TOP SECRET

NATIONAL SECURITY AGENCY
FORT GEORGE G. MEADE, MARYLAND

CRYPTOLOG

JUNE-JULY 1983

EO 1.4.(c)

P.L. 86-36

THIS DOCUMENT CONTAINS CODEWORD MATERIAL

TOP SECRET

CLASSIFIED BY NSA/CSSM 123-2
DECLASSIFY ON: Originating
Agency's Determination Required

CRYPTOLOG

Editorial

There is a story going around which is
probably not true. At least, there is no
official confirmation of it, and discrete
inquiries have produced only denials.
Nevertheless, after some investigation, we
have decided to pass the item along and let
you decide for yourself.

The story concerns the new building, and a
new design concept: the containerized office!
The building is carefully arranged so that,
when an organization needs to be moved, the
offices are individually lifted out of posi-
tion and then slid into their new location,
without disturbing the contents of the office
itself. All electrical connections, including
phones and computer terminals, simply plug in
as the module is fitted into place.

We had a look at the new building and we
must admit that the possibility is intriguing.
Those two big cranes could do the job quite
nicely, one removing the 'out' office and the
other handling the 'in' office. When a crisis
developed and reorganization was critical, one
could even imagine moving 'on the fly' without
disturbing the occupants. Each office could
have prominently displayed "FASTEN YOUR SEAT
BELTS" signs and the group chief could make a
brief announcement over the intercom about the
move and the ETA at the new location.

From a certain angle, the new building
looks a bit like a giant data base. Perhaps
the entire "mover" system can be run from a
remote terminal somewhere. If so, we trust it
will be one of the faster ones.

WHY PASCAL? (U) by

Pourqoi pas?

P.L. 86-36

"**I**t is practically impossible to teach good programming to those who have had a prior exposure to BASIC; as potential programmers they are mentally mutilated beyond hope of recognition."

Now, now, before you come dashing up to my office to mutilate me please note that there are quotes around that statement. I did not say it. Actually it was made by professor Edsger W. Dijkstra, a Dutch physicist and computer scientist. One could infer from this that he didn't care too much for BASIC.

Well, what is wrong with BASIC? Most of the personal computers have it. Most all new data systems people know it. You can get a personal computer to do almost anything you want by programming in it. Those of us who use them really aren't mentally mutilated, are we? Well, ARE WE?!

P13 has been experimenting with powerful personal computers for a couple of years now in an effort to make the job of the analyst a little easier, and maybe even a bit more enjoyable. Our programming has been done in BASIC because BASIC came with the machines and there was no obvious reason to use anything else.

As personal computers have become faster and acquired more memory, and as other languages have become available, it seemed that the time had come to investigate some of them. For the past few months I have been looking into the use of Pascal on the IBM-PC, and would like to share some of my thoughts with you.

First of all, it is necessary that you understand a very important difference between BASIC and Pascal. Basic, as it is purchased for most machines, is an "interpreted" language and Pascal is a "compiled" language.

With an interpreted language, a programmer need only type the program into the computer, and give the command for the program to run. An interpreter then looks at the first statement, checks to be sure it makes sense, translates it into code that is recognizable to the machine, and then executes it. This procedure continues until the program is completed.

If the statement doesn't make sense, a message will appear on the screen telling the user that he has an incorrect statement and the program halts. The user can make the correction and restart the program.

So far so good, but how does this differ from Pascal? Well, when you are through writing your Pascal program you type in a command calling the compiler. This compiler takes your entire program and attempts to translate it into a machine recognizable form. When the translation is complete, you may then run the program. On the IBM-PC compilation of even a relatively small program can take as long as a few minutes. If there are errors, the program may, of course, not compile.

The important thing to remember here is that as soon as you write your BASIC program you can make an attempt at running it. Pascal requires that you compile your program. When writing a new Pascal program you may very well attempt numerous compilations before you are in a position to try to run it. This can get very frustrating and may very well cause you to begin to feel the urge to fold, spindle, or otherwise mutilate your disk—or maybe even the computer itself.

In general, a correctly written compiled program will run noticeably faster than an interpreted program but, when you are actually doing the writing, it is more productive to be using an interpreted language.

So, why Pascal? Well, if you are writing a program that you very well know might be used once or twice at most, then you clearly don't want to use Pascal. You may spend too much time trying to compile it. If, on the other hand, you were asked to write a program that will probably be used for years and will, of course, need to be maintained, then Pascal would be a good choice.

A few examples will illustrate my point. Suppose you were asked to write a program that would store in a personnel file the names and addresses of the people in your office. Suppose you want to allow 20 characters for the name, 14 for the address which could contain 4 digits for the street number and 10 for the street name, 10 characters for the city, 2 for the state, 5 for the ZIP code, and 7 for the phone number, for a total of 58 characters.

In BASIC, variable names can only be two characters long so you would probably use a string PE$ (for personnel) which would be 58 bytes long. Into this string you could place a NA$ for name, AD$ for address, SN$ for street name, CI$ for city, ST$ for state, ZI$ for ZIP and PH$ for phone. (BASIC requires a '$' in the names of character strings.) When you concatenate these strings, you get your record.

In this BASIC program you naturally would write some error-checking code to be sure that the user did not put in more than two characters for the state name, seven for the phone number, 10 for the city, etc.

Now, a year or two goes by and someone decides that the address should have room for at least 5 digits, the phone 10 digits (you want to show the area code), and the name 15 characters. You must go through your BASIC program and try to remember which variables you used for name, phone, etc. It may be obvious now that PH$ must stand for phone, but a year from now when you are asked to change the telephone number length, are you going to remember that TELEphone (TE$?) this year was phone (PH$) last year? Maybe not. What about PE$? What is the new field length?

Pascal will make it more difficult for you to confuse yourself. Pascal requires that all data types, such as the string of characters containing the name, phone, etc, be identified at the beginning of the program, and that all of your constants, data types, and variables be declared very specifically. The beginning of your Pascal program would look like this:

```
TYPE
  PERSONNEL =
    RECORD
      name: PACKED ARRAY[1..20] of char;
      number: PACKED ARRAY[1..4] of integer;
      street: PACKED ARRAY[1..10] of char;
      city: PACKED ARRAY[1..10] of char;
      state: PACKED ARRAY[1..2] of char;
      zip: PACKED ARRAY[1..5] of integer;
      phone: PACKED ARRAY[1..7] of integer
    END;
```

A BASIC string is a Pascal "PACKED ARRAY".

A year from now, if you wanted to allow 10 digits in the phone number...no problem, you simply go to the TYPE declaration, look up "phone" and change the PACKED ARRAY from 7 to 10.

OK, so Pascal does seem to allow easier maintenance of data; what else? Pascal allows a program to be broken up into separate procedures. These individual procedures could each be programmed to do one simple task. A driver program would then sequentially call the procedures. For example, in the above program, the driver might look like this:

```
PROGRAM info;

TYPE
  PERSONNEL =
    RECORD
      name: PACKED ARRAY[1..20] of char;
      number: PACKED ARRAY[1..4] of integer;
      street: PACKED ARRAY[1..10] of char;
      city: PACKED ARRAY[1..10] of char;
      state: PACKED ARRAY[1..2] of char;
      zip: PACKED ARRAY[1..5] of integer;
      phone: PACKED ARRAY[1..7] of integer
    END;

BEGIN;
  get_name;
  get_address;
  get_phone
END.
```

The procedure get_name would prompt the user to type in the person's name and would then store it in the PACKED ARRAY 'name'. The other procedures would do similar small tasks.
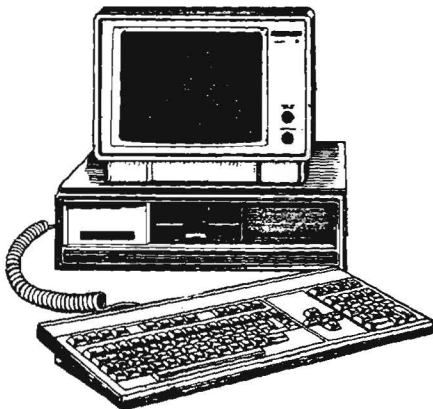
That's it! If next year someone decides that information as to marital status is needed, you could add a new procedure "status", which would prompt the user with a yes/no question as to whether or not the individual is married. Into your RECORD area you could insert "status: boolean". No problem.

In BASIC you would have to figure out a location in your program to insert the status information. What variables do you use? ST$ sounds good--or did you use that for state? You had better be careful. If you were writing in BASIC you didn't declare your variables anywhere; you simply started using them. In contrast, the variable names in Pascal can be meaningful and the ones used in the procedure get_phone, for example, do not affect the ones in get_address. You can use the same names if you want.

Pascal is not very forgiving. You MUST introduce all of your variables, constants, etc. at the beginning of the program. BASIC does not require this and unless a user is very careful with his error-checking, he can more easily insert incorrect data into a BASIC program than he could into a Pascal one; or a programmer might use the same variable name for two different variables. BASIC will easily allow this.

Pascal tends to be self-documenting. The individual procedures are generally quite short with the procedure and variable names very meaningful. Some versions of BASIC do allow variables of more that 2 characters but only the first 2 are recognized by the interpreter; therefore STate and STatus would be identical variables to the machine. So, the get_address procedure might put MD for Maryland in the variable that you are calling State and then the Status procedure might modify that exact same variable to 'yes' or 'no'.

This could put the programmer into a bewildered status, or a state of confusion.

It is for the above reasons that those of you who are using personal computers should consider using Pascal.

Remember, you do not want to become mentally mutilated!

