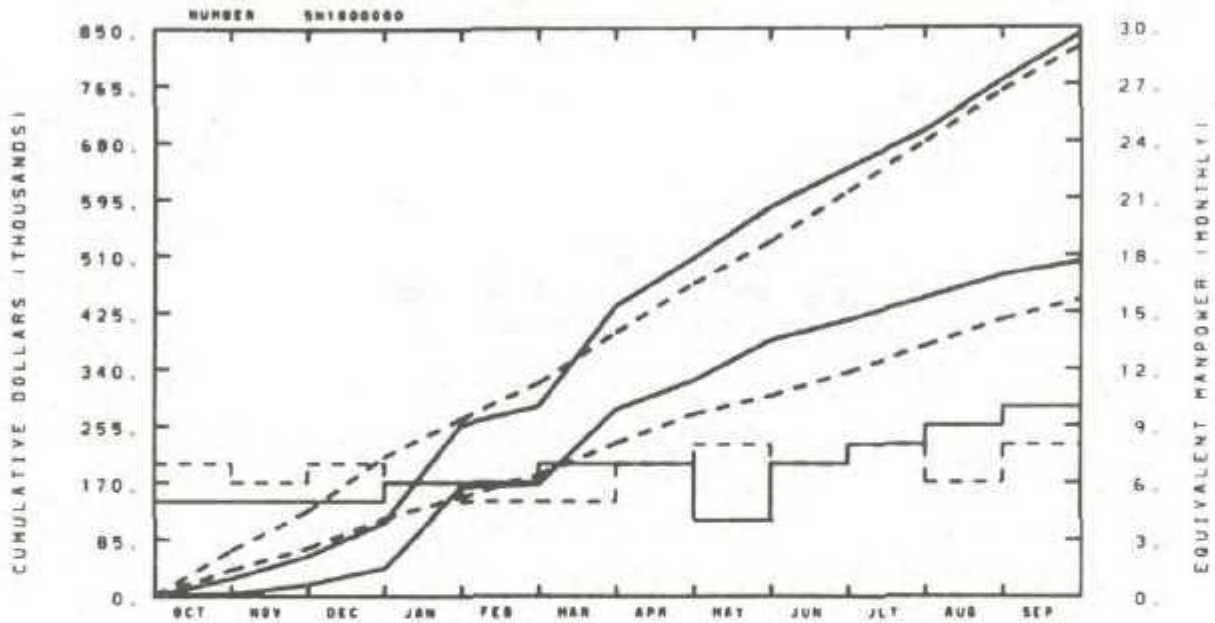
BUDGET  
- - -  
ACTUAL

No significant variance.



Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
5Nxx	75	70	65	60	55	50	45	40	35	30	25	20	18	15	12	10	8	6	5	4	3
5Fxx	45	42	40	38	35	32	30	28	25	22	20	18	15	12	10	8	6	5	4	3	2

EG&G IDAHO INC.  
 EXPR PROG - PROGRAM PLAN & EVAL



TOTAL PROGRAM												
BUDGET	65	127	208	265	319	395	468	531	605	680	755	823
ACTUAL	26	60	111	256	384	435	506	583	641	697	772	840

MATERIAL												
BUDGET	35	73	117	145	181	229	272	300	325	374	414	444
ACTUAL	5	18	42	164	167	279	323	383	413	447	481	500

MANPOWER												
BUDGET	7	6	7	6	5	5	7	8	7	8	6	8
ACTUAL	5	5	5	6	6	7	7	8	7	8	9	10

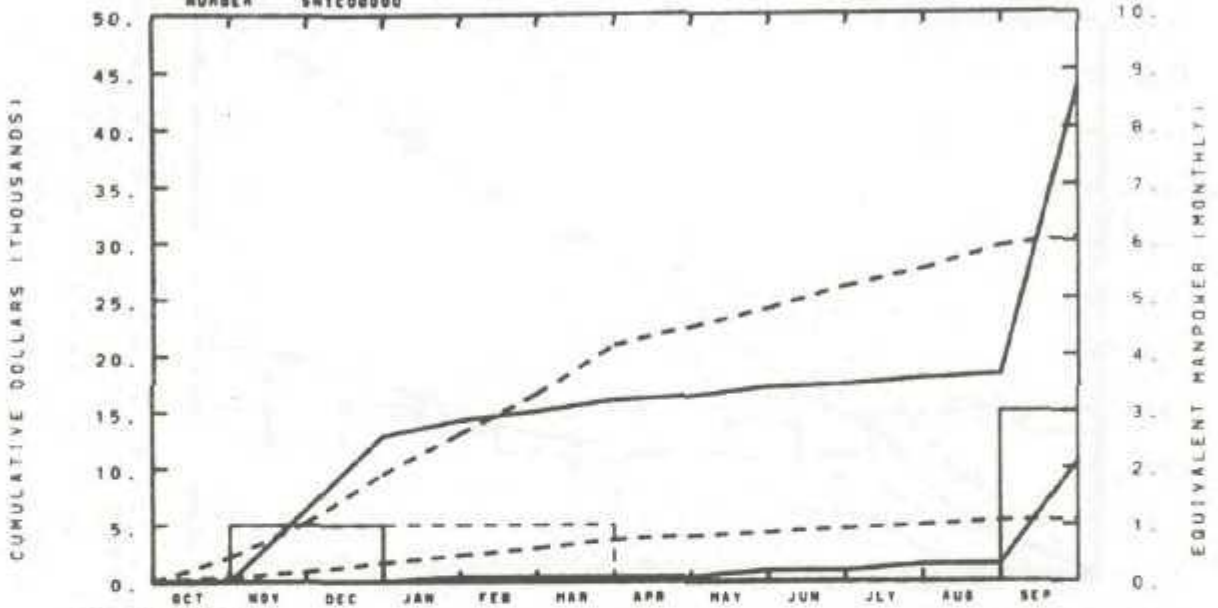
BUDGET  
 - - - - -  
 ACTUAL  
 \_\_\_\_\_

No significant variance. Material dollars overrun due to increased computer usage in preparation of tests.



EB&B IDAHO INC.  
SWISS REFLOOD

NUMBER 8N1C08000



TOTAL PROGRAM

BUDGET	2	5	10	13	17	21	23	24	26	28	30	30
ACTUAL	0	6	13	14	15	16	16	17	17	18	18	44

MATERIAL

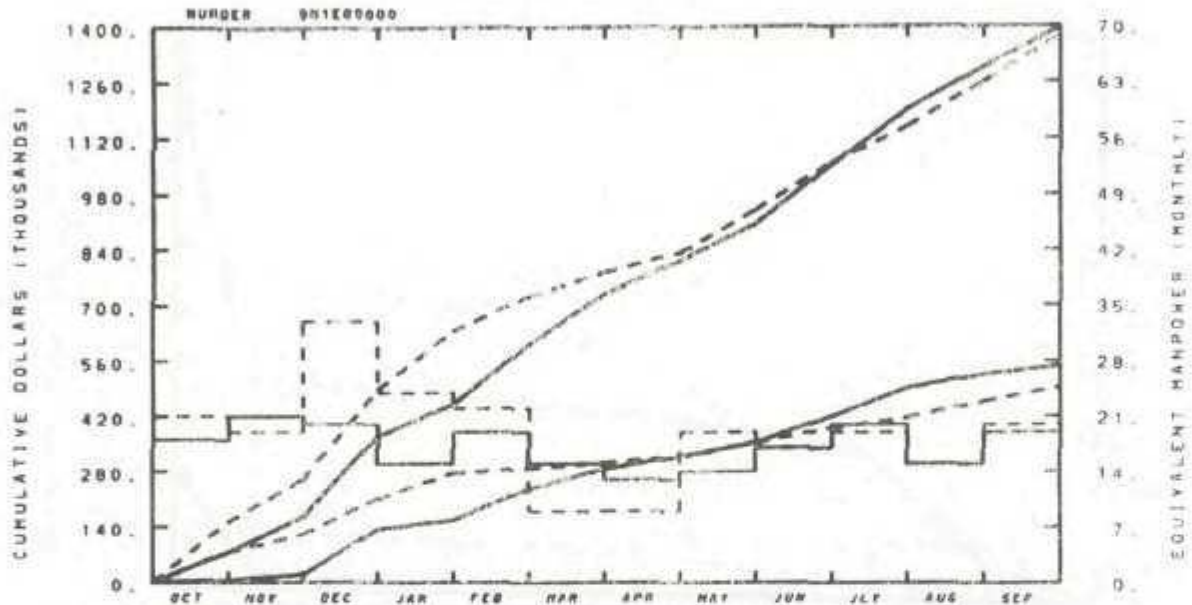
BUDGET	0	1	2	2	3	4	4	4	5	5	5	5
ACTUAL	0	0	0	0	0	0	0	1	1	1	1	11

HANPOWER

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

No significant variance.

EG&G IDANO INC.  
 EXPR PROG - LOFT DATA SYSTEMS



TOTAL PROGRAM

BUDGET	153	258	485	635	733	785	834	941	1060	1150	1262	1374
ACTUAL	77	164	370	451	501	523	615	706	754	1194	1258	1336

MATERIAL

BUDGET	77	120	212	276	288	303	317	353	391	417	458	493
ACTUAL	6	19	135	158	235	287	315	354	420	491	526	547

HANPOWER

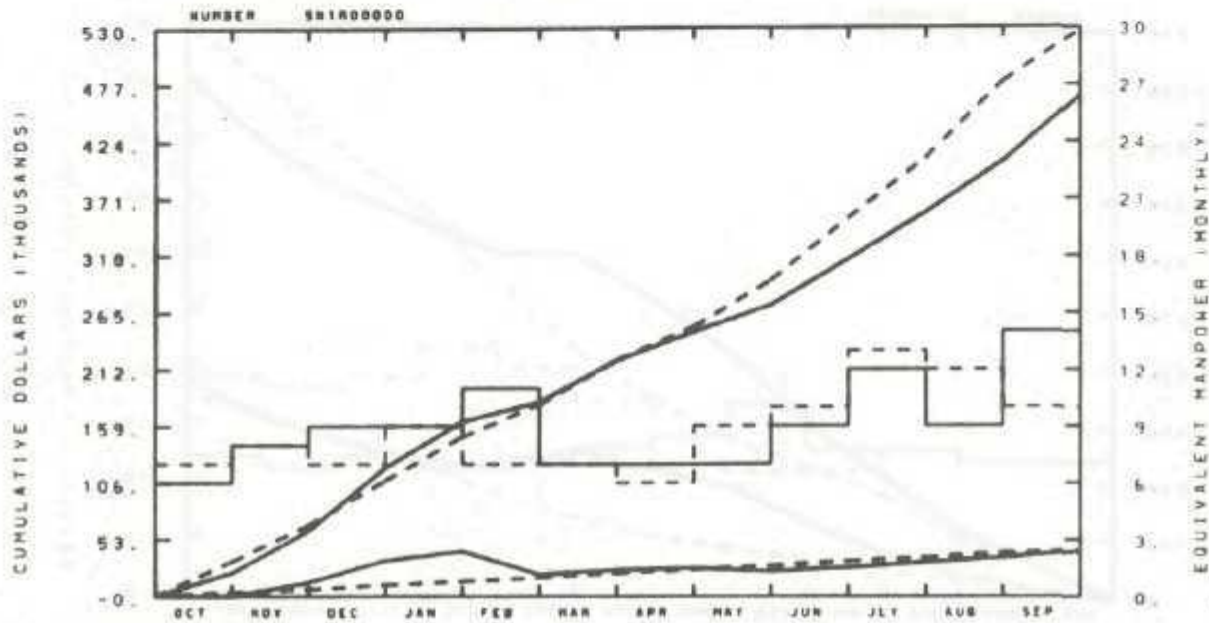
BUDGET	21	19	32	24	22	9	9	19	17	19	19	20
ACTUAL	18	21	20	15	19	15	12	14	17	20	19	19

BUDGET

ACTUAL

No significant variance. Unplanned large volumes of densitometer data and disk storage charges resulted in computer overruns.

EG&G IDAHO INC.  
DATA ANALYSIS BR-TEST EVAL



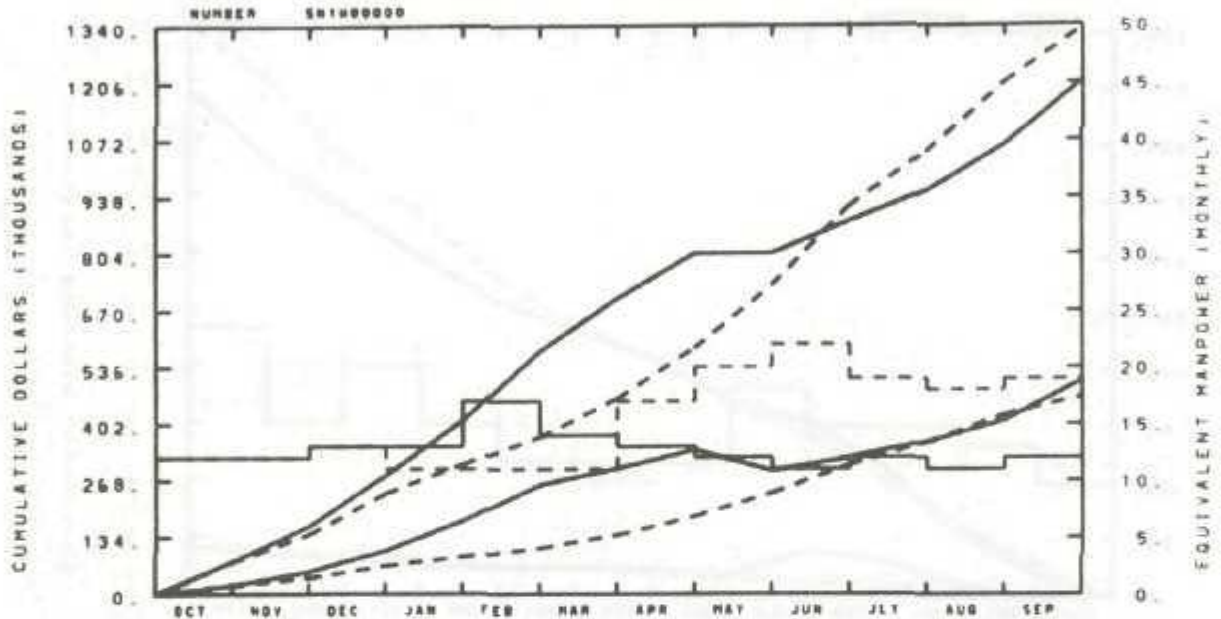
TOTAL PROGRAM												
BUDGET	32	66	108	148	179	220	252	294	352	408	479	527
ACTUAL	22	61	120	163	181	220	247	272	314	357	405	466

MATERIAL												
BUDGET	3	6	10	14	17	21	25	28	33	36	40	42
ACTUAL	0	13	33	42	20	25	26	23	26	21	36	42

MANPOWER												
BUDGET	7	8	7	9	7	7	6	9	10	13	12	10
ACTUAL	6	8	9	9	11	7	7	7	9	12	9	14

No significant variance. Budget reflects L6 test series scheduled for September 1980 but accomplished in October 1980. Year end closing will adjust FY-1981 budget to reflect current performance and status.

EG&O IDAHO INC.  
 EXP EVAL BRANCH-6420



TOTAL PROGRAM		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BUDGET		76	142	237	306	371	462	581	729	916	1044	1207	1333
ACTUAL		77	161	280	410	574	699	805	805	880	952	1059	1210

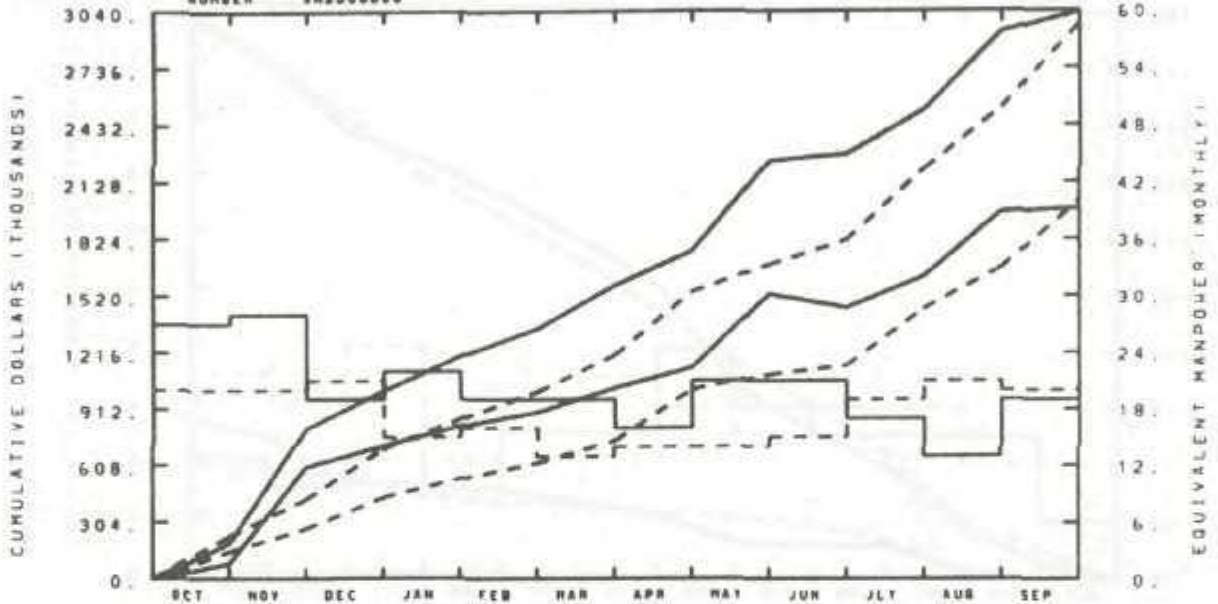
MATERIAL		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BUDGET		21	35	67	88	108	140	183	237	304	357	424	466
ACTUAL		21	53	102	173	258	296	340	289	321	359	410	504

MANPOWER		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BUDGET		12	12	12	11	11	11	17	20	22	19	18	19
ACTUAL		12	12	12	13	17	14	13	12	11	12	11	12

No significant variance. Material dollar overrun caused by additional computer calculations for L3-5/5A.

