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/S) NATIONAL RECONNAISSANCE OFFICE

WASHINGTON, D.C.

THE NRO STAFF

February 2, 1968

DR. FLAX

MEMORANDUM FOR ~~GENERAL BERG~~

SUBJECT: The NRO Command and Control Switching Center

Problem:

    To give you a progress report on the NRO Command and Control Switching Center.

Background:

    On October 26, 1967, we prepared a briefing on the progress which had been made in setting up an NRO Command and Control Switching Center. We summarized the status as follows:

Facilities	Going well. Completion of construction scheduled for March 1968.
People	Personnel (computer programmers, operators, crypto maintainers, tech controllers) are arriving on schedule. Operational/software people were to have been on board in August 1967, but are being retained in regular AFCS billets, pending procurement of equipment. Could result in slip in personnel training.
Equipment	All peripheral equipment contracted for, or availability assured. Funds for UNIVAC 494 computer system available. Procurement action held in abeyance, pending approval of waivers by Deputy Secretary of Defense.

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Switching Center   October 1968
Availability Date

Present Status:

     The present status of facilities and equipment remains essen-
tially the same. The personnel training problem we mentioned pre-
viously is becoming larger and beginning to press us. Our assigned
and incoming computer programmers (many of whom are in the pro-
fesstional pay category and in short supply in AFCS) would normally
go into training with the computer contractor and would "graduate"
at the same time as the computer is delivered. In the absence of a
computer contract, we have kept these programmers constructively
employed in a series of ad hoc training programs, made available
to us by UNIVAC. Unfortunately, we have now exhausted our good
will at UNIVAC and must develop another solution to our training
problem.

Alternative Courses of Action:

     The options open to us are few in number and three of them are
essentially hypothetical.

     1. <u>Ignore the problem.</u> This alternative is untenable, since it
misuses pro pay airmen, alienates the AFCS, and is, essentially, the
short road to a confrontation with the Inspector General.

     2. <u>Assign the programmers to other duties.</u> This alternative
calls for detailing our programmers to work outside their skill areas
in, say, the neighboring Andrews AFB communications activity. It
is not desirable, since (1) the pro pay of these men would terminate
summarily with their exit from programming, (2) these men are on
a skill control roster and their day-to-day activities are followed
closely, (3) we would be breaking faith with General Stoney, who is
enthusiastically supporting the Switching Center, and (4) the airmen
would undoubtedly seek (and find) redress from the local Inspector
General.

     3. <u>Transfer the programmers back to General Stoney.</u> This
has the shortcomings of 2. above with no advantage whatsoever.
General Stoney and his headquarters staff would consider this

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action to be a breach of faith, and when negotiating for an eventual
return of these personnel assets, we would experience a delay of
at least a year in re-establishing the pipeline flow.

4. Set up a training program for the programmers. Having ex-
hausted UNIVAC's good will, we should now go on a pay-as-you-train
basis. Major Jones would work out a course with UNIVAC, using
actual 494 equipment. The cost for about two months of training
would be $54,000 of NRO funds. This alternative avoids the disad-
vantages of 1., 2., and 3., retains the personnel within our organi-
zation, honors the skills of the airmen, assures their pro pay, and
holds us as close as possible to our completion date for the switching
center. If, during the two-month period, the waivers for our 494
should be signed, UNIVAC would immediately (as is customary) spon-
sor our training within its production contract.

points out that this alternative has some serious
disadvantages. The $54,000, of course, presents no problem; how-
ever, we do not have a black contract with UNIVAC which could be
amended to provide this service. Any attempt to let a white contract
will run into delays, since we will be required to justify our procure-
ment action to supervisory boards and panels which control data proc-
essing and personnel training expenditures. Third, this alternative
"would set a bad precedent for government personnel support from
our program, which we have carefully avoided." Fourth, "even with
a new black contract, the DCAA auditors might pick this up as a
circumvention of rules and regulations." Fifth, he sees this action
as a temporary expedient which, in sixty days, would put us right
back where we are now. It is his strong recommendation that we
solve the entire problem (obtain the waivers) rather than trying for
ad hoc, piecemeal "fixes."