REDBARON, ROADRUNNER, & BRONZ STAR:

WHAT'S IN A NAME? (U)

by [   ] T3
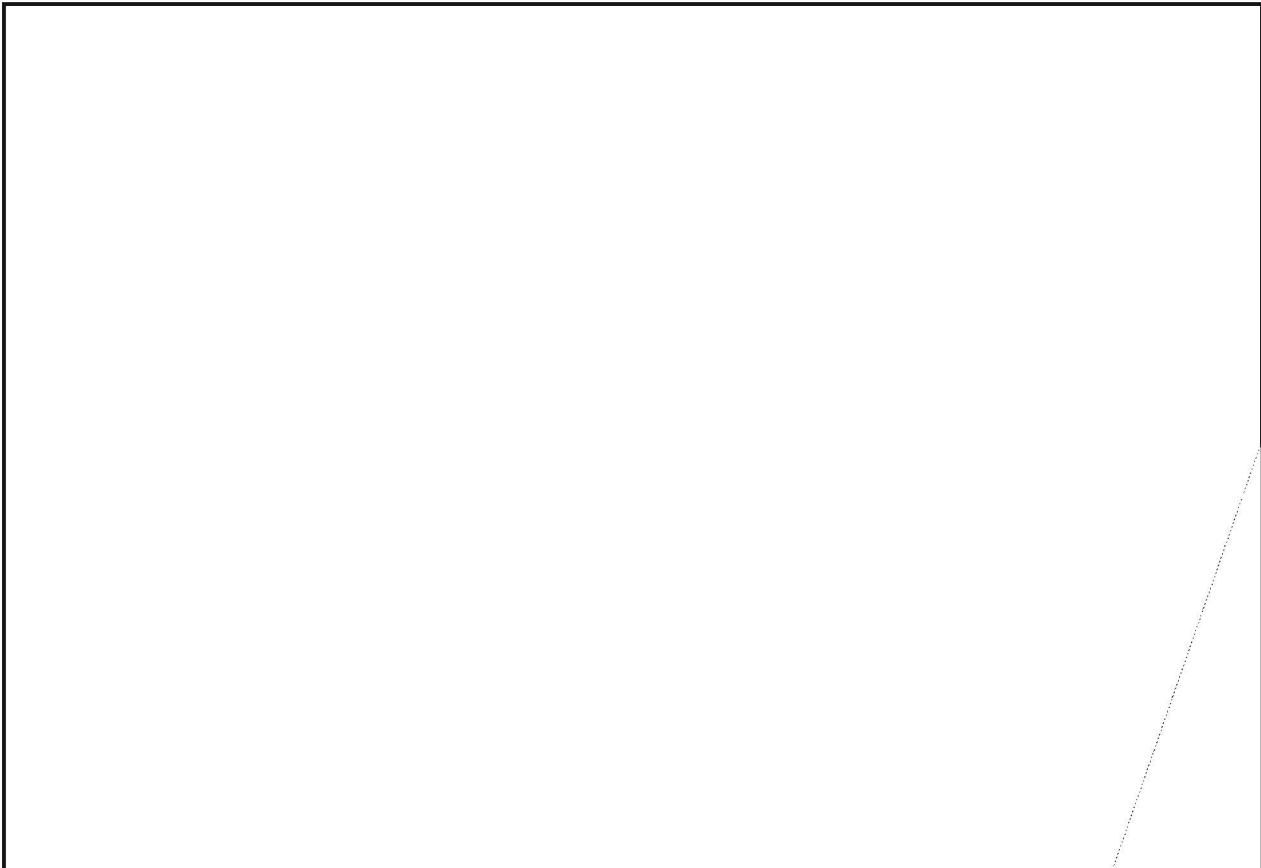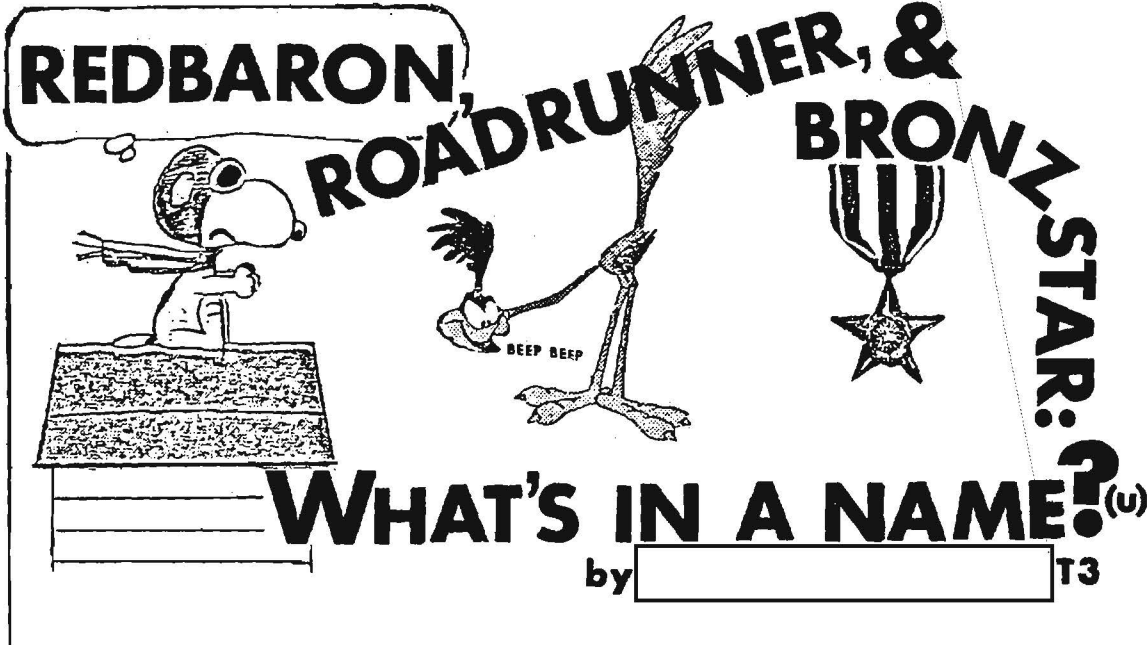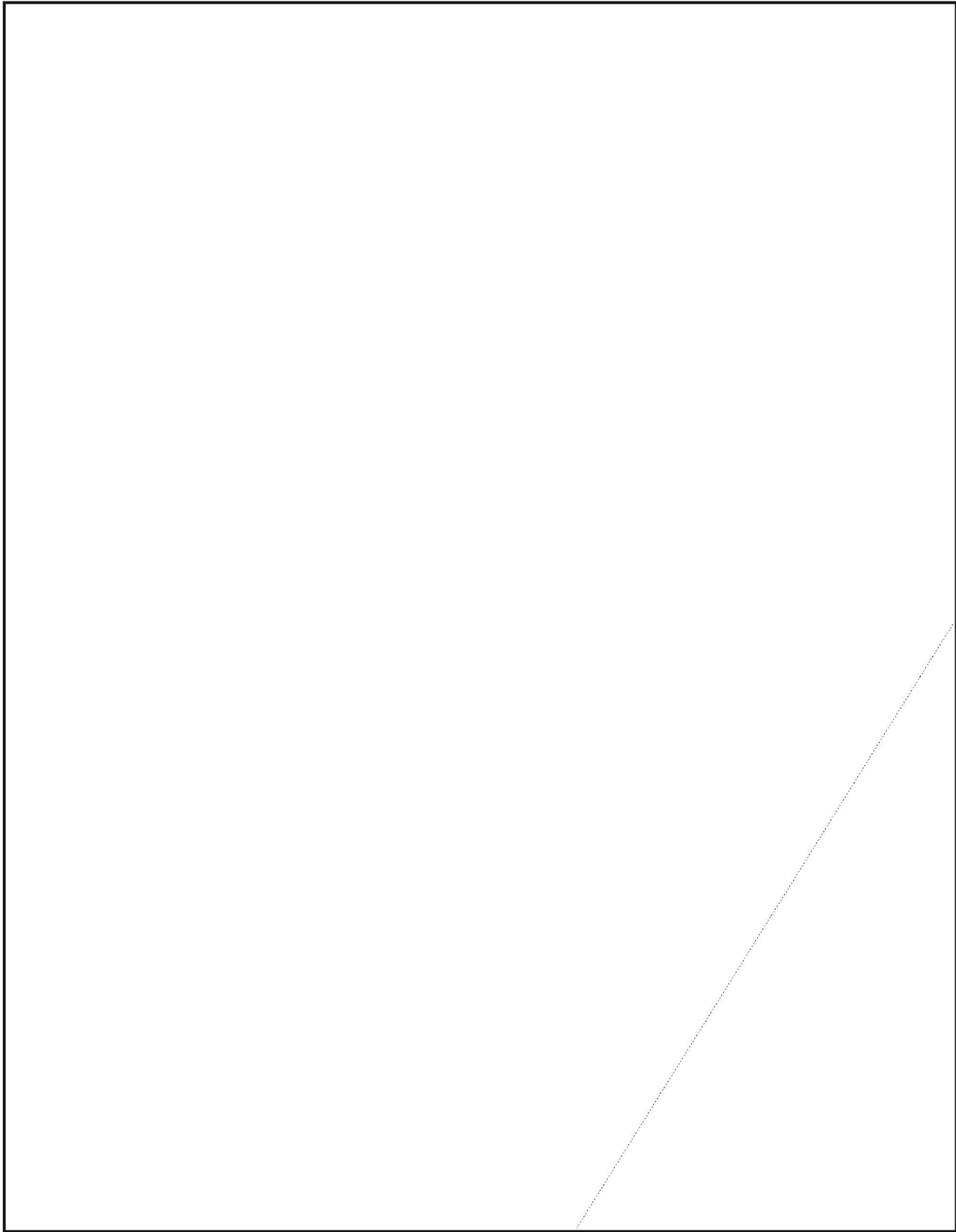
P.L. 86-36
EO 1.4.(c)

P.L. 86-36
EO 1.4.(c)
EO 1.4.(d)

Correspondence

Dear Sir:

I was particularly interested in the ☐ article on Video Teleconferencing in the March 1983 issue. I believe we would be totally remiss in limiting the justification for such a system on teleconferencing alone. Requirements for training at field locations around the world are growing at a rapid pace and the NCS budget for travel is growing accordingly. It is therefore apparent to me that a dual-purpose system is needed.

Our experience with the Instructional Television System (ITV) has proven that the technique is extremely effective. Agency student participants, when surveyed on their reaction to the system, have been extremely positive in their responses. We did experience minor procedural problems during the early stages of our involvement but these seem to have been corrected.

I would therefore propose that the justification for a worldwide video teleconferencing system be beefed up with the addition of ITV. It seems to me that it would provide us with a much bigger bang for the buck.