EG&G IDAHO INC.  
 FUEL - REFUEL DESIGN & ANALYSIS

NUMBER SH2000000



TOTAL PROGRAM												
BUDGET	230	426	695	851	1006	1204	1542	1680	1819	2190	2525	2970
ACTUAL	190	806	1008	1197	1345	1579	1760	2281	2275	2514	2927	3030

MATERIAL												
BUDGET	145	269	436	538	620	743	1017	1098	1147	1452	1678	2028
ACTUAL	82	598	714	821	895	1027	1136	1530	1457	1675	1969	1986

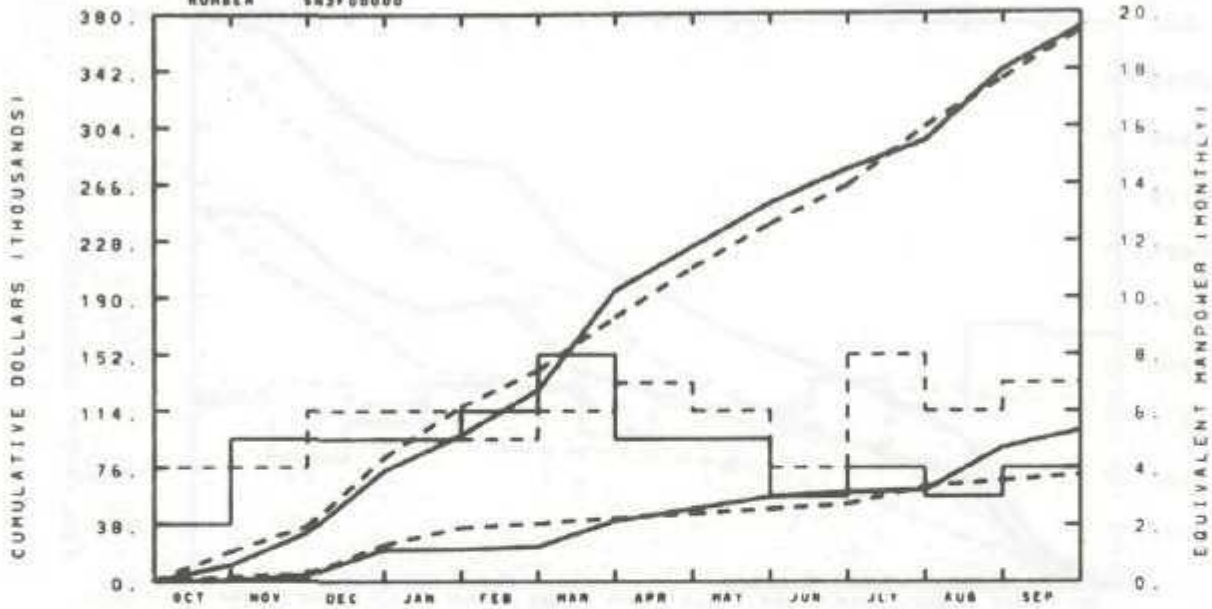
MANPOWER												
BUDGET	20	20	21	15	16	13	14	14	15	19	21	20
ACTUAL	27	38	19	22	19	19	16	21	21	17	13	15

BUDGET  
 - - - -  
 ACTUAL  
 \_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
POST TEST EXAM

NUMBER SN3F00000



TOTAL PROGRAM

BUDGET	20	37	83	117	141	177	210	239	269	304	336	368
ACTUAL	11	32	74	98	128	195	224	253	276	295	342	370

MATERIAL

BUDGET	3	5	25	36	39	42	46	48	52	64	67	71
ACTUAL	0	4	21	22	23	41	49	56	60	61	89	101

HANPOWER

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

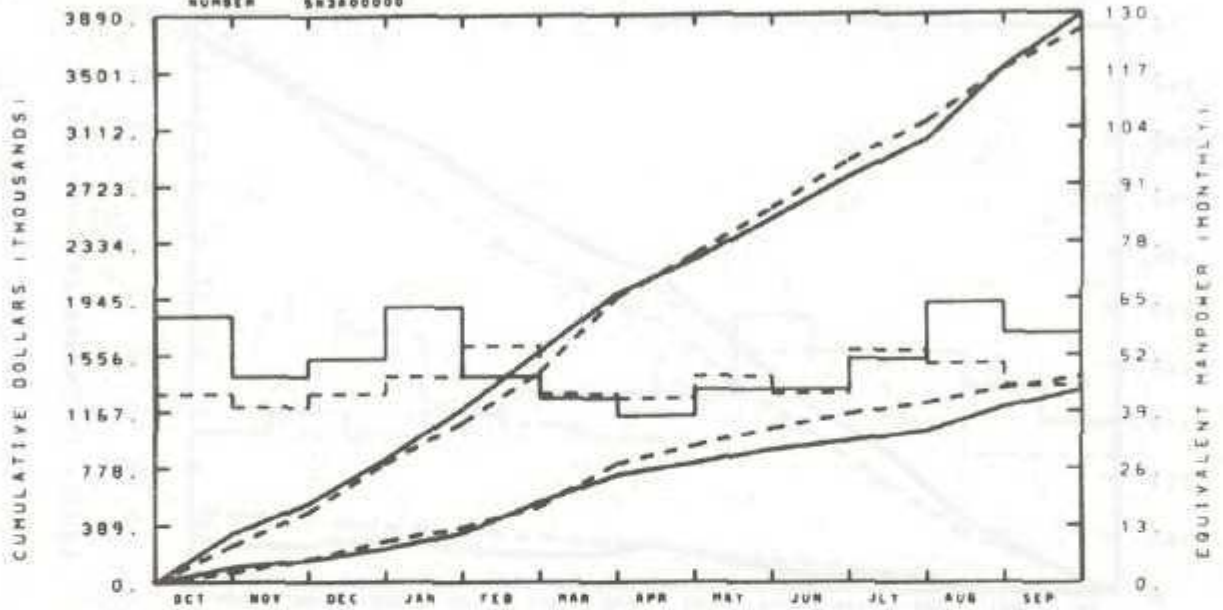
BUDGET

ACTUAL

No significant variance.

EG&G IDAHO INC.  
 EXPR INST - EXPR MEAS BR 6110

NUMBER 5K3A00000



TOTAL PROGRAM		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP
BUDGET		244	477	806	1088	1436	1951	2249	2567	2889	3159	3515	3782
ACTUAL		329	537	825	1189	1578	1978	2215	2494	2778	3033	3522	3883

MATERIAL		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP
BUDGET		68	153	277	374	515	808	929	1047	1149	1224	1324	1406
ACTUAL		100	150	225	334	545	731	810	905	963	1032	1194	1311

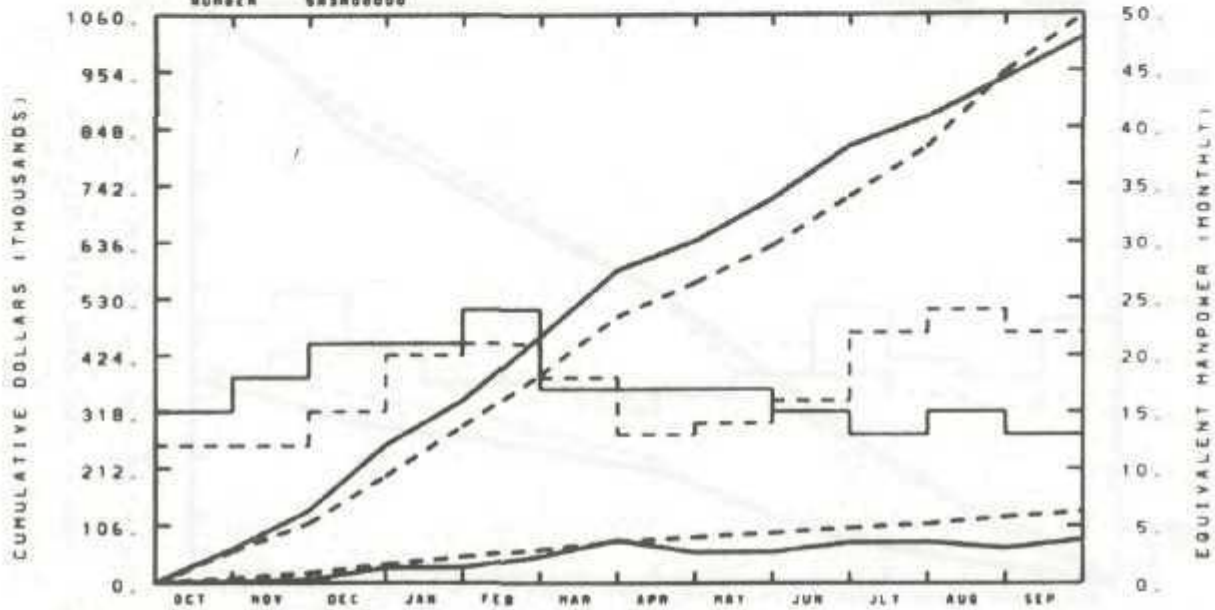
MANPOWER		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP
BUDGET		43	40	43	47	54	43	42	47	43	53	50	45
ACTUAL		61	47	51	63	47	42	38	44	46	51	64	57

BUDGET  
 - - - -  
 ACTUAL  
 \_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
DATA ANALYSIS BR 6130

NUMBER 583808000



TOTAL PROGRAM

BUDGET	67	110	158	290	387	497	659	629	721	812	963	1067
ACTUAL	62	124	256	339	458	584	638	716	814	868	941	1016

MATERIAL

BUDGET	8	18	35	48	63	77	85	93	102	110	122	133
ACTUAL	3	6	28	29	49	80	57	58	75	77	65	81

MANPOWER

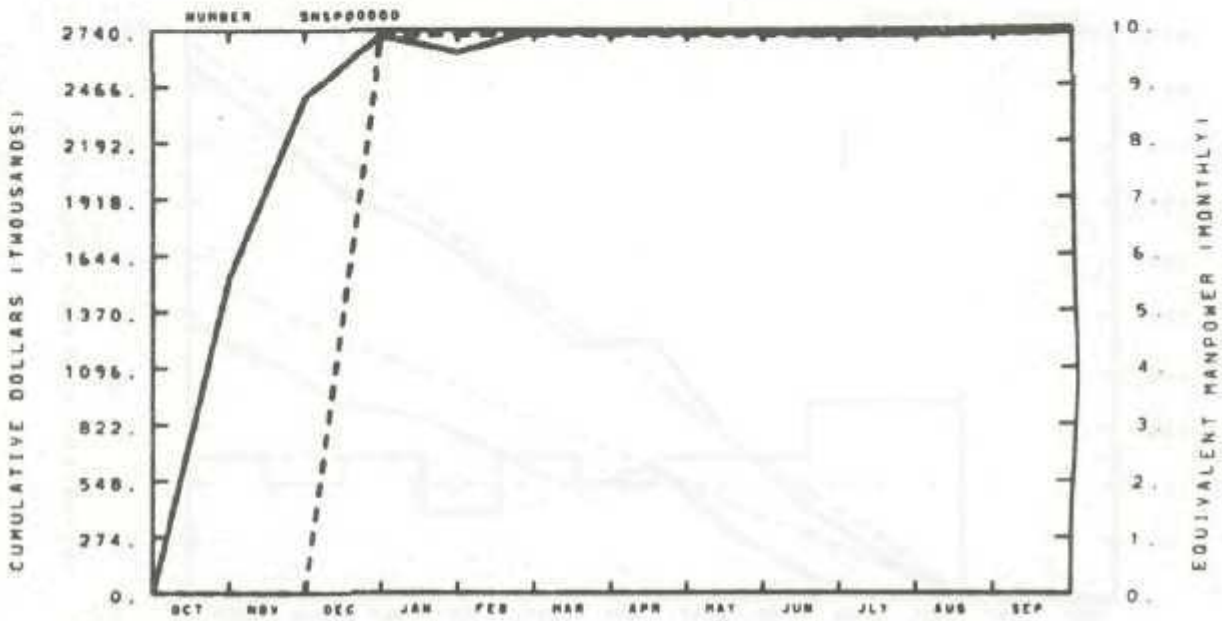
BUDGET	12	12	15	20	21	18	13	14	16	22	24	27
ACTUAL	15	18	21	21	24	17	17	17	16	13	16	13

BUDGET  
-----  
ACTUAL

No significant variance.



EG&G IDAHO INC.  
SPECIAL PROCESS SPARES



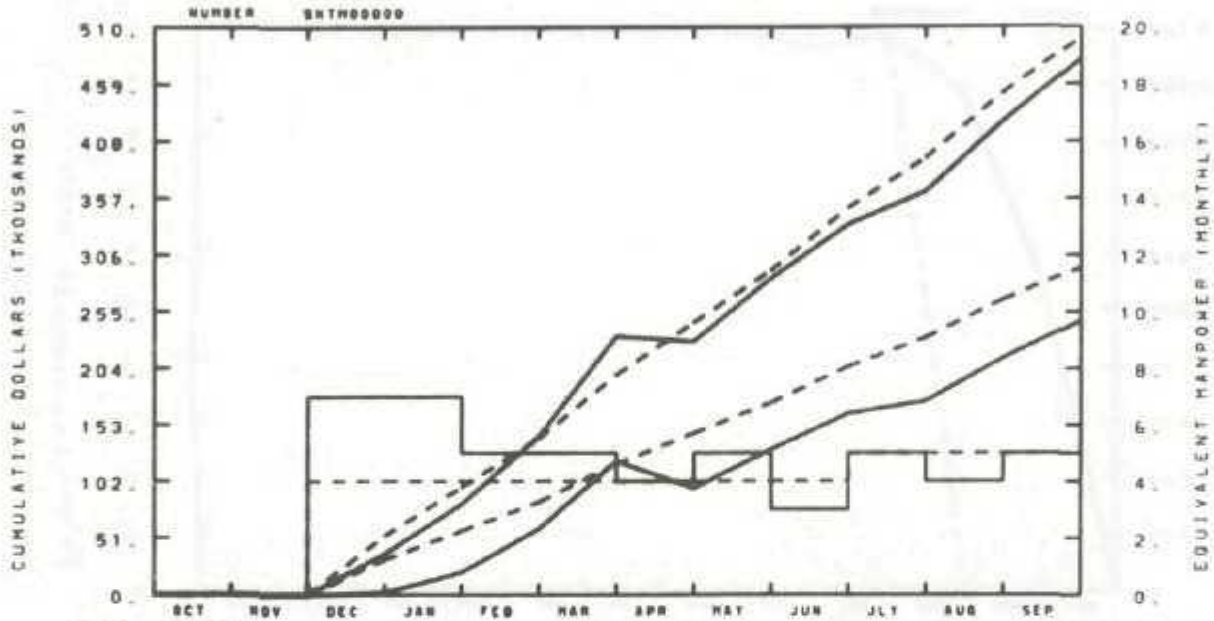
TOTAL PROGRAM													
BUDGET	0	0	2717	2717	2717	2717	2717	2717	2717	2717	2717	2717	2717
ACTUAL	1525	2418	2713	2634	2730	2731	2731	2731	2731	2717	2717	2722	2717

MATERIAL													
BUDGET	0	0	2717	2717	2717	2717	2717	2717	2717	2717	2717	2717	2717
ACTUAL	1525	2418	2713	2634	2730	2731	2731	2731	2731	2717	2717	2722	2717

MANPOWER													
BUDGET	0	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	0	0

No significant variance.

EG&G IDAHO INC.  
THREE MILE ISLAND SUPPORT



TOTAL PROGRAM												
BUDGET	0	0	93	97	141	198	245	292	348	393	451	500
ACTUAL	0	0	37	82	143	233	328	285	333	363	426	481

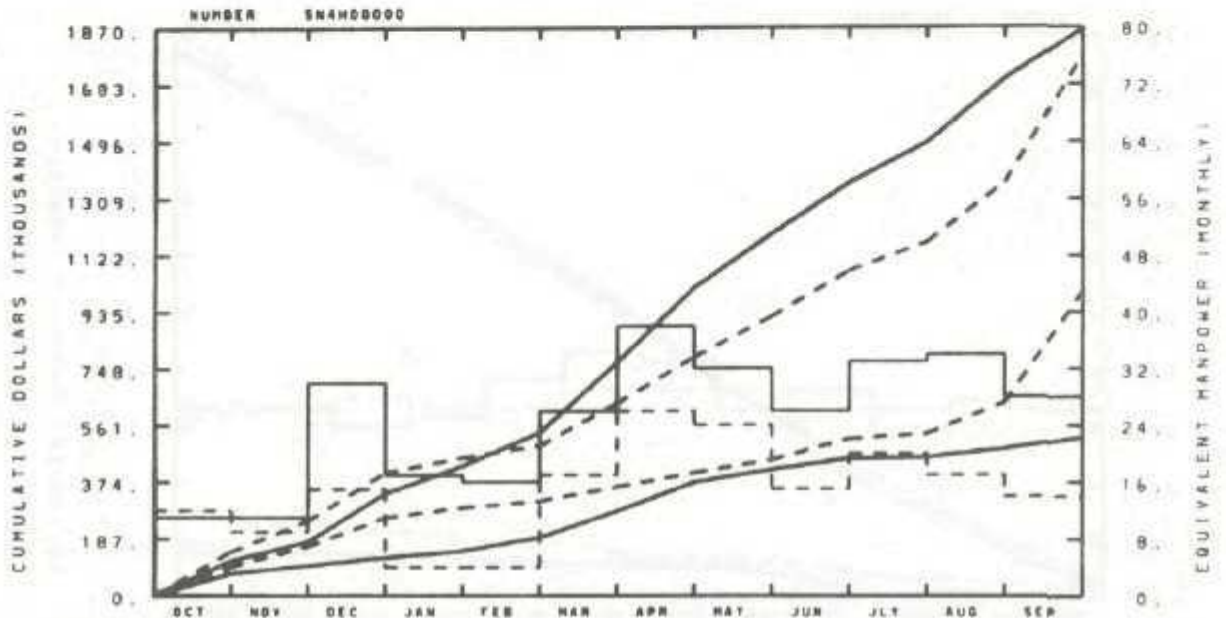
MATERIAL												
BUDGET	0	0	32	58	84	118	145	173	206	232	266	295
ACTUAL	0	0	2	20	59	128	96	130	163	176	213	247

MANPOWER												
BUDGET	0	0	4	4	4	4	4	4	4	5	5	5
ACTUAL	0	0	7	7	5	5	4	5	3	5	4	5

No significant variance.

EG&G IDAHO INC.  
 PLANT SUPPORT - PLANT SYS NO 3



TOTAL PROGRAM

BUDGET	145	246	404	454	494	624	786	920	1071	1166	1361	1780
ACTUAL	115	178	336	427	537	769	1016	1193	1361	1493	1701	1864

MATERIAL

BUDGET	16	163	256	290	312	358	405	446	516	533	636	1003
ACTUAL	73	99	125	147	192	279	373	414	451	496	484	522

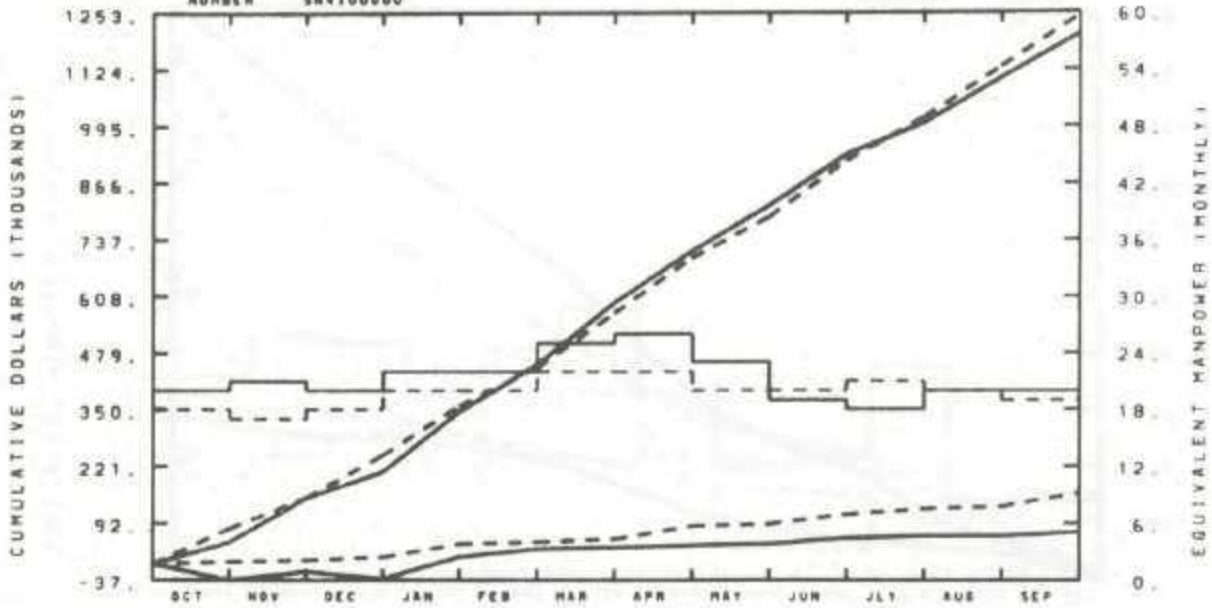
MANPOWER

BUDGET	12	9	15	4	4	17	26	24	15	20	17	14
ACTUAL	11	11	30	17	16	26	38	32	26	32	24	28

No significant variance.

