ILLEGIB

NATIONAL SECURITY AGENCY
CENTRAL SECURITY SERVICE
FORT GEORGE G. MEADE, MARYLAND 20755

DDI
~~DDA~~
~~DDO~~
~~DDS&T~~
C/PPG

6 August 1980
COINS/110-80

MEMORANDUM FOR DISTRIBUTION

SUBJECT: COINS Annual Statistical Report

1. Attached is a copy of the COINS Annual Statistical Report for FY-1979. This report documents the growth of the network during the period from 1 October 1975 through 30 September 1979, and also contains detailed statistics on the usage of the COINS data bases during FY-79.

2. The report will be issued annually. Any recommendations for improvements will be welcomed and if received by 1 November 1980, we will try to incorporate them into the next report.

25X1

[redacted]
COINS Project Manager

Attachment
a/s

SECRET

Community On-Line Intelligence System

Project Management Office

National Security Agency

Fort George G. Meade, Maryland, 20755

wii 3316-S-2513

COINS ANNUAL STATISTICAL REPORT (U)

31 JULY 1980

NATIONAL SECURITY INFORMATION
Unauthorized disclosure subject
to criminal sanctions

CLASSIFIED BY NSA/CSSM 123-2
REVIEW ON 31 JULY 2010

Prepared by:

informatics inc
6011 Executive Boulevard
Rockville
Maryland 20852
(301) 770-3000

SECRET

TABLE OF CONTENTS

PURPOSE . . . . . Page 1
WHAT IS COINS ? . . . . . Page 2
BACKGROUND . . . . . Page 2
COINS "EXPERIMENT" TO COINS I . . . . . Page 3
COINS II . . . . . Page 5
COINS II TODAY . . . . . Page 7
IMPACT OF AIRES ON COINS . . . . . Page 13
FUTURE EVENTS . . . . . Page 15
THE COINS NETWORK . . . . . Page 17
COINS SUBSCRIBERS . . . . . Page 22
THE SUPPLIERS OF COINS FILES . . . . . Page 22
CHANGES IN COINS FILES - FY '79 . . . . . Page 23
BATCH MODE USAGE . . . . . Page 24
BATCH REPLY ANALYSIS . . . . . Page 26
BATCH TURN-AROUND TIME ANALYSIS . . . . . Page 27
INTERACTIVE USAGE . . . . . Page 29
SOLIS USAGE . . . . . Page 31
NETWORK USAGE . . . . . Page 32
ABORT ANALYSIS . . . . . Page 33
LOST ANALYSIS . . . . . Page 35

APPENDIX A - COINS FILES . . . . . Page 37
APPENDIX B - FILE INTERROGATIONS . . . . . Page 40
APPENDIX C - FILE USAGE . . . . . Page 45

LIST OF DIAGRAMS

DIAGRAM NO. 1: COINS I AND IDHSC I . . . . . Page 4
DIAGRAM NO. 2A: COINS II AND IDHSC - DECEMBER 1979 . . . . . Page 6
DIAGRAM NO. 2B: COINS II AND IDHSC 1980 PROJECTION . . . . . Page 6
DIAGRAM NO. 3: COINS I/COINS II NETWORKS - DECEMBER 1, 1979 Page 8
DIAGRAM NO. 4A: COINS II/ARPANET TEST . . . . . Page 12
DIAGRAM NO. 4B: PACOM ENVIRONMENT - COINS II/ARPANET TEST . Page 12
DIAGRAM NO. 5: DISTRIBUTION OF USAGE OF BATCH FILES BY SPONSORING AGENCY . . . . . Page 24
DIAGRAM NO. 6: BATCH MODE USAGE . . . . . Pgae 25
DIAGRAM NO. 7: TYPE OF REPLIES RECEIVED FOR BATCH QUERIES . Page 26
DIAGRAM NO. 8: COINS NETWORK TURN-AROUND TIME FOR ALL BATCH QUERIES . . . . . Page 27
DIAGRAM NO. 9: TURN-AROUND TIME ANALYSIS FOR VARIOUS AGENCIES . . . . . Page 28
DIAGRAM NO. 10: NUMBER OF INTERACTIVE SESSIONS . . . . . Page 29
DIAGRAM NO. 11: SOLIS USAGE . . . . . Page 29
DIAGRAM NO. 12: NUMBER OF SOLIS QUERIES BY COINS USERS . . . Page 31
DIAGRAM NO. 13: SOLIS CONNECTIONS VS. MINUTES CONNECTED . . Page 31