Dean, E4

DO YOU KNOW THE DIFFERENCES? (U)

| SCI |
| SI |
| SIGINT |

P.L. 86-36

by [   ] C223

(U) Sensitivity markings, including Compartment/Category and Classification/Caveat labels, often seem to be confused with one another, as well as with the slew of acronyms and buzz words that proliferate in the everyday jargon here at the National Security Agency. Some of this confusion, such as the confusion between SI (Special Intelligence) and SCI (Special Compartmented Information) for example, does not necessarily pose an enormous problem for most NSA employees since many jobs here do not require a knowledge of the distinction between these particular abbreviations. For the employees of the newly established DoD Computer Security Center (DoDCSC), however, such distinctions are not trivial.

(U) Specifically, the C2 organization (Office of Applications Systems Evaluations within the DoDCSC) is directly involved with the formal evaluations of both operational and developmental computer systems, inside and outside the NSA environment. The C21 division is responsible for providing ADP security guidance during the development of systems, while C22 evaluates systems that are about to become operational or are already fully operational.

(C) Generally speaking, computer processing systems are evaluated in different ways depending on the users and the types of information that pass through the system during its operational existence. Typically, any intelligence processing system may be described as operating in one of several modes, as defined by the Director of Central Intelligence Directive (DCID) Security Policy on Intelligence Information in Automated Systems and Networks (formerly DCID 1/16), which establishes policy for computer security in the Intelligence Community. The most stringent category of ADP security is that of Compartmented Mode.

SCI may be processed and/or stored in an ADP system operating in the Compartmented Mode; that is, the system is processing two or more types of SCI, or any one type of SCI with other than SCI, and system access is secured to at least the TOP SECRET level, but all system users need not necessarily be formally authorized access to all types of SCI being processed and/or stored in the system.
(p. 5, paragraph II.2.C(1))

(U) A recent C22 evaluation dealt with a computer system that is considering placing GAMMA-controlled information in an existing system data base. Thus, GAMMA had to be defined using the terms that were thought to be appropriate so that the system in question could be properly mapped into one of the

Special Access Programs[1]   Cryptologic Information

SCI   SIGINT[2]   COMSEC
(Sensitive Compartmented Information)   (SIGnals INTelligence)

... TK   B   COMINT/SI[3]   ELINT   FIS
                      (Special Intelligence)

EO 1.4.(c)
P.L. 86-36

Category III[4]   Category II[5]   Subcategory II(X)[6]   Category I[7]
┌─────────────┐   ┌─────────────┐   ┌──────────┐   ┌─────────────┐
│ TOP SECRET │   │ TOP SECRET │   │ SECRET │   │ TOP SECRET │
│─────────────│   │   SECRET   │   │──────────│   │   SECRET   │
│   UMBRA   │   │─────────────│   │ MORAY   │   │ CONFIDENTIAL│
└─────────────┘   │   SPOKE   │   └──────────┘   └─────────────┘
                  └─────────────┘   (compartmentation
                                                            not required)

Special Series COMINT[8]   Very Restricted Knowledge System[9]
┌──────┐ GAMMA ┌──────┐   VRKs
└──────┘   └──────┘   (excludes product)
   (product)

1. Reference EO 12356, Section 4.2
2. Reference SISR Volume I Section I
3. Reference SISR Volume 1
4. Reference SISR Volume I, Section II, Part I (2.a.) & USSID 3, Annex A, Appendix 1
5. Reference SISR Volume I, Section II, Part I (2.b.) & USSID 3, Annex A, Appendix 2
6. Reference SISR Volume I, Section II, Part I (2.c.) & USSID 3, Annex A, Appendix 3
7. Reference SISR Volume I, Section II, Part I (2.d.) & USSID 3, Annex A, Appendix 4
8. Reference SISR Volume I, Section II, Part I (3.) & USSID 3, Annex E
9. Reference USSID 16

several modes of operation defined in the DCID. Unfortunately, it was surprisingly difficult to determine whether GAMMA was an SCI Compartment, a VRK, a special handling caveat, or something else. As it turns out, I was asked to find out what formal relationship GAMMA has to the information hierarchy within the Intelligence Community.

(C) The attached diagram represents a picture of the various levels of information within the Intelligence Community. Elements that lie directly beneath a higher-order element and that are connected by a horizontal line may be considered subsets of the higher-order element (i.e., TK, B, and COMINT/SI are all information subsets of SCI). No attempt has been made to show any of the subelements under SCI or SIGINT, except for the COMINT/SI subelement, which has been expanded out of necessity.

(U) Probably the most confused abbreviations that are used regularly at NSA include SI, SCI, and SIGINT. Consequently, these are the only ones expanded on the chart.

(U) The term SCI explicitly includes all Sensitive Compartmented Information on an Intelligence Communitywide basis. SIGINT (SIGnals INTelligence), since it is not a subset or a type of SCI, is not a Compartment. On the other hand, SI is an SCI Compartment, and yet it is also a formal subset element of SIGINT. This is why there are two horizontal lines attached to the COMINT/SI information element.

(U) COMINT and SI are the same; that is, SI is synonymous with COMINT. Apparently, the term SI has been used in the past as an unclassified way of designating COMINT activity. Now, since the word COMINT has been declassified, the term SI is somewhat obsolete. Most of the confusion surrounding SI probably stems from its past use in two entirely different contexts. In the first context, SI has been commonly used, although incorrectly, as a broad way of designating all Compartmented Information (i.e., SCI). In the second context, SI has been used (correctly) as a cover term to designate specifically the SCI Compartment COMINT. At any rate, SI stands for Special Intelligence—not Sensitive Information or Signals Intelligence. Since SI is technically a Compartment, it resides within SCI; note, however, that SI is also an information subset within SIGINT that is not in and of itself a formal Compartment or type of SCI.

(C-CCO) The specific C22 evaluation that triggered this clarification project in the first place determined that GAMMA is an information subset within the Special Series COMINT element located hierarchically beneath COMINT Category III. COMINT is the Compartment and GAMMA is presumably a Special Series Compartment, or subcompartment, if you will. This distinction raises several interesting questions:

[] Should computer systems already processing Compartmented information (COMINT material, for example) be required to meet higher computer security specifications if substantially more sensitive information from within the same Compartment (e.g., GAMMA-controlled information) is placed on the system, while all users are not authorized access to the Subcompartmented information?

[] Are the controls that SCI Compartments are currently required to meet necessarily sufficient for all subcompartmented information contained within these Compartments? In other words, are the regulatory computer security controls restricting everyday COMINT access, by definition, refined enough to correctly handle the substantially more sensitive GAMMA information retrieval process?

[] Should not subcompartmented information elements require stricter computer security controls than their parent Compartments?

Hopefully so. Unfortunately, the pertinent DCID's most stringent set of computer security controls is not only in a broad and general policy format, but also stops at the SCI Compartment level. Perhaps, several layers of detailed regulatory controls should be incorporated to cover all types of highly restricted material, including all levels of Subcompartmented information.

(U) It would be great if NSAers talked the same language by using the appropriate acronyms, abbreviations, and other sensitivity terms precisely. Being a recent college hire, I know how overwhelming the multitude of acronyms, Compartments, Classification/Caveat markings, and other assorted sensitivity handling labels can be—especially to new employees. Hopefully, this article will lead to the necessary actions to make clearer language possible at NSA. Any corrections, comments, or other useful information pertaining to this subject will be greatly appreciated. I can be reached via PLATFORM mail ("rankin @ cayley" or "rankin @ gandalf") or on secure extension 968-8584.

Some Tips on
Getting Promoted

P.L. 86-36

ver the nine-year history of Crypto-
log, one article stands out as the
most popular: Some Tips On Getting
Promoted, by [   ] pub-
lished in December 1978. Many hun-
dreds of copies of the article have been given
out, and requests continue to come in.

Because of the article's continued popular-
ity, and because our supplies of reprints were
exhausted, we went back to the author and sug-
gested that we rerun the article along with
any necessary changes and she has graciously
consented.

The article was written as a result of the
author's experience as a member of the 1978
NSA Grade 14 Promotion Board. In 1980 she was
Chairman, with vote, of the NSA Grade 15 Pro-
motion Board. For the last two years, she has
been a member of the Advisory Panel on Execu-
tive Development, which has selected members
for the Senior Cryptologic Executive Develop-
ment Program (SCEDP). Both groups use the
employee's promotion file as an important
document to study during the selection pro-
cess. And one of the major items in that file
is the Personnel Summary.

The author documents how important the Per-
sonnel Summary was, and still is, to the pro-
motion process at NSA. Because so few NSA
employees seem to understand this, judging by
the state of their Personnel Summaries, this
article is as valid today as it was then. It
is not exaggerating to say that your Personnel
Summary is critical to your professional life
at NSA.

The original article is being reprinted
here intact. Footnotes have been used to make
the few changes necessary to ensure currency
and accuracy.

This article reminds you that it is your
responsibility to write your Personnel Summary
and keep it up to date. It also gives some
guidance to help you do it. I hope you will
read and heed its message.

Editor

P.L. 86-36

	S14
12. PUBLICATIONS *(List titles; do not confuse this with reports prepared as a regular part of the job)*	DATE

SOME TIPS ON GETTING PROMOTED

Article based on talk given in April 1978 to WIN (Women in NSA)

CRYPTOLOG,
Dec 1978

Promotion. The word inevitably stirs response of some kind in every red-blooded NSA employee: hope, pleasure, challenge; despair, frustration, disappointment; even inertia, resentment, resignation. Despite disparate views on promotion, most people share -- openly or secretly -- a common desire to be promoted. And many also share, I think, a common lack of understanding about the promotion process here at NSA and a lack of knowledge about the part they play in it.

(1) This article mainly addresses promotions to grades 13 through 15 and discusses two subjects which are fundamental to those promotions -- Personnel Summaries and Promotion Files. Both are critically important to you, the employee, because they are critically important to the promotion process here at NSA. Witness these two points:

- *your Promotion File represents you to a promotion board,* and
- *you personally write only one document in that file -- your Personnel Summary.*

Promotion Files described in this article are the ones regularly kept only for people of grades 12 through 14, for use by the three NSA-wide Boards that handle promotions for grades 13 through 15. These Promotion Files are described in the final section of this article. Promotions below grade 13 are handled by local organizations whose practices vary on maintenance of personnel files and their use in the promotion process.