EG&G IDAHO INC.  
 PLANT SUPPORT - PLANT SYS NO 1

NUMBER SN4100000



TOTAL PROGRAM												
BUDGET	80	150	246	359	466	570	696	789	918	1015	1131	1247
ACTUAL	49	149	208	346	453	594	712	815	921	1003	1105	1205

MATERIAL												
BUDGET	5	9	15	45	50	57	86	90	112	129	130	151
ACTUAL	-36	-16	-22	16	34	38	43	49	59	63	64	72

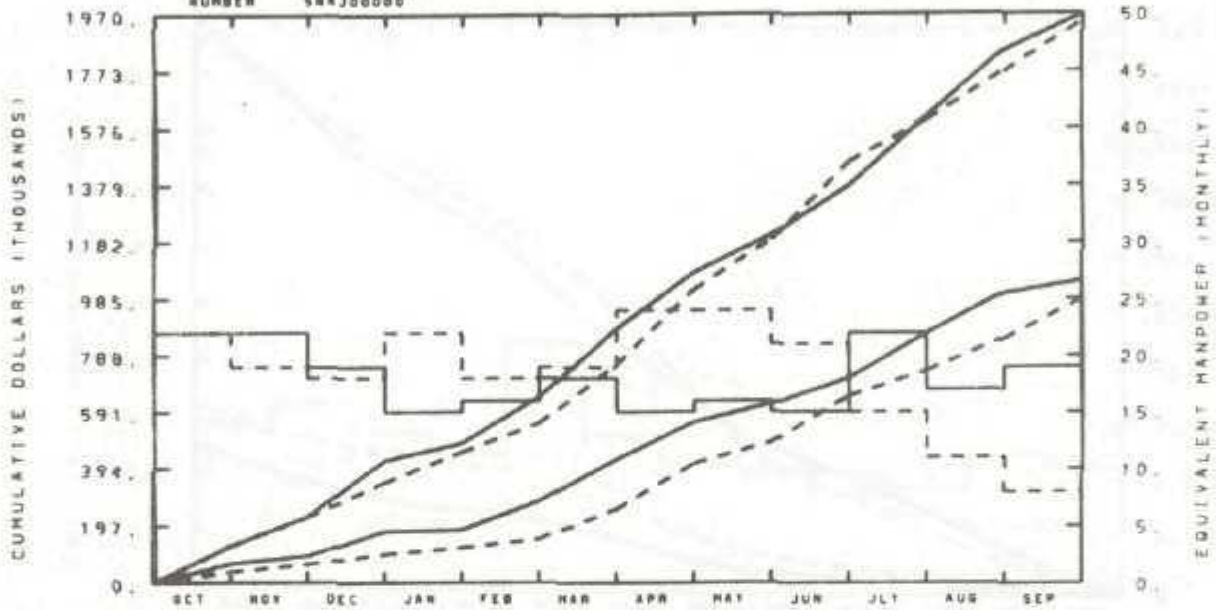
MANPOWER												
BUDGET	18	17	18	20	30	22	22	20	20	21	20	19
ACTUAL	20	21	20	22	22	25	26	23	19	18	20	20

BUDGET  
 - - - -  
 ACTUAL  
 \_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
 PLANT SUPPORT - PLANT SYS NO 2

NUMBER 5N4J00000



TOTAL PROGRAM												
BUDGET	128	226	345	452	592	758	1011	1191	1460	1604	1770	1942
ACTUAL	126	226	422	482	644	882	1076	1208	1378	1616	1843	1967

MATERIAL												
BUDGET	37	64	98	121	151	255	412	486	547	735	846	983
ACTUAL	65	92	177	182	282	428	556	619	709	865	1004	1048

MANPOWER												
BUDGET	22	19	18	22	18	19	24	24	21	15	11	8
ACTUAL	22	22	19	15	16	18	19	16	15	22	17	19

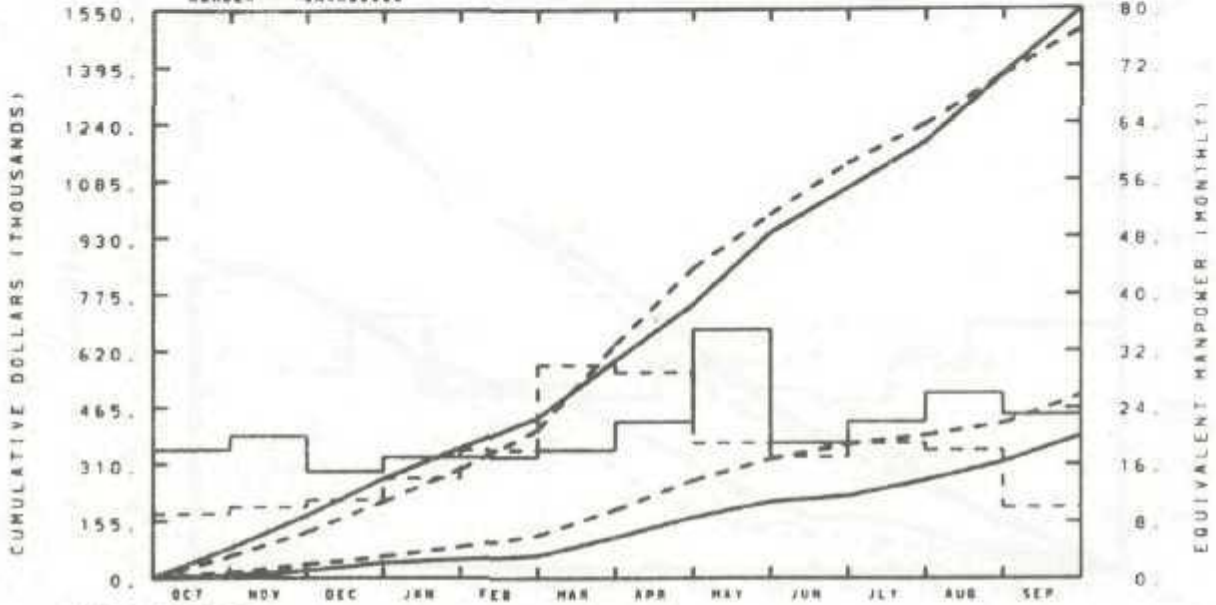
BUDGET  
 - - - - -  
 ACTUAL  
 \_\_\_\_\_

No significant variance.

EG&G IDAHO INC.

PLANT SUPPORT - P&C REACTOR CONT

BURDEN 5N4K00000



TOTAL PROGRAM

BUDGET	59	125	208	298	404	537	645	791	1129	1238	1371	1495
ACTUAL	81	171	271	354	437	594	747	942	1063	1187	1374	1549

MATERIAL

BUDGET	15	38	59	85	116	187	266	323	364	390	421	498
ACTUAL	7	21	42	51	61	112	166	208	224	267	316	388

MANPOWER

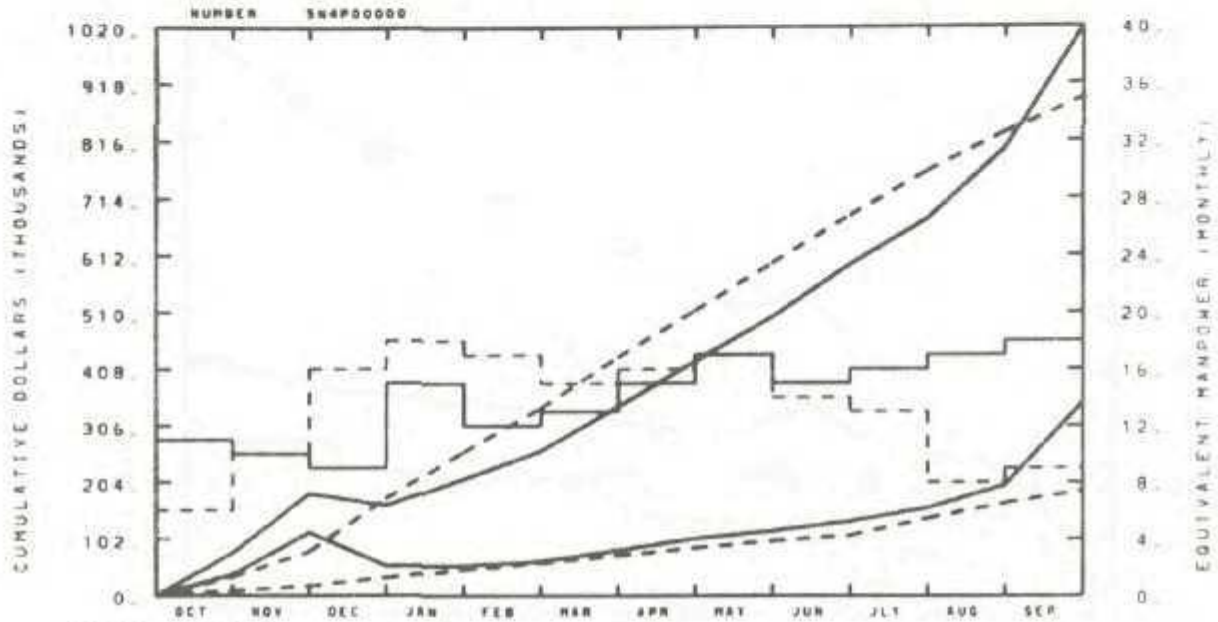
BUDGET	9	10	11	14	18	30	29	19	17	19	18	10
ACTUAL	18	20	15	17	17	18	22	25	19	22	26	23

BUDGET

ACTUAL

No significant variance.

EG&G IDAHO INC.  
 PLANT SUPPORT - P&C I&E SUPPORT



TOTAL PROGRAM

BUDGET	34	79	175	259	338	430	513	598	683	762	830	892
ACTUAL	77	183	162	310	261	341	423	602	598	677	801	1019

MATERIAL

BUDGET	1	18	32	47	59	73	86	98	108	125	144	168
ACTUAL	38	114	53	54	62	82	102	116	134	158	198	247

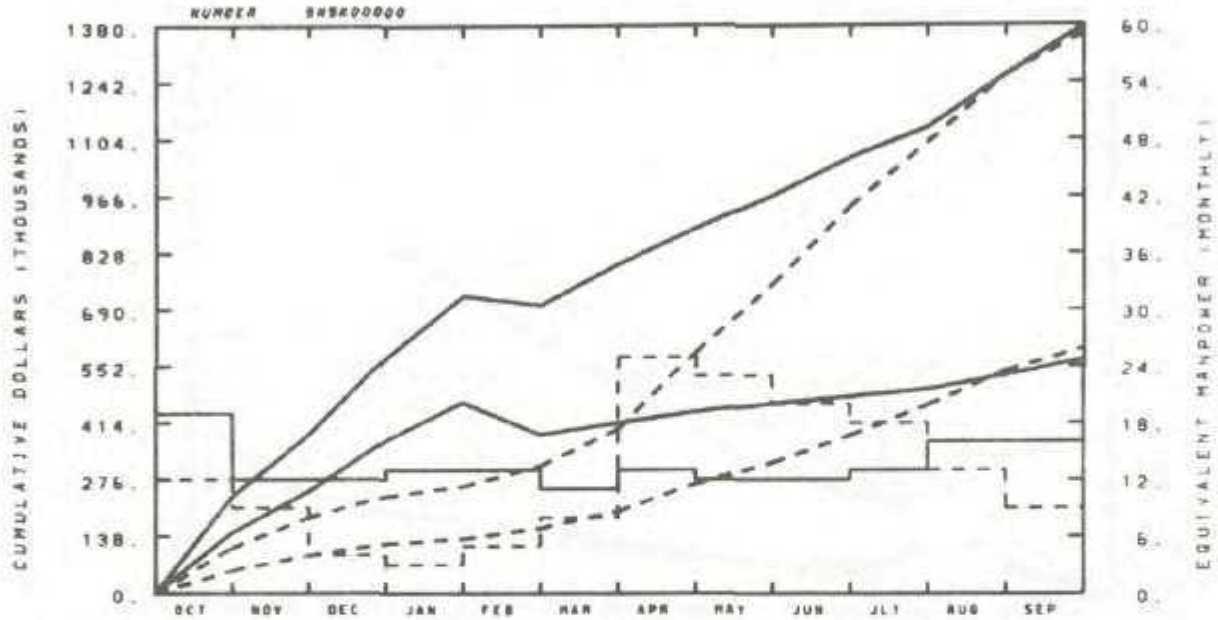
HANDPOWER

BUDGET	4	10	16	18	17	15	16	17	14	13	8	9
ACTUAL	11	10	9	15	12	12	13	17	15	16	17	18

Deviation is due to realignment of funding sources.

EB&B IDAHO INC.

CORE & SAFETY SUPT - PROT & CONT



TOTAL PROGRAM

BUDGET	110	184	234	259	309	398	586	753	941	1096	1299	1358
ACTUAL	234	385	574	724	701	801	888	968	1060	1133	1260	1376

MATERIAL

BUDGET	55	91	120	132	158	195	265	317	383	457	541	595
ACTUAL	147	247	370	464	385	414	441	490	478	496	520	568

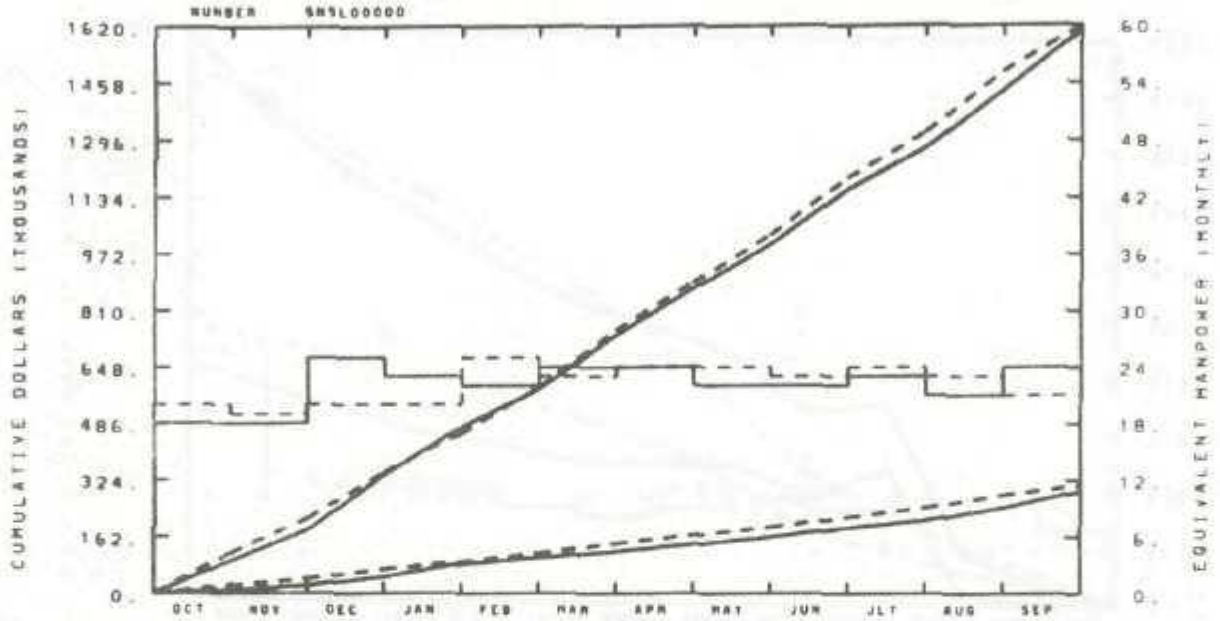
MANPOWER

BUDGET	13	9	4	3	5	8	25	23	20	18	13	9
ACTUAL	19	12	12	13	13	11	13	12	12	13	16	16

No significant variance.



EG&G IDAHO INC.  
 CORE & SAFETY SUPT - REACTOR SYS



TOTAL PROGRAM												
BUDGET	116	214	347	457	590	755	891	1026	1189	1318	1409	1618
ACTUAL	93	100	339	475	585	741	872	999	1156	1274	1435	1605

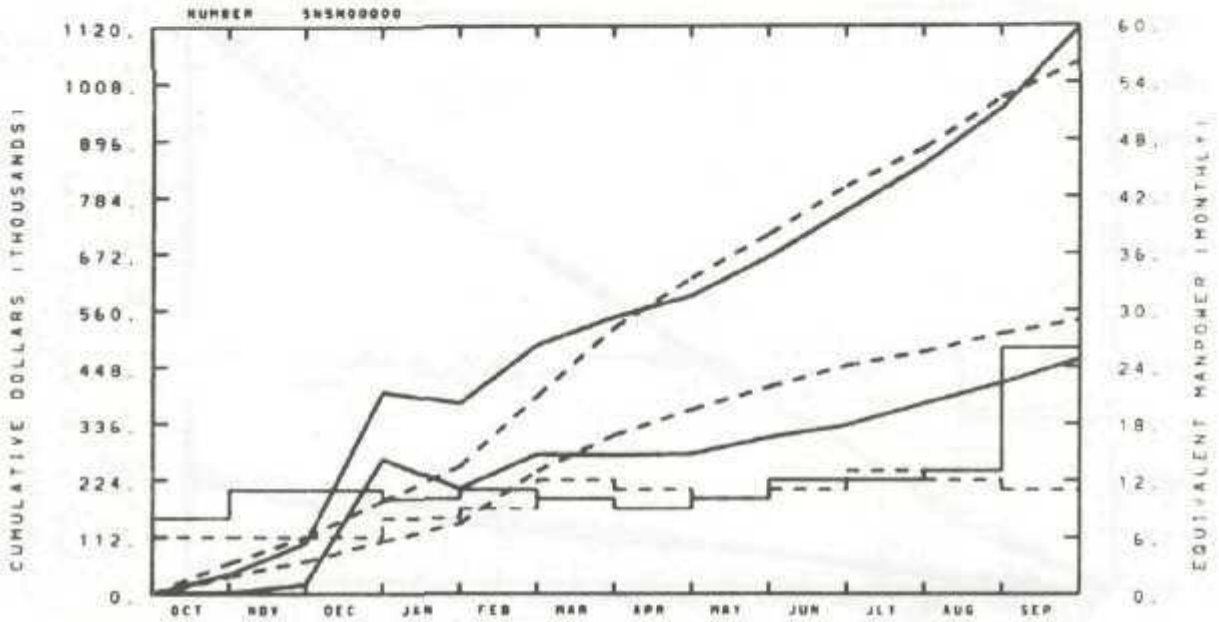
MATERIAL												
BUDGET	23	42	69	91	115	143	166	189	218	245	261	308
ACTUAL	5	22	47	84	102	120	140	160	187	209	244	292

MANPOWER												
BUDGET	20	15	20	20	25	23	24	24	23	24	23	21
ACTUAL	18	18	25	23	22	24	24	23	22	23	21	24

BUDGET  
 - - - -  
 ACTUAL  
 \_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
 CORE & SAFE SUPT - FUEL ENG & OP



TOTAL PROGRAM

BUDGET	60	112	183	251	300	526	624	709	804	879	977	1048
ACTUAL	39	100	398	376	491	546	588	665	756	847	957	1115

MATERIAL

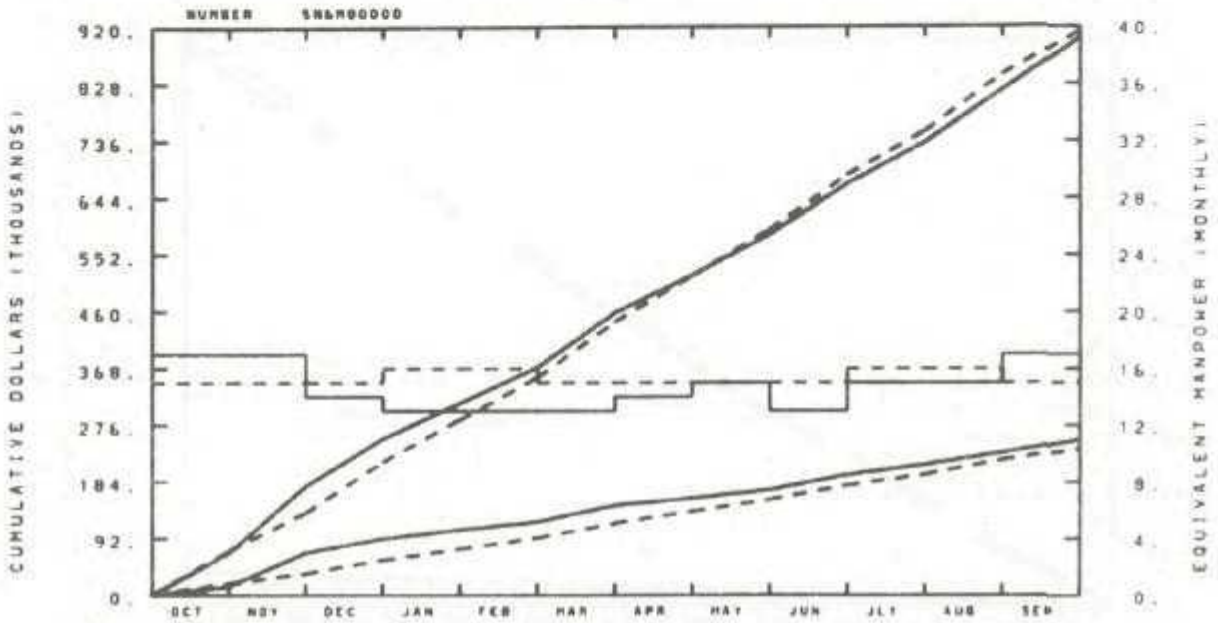
BUDGET	35	64	104	138	242	313	363	407	450	478	513	540
ACTUAL	3	19	266	208	275	274	275	308	333	375	416	463

MANPOWER

BUDGET	6	6	6	8	9	12	11	10	11	13	12	11
ACTUAL	8	11	11	10	11	10	9	10	12	12	13	26

No significant variance.