LIST OF TABLES

TABLE NO. 1: HOST PROCESSORS IN THE COINS NETWORK AND HOST PROCESSORS IN IDHSC WORKING WITH COINS . . . . . Page 10
TABLE NO. 2: COINS I - COINS II COMPARISONS . . . . . Page 14
TABLE NO. 3: GROWTH OF COINS . . . . . Page 18
TABLE NO. 4: REAL ANNUAL GROWTH OF COINS SINCE 1972 . . . . . Page 18
TABLE NO. 5: NUMBER OF INTER-AGENCY INTERROGATIONS IN 1978 FOR TOP 10 USING ORGANIZATIONS . . . . . Page 20
TABLE NO. 6: TEN MOST FREQUENTLY QUERIED FILES - FY '79 . . . Page 20
TABLE NO. 7: COINS SUBSCRIBERS - OCTOBER 1979 . . . . . Page 21
TABLE NO. 8: ANNUAL INVENTORY OF THE NUMBER OF COINS FILES BY SPONSORING AGENCY . . . . . Page 23
TABLE NO. 9: COINS TERMINAL ACCESS SYSTEM . . . . . Page 30
TABLE NO. 10: NETWORK USAGE: USERS VS. FILE SPONSORS . . . . Page 32
TABLE NO. 11: ABORTS BY FILE SPONSOR - FY 1979. . . . . Page 34
TABLE NO. 12: THE TEN(10) USING ORGANIZATIONS WHOSE INTERROGATIONS ARE MOST FREQUENTLY ABORTED. . . Page 34
TABLE NO. 13: LOST DISPOSITION STATISTICS BY DISPOSITION FOR HOST/ADDRESSEE COMBINATION FROM 7810 - 7909 Page 35
TABLE NO. 14: LOST QUERY SUMMARY BY HOST PROCESSING INTERROGATION . . . . . Page 36
TABLE NO. 15: LOST QUERY SUMMARY BY HOST ORIGINATING INTERROGATION . . . . . Page 36

UNCLASSIFIED

(U) This page is blank.

UNCLASSIFIED

Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

PURPOSE

(U) This report documents the growth of the Community On-Line Intelligence System (COINS) during the period of 1 October 1975 through 30 September 1979. This period, which has witnessed substantial changes in the physical makeup of the COINS network and its community, covers four fiscal years of operations.

(U) The objectives of this report are:

(U) 1. To provide summaries of usage and performance of the COINS network for all levels of COINS management. The summaries include:

- o Usage of the Network
- o Usage of each host system
- o Usage of each COINS file
- o Usage by each using organization.

(U) 2. To highlight significant events or situations which either have had an impact upon the usage and performance of the COINS network or will have in the future.

(U) 3. To establish a benchmark against which future network growth, usage and performance can be compared.

(U) 4. To identify problem areas and steps being taken to minimize their impact and performance. Examples are:

- o Turnaround Time
- o Number of aborted interrogations
- o Number of unanswered interrogations.

(U) More detailed information can be obtained by contacting the COINS PMO or by interrogating the COINS Usage and Performance Analysis (CUPA) File.

WHAT IS COINS?

(U) The Community On-Line Intelligence System is a secure network interconnecting several data processing centers and associated intelligence data banks of the U.S. intelligence community. The COINS network is connected to the DIA managed IDHSC network and through this connection it provides services to DIA, as well as the intelligence components of the military services and the U&S Commands. The purpose of COINS is to permit the inter-agency sharing of data bases and other computer services by authorized users in an on-line fashion.

(U) Also, the COINS network is being used as a means of disseminating classified, highly-sensitive compartmented foreign intelligence information to the TOP SECRET SI/TK level. For some users, it has become the only available source for some routine end products. The COINS and IDHSC networks are available for operational use twenty-four hours a day, seven days a week. However, the COINS Network Control Center (CNCC) in the COINS PMO at NSA is only manned from 0600 to 2300 hours five days Monday through Friday, less holidays. Therefore, because the TAS and the COINS ARPANET Gateway are located in the CNCC, organizations which use the TAS in the COINS PMO or the one in PACOM are restricted to being able to access during these hours. Sufficient additional personnel should be available this summer so that around the clock services can be extended to these organizations. Some using agencies have elected to provide access for shorter time periods.