Personnel Summaries, on the other hand, are important to everyone, regardless of grade. For grades 12 through 14, the formal promotion process requires that every Promotion File, hence *every* Personnel Summary, be reviewed during every promotion cycle. For grades up through 12, some local promotion boards use them as well. I recently chaired a local promotion board in my parent organization, S1, (2) and we routinely reviewed Personnel Summaries of grades 2 through 11 each time we met. Personnel Summaries have still other uses: for overseas assignments; for transferring to a new job; for some types of training. Whenever, in fact, official information on you and your career is needed, the Personnel Summary may be used. The first and major part of this article presents tips on how you should write your all-important Personnel Summary.

The ideas in this article are my own. I am not an expert on personnel matters and do not mean to appear to be. Though I am currently serving on the Agency Grade 14 Promotion Board, (3) my experience there has simply confirmed long-held impressions and reinforced my belief about the critical importance of the two topics covered in this article.

Personnel Summaries

Many consider Personnel Summaries to be the bane of their existence. Some don't take them seriously. Others fill them out casually. And most of us write them because we're forced to. Whatever you feel about Personnel Summaries, you should recognize why a Personnel Summary is important, who is responsible for filling it out, when it should be filed, and how to get it filed.

Why Important?

Why is your Personnel Summary important? Because it is an essential document in your Promotion File, the one that describes your complete NSA life: your jobs, your accomplishments, your training, your awards. It is no secret what things are deemed desirable for promotion. The information you provide in your Personnel Summary constitutes a list of the very things judged important when selecting people for promotion, *to any grade.* Your Promotion File represents you to the Board; it is one of the most important sources of information about you available to them. Board members cannot be expected to have personal knowledge of you in a large Agency like NSA. True, if you are fortunate enough to be nominated for promotion, then a written recommendation about your accomplishments and qualifications is included in your Promotion File. Otherwise, *your Personnel Summary is it!* Since every Promotion File contains one and you write it, it is your chance to describe what you have done. No one knows it better. And if you do not say it, it may not get said at all.

Who Is Responsible?

Who is responsible for your Personnel Summary? *You are!* You are responsible for filling it out initially (within 90 days after promotion to grade 12 through 14) and then for updating it. Do not expect your office to remind you. It is your responsibility. Though Personnel Summaries are not required for them, I also urge people in grades *below 12* to fill out Personnel Summaries and to update them periodically. Get into the habit now, for it is easier to do it routinely and gradually than suddenly in one big lump when you do become a 12. Also, I think it shows supervisors that

you are a person of initiative with serious career intentions.

When to File

As I mentioned in the previous paragraph, you are required to update your Personnel Summary within 90 days after promotion to grades 12 through 14. I recommend you also do it whenever a major event occurs, such as when you: transfer to a new organization or job; become a supervisor or assume major new duties; receive a major award, professional certification, or educational degree. Otherwise, plan to do it annually, in synchrony with the promotion board cycles. Currently the grade 13 Board meets four times a year; the grade 14 and 15 Boards meet twice. If your updated Personnel Summary is *in your file* by 1 January or 1 July, you will satisfy all Boards. (Since Promotion Boards are appointed for a calendar year, I recommend January.) I simplify updating my own Summary by following a practice I use to keep track of income tax deductions: whenever anything of importance occurs, I jot it down on a slip of paper with the date and stick the paper into a file. When the time comes to update, I have all the information at hand and the job is nearly done.

Tips on How to Write a Personnel Summary

The following paragraphs describe ways to write a Personnel Summary. These are my personal ideas, and some people -- even you -- may not agree with them. So be it. But I hope to stimulate you to think seriously about Personnel Summaries and to try to help you to write a better one. My aim is to give you a start and hope that you will take it from there.

My best general advice is to be succinct. Say what you have to say briefly, concisely and clearly. Do not write the Great American Novel and ramble on for 20 pages. On the other hand, avoid being too brief and selling yourself short. (I am surprised at the number of people who write one-liners!) Do not try to upstage Agatha Christie and write a mystery story, but avoid too much excruciating detail. Write your Personnel Summary so that a busy person, who is reading hundreds of Promotion Files, can understand and appreciate it quickly and, you hope, be impressed enough to single out your file for special consideration.

Personnel Summaries are written on Form P3267 (REV Feb 76)*which is available in your office or from the NSA Supply Room. The first page contains seven items. Fig. 1 shows the first four:

④

AS OF (date)	1. NAME (as it appears on official records) (Last, all capital letters)		(first)	(middle)
Dec 1978	Smith		Jane	Anne

2. EMPLOYEE IDENTIFICATION (SSN)	3. CRYPTOLOGIC SERVICE MILITARY (i.e., ASA, AFSS, NSG, NSA) (years)	(months)	CIVILIAN (years)	(months)	4. TOTAL FEDERAL SERVICE	
123-45-6789	3	2	12	9	15 yrs 11 mos	

Fig. 1

The "As of" date should never be over a year old. Some files contain Personnel Summaries so ancient that the paper has turned yellow! An out-of-date summary raises some rather unflattering -- to you -- questions in the mind of the reader. Are you lazy? Are you so disorganized you cannot remember to update it? Don't you care?

One sees many Personnel Summaries with only the dates changed -- the correction tape over the date is obvious in the reproduced copy. This is often done, and rightly so, to save retyping when there are no major changes to report. But what if there *are* important changes in your job and you don't record them? Look below at Item 6, "Experience" (Fig. 2), taken from a *supposedly* current Personnel Summary:

6. NSA/CSS OR SCA CIVILIAN EXPERIENCE					
TITLE	GRADE	DATE OF ACTION	AGENCY	ORGANIZATION
A. CURRENT ASSIGNMENT (Functional/Job Title, e.g., Chief, Data Storage Equipment Division; if none, use job title reflected on 3150 or SF 50) Traffic Analyst	12	Jan 1976		B111
B. TITLE OF LAST PROMOTION Traffic Analyst	12	Apr 1970		B9
C. INITIAL ASSIGNMENT Analyst	5	Jun 1958		ALLO

Fig. 2

To the eye, Item 6 in Fig. 2 looks fine. However, this person is no longer a Traffic Analyst in B111. He has transferred to a new job -- a supervisory one -- and he is now Chief, Processing and Analysis Division, X35. *But how is the Board to know?* The problem is magnified if this person is nominated for promotion. The documentation that accompanies the nomination describes the person's *current* job, with the result that the two documents -- the nomination and the Personnel Summary -- do not match. How does that look to a Board?

Again, what does it say about you and your sense of responsibility?

When listing your current job title in Item 6, be sure to use the *functional* job title if you have one. For example: D/Chief, Data Storage Division; Project Manager for XXXX; Russian Language Instructor. Otherwise, use job titles as shown on the form.

Now let's go back to Item 5, your educational record (Fig. 3):

5. EDUCATION *(List most recent first)*			
SCHOOL *(Include Joint or Senior Service Colleges: also, any substantial work done toward a degree, but for which no degree was awarded)*	DEGREE	MAJOR FIELD	DATES *(If great upon of time involved, indicate reason, e.g. (Night))*
University of Maryland	MA (20 credits)	International Relations	1976-78 Nights
Armed Forces Staff College	Diploma	--	1975
University of Maryland (Cum Laude, Phi Beta Kappa, Honors in History)	BA	History and Political Science	1971-1973
Anne Arundel Community College	Assoc.	History	1960-71
Bowie High School	Diploma	College Prep	1969

Fig. 3

List these in reverse chronological order, with the most recent first. Include all education for which you earned a degree and use "Diploma" to indicate completion of a joint or service school. Also include substantial work toward another degree. If any of these took extended time, indicate why (as "Nights"). And I suggest you state any graduation honors here, to highlight them.

Item 7, "Commendations and Awards," should also be in reverse chronological order. Fig. 4 shows some examples of the kinds of things to include.

7. COMMENDATIONS AND AWARDS *(e.g. Meritorious Civilian Service Awards, Outstanding Performance Appraisals, Letters of Commendation from Chiefs of major organizations or higher) (List most recent first)*	DATE
Letter of Appreciation, Chief A	1978
Level 7 Performance Rating	1977
Outstanding Performance Ratings	1975, 73, 69
QSI	1974
SSWP	1968
Meritorious Civilian Service Award	1965
NCS Teacher of the Year	1960
First Prize, CLA Essay Contest	1959
NSA Scholarship	1958

Fig. 4

⑤

Include Letters of Appreciation only if they are from an Office Chief or higher (for grades below 12 I think this rule may be relaxed) and be sure that copies of such letters are in your Promotion File. List level-7 performance ratings, but not level-6. Also list any special Agency awards or scholarships you may have received. Professionalization certifications belong in Item 16, and extra-

curricular activities should be entered in Item 14 -- do not include them here.

Page 2 of Form P3267 contains two items. At the top, Item 8 provides space for summarizing your "Current Assignment" (Fig. 5). Begin this paragraph by giving your functional job title, the name of your immediate organization, date of appointment, and names of ascending key organizations.

8. SUMMARY OF CURRENT ASSIGNMENT

D/Chief, Support Staff (213), Office of Facilities (21), Computer Services Organization (2).

Since April 1973 Mrs. Jones has been responsible for managing. . .

Fig. 5

Then list your major responsibilities, following these recommendations:

- Use narrative style (not outline form),
- Use complete sentences,
- Use third-person forms (not "I was responsible for...," but "Mrs. Jones was responsible for...")

Note that your supervisor's signature is required in Item 8 as verification.

Item 9, at the bottom of page 2, is the "Summary of All Previous Civilian and Military Service of a Cryptologic Nature." This is probably the most difficult part of the form to fill out. The longer your career, the more you have to tell about. If there is not enough space provided in Item 9 to hold all the information requested, you should use as many additional plain sheets as necessary, labeling each with your name, SSN, and page number.

This is likely to be the longest section, so it is important to try to make it clear and readable. You do not have to be an accomplished writer or even to have any special writing skill. Just be direct, factual, and as concise as possible. Follow instructions given above for Item 8 (use narrative style, complete sentences, third-person forms). In addition, follow these suggestions:

- Use *chronological* order ("Begin with oldest assignment and end with most recent"). Note that this is *not* "reverse chronological order," as in some of the other items;
- Use one paragraph per job;
- Start paragraph with vital information: dates, functional job title, immediate organization and up;
- Identify organizations, projects, systems, etc.