EG&G IDAHO INC.  
COMMON SUPT - COCS/TECH SUPPORT



TOTAL PROGRAM												
BUDGET	72	133	216	285	353	444	517	591	680	750	842	913
ACTUAL	68	177	254	312	370	458	518	584	666	727	817	901

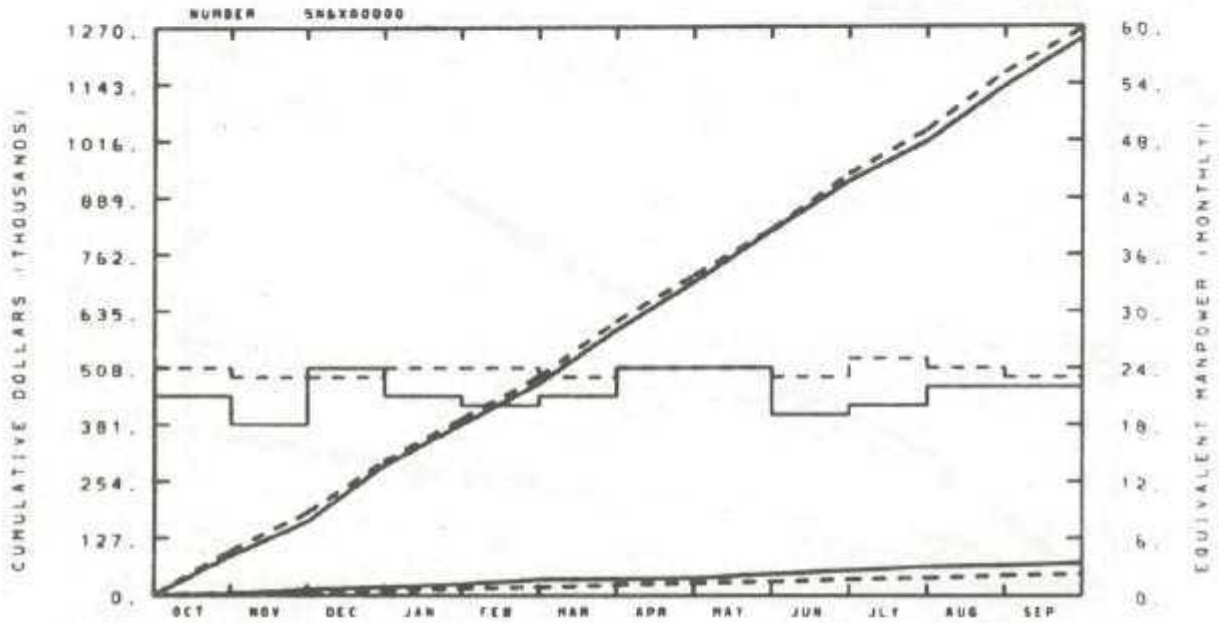
MATERIAL												
BUDGET	19	35	57	75	93	117	136	155	178	196	219	238
ACTUAL	14	69	92	106	119	146	157	170	195	212	221	252

MANPOWER												
BUDGET	15	15	15	15	15	15	15	15	15	15	15	15
ACTUAL	17	17	14	13	13	12	14	15	13	15	15	17

BUDGET  
-----  
ACTUAL  
\_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
COMMON SUPT - QUALITY



TOTAL PROGRAM

BUDGET	100	184	299	394	488	613	716	818	942	1039	1168	1266
ACTUAL	88	164	289	381	473	593	700	815	926	1014	1127	1244

MATERIAL

BUDGET	4	7	12	15	19	24	27	31	36	40	44	48
ACTUAL	3	13	18	26	35	37	39	47	55	64	67	73

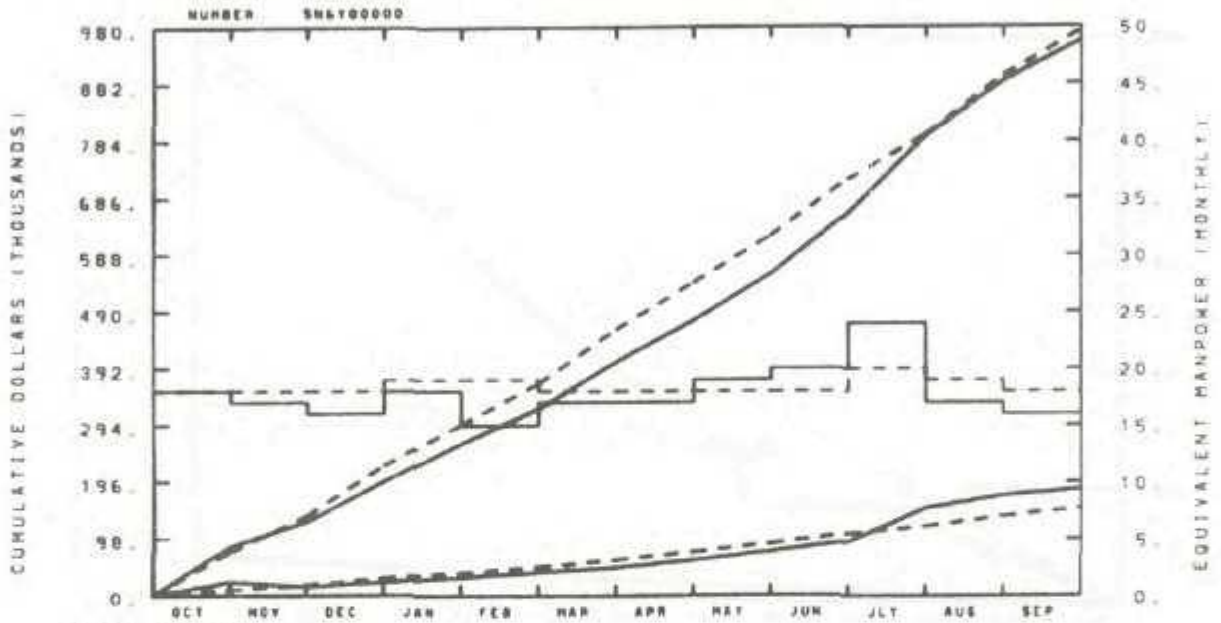
MANPOWER

BUDGET	24	23	23	24	24	23	24	24	23	25	24	23
ACTUAL	21	18	24	21	20	21	24	24	19	20	22	22

BUDGET  
-----  
ACTUAL  
\_\_\_\_\_

No significant variance.

EO&G IDAHO INC.  
COMMON SUPT - PLANS & BUDGETS



TOTAL PROGRAM												
BUDGET	75	138	224	315	366	460	540	621	718	795	856	973
ACTUAL	84	128	197	262	323	404	475	555	640	732	807	956

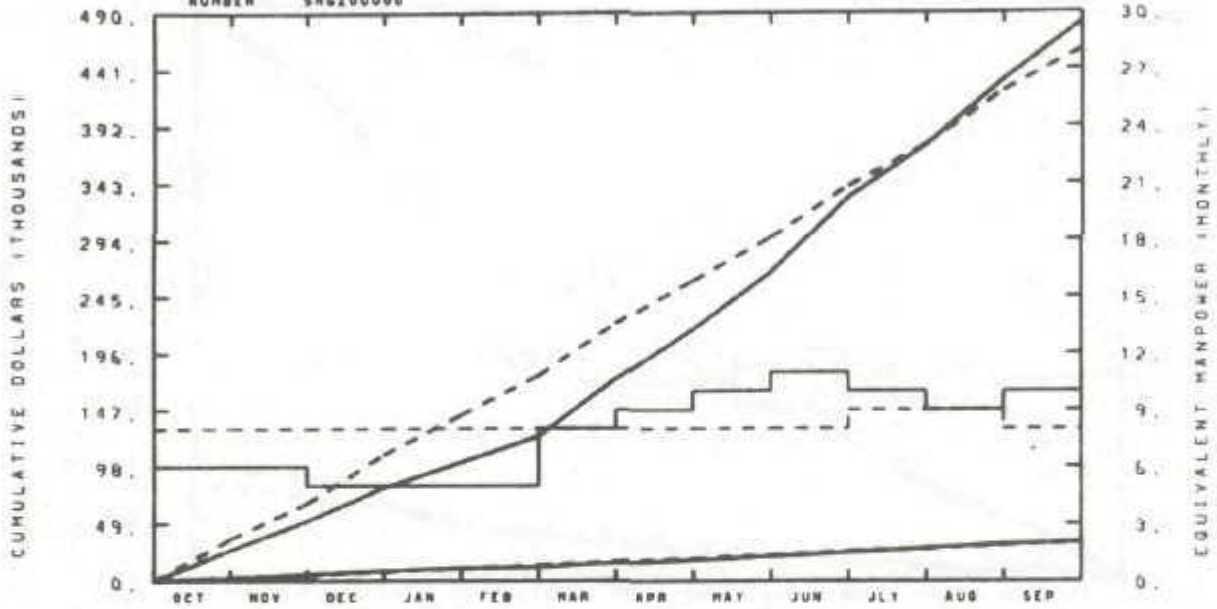
MATERIAL												
BUDGET	10	19	30	40	50	63	76	90	107	120	138	151
ACTUAL	33	16	23	32	40	46	61	77	93	151	173	184

MANPOWER												
BUDGET	18	18	18	19	19	18	18	18	18	20	19	18
ACTUAL	18	17	16	18	19	17	17	19	20	24	17	16

No significant variance.

EG&G IDAHO INC.  
COMMON SUPT - SAFETY

NUMBER 5N6200000



TOTAL PROGRAM

BUDGET	36	67	108	142	177	222	259	296	341	376	422	458
ACTUAL	36	51	80	102	124	174	217	266	331	376	432	481

MATERIAL

BUDGET	3	5	8	11	13	16	19	22	25	28	31	33
ACTUAL	2	5	9	11	12	16	18	21	24	28	31	34

HANPOWER

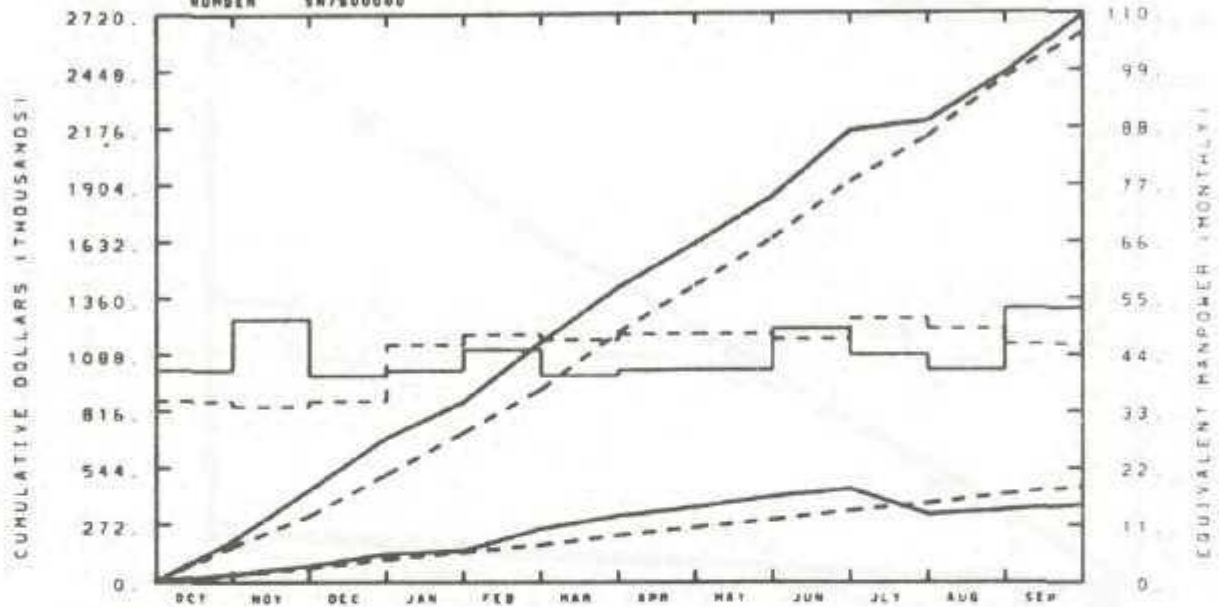
BUDGET	8	8	8	8	8	8	8	8	8	9	9	8
ACTUAL	6	6	5	5	5	8	9	10	11	10	9	10

BUDGET  
-----  
ACTUAL

No significant variance.

EG&G IDAHO INC.  
LOFT OPERATIONS BRANCH

NUMBER 5N7800000



TOTAL PROGRAM												
BUDGET	171	317	513	714	922	1196	1422	1647	1917	2131	2412	2626
ACTUAL	199	441	689	962	1149	1413	1624	1847	2159	2205	2432	2712

MATERIAL												
BUDGET	36	67	109	143	178	223	260	296	340	374	420	454
ACTUAL	38	78	134	150	254	317	356	406	443	322	342	368

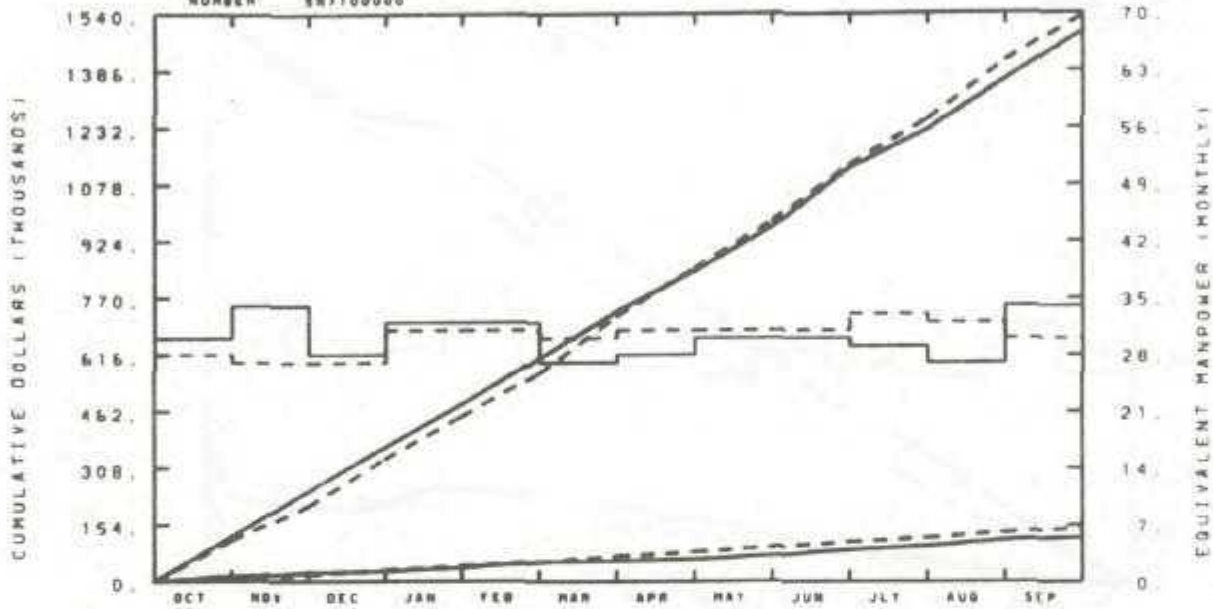
MANPOWER												
BUDGET	35	34	35	46	48	47	48	48	47	51	49	46
ACTUAL	41	51	40	41	45	40	41	41	49	44	41	53

BUDGET  
-----  
ACTUAL  
\_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
LOFT TEST & DATA

NUMBER 8N7100000



TOTAL PROGRAM

BUDGET	111	205	332	448	566	722	849	977	1131	1252	1412	1534
ACTUAL	121	246	364	481	607	734	862	962	1122	1224	1262	1492

MATERIAL

BUDGET	10	19	31	42	54	65	81	93	107	119	124	145
ACTUAL	14	24	28	37	54	55	60	70	87	96	112	119

MANPOWER

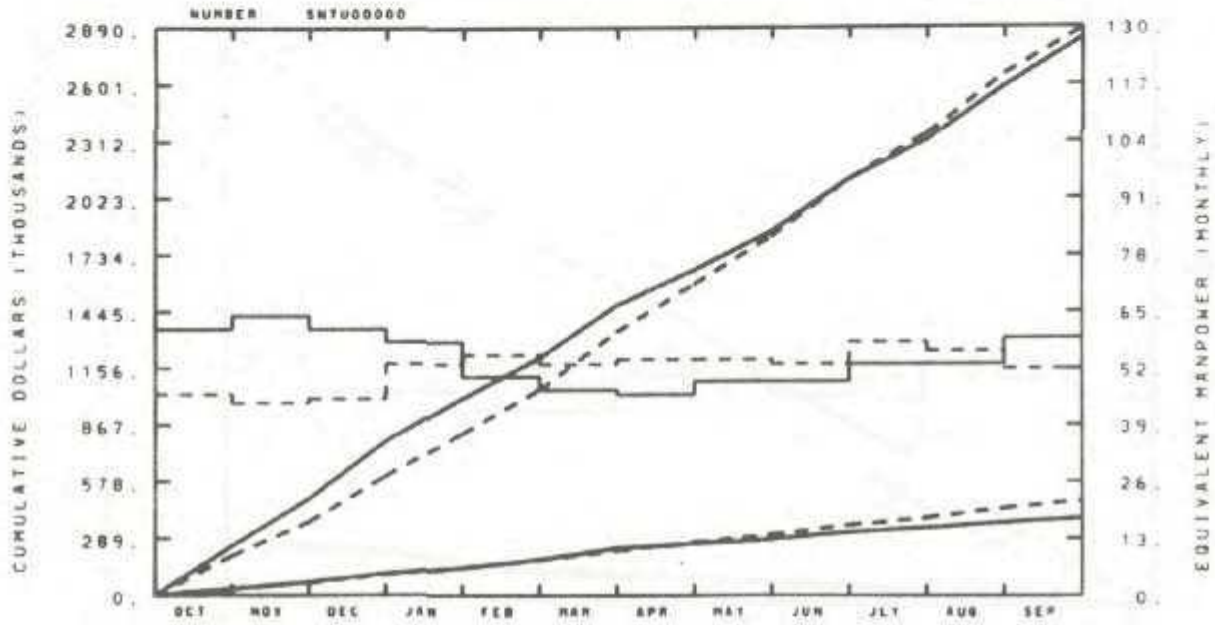
BUDGET	28	27	27	31	31	30	31	31	31	32	32	30
ACTUAL	30	34	28	32	32	27	28	30	30	29	27	34

BUDGET  
-----  
ACTUAL  
\_\_\_\_\_

No significant variance.



EG&G IDAHO INC.  
LOFT FACILITY SUPPORT



TOTAL PROGRAM												
BUDGET	301	372	404	823	1048	1343	1586	1828	2120	2350	2654	2884
ACTUAL	251	489	782	1002	1211	1479	1658	1854	2120	2319	2591	2836

MATERIAL												
BUDGET	35	65	105	142	180	228	268	308	356	394	444	481
ACTUAL	33	67	111	138	184	242	263	284	321	445	371	393

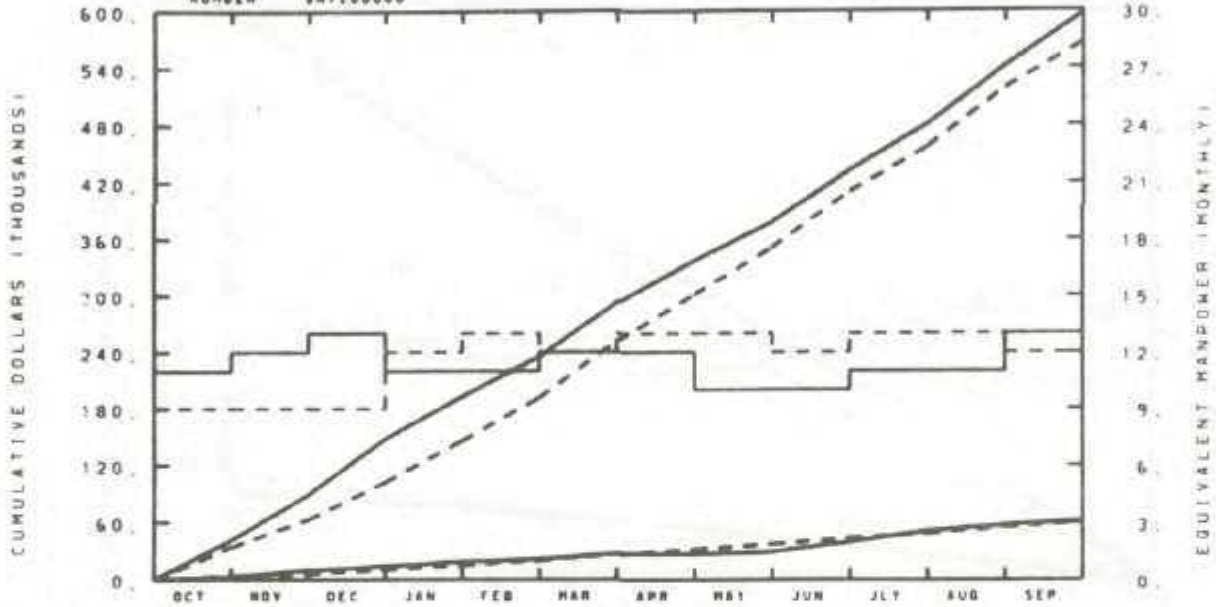
MANPOWER												
BUDGET	46	44	45	53	55	53	54	54	53	58	56	52
ACTUAL	61	64	61	58	50	47	46	49	49	53	53	59

BUDGET  
-----  
ACTUAL

No significant variance.