Recommendation:

I concur with   and, as a first choice, recommend
that the waivers be obtained. If this action is not feasible, as a second
choice I would request that we ask Dr. Flax to concur in your releasing
the signed correspondence at Tab A.

PAUL E. WORTHMAN
Colonel, USAF

HANDLE VIA
BYEMAN
CONTROL SYSTEM

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|S| NATIONAL RECONNAISSANCE OFFICE
WASHINGTON, D.C.

THE NRO STAFF

MEMORANDUM FOR GENERAL MARTIN

SUBJECT: NRO Programmer Training at UNIVAC

    This memorandum is a follow-up to our recent telephone conversation concerning the need for an NRO programmer training activity at UNIVAC.

    Please enter into a contract with UNIVAC for the support as outlined in the attached specification.

RUSSELL A. BERG
Brigadier General
Director

1 Attachment

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UNIVAC will provide thirty-three (33) man weeks of System Analyst support labor directed toward the training of USAF personnel on an AFOCC Program and the accomplishment of the tasks outlined below:

Task 1 - Executive I/O Handler for 8C magnetic tapes.

Program Specifications: The handler shall operate as an integral part of the CORTEX Executive system utilizing the common functions provided by CORTEX. It shall process all requests from worker programs on a priority basis extending to the worker programs all facilities available in the hardware. In addition, it shall assign servos upon request, alert operations when servos are released and require blank tapes mounted, and relieve the worker program of concern for specific servo numbers. The handler will attempt to recover from errors whenever possible and alert operations and the worker program when this is not possible.

Task 2 - Executive Day Clock and Real Time Clock Handlers.

Program Specifications: The handler shall operate as an integral part of the CORTEX Executive System utilizing the common functions provided by CORTEX. The program is designed to keep overhead at a minimum by setting the clock to interrupt only when a worker program request expires. The worker programs will have the facility to make requests, update requests, and delete requests. The time frame can be expressed in 100 m.s., second, or minute units. Parameters can

be passed through registers. Any errors in the request will be detected by the Timer Program. The Day Clock Handler will provide the system with time of day, and schedule requests that are done at a specific time of day.

Task 3 - Communications Interrupt Answering and Analysis Program Specifications: The Handler shall control all communications circuits into and out of the processor. It shall operate as an integral part of the CORTEX Executive system utilizing the common functions provided by CORTEX. It has the responsibility to send functions, detect activity on the line, maintain channel activity, identify data source, detect illegal activity, differentiate between high speed and low, and alert the proper program on both input and output. It is designed to handle the unique requirements for the remote sites hardware in this system.

The charges for programs include system's analyst services @ $15.00 per hour or $600.00 per week and UNIVAC 494 time @ $450.00 per hour.

Task 1

Programmer requirements:

Design	3 man weeks	$1,800.00
Code	1 man week	600.00
Debug and incorporate into systems tape	4 man weeks	2,400.00
Document	1 man week	600.00
TOTAL	9 man weeks	$5,400.00

Computer requirements:

Thirty (30) hours 494 time	$13,500.00

Task 2

Programmer requirements:

Design	4 man weeks	$2,400.00
Code	2 man weeks	1,200.00
Debug and incorporate into systems tape	4 man weeks	2,400.00
Document	1 man week	600.00
TOTAL	11 man weeks	$6,600.00

Computer requirements:

Twenty-Five (25) hours 494 time	$11,250.00

Task 3

Programmer requirements:

Design	5 man weeks	$3,000.00
Code	3 man weeks	1,800.00
Debug (partial until specific remote hardware is available in quantity)	3 man weeks	1,800.00
Document	2 man weeks	1,200.00
TOTAL	13 man weeks	$7,800.00

Computer Requirements:

Twenty (20) hours 494 time		$9,000.00

Total Tasks 1, 2, and 3:

Systems Analyst	33 man weeks	$19,800.00
494 Computer Time	75 hours	33,750.00
		$53,550.00