Notice that I said to identify "organizations, projects, systems, etc." Otherwise, you end up writing a mystery story, like this one:

"From August 1960 to January 1964, Mr. Smith was Chief of A13 where he was responsible for managing all aspects of Project SUCHNSUCH. He also provided technical assistance to several important systems under study by another division: XYZQ and ABCJ."

The only really clear thing in this paragraph is the date! Who remembers what A13 was in the early 1960s? What in heaven's name was SUCHNSUCH? What were systems "XYZQ and ABCJ"? And so on! How much clearer, and how much more professional if this had been written instead (Fig. 6a):

---

9. SUMMARY OF ALL PREVIOUS CIVILIAN AND MILITARY SERVICE OF A CRYPTOLOGIC NATURE (List in chronological order - begin with oldest assignment and end with most recent; indicate location, functional/job title and dates)

From August 1960 to January 1964, Mr. Smith was Chief of the Nonesuch Reporting Division (A13) in the Office of Overall Reporting (A1) in the General Analysis and Reporting Group (A). He was responsible for managing all aspects of Project SUCHNSUCH (full-text automation of Nonesuch reports) and provided technical assistance to several important systems under study by another division: XYZQ (system for automating. . .) and ABCJ (system for . . .).

Fig. 6a

If you wish, you may use a space-saving format, with an offset header (for dates, jobs, and organizations) followed by a colon and a list, as in Fig. 6b:

---

9. SUMMARY OF ALL PREVIOUS CIVILIAN AND MILITARY SERVICE OF A CRYPTOLOGIC NATURE (List in chronological order - begin with oldest assignment and end with most recent; indicate location, functional/job title and dates)

August 1960 to January 1964
Chief, Nonesuch Reporting Division (A13), Office of Overall Reporting (A1), General Analysis and Reporting Group (A):

Mr. Smith was responsible for managing: SUCHNSUCH (full-text automation of Nonesuch reports), all reporting on . . ., and providing technical assistance to another division on several important systems, such as XYZQ (system for automating . . .) and ABCJ (system for . . .).

Fig. 6b

These may seem like small things to you, but they have a big impact on improving the readability of your Personnel Summary. You do want people to read it, don't you? As the final test, I recommend that you ask a friend to read your Personnel Summary critically to

December 78 * CRYPTOLOG * Page 16

see if it is indeed clear and to the point. Preferably that friend should pretend that you are *not* a friend, but a complete stranger who wants to know everything about you. Does your Personnel Summary present you as a clear-writing (and, presumably, clear-thinking), forceful, direct person, or as an imprecise, vague person carrying out "various" unexplained duties? Rewrite your Summary, and especially Item 9, until anyone who reads it -- not just your friends who have known you for years -- can get a clear picture of what you have done and why you are promotable.

Page 3 of the form contains four items, the top three of which are often ignored -- or so it seems when they are so frequently left blank: "Field Assignments," "Related Experi-

ence" and "Publications." If you have pertinent information on any of these, put it in.

For Item 10, "Field Assignments". (Fig. 7), be sure to give both the organizational and functional titles and the inclusive dates. These items are in *reverse* chronologcal order. Incidentally, regular updating of Personnel Summaries seems to be a special problem for people assigned to the field. Their Personnel Summaries are rarely updated while they are away from Fort Meade/FANX and consequently the promotion boards often have no knowledge whatever about what the person is doing during an important 2- or 3-year period. I urge people to file yearly updated Personnel Summaries while they are on field assignments.

10. CRYPTOLOGIC COMMUNITY FIELD ASSIGNMENTS (CONUS and Overseas) (List most recent first)			
ORGANIZATION	LOCATION	FUNCTIONAL/JOB TITLE	DATES
F06	Timbuck	Station Chief	1975-78
F99	Eden	Engineer	1969-72
F17	Nowhere	Analyst	1965 (Jan-Mar)

Fig. 7

For Item 11, "Other Civilian/Military Experience" (Fig. 8), include those things that show you possess skills that may apply to your NSA job, such as teaching, managing, and organizing. These are also in reverse chronological order. For example:

11. OTHER CIVILIAN/MILITARY EXPERIENCE WHICH MAY BE RELATED TO AN NSA/CSS OR SCA POSITION			
ORGANIZATION	LOCATION	FUNCTIONAL/JOB TITLE	DATES
Army Reserve	Ft. Meade, Md.	Platoon Leader	1971 to present
G.W. Univ.	Washington, D. C.	Lecturer in Computer Science	1968-1970
Summer Camp	Arlington, Va.	Director	1965

Fig. 8

Item 12 is "Publications" (Fig. 9). I am disappointed that so few files list any publications. Since publications *are* included in the Personnel Summary, NSA must consider writing to be an important skill. Managers, for example, spend a lot of time writing. And good writing comes from practice. Fortunately for us, NSA offers many opportunities to publish. If you have been looking for places to express your views, here they are:

(6)

*NSA Technical Journal**
*Cryptologic Spectrum**

CRYPTOLOG

(7)

*Field Information Letter**

Essay Contests (Learned Organizations --
   CMI, CLA, CAA)
CISI Spring Conference
Cryptologic History Series
NCS courses
Informal Agency newsletters such as
   SOLIS Newsletter and the previously
   published *Bits and Bytes, Dragon Seeds,
   Keyword, Quarterly Review for Linguists.*

The editors of all these publications welcome your contributions. Try to have some published works and major reports (though not regular ones produced as part of your job) to list on your Personnel Summary. It just may help to attract attention to your File!

12. PUBLICATIONS (List titles; do not confuse this with reports prepared as a regular part of the job)	DATE
"Project SUCILNSUCH -- A Personal View" -- article based on talk given in April 1978 to Computer and Information Sciences Institute (CISI)	CRYPTOLOG, Dec 1978

Fig. 9

December 78 * CRYPTOLOG * Page 17

The next three sections, all part of Item 13 on the form, are meant to show "Highlights in the Area of Self Development" in your professional life -- past, present, and future. The format is the same for all three sections. Fig. 10 gives some examples for "A. Past." List here the things that are completed, such as past membership in professional societies and education not already listed in Item 5. Courses taken at NSA belong here. Follow the example and identify the courses by title and course number. In the rightmost column, you can indicate things like "Top student" or special honors. You can leave this column blank if nothing applies.

	SUBJECT/SOCIETY	PLACE	DATES (from - to)	DURATION OR LENGTH	DEGREE	SPECIALTY/ OFFICE HELD
A. PAST	Zeta Eta Eta (French Honorary	University	1965-68	--	--	President, 1967
	MS-111 (Briefing Skills)	NSA	1968	49 hrs	S	--
	MG-444 (Management Analysis	NSA	1971	120 hrs	A	Top student
	CMI	NSA	1971-present	--	--	Member

13. HIGHLIGHTS IN THE AREA OF SELF DEVELOPMENT: (Chronologically list all formal NSA/CSS/SCA, college level or technical courses (military or civilian) as well as membership in either NSA/CSS/SCA or external professional societies) (Exclude those for which a degree was subsequently awarded)

Fig. 10

The first two items on page 4, the last page of the form, are "B. Present" and "C. Future" highlights in your self-development (sections not reproduced here). These sections are to be filled out in the same manner as "A. Past." Future plans might include such things as your plans to attain another specified certification, change career fields, join a professional society.

Item 14, "Other Achievements" (Fig. 11), provides space for showing your self-development in your nonprofessional life. Many people leave this blank. If you do, I think you are missing a big opportunity to provide a rounded picture of yourself to the Promotion Board. If you are active in areas like those listed below, I encourage you to list them. Show by your non-job-related activities that you have other interests -- and other talents.

14. OTHER ACHIEVEMENTS (In brief, list all NSA/CSS/SCA affiliate endeavors, which are not necessarily a part of your assigned duties, i.e., Civilian Welfare Council, GEBA, NSA/CSS/SCA club, etc; Civic or Community efforts may be included)

ACTIVITY	INCLUSIVE DATES	CAPACITY IN WHICH SERVING/SERVED
NSA:		
Civilian Welfare Council	1967-1969	B Group representative
Credit Union	1970-1973	Member, Board of Governors
GEBA	1976-present	Member, Board of Directors
NSA Jazz Band	1970-present	Member
Travel Club	1972-present	Member; President, 1976-78
United Givers Fund Campaign	1977	Keyman, B Group
Community:		
Church, Scouts, recreational activities, civic associations, PTA	(Provide appropriate information)	

Fig. 11

Item 15 (not reproduced here) provides space for you to list your job-related or self-improvement "Reading Achievements" -- in-house publications, professional journals, foreign-language material. Please do not list your pleasure reading, especially not "Playboy." Board members have seen that one so often, they are weary of it!

"Professionalization" certifications are to be listed in Item 16 (Fig. 12). If you have more than one, be sure to list them all, with the dates awarded. If you are about to receive still another, note this in parentheses, as shown:

16. PROFESSIONALIZATION (List professional certification(s))

CERTIFICATION		CERTIFYING PANEL (S)
TITLE	DATE	
Cryptanalyst	12 Jun 1970	Cryptanalysis Career Panel
Education and Training Officer	1 Sep 1973	Education Career Panel
Traffic Analyst (Lack only Part 3 of PQE for certification -- scheduled to take test in Nov 77)		

Fig. 12

Finally, sign the form, date it, and affix the proper security classification. Take this last responsibility seriously and do it carefully, seeking help from experts if you need it. Underclassifying or overclassifying looks bad to a Board because Boards expect that by grade 12 you should know how to classify correctly or know where to find help.

(8) Instructions for filling out Personnel Summaries are contained in the *NSA Personnel Management Manual*, Chapter 302B (Jul 76),* which every major office has. Your own office will handle the filing of your Personnel Summary for you. It will reproduce multiple copies of it, some for retention in local organizational files, one for you, and (for grades 12 through 14), some for sending through channels to your Promotion File in M3.

Promotion Files

(9) Promotion Files are not to be confused with Personnel Files,* often called "201 Files." The Office of Personnel, specifically M3, maintains both. There is an official Personnel File for every NSA employee. It documents all formal activity in connection with your NSA life: hiring, performance appraisals, training, job or organizational changes, etc. There are official Promotion Files only for employees in grades 12 through 14. Local organizations often maintain abbreviated versions of the 201 File on all their employees (and some may also keep a Promotion File). Official Promotion Files are the files that are being discussed here -- the files used by the three Agency Promotion Boards when considering people for (10) promotion to grades 13 through 15.* I am going to tell you what should be in your Pro-

motion File, how you can make arrangements to see yours, and how you can update it.