EG&G IDAHO INC.  
OUTSIDE SERVICE SUPPORT

NUMBER 9N7200000



TOTAL PROGRAM

BUDGET	34	63	102	146	192	252	301	351	410	457	519	565
ACTUAL	42	89	148	193	235	293	337	378	433	481	542	591

MATERIAL

BUDGET	3	6	10	15	20	27	32	37	44	49	55	60
ACTUAL	3	10	14	19	22	27	27	29	29	31	37	42

MANPOWER

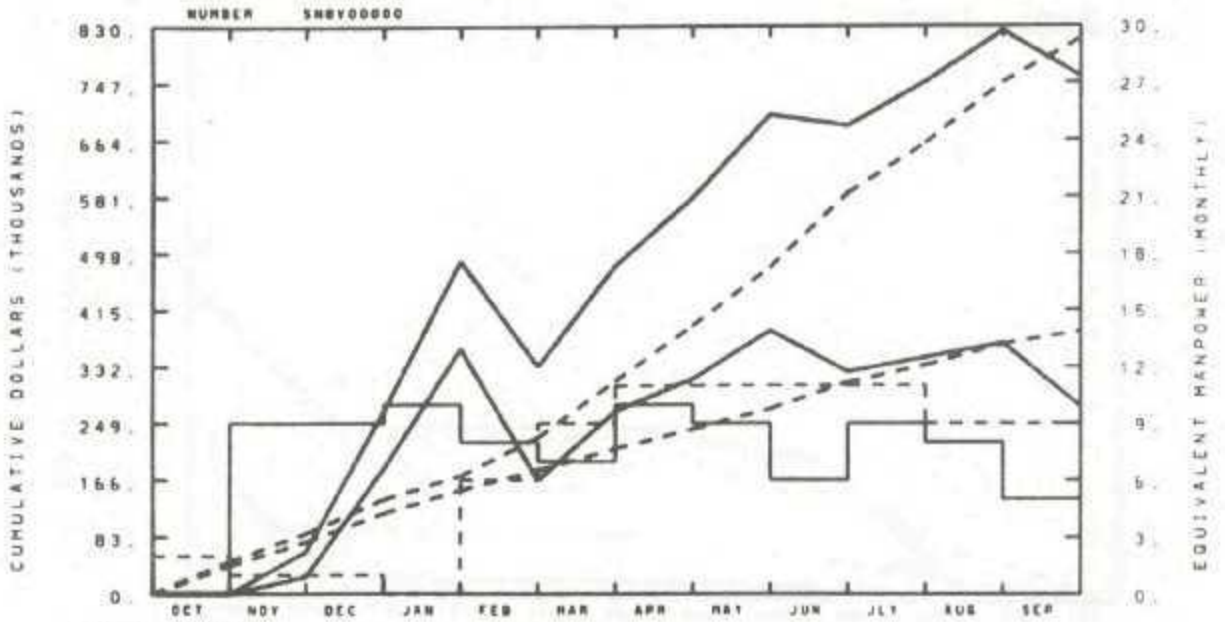
BUDGET	9	9	9	12	13	12	13	13	12	13	13	12
ACTUAL	11	12	13	11	11	12	12	10	10	11	11	13

BUDGET

ACTUAL

No significant variance.

EG&G IDAHO INC.  
AUGUMENTED OPER CAPABILITY



TOTAL PROGRAM		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BUDGET		48	88	138	172	228	311	352	478	586	659	748	811
ACTUAL		0	62	266	407	332	480	580	701	684	748	823	755

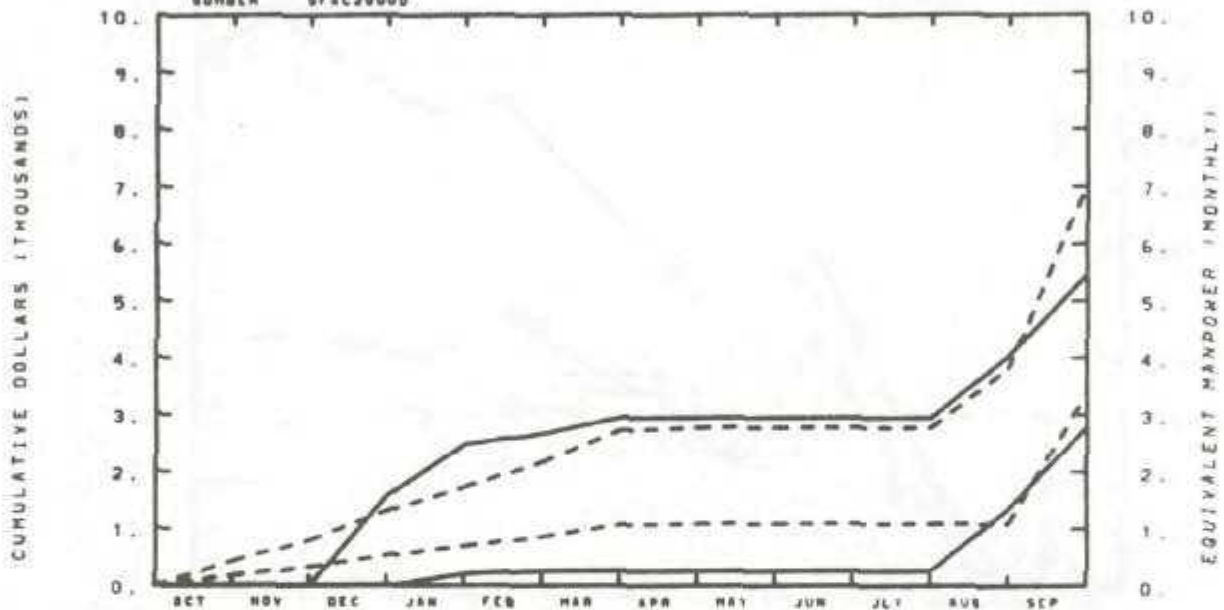
MATERIAL		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BUDGET		41	76	117	152	181	212	240	270	309	324	365	383
ACTUAL		0	25	182	358	166	267	314	385	324	346	366	273

MANPOWER		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
BUDGET		2	1	1	0	6	9	11	11	11	11	9	9
ACTUAL		0	9	9	10	8	7	10	9	6	9	8	5

BUDGET  
-----  
ACTUAL  
\_\_\_\_\_

No significant variance.

EG&G IDAHO INC.  
 PROGRAM DEVELOPMENT & ANALYSIS  
 NUMBER SF4C29000



TOTAL PROGRAM												
BUDGET	0	1	1	2	2	3	3	3	3	3	4	7
ACTUAL	0	0	2	2	3	3	3	3	2	2	4	5

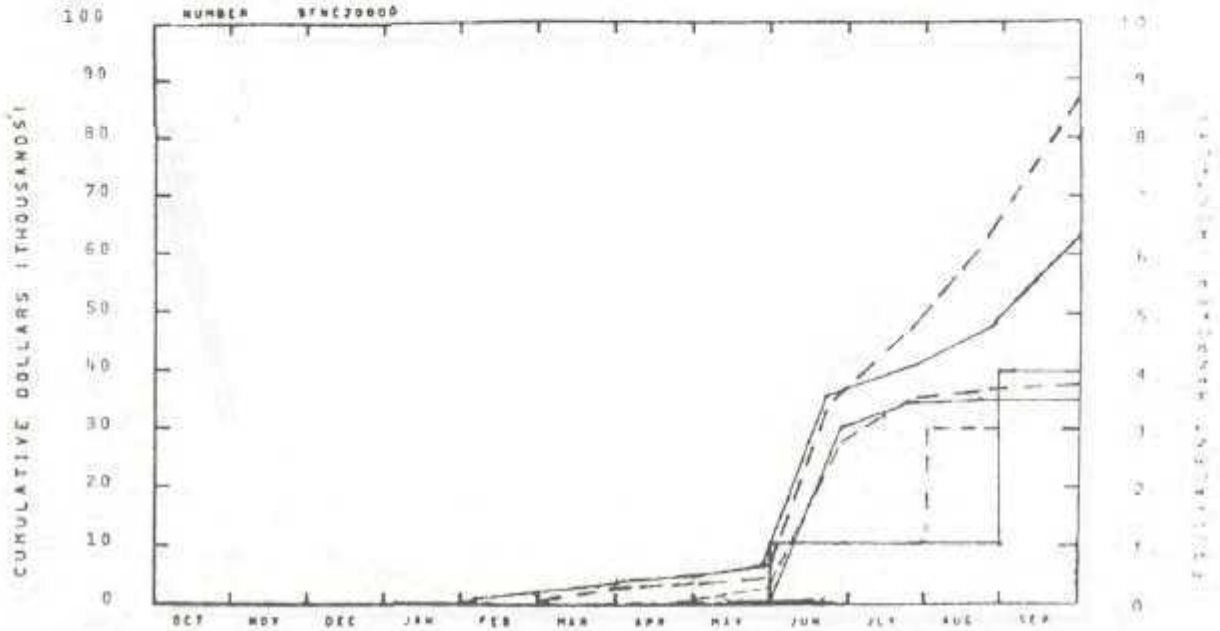
MATERIAL												
BUDGET	0	0	1	1	1	1	1	1	1	1	1	3
ACTUAL	0	0	0	0	0	0	0	0	0	0	1	3

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	0

BUDGET  
 - - - - -  
 ACTUAL

No significant variance.

ED&G IDAHO INC.  
PROGRAM DEVELOPMENT & ANALYSIS



TOTAL PROGRAM

BUDGET	0	0	0	0	0	1	1	2	35	67	82	84
ACTUAL	0	0	0	0	1	2	2	2	36	40	48	63

MATERIAL

BUDGET	0	0	0	0	0	0	0	1	29	34	35	37
ACTUAL	0	0	0	0	0	0	0	0	32	33	34	34

BUDGET  
-----  
ACTUAL

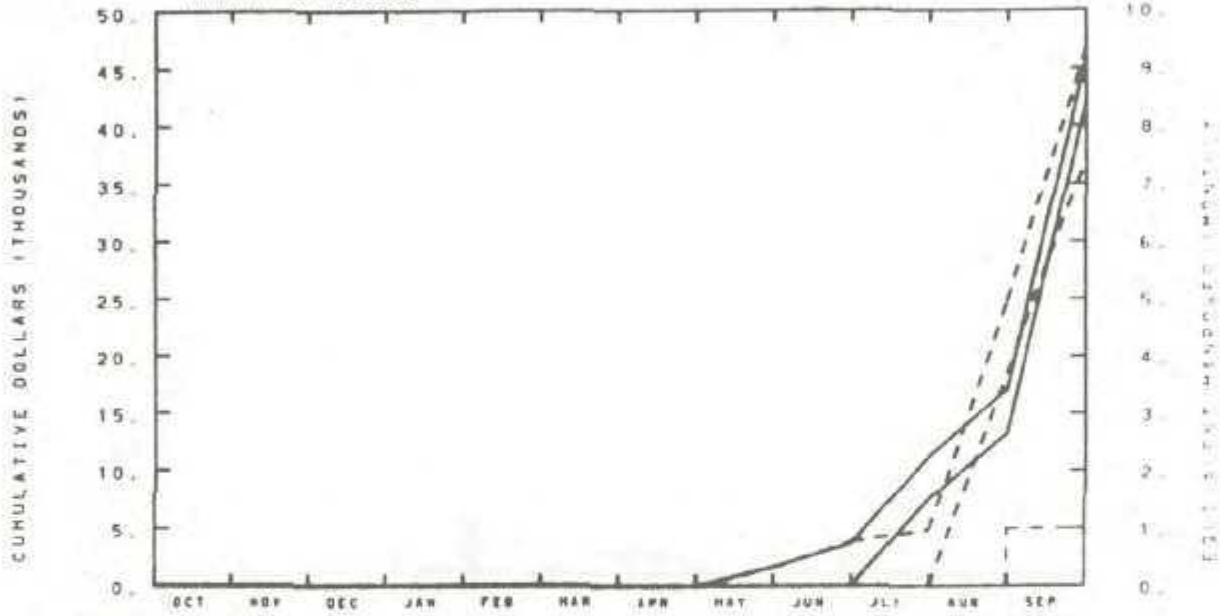
MANPOWER

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

Variance due to manpower unavailability.

EG&G Idaho, Inc.  
Component Development

Number SFNC30000



TOTAL PROGRAM												
BUDGET	0	0	0	0	0	0	0	2	4	5	25	41
ACTUAL	0	0	0	0	0	0	0	2	4	11	17	46

MATERIAL												
BUDGET	0	0	0	0	0	0	0	0	0	0	19	31
ACTUAL	0	0	0	0	0	0	0	0	0	8	13	42

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

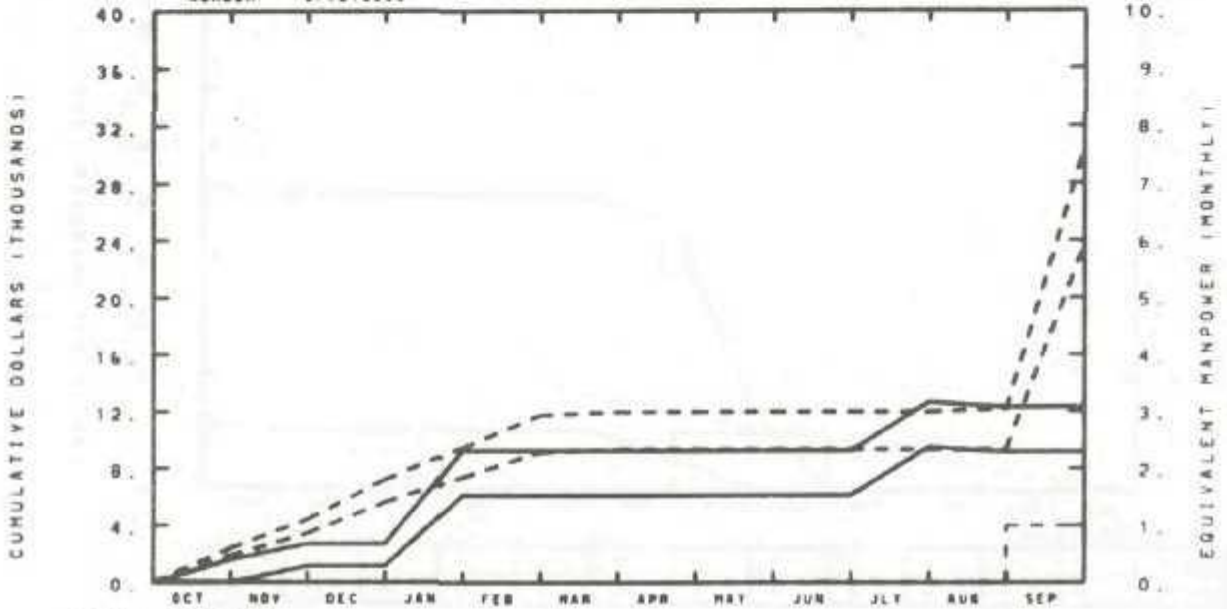
BUDG  
- - -  
ACTU

No significant variance.

EG&G IDAHO INC.

FRG MANAGEMENT

NUMBER SF7C16000



TOTAL PROGRAM

BUDGET	2	4	7	9	12	12	12	12	12	12	12	12	30
ACTUAL	2	3	3	9	9	9	9	9	9	13	13	12	

MATERIAL

BUDGET	2	3	6	7	9	9	9	9	9	9	9	9	24
ACTUAL	0	1	1	6	6	6	6	6	6	10	9	9	

MANPOWER

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

BUDGET

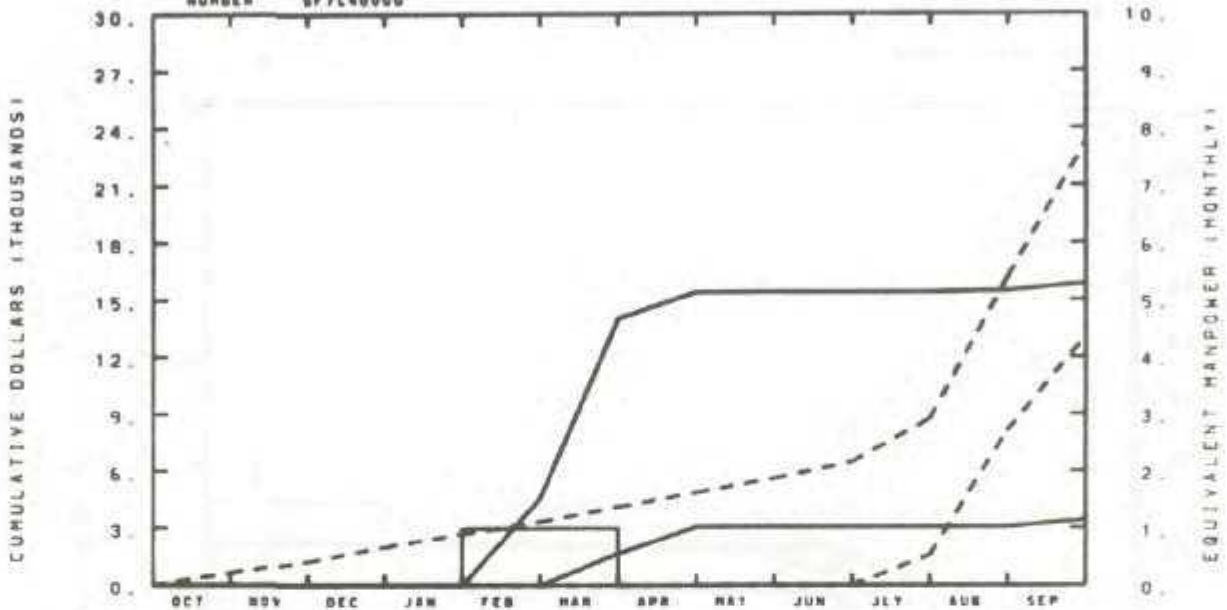
-----

ACTUAL

FRG reserves are budgeted in September and this causes the discrepancy. Reserve funds will be transferred into FY-1981.

EG&G IDAHO INC.  
MISCELLANEOUS TASKS

NUMBER 5F7C40000



TOTAL PROGRAM

BUDGET	1	1	2	3	3	4	5	6	6	9	16	23
ACTUAL	0	0	0	0	5	14	15	15	15	15	15	16

MATERIAL

BUDGET	0	0	0	0	0	0	0	0	0	2	8	13
ACTUAL	0	0	0	0	0	2	3	3	3	3	3	3

MANPOWER

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

BUDGET

ACTUAL

5F7C40100: Development of Pitot Rake Measurement

Work completed on this task by Dr. S. Bannerjee with a summary letter received in early August. This completed contractual obligation.

5F7C40200: Storage Tank Analysis

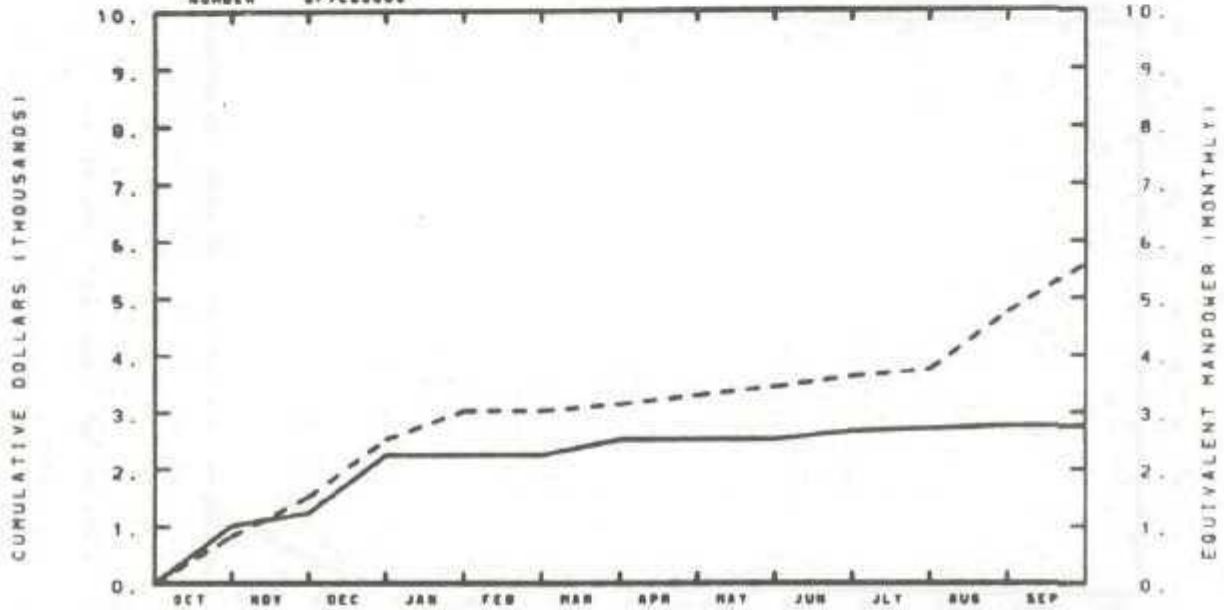
Work on this activity has been delayed due to manpower allocation to higher priority tasks. A CCF is required to allow work to extend into December.