Your Promotion File should contain:

- Personnel Summary (current within one year);
- Certification documentation (in the form of a computer printout or a letter from the certifying Panel);
- Recommendation for promotion from Key Component, if you are recommended. (Since Promotion Files are shown to you intact, with nothing removed, you can see the recommendation on you if there is one, or know you are not currently being recommended if there is not.)

In addition, your Promotion File should contain, *for your current grade only* (information from previous grades is purged):

- Performance appraisals;
- Inventory of Attributes (If you are a 12 or above, this is part of your official Performance Appraisal. However, you may never have seen it or even know it exists because, until recently, it was a private document and was generally not shown to employees. Nowadays the sheet is green but it used to be yellow, and many files (11) still contain copies of "yellow sheets").*

Fig. 13 shows the form for the Inventory of Attributes. Rating is on a scale of 00 through 99, and space is provided on the right for narrative comments. Like the information in a Personnel Summary, the items in the Inventory of Attributes

(24)	A. Innovativeness: Consider how well the individual provides problem solutions, shows ingenuity and creativity and pioneers in seeking new ways to complete work faster and more accurately.	
(25)	B. Effectiveness in working with people: Consider how well the individual meets and deals with others, his/her effectiveness in establishing and maintaining working relationships with peers, subordinates and supervisors.	
(26)	C. Drive and Initiative: Consider the extent to which the individual demonstrates attributes such as forcefulness, aggressiveness and enthusiasm.	
(27)	D. Personal Characteristics: Consider all personal characteristics as they affect the individual's job performance.	
Present (28)	E. Subject-matter knowledge: Consider the individual's depth and breath of knowledges and skills required at his/her present and next higher grade.	
Higher (29)		
(30)	F. Advancement potential: Consider how the individual compares with others for advancement to a position of greater responsibility and his/her overall capability for progression within the career field.	

Fig. 13

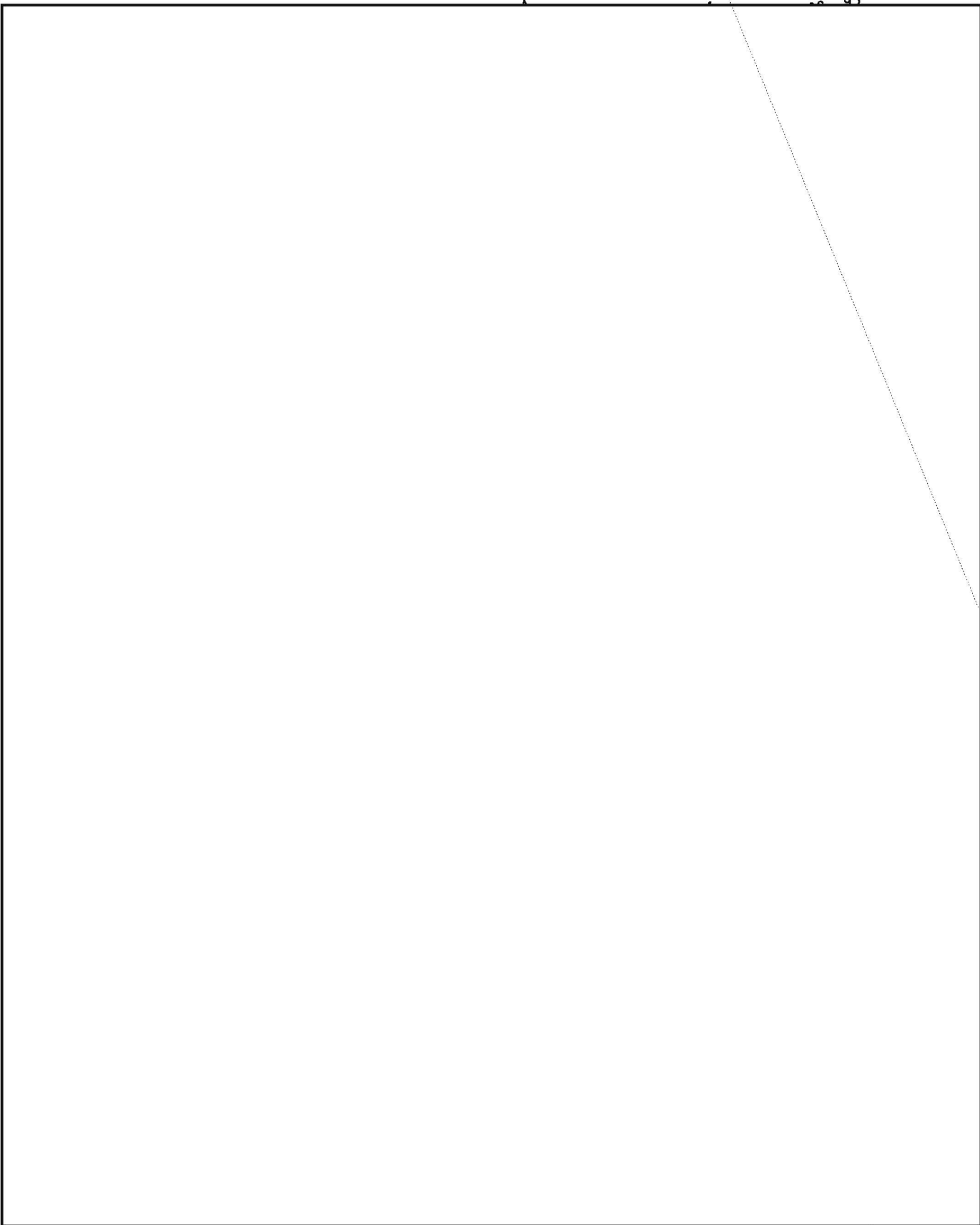P.L. 86-36

How I Almost Helped Win the

FALKLAND ISLANDS War (U)

by Pfc(Ret) [ ] P16

EO 1.4.(c)
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P.L. 86-36

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

EO 1.4.(c)
P.L. 86-36

TWO NEW LANGUAGE AIDS (U)

[ ]

[ ]   Chinese-English Glossary of Linguistic
Terms (U)
(work is UNCLASSIFIED and available in
hard copy and on microfiche)

(U) Agency employees who need either one
can secure a copy of the Chinese aid [ ]
[ ]   They're both in P16 and their phone
number is 963-1103s.

P.L. 86-36

P.L. 86-36

SOLUTION TO NSA-CROSTIC 47

Memorandum [to M36], by [ ]

"I have put considerable thought into the
Senior Technical Expert Program (STEP) since
we spoke last week.   The following ideas
differ hardly at all from those I espoused
then, but the clarity with which I can state
them may have improved."

Mr. Smith

I have been reading Cryptolog for a number
of years, but have had to get it by finding an
abandoned copy or out of a burn bag. Now that
I've switched organizations, I rarely see a
copy in either of the above-mentioned cate-
gories. Thus, could you please add my name to
your distribution list?

Thank you in advance

[ ]

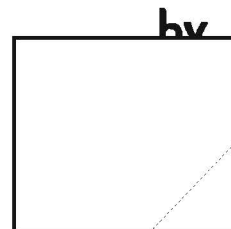P.L. 86-36

Human Factors

Punching the BIOLOGICAL Time Clock (U)

by

According to an article by Wray Herbert in Science News (Vol, 122, No. 5, July 31, 1982) it was 4 AM when the accident at the Three Mile Island power plant occurred and the employees on duty had just that day "rotated" shifts, switching from the day shift to the night shift. Poor human performance has since been implicated as a major cause of the accident. Abnormally high accident rates in other industries--trucking and Navy, for example--have also been linked to human error. And, increasingly, researchers have been looking to unnatural shift rotation as a possible cause of occupational mishaps.

Scientists have now applied some basic principles of circadian rhythm, the natural sleep-wake cycle, to the design of an actual industrial work schedule and have reported that a more natural rotation pattern improves worker satisfaction and health and also causes an improvement in job performance.

According to Charles A. Czeisler of Harvard University and the Boston-based Center for Design of Industrial Schedules, one in four American workers works something other than a standard day shift, and many of those who rotate shifts do so in a way that violates the natural timing of sleep and wakefulness. The workers at Great Salt Lake Minerals and Chemicals Corporation in Utah, the site of the experiment, had for 10 years rotated every week to the preceding shift--from days to nights to evenings to days, etc. With the cooperation of the company, Czeisler and his colleagues--Martin C. Moore-Ede of Harvard Medical School and Richard M. Coleman of Stanford Medical School--changed the schedules of 85 workers: 33 began rotating to a later shift every week and 52 rotated to a later shift every three weeks. The researchers compared the subjects to 68 non-rotating shift workers on measures of job satisfaction, health, personnel turnover, and productivity.

The results revealed that 70% of the workers preferred forward rotation; those who rotated weekly showed a 49% improvement in satisfaction, while those who rotated every three weeks showed an 87% improvement. The latter group also showed an improvement in health, though they still fell short of the controls. In addition, personnel turnover decreased and productivity increased 22 percent, a gain that was maintained nine months following the study. The company has since adopted the new rotation schedule for the entire plant.

The circadian principles underlying the schedule design are fairly simple, Czeisler said. Because the natural sleep-wake cycle, controlled by oscillations in deep body temperature, tends to run about 25 hours, the natural tendency is to go to sleep later and later. But most people have the capacity to adapt to a change of one or two hours a day (delay or advance) without becoming "desynchronized." In fact, people are constantly advancing their sleep by an hour a day to conform to the earth's 24-hour schedule. But when people rotate shifts, Czeisler said, the change in sleep cycle is too dramatic; the system becomes desynchronized and begins to "free-run," to drift forward on its natural 25-hour cycle until it is back on phase.

As long as the system is out of phase, the trough of the alertness cycle occurs during waking hours, explaining shift workers' complaints about exhaustion; the same desynchronization is the cause of jet lag. Because the internal 25-hour clock tends naturally to delay sleep, it is much easier to adapt to a shift rotation that requires sleep delay: a forward rotation. Backward rotation (like eastward jet travel) requires that sleep be advanced, which in turn forces the internal sleep-wake cycle to drift all the way around the clock to get back in phase, a process that, at an hour a day, may take a week or

more. Some workers, Czeisler said, complain of never adjusting to a new shift; even with forward rotation it requires a few days to become resynchronized, explaining why the 21-day schedule was more satisfactory and productive than the 7-day schedule.

According to Czeisler there is no single ideal schedule for all of industry, but it is essential that these basic physiological principles be considered in the design of any schedule that could interfere with sleep. The newly-formed Center for Design of Industrial Schedules, he said, will be examining regulations that involve work scheduling where safety is an issue--Federal Aviation Administration and Nuclear Regulatory Commission regulations, for example.

According to Charles Ehret, a biologist at Argonne National Laboratory in Illinois, FAA and NRC regulations currently pay no attention to circadian principles. Based on his own survey of the American power industry, he said that at least half the power plants were rotating their workers the wrong way, causing sleep deprivation and dangerous desynchronization. "We cannot pinpoint the circadian contribution to the accident at TMI or to any single maritime or aircraft accident," he said, "but there's no doubt that cognitive function, visual acuity, and psychometric performance are 'way, 'way down under these circumstances."

The reason I have devoted so much space to the text of this article is that it certainly has applications for NSA, where there are so many around-the-clock operations which necessitate shift rotation by their personnel. But, to the best of my knowledge, none of those 24-hour shops uses a forward-rotating shift schedule. Some time ago an NSA element did experiment with forward-rotating shifts. The new shift arrangement was not well received overall. Several organizations terminated the test after a three-month trial period. The main reasons for the dissatisfaction were:

[] the employees did not feel any better (despite prediction that they would), and

[] the new shift arrangement created one very short break, in contrast to a very long break under the old scheme.

Under the old shift rotation plan, there were two 72-hours breaks and one 48-hour break. The 48-hour break means coming in off a mid, sleeping during that day, and returning to work on days 48 hours later. The effect is just one day off. That short break was, at best, inconvenient and some workers complained that it did not provide adequate rest between

Based on an article in Human Factors Letter #1-83.

shift changes. It should also be noted that the shift rotation cycle in this experiment was every six days, not the three weeks recommended by the Science News article. Maybe we should give the longer cycles a try.
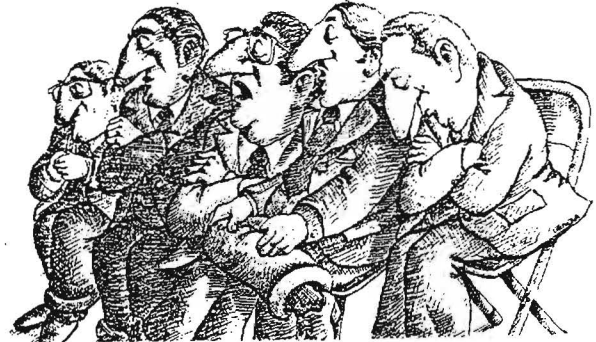
EFFECTS OF HAVING TO GET YOUR SLEEP IN THE DAYTIME

by [ ] P13

P.L. 86-36

A recent article in the Journal of the Human Factors Society describes a study of some effects of shift work ("The Sleep and Performance of Shift Workers," A. J. Tilley, et al., Human Factors, Vol. 24, No. 6, December 1982, pp. 629-641). This study differs from most previous studies in that it monitored and recorded the sleep of workers in their own homes, rather than in a lab or only indirectly via questionnaires. The abstract provides the following summary of results:

"The sleep and performance of 12 male shift workers, operating a discontinuous, weekly-alternating, three-shift system, were monitored over the course of one complete shift cycle. Compared with nocturnal sleep, day sleep was shorter in duration and was degraded in quality, and its sleep stages were temporally disrupted. Simple unprepared reaction time and four-choice reaction time were impaired at night, and simple reaction time deteriorated as a function of the number of days into the shift and the time on task. Sleep and performance changes can be primarily attributed to circadian factors; however, the deterioration in performance from night to night and with time on task is probably due to an accumulative sleep deficit. As far as sleep and performance are concerned, the best shift system is probably one having a short rotation cycle, with afternoon shifts or rest days preceding and following the night shift."
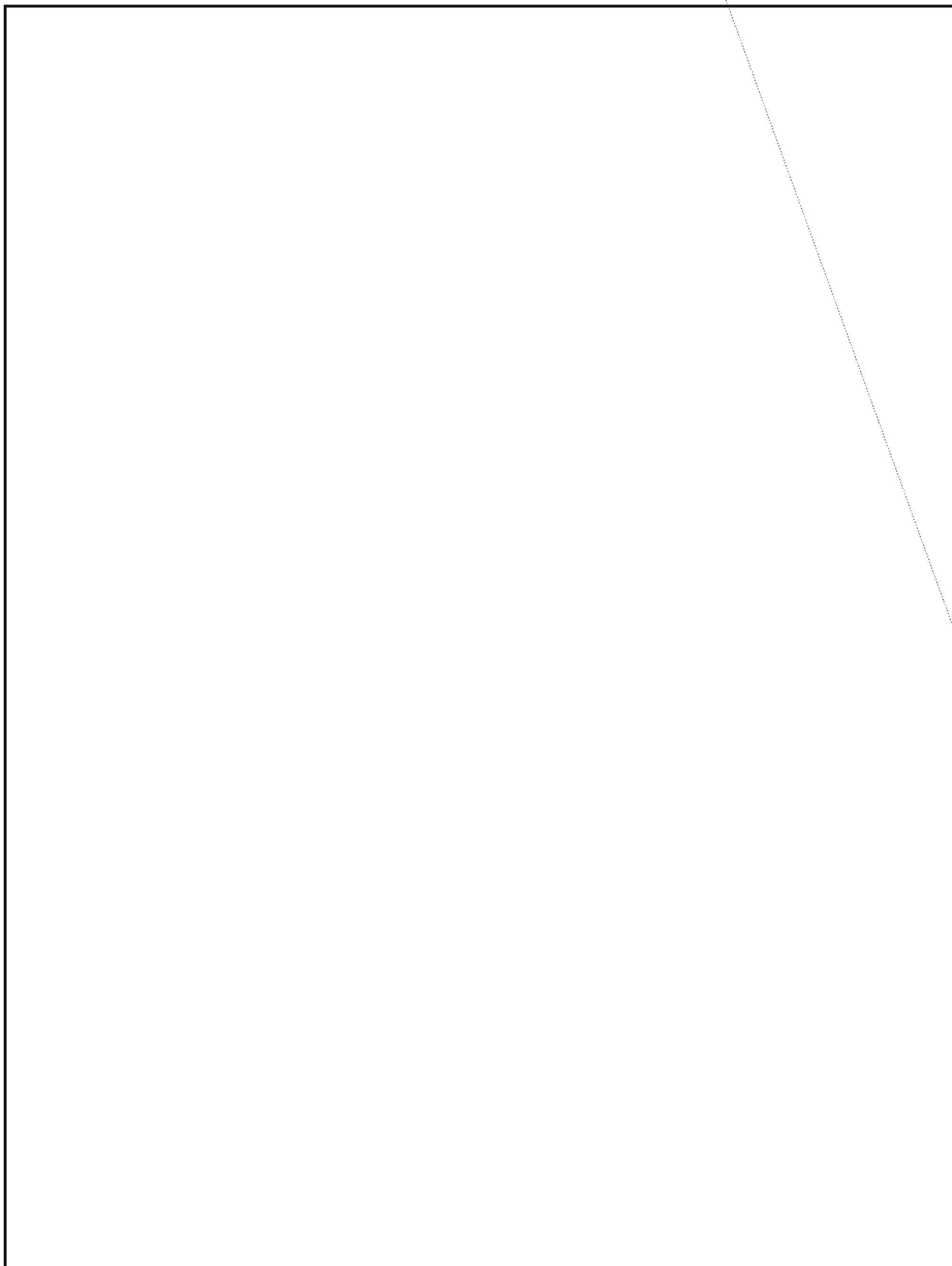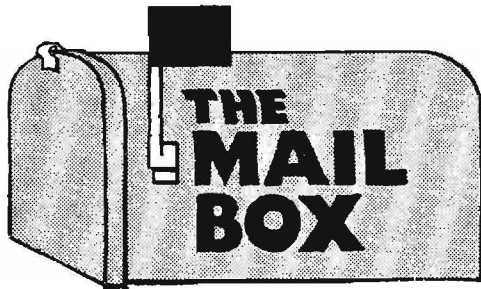
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Jun 83 * CRYPTOLOG * Page 25

SECRET

THE MAIL BOX

Dear Editor:

Security of classified information is the business of all Americans who have access to it. A problem exists in this area, however, in that not all who have access to such information are educated on the need to protect it. The exposure given to US intelligence agencies in the popular media has made education in classified material security and COMSEC imperative.

A new "NSA Security Agreement" requires the signature of all current, and presumably future, employees of NSA. According to the instructions for completing the form, the Agreement follows the determination by the Director of Central Intelligence that

"all agencies and departments granting access to Sensitive Compartmented Information (SCI) ... must implement a program to better protect ... vital intelligence assets from unauthorized disclosure."

The explanation goes on to say that NSA's program "includes a security agreement that requires persons with SCI access to submit for prior review any information or material for public disclosure." It appears that the requirement for this agreement was precipitated by recent publicity about NSA.

It is difficult for any employee to argue with the need to protect sensitive information in ways such as those specified in the Agreement. But the question inevitably arises in the minds of those of us with less extensive Weltanschauungen, "Why must we so carefully protect material from sensitive sources when those for whom we gather and analyze it (especially elected officials on Capitol Hill and members of their staffs) discuss it openly?"

Implicit in this question is a perhaps justifiable resentment that many of us harbor against those outside the intelligence community who leak the information we try so hard to protect. As a former staffer in the House of Representatives, I can vouch for the lack of concern (which borders on total disregard) for the need to physically protect classified information from unauthorized disclosure. My concern here is not for those people who work regularly with the intelligence community, such as the Senate and House Select Committees on Intelligence, but rather with the many hundreds of others who can and do have access to sensitive intelligence but who have little understanding of the protection it needs. It is not unusual for classified materials to be left lying on desks in the completely non-secure House and Senate office buildings for minutes, hours, or even over weekends. Often the highest degree of protection offered to this information is to place it in an unlocked desk drawer. Our resentment is unproductive, however, unless it produces workable methods to stop such disclosures and the resolve to implement those changes.