EG&G IDAHO INC.

STEAM PROBE

NUMBER 877C80000



TOTAL PROGRAM

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

MATERIAL

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

MANPOWER

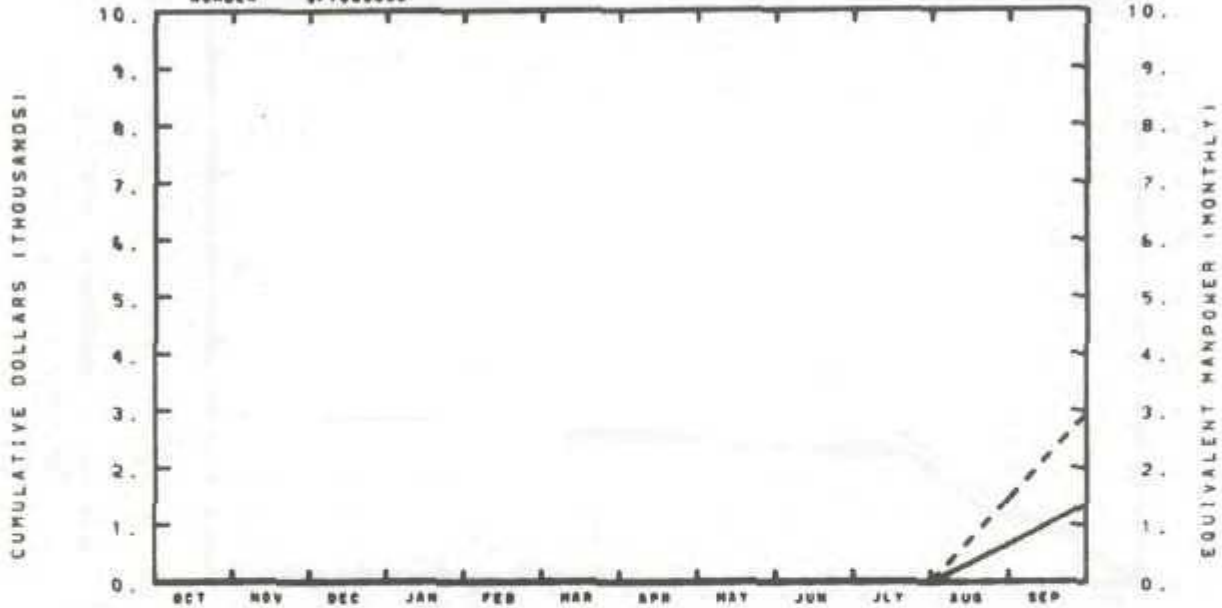
BUDGET	0	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	0	0

BUDGET  
- - - -  
ACTUAL

Inactive task.

EB&B IDAHO INC.  
LOFT STATE VECTOR D&T

NUMBER SF7C00000



TOTAL PROGRAM

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

MATERIAL

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

MANPOWER

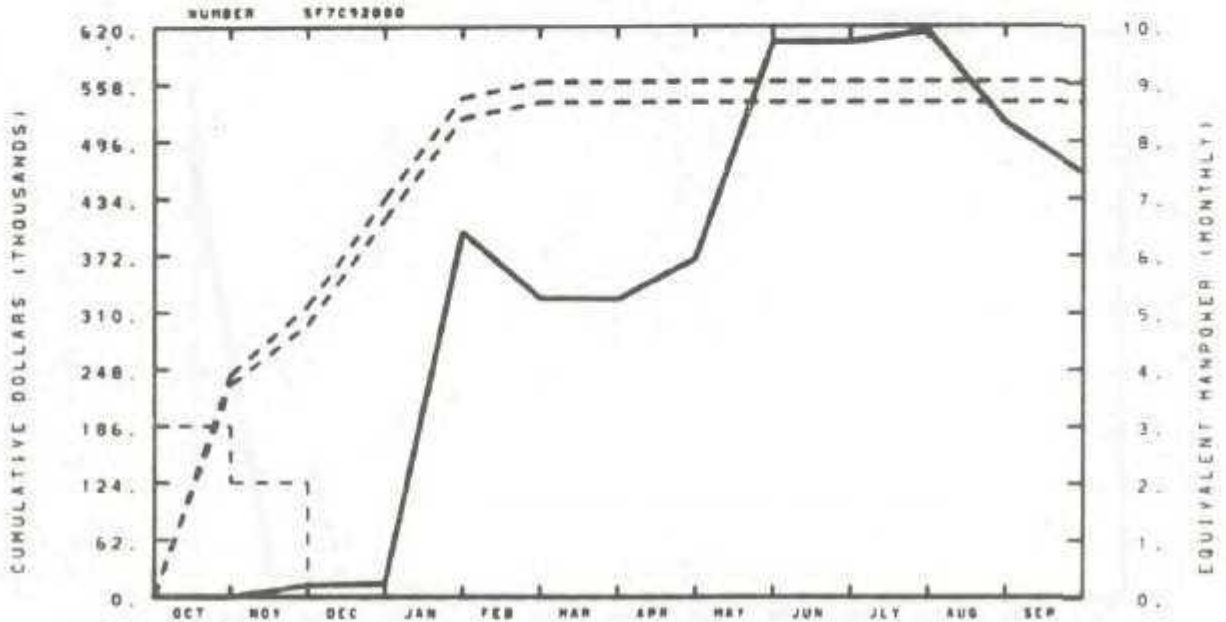
BUDGET	0	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	0	0

BUDGET

ACTUAL

Budget has been realigned to perform majority of task in FY-1981.

EG&G IDAHO INC.  
 SHARED TASKS - STEADY STATE TEST



TOTAL PROGRAM												
BUDGET	242	217	423	543	560	560	560	580	560	560	560	560
ACTUAL	0	13	15	397	325	324	368	603	603	615	515	461

MATERIAL												
BUDGET	231	296	411	521	538	538	538	538	538	538	538	538
ACTUAL	0	13	15	397	325	324	368	603	603	615	515	461

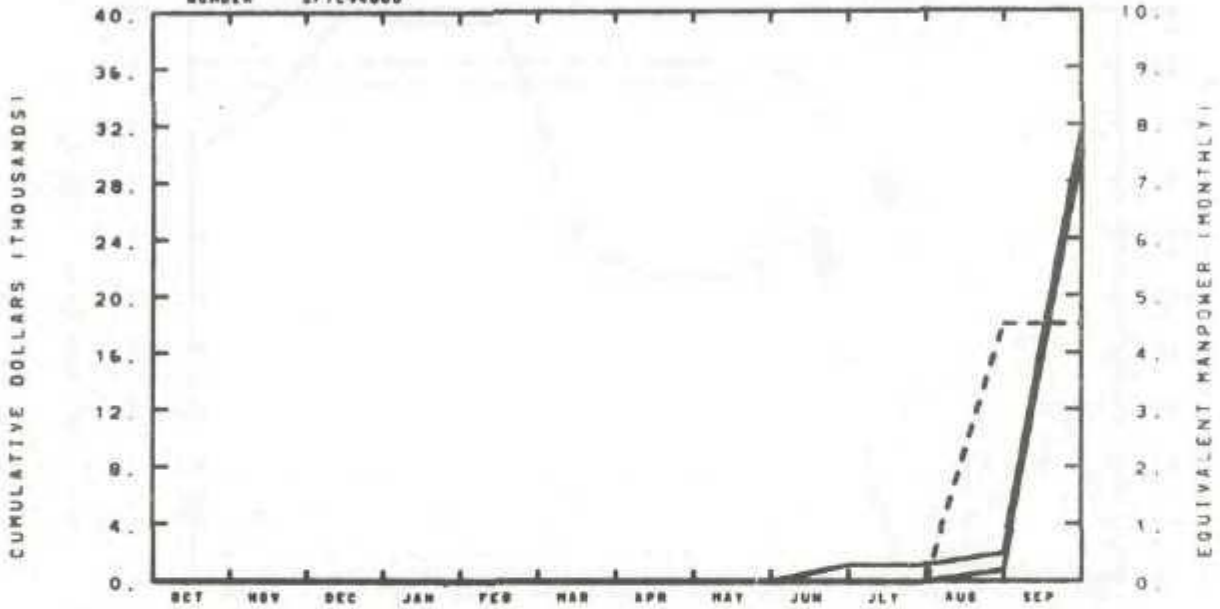
MANPOWER												
BUDGET	3	2	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	0

BUDGET  
 - - - -  
 ACTUAL

\$99K variance due to cost transfer correcting a prior year allocation error. The budget was not revised to correspond to the new value.

EG&B IDAHO INC.  
 SHARED TASKS TWO PHASE LOOP

NUMBER 5F7C94000



TOTAL PROGRAM

BUDGET	0	0	0	0	0	0	0	0	0	0	18	18
ACTUAL	0	0	0	0	0	0	0	0	1	1	2	32

MATERIAL

BUDGET	0	0	0	0	0	0	0	0	0	0	18	18
ACTUAL	0	0	0	0	0	0	0	0	0	0	1	30

MANPOWER

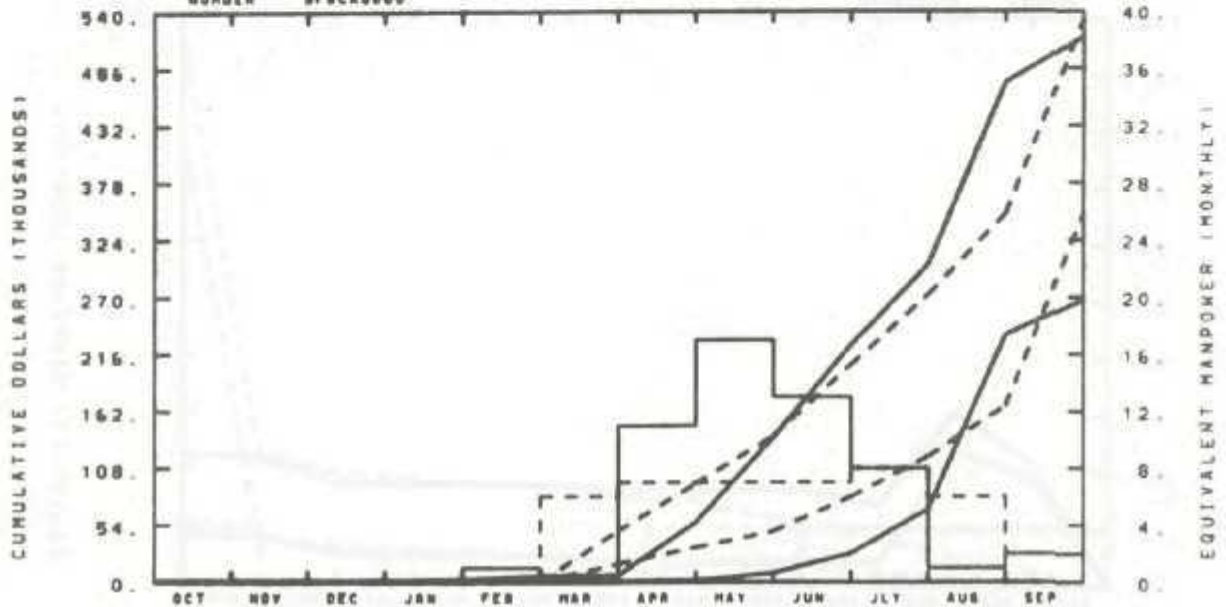
BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	0

BUDGET  
 - - - -  
 ACTUAL

Work is near completion. An error in charging has led to all costs appearing in this account instead of being split with 5F8C94000.

ES&S IDAHO INC.  
 SMALL BREAK DENSITOMETERS

NUMBER SF8CA8800



TOTAL PROGRAM												
BUDGET	0	0	0	0	0	49	93	138	206	272	349	532
ACTUAL	0	0	0	3	6	7	57	137	225	301	472	516

MATERIAL												
BUDGET	0	0	0	0	0	18	33	48	81	119	167	249
ACTUAL	0	0	0	0	0	1	1	9	37	68	234	267

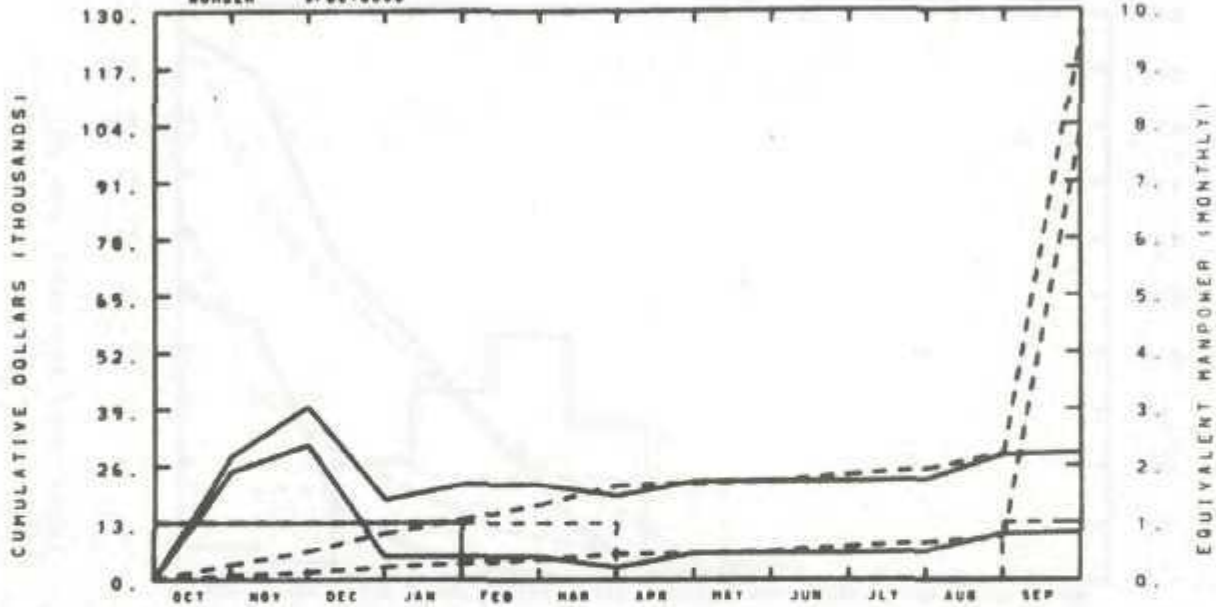
MANPOWER												
BUDGET	0	0	0	0	0	6	7	7	7	8	6	0
ACTUAL	0	0	0	0	1	0	11	17	13	8	1	2

BUDGET  
 - - - -  
 ACTUAL

No significant variance.

EB&B IDANO INC.  
JAERI MANAGEMENT

NUMBER SF0C10000



TOTAL PROGRAM

BUDGET	4	6	11	14	17	22	22	22	24	25	29	125
ACTUAL	20	40	18	22	22	19	22	22	22	23	20	29

MATERIAL

BUDGET	1	2	3	4	5	6	6	6	8	9	10	102
ACTUAL	20	31	5	5	5	3	6	6	6	6	10	11

HANPOWER

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

BUDGET

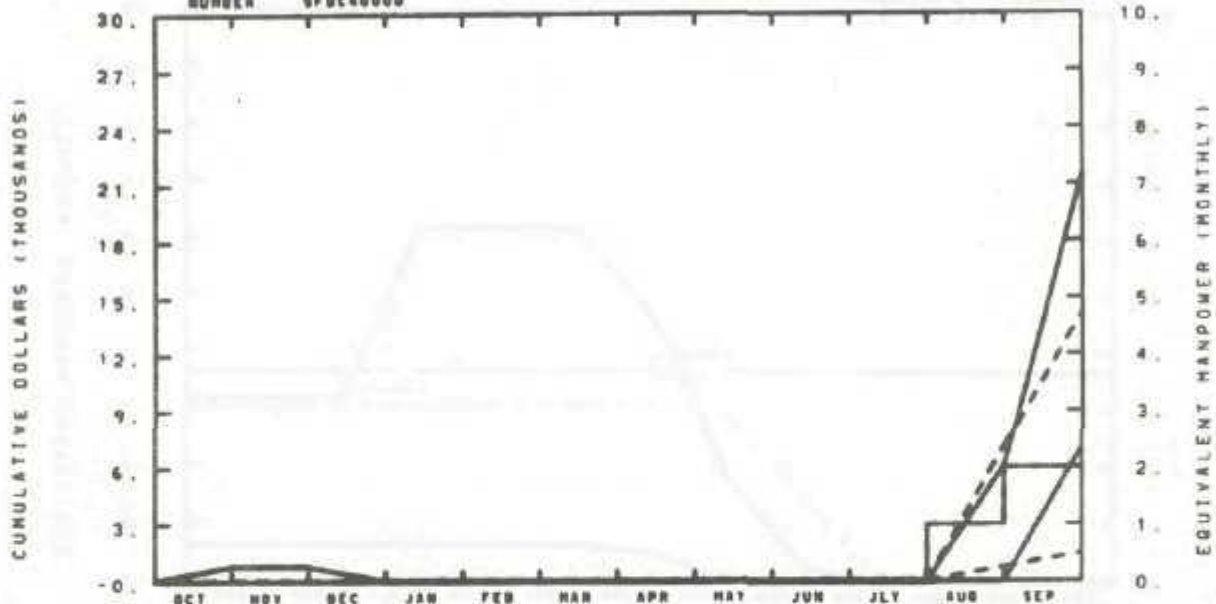
ACTUAL

JAERI reserve funds are budgeted in September and will be transferred into FY-1981.

EG&G IDAHO INC.

DTT - ADVANCED

NUMBER 5F8C40000



TOTAL PROGRAM													
BUDGET	0	0	0	0	0	0	0	0	0	0	0	7	14
ACTUAL	1	1	0	0	0	0	0	0	0	0	0	6	32

MATERIAL													
BUDGET	0	0	0	0	0	0	0	0	0	0	0	1	1
ACTUAL	1	1	0	0	0	0	0	0	0	0	0	0	7

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

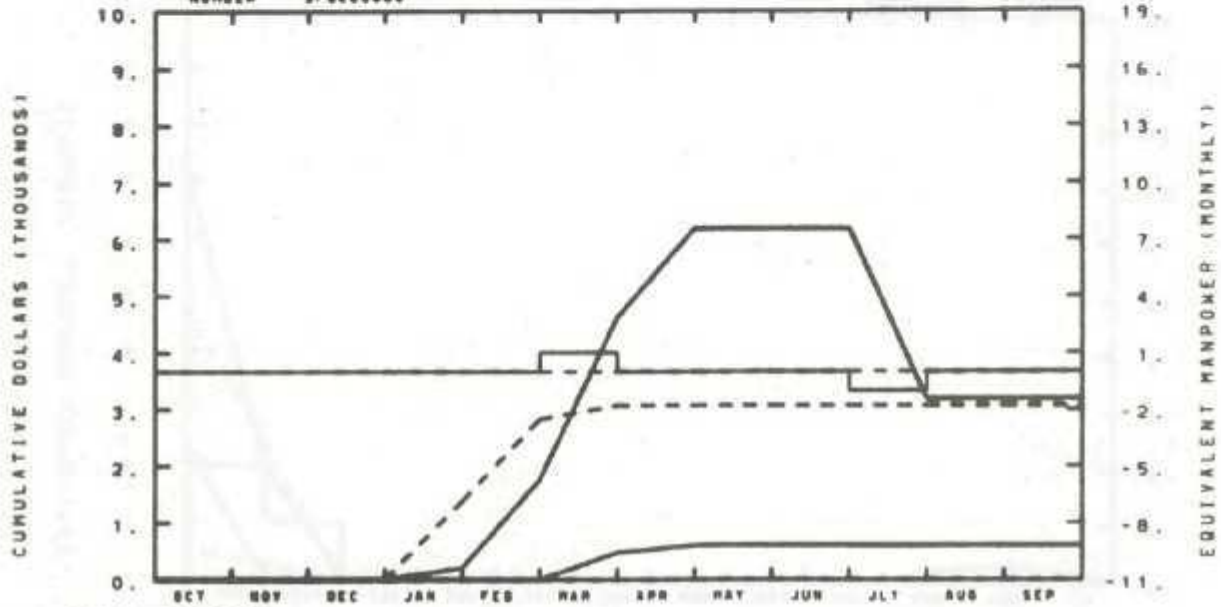
BUDGET  
- - -  
ACTUAL

5F8C40100: Blowdown Tests

Budget has been respread to allow work to continue into FY-1981. However, testing was completed in September and a report is in preparation. Deviation from budget was caused by accelerating work to complete in FY-80. Overrun of 2K is due to higher craft support required than expected for installation of the instrument.