But even if we have both the methods and the determination to correct the problem of leaks of sensitive information, we must still face a most difficult dilemma. We must balance the necessity for some elected officials to have access to classified information against the need to ensure that they are willing and able to maintain its secrecy. Simply by virtue of being elected to Congress or having made large contributions to the party that controls the White House, Senators, Representatives, and Administration appointees have access to almost any information they desire. That they were elected to positions of public trust and confidence implies that they are trustworthy. But the speciousness of this logic is quickly seen if we remember the many Members of Congress who have been censured or indicted for serious crimes over the years, or if we remember Teapot Dome and Watergate. There are enough recent examples of bribery and obstruction of justice, as well as other crimes, to indicate to me that election or appointment to office does not automatically make someone trustworthy.

Another problem, just as thorny, is the access to classified information that many members of congressional staffs and lower-level political appointees obtain almost automatically. There are, of course, valid reasons for some staffers to have access to sensitive information. But most of the people who come to Washington to work on Capitol Hill have had no previous experience in federal government, much less experience with classified material. To many of these people, a security clearance, and the attendant access

to classified material, is more of a status symbol than anything else. The higher the clearance level, the greater a person's status among others who, likewise, previously had no access to classified information.

In order to achieve at least one measure of status, many staffers with little or no real need for access persuade their elected bosses (with little difficulty) to request clearances for them. Virtually all these staffers seem to receive clearances in short order. This indicates to me that Defense Department investigators find nothing in these applicants' backgrounds to preclude them from receiving clearances or that only cursory investigations on them are conducted. I find it difficult to believe that all Capitol Hill applicants for clearances are models of trustworthiness. The swiftness with which their background investigations are completed implies that trustworthiness in not the sole reason they are granted clearances.

There are more than 16,000 members of personal and committee staffs in the Senate and House of Representatives—and who knows how many political appointees in the executive branch? The Defense Investigative Service (DIS), the agency responsible for conducting background investigations for the Capitol and parts of the executive branch, is deluged with requests for clearances. Since the DIS has such a large investigative responsibility, it necessarily must put its responsibilities in some order of priority. The highest priority seems to go to pre-employment for the intelligence community. Here investigators must make a tough decision: If they grant clearances following a pro forma investigation, they are open to charges of negligence if people to whom clearances are granted later prove to be untrustworthy. If the investigators press the nominating Member of Congress to further justify the need for one of his or her staff to have a clearance, they could be accused of damaging Executive Branch relations with Congress. If investigators press Administration officials to further justify the need for a staff clearance, they can be accused of not being "team players" within the Executive Branch.

Conducting pre-employment investigations for the intelligence community may be the best use of scarce DIS resources. Most leaks of national security information usually seem to come not from the intelligence community but from other executive branch agencies and from the legislative branch. Given this, it appears that either clearances have been improperly granted or that those outside the intelligence community need to be made aware of the need to protect this information.

I think that the DIS, generally, is doing a good job in conducting background investigations on legislative staffers, although it could perhaps adhere more closely to established standards for granting clearances. It could require satisfactory completion of a full background investigation before granting a SECRET clearance.

But even though investigations may be part of this problem, the major issue is not so much the ease or difficulty with which people might receive clearances, but the lack of training given on the need to protect the information to which they are given access. Whereas new NSA employees are given a rigorous orientation on the need for security, I know from my own experience that none is given to legislative staffers when they are granted their clearances. In all probability, the same situation exists in the Executive Branch for political appointees. This, in itself, is scandalous. But when this lack of security awareness leads to the inadvertent disclosure of sensitive information, it carries with it many dangerous implications for the nation.

What can we do to remedy this problem? We can politely but firmly insist that other Executive Branch agencies and Congress uphold their end of the national security bargain by immediately implementing comprehensive security education programs among those who are or have been granted access to classified information. It may be naive to think that education alone will change the minds of potential leakers but existing policies and attempts to stop leaks have, for the most part, failed. And the recent Executive Order threatening Administration employees with polygraph testing and possible job action will probably have little noticeable effect on leaks; those intent on damaging the national security will do so, albeit more circumspectly, regardless of potential consequences. We must, then, concentrate on the unknowing (but nonetheless damaging) disclosures made by those who are merely unaware of the implications of the trust their security clearances carry. Security education might help in these cases. We owe it to ourselves to try all possible courses in search of new ways to put a halt to unauthorized disclosures.

Given the transient nature of politically appointed staff people in most of the federal government, security education programs might seem like trying to sweep back the sea. But, with our national security at stake, can we afford to do less?

G7 32

P.L. 86-36

NSA-Crostic 48

by Vera R. Filby

A. Palindromic plotter

$\overline{56}$ $\overline{89}$ $\overline{50}$ $\overline{125}$ $\overline{63}$

B. Unhidden treasure

$\overline{47}$ $\overline{4}$ $\overline{42}$ $\overline{120}$ $\overline{101}$

C. In Oslo or in backward yawn

$\overline{137}$ $\overline{119}$ $\overline{80}$ $\overline{23}$ $\overline{53}$ $\overline{75}$

D. It's sharp to ice crab

$\overline{62}$ $\overline{9}$ $\overline{3}$ $\overline{132}$ $\overline{115}$ $\overline{103}$ $\overline{59}$

E. Hilarious response to the French grunt

$\overline{139}$ $\overline{64}$ $\overline{81}$ $\overline{105}$ $\overline{10}$

F. VASCAR couldn't do without it (2 wds)

$\overline{65}$ $\overline{5}$ $\overline{134}$ $\overline{19}$ $\overline{92}$ $\overline{86}$ $\overline{99}$ $\overline{30}$

$\overline{57}$ $\overline{118}$ $\overline{117}$ $\overline{38}$ $\overline{127}$

G. Mr. Strauss and actress Sharon combine
to float upward

$\overline{116}$ $\overline{71}$ $\overline{97}$ $\overline{21}$ $\overline{79}$ $\overline{69}$ $\overline{44}$ $\overline{123}$

H. Let the Roman behold

$\overline{111}$ $\overline{16}$ $\overline{82}$ $\overline{93}$

I. *Sotto voce*

$\overline{124}$ $\overline{102}$ $\overline{18}$ $\overline{41}$ $\overline{73}$ $\overline{51}$ $\overline{25}$ $\overline{133}$

J. He keeps saying the writer ate sausage

$\overline{8}$ $\overline{142}$ $\overline{58}$ $\overline{17}$ $\overline{108}$ $\overline{32}$ $\overline{130}$ $\overline{78}$

K. Ultimate degree

$\overline{31}$ $\overline{20}$ $\overline{27}$

L. It's between a W and a Y

$\overline{39}$ $\overline{35}$ $\overline{7}$ $\overline{96}$ $\overline{88}$

M. He sang about all those trombones (2 wds)

$\overline{68}$ $\overline{14}$ $\overline{141}$ $\overline{33}$ $\overline{131}$ $\overline{90}$ $\overline{114}$ $\overline{77}$

N. A something, but what?

$\overline{37}$ $\overline{13}$ $\overline{60}$ $\overline{76}$ $\overline{83}$ $\overline{140}$

O. Outer way

$\overline{46}$ $\overline{94}$ $\overline{40}$ $\overline{135}$ $\overline{72}$

P. Verb uninflected in form, to be brief

$\overline{128}$ $\overline{107}$ $\overline{95}$

Q. Often followed by overrun

$\overline{110}$ $\overline{34}$ $\overline{52}$ $\overline{121}$

R. Pop raved, but then said OK

$\overline{138}$ $\overline{91}$ $\overline{112}$ $\overline{126}$ $\overline{24}$ $\overline{85}$ $\overline{98}$ $\overline{70}$

S. This dancer won the 1953 Preakness and Belmont

$\overline{104}$ $\overline{28}$ $\overline{113}$ $\overline{84}$ $\overline{48}$ $\overline{55}$

T. Tales of long ago

$\overline{129}$ $\overline{100}$ $\overline{26}$ $\overline{2}$ $\overline{15}$

U. Second fruity computer (2 wds)

$\overline{136}$ $\overline{61}$ $\overline{54}$ $\overline{74}$ $\overline{87}$ $\overline{49}$ $\overline{43}$

V. Andy, Min, Chester and Uncle Bim

$\overline{67}$ $\overline{106}$ $\overline{11}$ $\overline{45}$ $\overline{22}$

W. HAL + 111 (according to *2001: A Space Odyssey*)

$\overline{66}$ $\overline{36}$ $\overline{29}$

X. Girl's nickname inscribed in clinic at Hyattsville

$\overline{109}$ $\overline{12}$ $\overline{1}$ $\overline{122}$ $\overline{6}$

1 X	2 T	3 D	■	4 B	5 F	6 X	7 L	8 J	9 D	10 E	■	11 V	12 X	13 N
14 M	15 T	16 H	17 J	18 I	19 F	20 K	■	21 G	22 V	■	23 C	24 R	25 I	26 T
27 K	■	28 S	■	29 W	30 F	31 K	32 J	33 M	34 Q	35 L	■	36 W	37 N	38 F
39 L	40 O	41 I	42 B	■	43 U	44 G	■	45 V	46 O	47 B	48 S	49 U	50 A	51 I
52 Q	■	53 C	■	54 U	55 S	56 A	57 F	58 J	59 D	60 N	■	61 U	62 D	63 A
64 E	65 F	66 W	67 V	68 M	■	69 G	■	70 R	71 G	72 O	73 I	74 U	75 C	■
76 N	77 M	78 J	79 G	80 C	81 E	82 H	83 N	84 S	85 R	86 F	■	87 U	88 L	89 A
90 M	91 R	92 F	93 H	■	94 O	95 P	■	96 L	97 G	98 R	99 F	100 T	101 B	102 I
103 D	104 S	105 E	■	106 V	107 P	108 J	109 X	110 Q	111 H	112 R	113 S	114 M	115 D	116 G
117 F	■	118 F	119 C	120 B	■	121 Q	122 X	123 G	■	124 I	125 A	126 R	127 F	128 P
129 T	130 J	■	131 M	132 D	133 I	134 F	135 O	136 U	137 C	138 R	139 E	140 N	141 M	142 J