EG&G IDAHO INC.  
RE-EVAL LOFT EXPS

NUMBER 87060000



TOTAL PROGRAM

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

MATERIAL

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

BUDGE

ACTUA

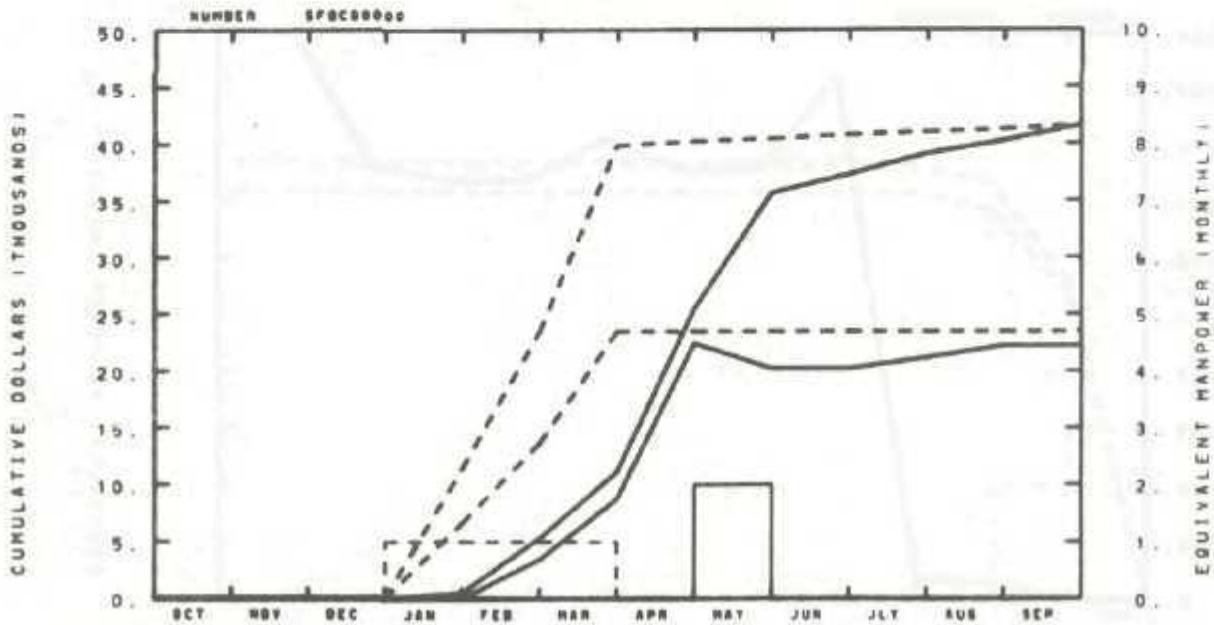
MANPOWER

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

No significant variance.



EG&G IDAHO INC.  
 SUPPRESSION CATCH TANK



TOTAL PROGRAM

BUDGET	0	0	0	11	23	40	40	40	41	41	41	42
ACTUAL	0	0	0	1	5	11	25	36	37	39	40	42

MATERIAL

BUDGET	0	0	0	7	14	23	23	23	23	23	23	23
ACTUAL	0	0	0	0	3	5	22	20	20	21	22	22

MANPOWER

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

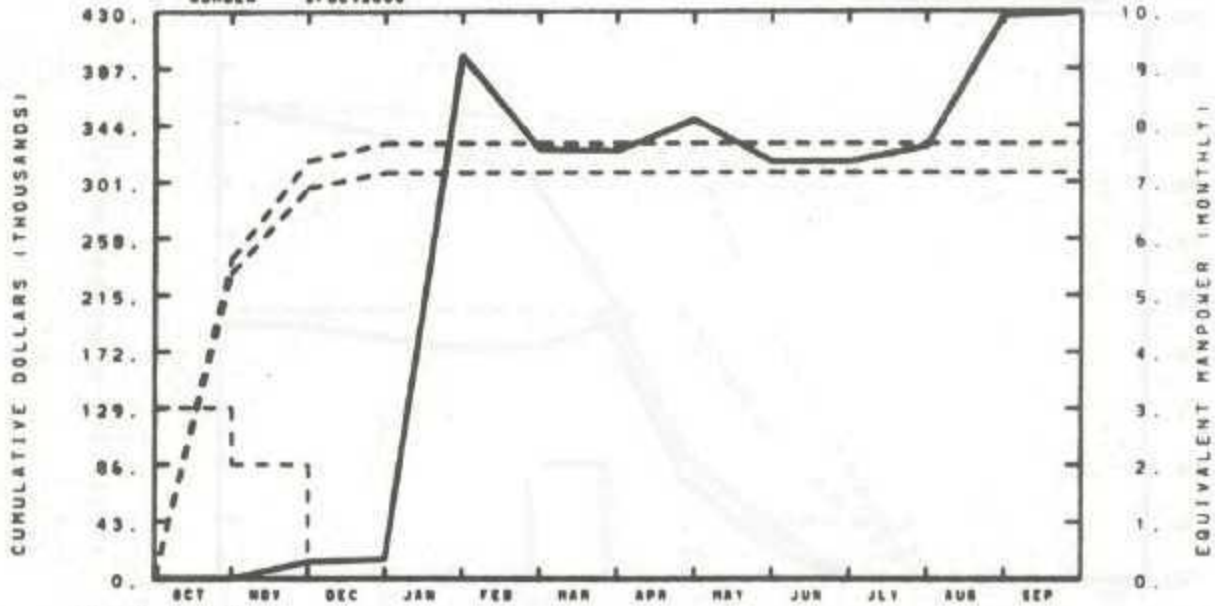
BUDGET  
 - - - - -  
 ACTUAL  
 \_\_\_\_\_

No significant variance.

EG&G IOANO INC.

SHARED TASKS - STEADY STATE TEST

NUMBER SFDC92000



TOTAL PROGRAM

BUDGET	242	317	320	330	330	330	330	330	330	330	330	330
ACTUAL	0	13	15	397	325	324	348	316	316	328	427	429

MATERIAL

BUDGET	231	296	300	300	300	300	300	300	300	300	300	300
ACTUAL	0	13	15	397	325	324	348	316	316	328	427	429

MANPOWER

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

BUDGET

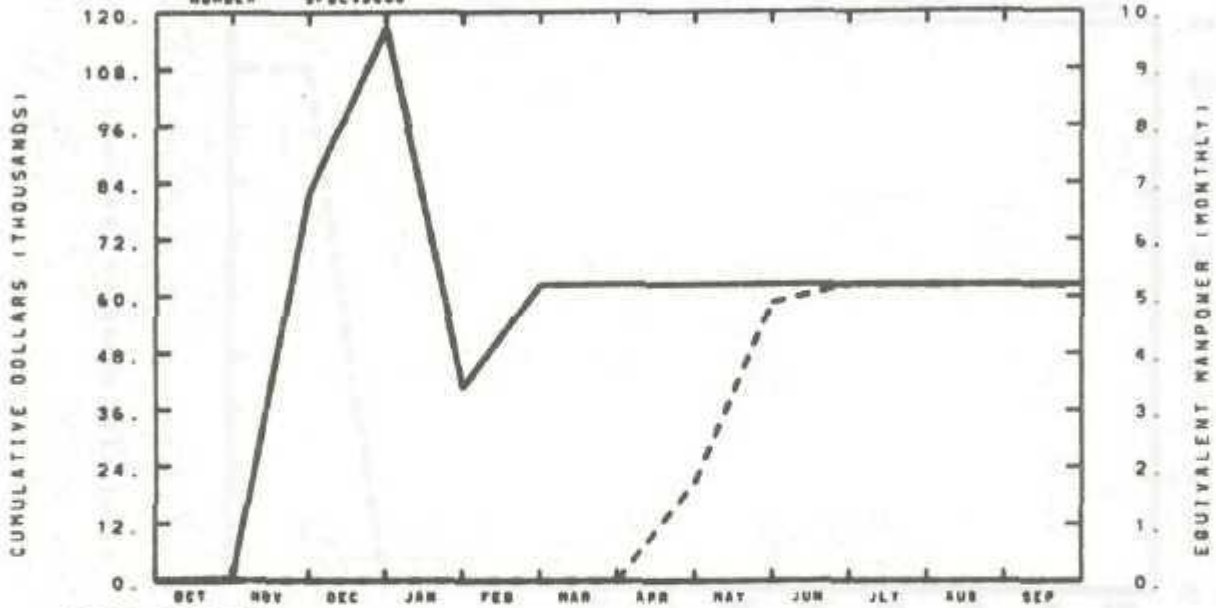
ACTUAL

Variance due to \$99K cost transfer made to correct prior year allocation error.

EG&G IDAND INC.

SHARED TASKS - TRAC CODE STUDIES

NUMBER SFDC93000



TOTAL PROGRAM

BUDGET	0	0	0	0	0	0	21	51	62	62	62	62
ACTUAL	0	82	117	41	62	62	62	62	62	62	62	62

MATERIAL

BUDGET	0	0	0	0	0	0	21	51	62	62	62	62
ACTUAL	0	82	117	41	62	62	62	62	62	62	62	62

MANPOWER

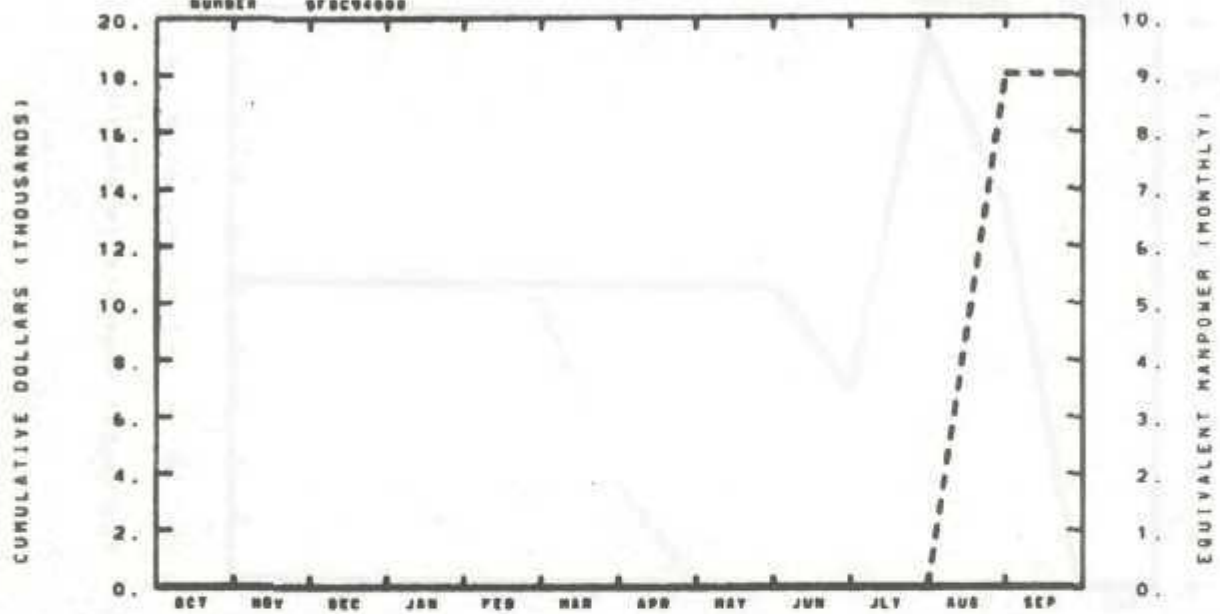
BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	0

BUDGET

ACTUAL

No significant variance.

ES&G IDAHO INC.  
 SHARED TASKS TWO PHASE LOOP  
 NUMBER 5F7C94000



**TOTAL PROGRAM**

BUDGET	0	0	0	0	0	0	0	0	0	0	10	10
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	0

**MATERIAL**

BUDGET	0	0	0	0	0	0	0	0	0	0	10	10
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	0

**MANPOWER**

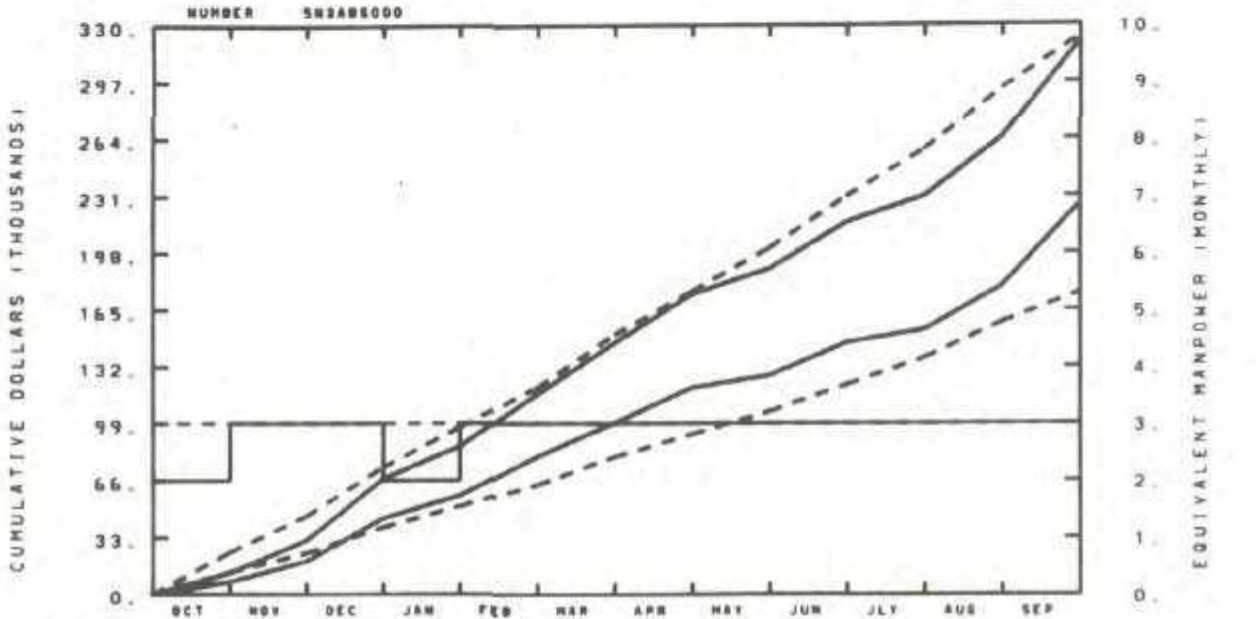
BUDGET	0	0	0	0	0	0	0	0	0	0	0	0
ACTUAL	0	0	0	0	0	0	0	0	0	0	0	0

BUDGET  
 - - - - -  
 ACTUAL

Work is near completion. An error in charging has led to all costs appearing in 5F7C94000.



EG&G IDAHO INC.  
 EXP MEAS - BR SUPPORT



TOTAL PROGRAM												
BUDGET	25	45	74	97	120	151	176	201	221	258	293	323
ACTUAL	13	31	67	86	116	146	174	189	216	221	265	320

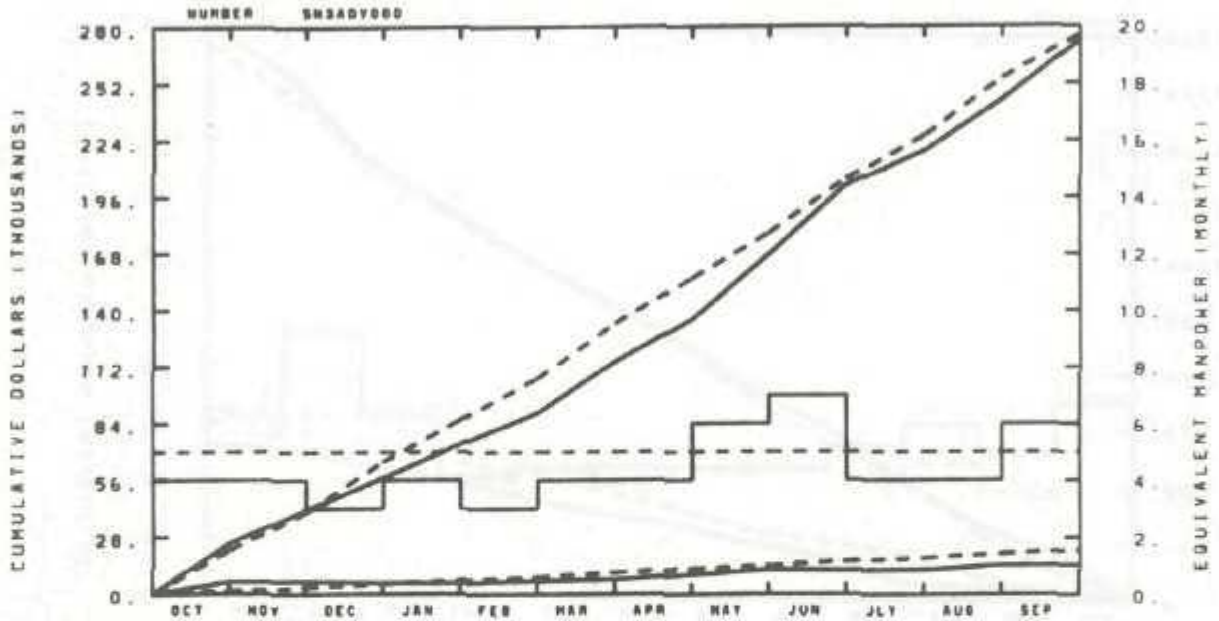
MATERIAL												
BUDGET	13	24	39	51	64	80	93	106	121	127	158	175
ACTUAL	7	19	44	57	80	100	120	127	146	153	179	226

MANPOWER												
BUDGET	3	3	3	3	3	3	3	3	3	3	3	3
ACTUAL	2	3	3	2	3	3	3	3	3	3	3	3

No significant variance.

EG&G IDAHO INC.  
 EXP MEAS - DAYS SUPPORT



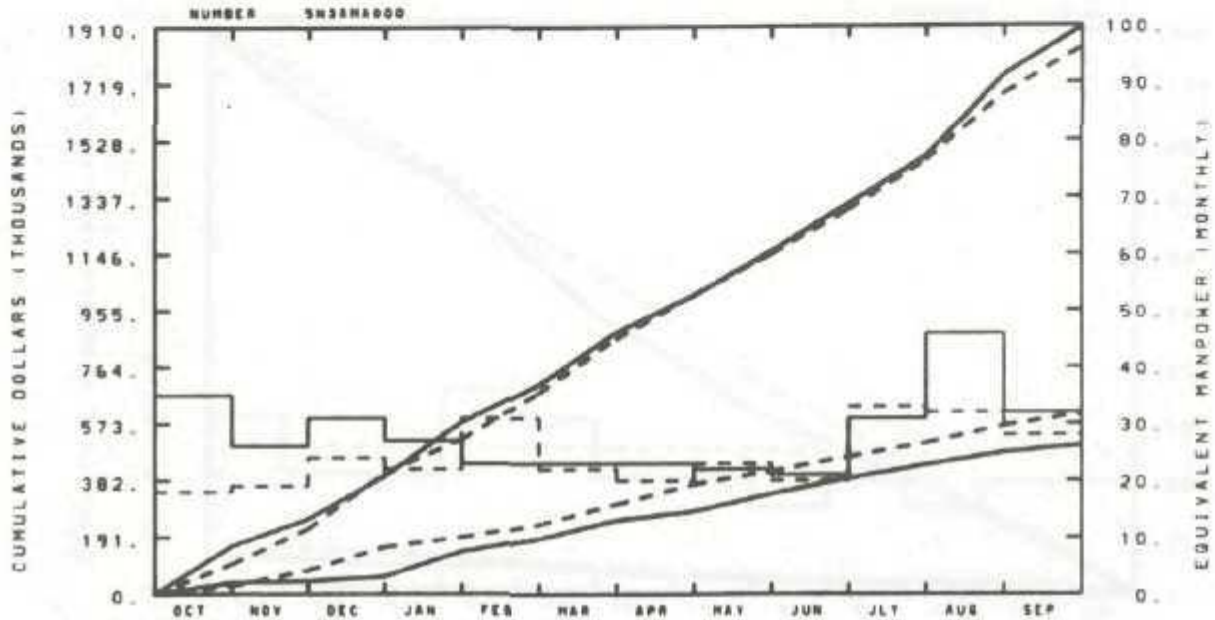
TOTAL PROGRAM												
BUDGET	32	40	65	86	106	134	156	178	205	227	255	276
ACTUAL	28	41	57	74	89	115	136	168	202	219	244	273

MATERIAL												
BUDGET	2	3	5	7	9	11	12	14	16	18	20	22
ACTUAL	6	6	6	5	7	7	10	12	12	12	14	15

MANPOWER												
BUDGET	5	5	5	5	5	5	5	5	5	5	5	5
ACTUAL	4	4	3	4	3	4	4	6	7	4	4	6

No significant variance.

EB&O IDAHO INC.  
 EXP MEAS - MEAS SYSTEM A



TOTAL PROGRAM												
BUDGET	101	219	407	521	677	861	1009	1146	1297	1462	1684	1835
ACTUAL	161	283	397	579	706	883	1006	1186	1315	1473	1746	1904

MATERIAL												
BUDGET	28	81	159	191	234	303	369	413	462	507	567	605
ACTUAL	40	45	60	145	186	249	279	337	390	435	477	500

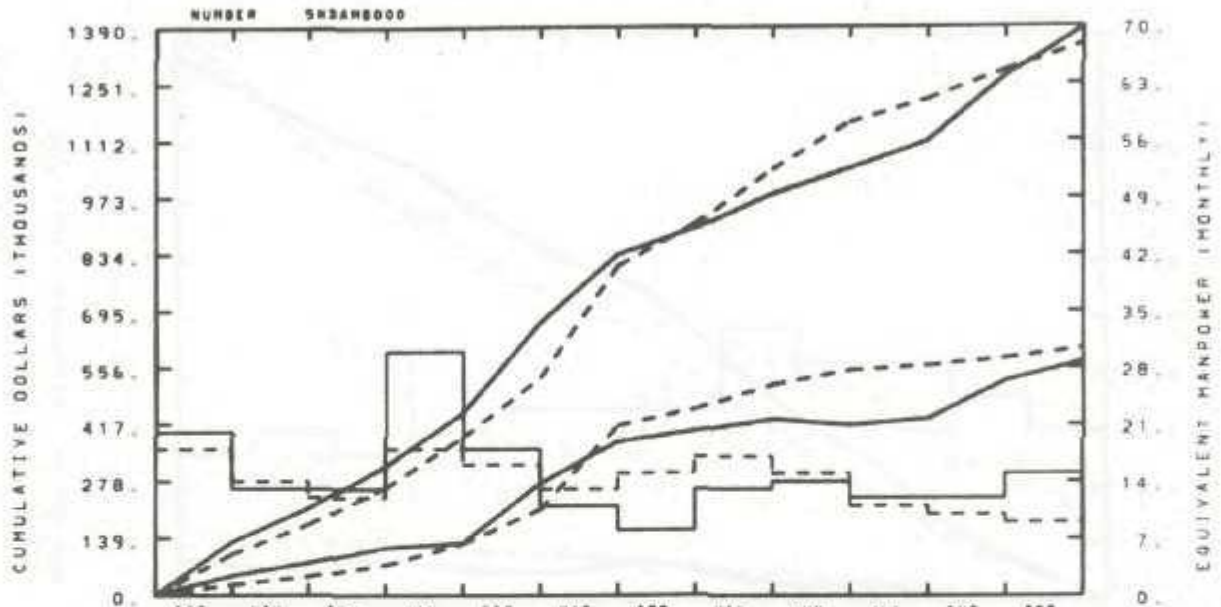
MANPOWER												
BUDGET	18	19	24	22	31	22	28	23	28	33	32	28
ACTUAL	35	26	31	27	23	23	23	22	21	21	46	32

BUDGET  
 - - - -  
 ACTUAL

No significant variance.



EG&G IDAHO INC.  
EXP HEAS - HEAS SYSTEM B



TOTAL PROGRAM												
BUDGET	55	172	261	385	522	806	908	1042	1156	1212	1283	1347
ACTUAL	150	212	314	446	668	834	898	982	1044	1110	1267	1386

MATERIAL												
BUDGET	25	45	74	125	209	415	455	515	550	562	579	604
ACTUAL	47	79	115	127	272	375	402	429	415	431	524	570

MANPOWER												
BUDGET	16	14	12	18	14	13	15	17	15	11	10	9
ACTUAL	20	13	13	30	18	11	8	13	14	12	12	15

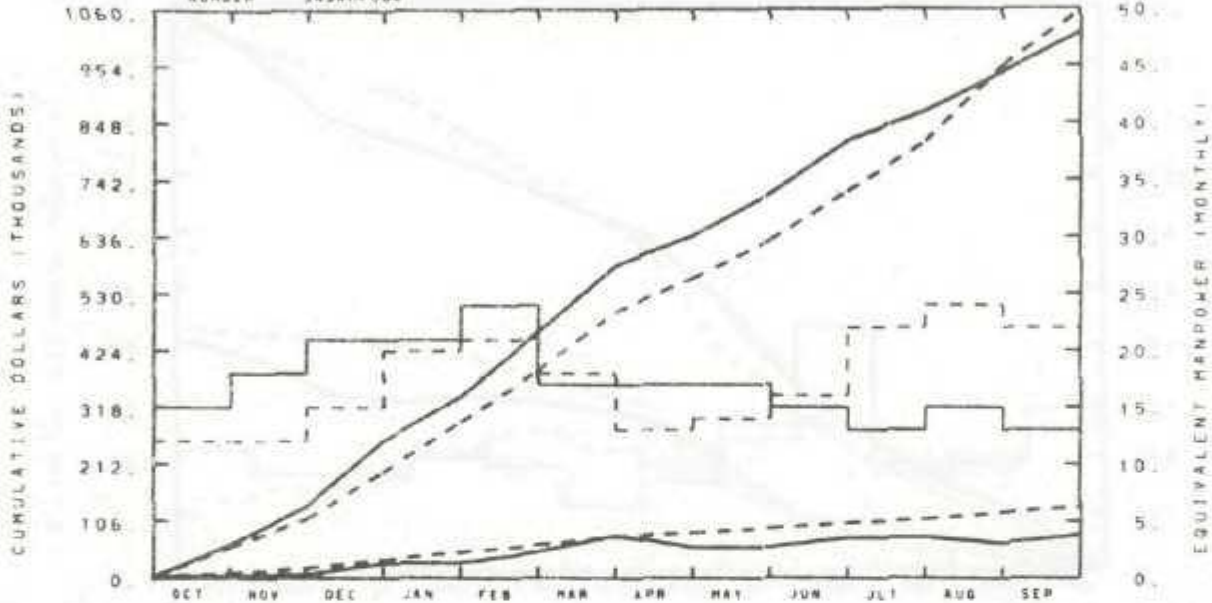
BUDGE  
---  
ACTUA

No significant variance.

EG&G IDAHO INC

EXP HEAD - HEAD PERFORMANCE - 1

NUMBER SNAKPOOD



TOTAL PROGRAM

BUDGET	57	110	198	290	387	497	557	629	721	812	953	1057
ACTUAL	42	114	254	339	458	584	638	716	814	868	941	1016

MATERIAL

BUDGET	8	18	35	48	62	77	85	93	102	110	122	133
ACTUAL	3	6	28	29	49	60	57	58	75	77	65	81

HANDPOWER

BUDGET	12	12	15	20	21	18	13	14	16	22	24	22
ACTUAL	15	18	27	27	24	17	7	17	15	13	15	12

BUDGET  
- - - -  
ACTUAL

No significant variance.

TABLE 1. FOREIGN FUNDS AVAILABILITY AT END OF SEPTEMBER 1980  
(In Thousands of Dollars)

<u>Participant</u>	<u>Actual Reserve</u>	<u>Contingency</u>
JAERI	24	57
FRG	4	0
CEA	0	0
ECN	57	27
FZS	<u>0</u>	<u>0</u>
Total	85	84

TABLE 2. FOREIGN FUNDED TASK SUMMARY AT END OF SEPTEMBER 1980

<u>Project Description</u>		<u>Total Proposal Est. Inc. Contingency (\$K)</u>	<u>Total Spending Auth. by CCB (\$K)</u>	<u>Funds Spent to Date (\$K)</u>	<u>Expected Task Completion Date</u>
<u>JAERI TASKS</u>					
5F8C1	JAERI Management	262	262	183	Sept. 81
5F8C2	Completed Tasks	845	845	846	Done
5F8C4	Advanced DTT	154	154	156	Sept. 80
5F8C5	PBF/LOFT Lead Rod	1881	1881	1882	July 80
5F8C6	Reevaluation of LOFT LI Exper.	25	25	25	Oct. 80
5F8C7	Misc. Code Studies	16	16	10	Jan. 81
5F8C8	LTSF Suppression Catch Tank	43	41	42	Oct. 80
5F8CA	Small Break Densitometers	692	660	516	Oct. 80
5F8CB	Post CHF Heat Transfer	200	177	64	Jan. 82
5F8C92	Shared Two-Phase Steady-State Loop	782	782	878 <sup>a</sup>	Sept. 80
5F8C93	Shared-TRAC Code Studies	83	83	83	June 80
5F8C94	Two-Phase Loop Boiler Building	18	18	0 <sup>b</sup>	Sept. 80
<u>FRG TASKS</u>					
5F7C1	FRG Management	170	170	156	Sept. 81
5F7C2	Completed Tasks	2570	2570	2570	Done
5F7C4	Miscellaneous Tasks	58	58	43	Dec. 80
5F7C5	Steam Probe	30	30	22	Aug 81
5F7C7	Ultrasonic Density Detectors	78	78	78	May 80
5F7C8	LOFT State Vector	10	10	1	Feb. 81
5F7CA	Small Break Inst.	206	206	206	May 80
5F7C92	Shared Two-Phase Steady-State Loop	1012	1012	912 <sup>a</sup>	Sept. 80
5F7C93	TRAC Code Studies	83	83	83	June 80
5F7C94	Two-Phase Loop Boiler Building	18	18	32 <sup>b</sup>	Sept. 80

TABLE 2. (continued)

Project Description		Total Proposal Est. Inc. Contingency (\$K)	Total Spending Auth. by CCB (\$K)	Funds Spent to Date (\$K)	Expected Task Completion Date
<u>ECN TASKS</u>					
5FNC11	Completed Tasks	92	92	92	Done
5FNC21	Management and Delegate Support	27	27	8	Sept. 81
5FNC221	Wyle Data Analysis	22	20	20	Sept. 80
5FNC222	Critical Flow Studies	53	48	7	Dec. 80
5FNC223	PNA Techniques	38	33	32	Sept. 80
5FNC224	RPI Subcontract	117	114	112	Sept. 80
5FNC225	INEL Support	4	4	5	Dec. 80
5FNC321	Two-Phase Loop Platform	59	47	46	Oct. 80
5FNC311	Internal Clad Thermocouple Design	11	11	0	Nov. 80
<u>FZS TASKS</u>					
5FAC11	Completed Tasks	123	123	123	Done
5FAC2	Program Development	24	24	12	Sept. 81

a. \$99,000 prior year cost transfer has been made to correct error between FRG and JAERI accounts, but is under review.

b. \$16,000 cost shall be transferred from 5F7C941 to 5F8C941 (Shared Task).

BUDGET STATUS REPORT

TABLE 3. LOFT FY-80 SUMMARY STATUS REPORT  
 NUCLEAR REGULATORY COMMISSION  
 (In Thousands of Dollars)

<u>WBS#</u>	<u>189 #</u>	<u>Q80-5-0/3</u>	<u>Approved CCBs</u>	<u>Current PMB # Q80-5-0/4</u>	<u>Current BAC</u>
5N1XX	A6048	4,086	0	4,086	4,086
5N2XX	A6053	3,187	151	3,338	3,336
5N3XX	A6043	5,102	<263>	4,839	4,839
5N4XX	A6107	10,919	<221>	10,698	10,698
5N5XX	A6122	4,069	<45>	4,024	4,024
5N6XX	A6110	3,610	0	3,610	3,610
5N7XX	A6054	7,610	0	7,610	7,610
5N8XX	A6108	<u>971</u>	<u>0</u>	<u>971</u>	<u>971</u>
	A6308				
5NXXX		39,554	<378>	39,176	39,176
	New Program				125
	Supplementary programs				5,253
	FY-1981 commitment				152
	NRC discretionary reserves				50
	NRC management reserves				<u>1,359</u>
	Total NRC funding (FY-80)				46,115

TABLE 4. LOFT FUNDING SUMMARY FOR FY-80  
(In Thousands of Dollars)

Funds	Current FIN Plan No. 10	Current Budget File (Q80-5-0/4)
LOFT Foreign Funds	2,845	2,390
LOFT Lead Rod Tests	192	192
Total	3,037	2,582
NRC Operating Funds	45,990	40,710
Electric Heat Rod Evaluation		237
Computer Code Support		233
TC-2 Tests		118
LTSF		2,587
PWR/BWR Task Group		700
Standard Problem Analysis		150
Advanced Instrumentation		973
TC-3 Tests		255
Total	45,990	46,115
Total LOFT Funding <sup>a</sup>	49,027	48,697

a. Excludes C.E., GSO, and overhead.

TABLE 5. LOFT FY-80 SUMMARY BUDGET STATUS REPORT OF LOFT FOREIGN FUNDS  
(In Thousands of Dollars)

LOFT WBS	189 #	Q80-5-0/3	Approved CL.I CCBs	Current PBM # Q80-5-0/4	Current FY-80 Budget	Total Authorized Spending Limit
5FAXX	A6273	15	8	7	7	147
5FNXX	A6271	166	<36>	130	130	396
5F7XX	A6104	993	<1>	992	992	4,229
5F8XX	A6111	1,337	<53>	1,284	1,284	4,919 <sup>a</sup>
5F9XX	A6104S	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
5FXXX		2,511	98	2,413	2,413	9,691
					84	84
					<u>85</u>	<u>85</u>
					2,582	9,860
					6,854	
					<u>424</u>	<u>0</u>
					9,860	9,860

a. Includes LOFT Lead Rod.



TABLE 6. LOFT CAPITAL EQUIPMENT STATUS REPORT THROUGH SEPTEMBER

Schedule 1B <sup>a</sup>	Title	Prior Year Uncosted	Current Year Funds	Total Available to Cost	Current Year Costs	Outstanding Commitments	Balance Less Costs and Commitments	Estimate to Complete	Balance
4CA101	Integral System Design & Fab.	111,731	(2,256)	109,475	34,766	23,312	51,397	72,492	2,217
4CA102	LOFT Operations	194,419	(73,041)	121,378	142,003	1,749	<22,374>	1,961	<22,586>
4CA103	UT & Requalification Program	140,034	75,297	215,331	215,291	33,324 <sup>b</sup>	<33,290>	0	34
Total DOE		446,184	0	446,184	392,066	58,385	<4,267>	74,453	<20,335>
A-6061	Experimental Measurements <sup>d</sup>	788,769	789,000	1,577,769	1,118,137	207,034	252,598	456,813	2,819
A-6048	Integral System Design & Fab.	689,139	1,422,000	2,111,139	947,511	317,381	846,147	1,162,493	1,035
A-6088	LOFT Operations	18,091	89,000	107,091	72,413	14,752	19,926	33,959	719
Total NRC		1,495,999	2,300,000	3,795,999	2,138,161	539,167	1,118,671	1,653,265	4,573
Total LOFT		1,942,183	2,300,000	4,242,183	2,530,227	597,552	1,114,404	1,727,718	<15,762>

a. This outstanding commitment is being moved to an NRC account for the same item.

b. Includes A-6085, A-6086, and A-6087.

TABLE 7. FINAL CLOSING VALUES FOR FUNDING SOURCES

Program	Funding Office	189a	Title	FY-1980 Funding (\$)	FY-1980 Actuals (\$)	FY-1980 Carryover (\$)	FY-1981 Funds (\$)	Additional Anticipated Funding (\$)	Total FY-1981 (\$)	GSO (\$)
LOFT	RSR	A6043	LOFT Instrumentation	8,810,919	8,434,170	376,749	5,790,000	0	7,166,749	146,000
LOFT	RSR	A6048	LOFT Plant & Analysis	5,120,275	4,821,811	298,464	4,580,000	0	5,178,464	0
LOFT	RSR	A6053	LOFT Fuels Des & Fab	3,755,088	3,400,658	354,430	3,180,000	0	3,534,430	90,000
LOFT	RSR	A6054	LOFT Operations	7,635,682	7,535,871	48,811	9,070,000	0	9,118,811	0
LOFT	RSR	A6055	LOFT In-Serv. Inspection	0	0	0	0	0	0	0
LOFT	RSR	A6074	LOFT Advanced Instru.	37,795	37,795	0	0	0	0	0
LOFT	RSR	A6107	LOFT Plant Support	11,175,484	10,802,384	373,100	7,350,000	0	7,733,100	0
LOFT	RSR	A6108	LOFT Enhanced Operator C	771,000	755,479	15,521	940,000	0	955,521	0
LOFT	RSR	A6110	LOFT Common Support	3,614,362	3,582,032	32,330	5,520,000	0	5,552,330	0
LOFT	RSR	A6121	LOFT Exp. Support Testing	2,822	2,822	0	0	0	0	0
LOFT	RSR	A6122	LOFT Core Safety	4,132,398	4,095,797	36,601	4,550,000	0	4,696,601	0
LOFT	RSR	A6275	LOFT Nuc/Elec. Heater	69,519	69,519	0	0	0	0	0
LOFT	RSR	A6308	LOFT CTR Display Des/Ana	200,000	146,198	53,802	500,000	0	553,802	0
LOFT	RSR	A6351	LOFT Core Melt Mitigation	125,000	60,019	64,981	0	600,000	664,981	0
SUBTOTAL				45,500,644	43,845,355	1,654,789	42,900,000	600,000	45,154,789	235,000
LOFT FOREIGN	RSR	A6104	LOFT FRG--Research Prog.	925,199	884,952	40,247	1,000,000	0	1,040,247	0
LOFT	RSR	A6111	LOFT Japan Research Prog.	1,827,134	1,386,111	441,023	1,000,000	0	1,441,023	0
LOFT	RSR	A6271	LOFT Coop-Netherlands	268,035	109,085	158,950	160,000	0	318,950	0
LOFT	RSR	NE4	LOFT French Funds	0	0	0	1,000,000	0	1,000,000	0
LOFT	RSR	A6273	LOFT Coop-Austria	16,573	5,457	11,116	0	0	11,116	0
SUBTOTAL				3,036,941	2,385,605	651,336	3,160,000	0	3,811,336	0
LOFT CAPITAL	RSR	A6061	LOFT Instrumentation	1,014,253	806,848	207,405	945,000	0	1,152,405	0
LOFT	RSR	A6084	LOFT Plant Support	2,111,139	947,615	1,163,524	1,079,000	0	2,242,524	0
LOFT	RSR	A6085	LOFT Exp. Program	1,398	0	1,398	0	0	1,398	0
LOFT	RSR	A6086	LOFT Advanced Instru.	373,873	294,606	79,267	0	0	79,267	0
LOFT	RSR	A6088	LOFT Operations	107,091	72,412	34,679	76,000	0	110,679	0
LOFT	RSR	A6089	LOFT Fuel Des/Fab	188,245	16,696	171,549	0	0	171,549	0
SUBTOTAL				3,795,999	2,138,177	1,557,822	2,100,000	0	3,757,822	0
LOFT CAPITAL	DOE	4CA101	LOFT Internal Sys. Des/Fab.	101,731	34,765	66,965	0	0	66,965	0
LOFT	DOE	4CA102	LOFT Operations	126,419	142,003	<15,584>	0	0	<15,584>	0
LOFT	DOE	4CA103	LOFT VT & Requal.	218,034	215,296	2,738	0	0	2,738	0
SUBTOTAL				446,184	392,065	54,119	0	0	<54,119>	0
LOFT	RSR	A6048B	Standard Analysis	150,000	149,725	275	0 <sup>a</sup>	0	0	0
LOFT	RSR	A6048C	PWR/BWR Task Force	700,000	700,001	<1>	0 <sup>a</sup>	0	0	0
TOTAL				53,629,768	49,611,428 (A6048B&C)	4,018,340 -274 4,018,066	48,150,000	600,000 (A6048B&C)	52,778,340 -274 52,778,066	0 0 235,000

TABLE 7. (continued)

Program	Funding Office	189a	Title	FY-1980 Funding (\$)	FY-1980 Actuals (\$)	FY-1980 Carryover (\$)	FY-1981 Funds (\$)	Additional Anticipated Funding (\$)	Total FY-1981 (\$)	SSO (\$)
MEMO Supplemental Programs										
(included in totals above)										
(4281C)										
(4292C)	A6048		TC-2 Tests	95,831	95,831	0	0	0	0	0
(4281E)	A6048		TC-3 Tests	338,169	272,844	65,325	0	0	65,325	0
(518EPO1R5)	A6048		Code Development--RELAP 5	233,000	247,355	<14,355>	0 <sup>a</sup>	0	0	0
(4292C123)	A6048		Electric Heater Rod	328,000	249,943	78,057	200,000	0	278,057	0
(412X)	A6043		LTSF	2,587,000	2,612,940	<25,940>	1,720,000	0	1,694,060	0
(47ARNS)	A6043		Advanced Instrumentation	973,000	957,661	15,339	750,000	0	765,339	0
(42LXXX)	A6111		LOFT Lead Rod Support	192,000	193,318	<1,318>	0	0	0	0
SUBTOTAL				4,747,000	4,629,892	117,108	2,670,000	0	2,802,781	0

a. Excluded from LOFT's funding source.