BACKGROUND

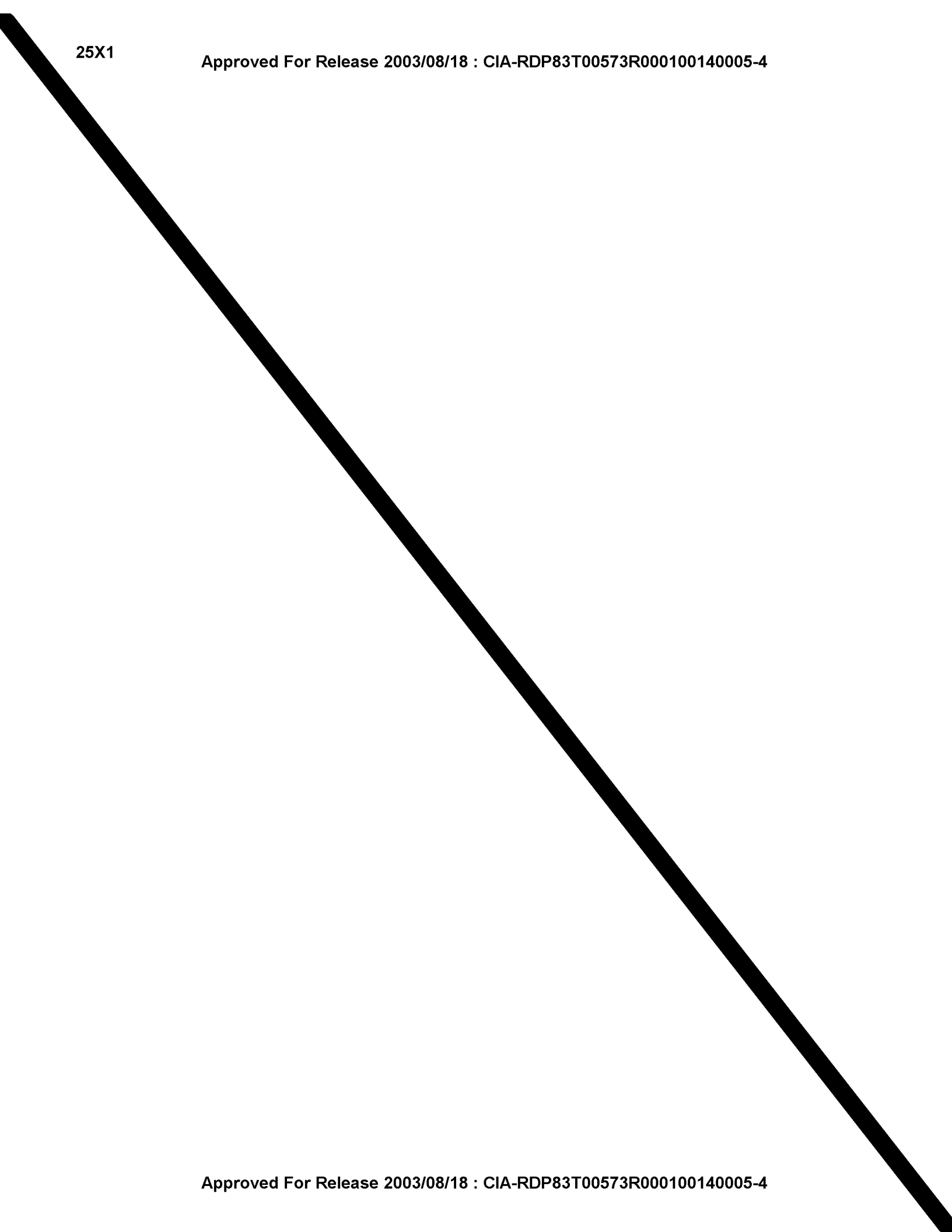
(U) The Community On-Line Intelligence System (COINS) was begun in 1965, following the President's approval of a recommendation by the President's Foreign Intelligence Advisory Board (PFIAB) to improve the exchange of intelligence information among Washington-area intelligence community members by internetting existing computer-based information storage and retrieval systems. The initial inter-agency network established was known as the COINS "Experiment".

Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

COINS "EXPERIMENT" TO COINS I

(U) For the first seven years of the COINS Network's existence, it was known as the COINS "Experiment" and connected with the DIA managed IDHSC network via a Switch at DIA so that operational support could be provided to a number of Defense intelligence agencies throughout the world. As a result of these two interconnected networks, any authorized user in either network could interrogate any one of a number of selected formatted foreign intelligence files stored in one of several file processors in either network. The COINS "Experiment" was relabled COINS I in May 1973, after the DCI accepted the ASD(I) evaluation which included its conclusions and recommendations. Based on the preceding, efforts were initiated to develop a new communications network known as COINS II. COINS II is based on ARPA developed technology which uses wide band digital communications and provides alternate routing for traffic flow.

(U) The COINS I network, coupled with the IDHSC network, had to continue to operate while COINS II was being implemented as a number of intelligence agencies were relying upon it for operational support. Diagram No. 1 of the COINS/IDHSC network illustrates the geographic area covered by these two interconnected networks. An analyst sitting at a remote terminal in Korea or in Germany can submit batch interrogations to files in the IDHSC network and the COINS network.

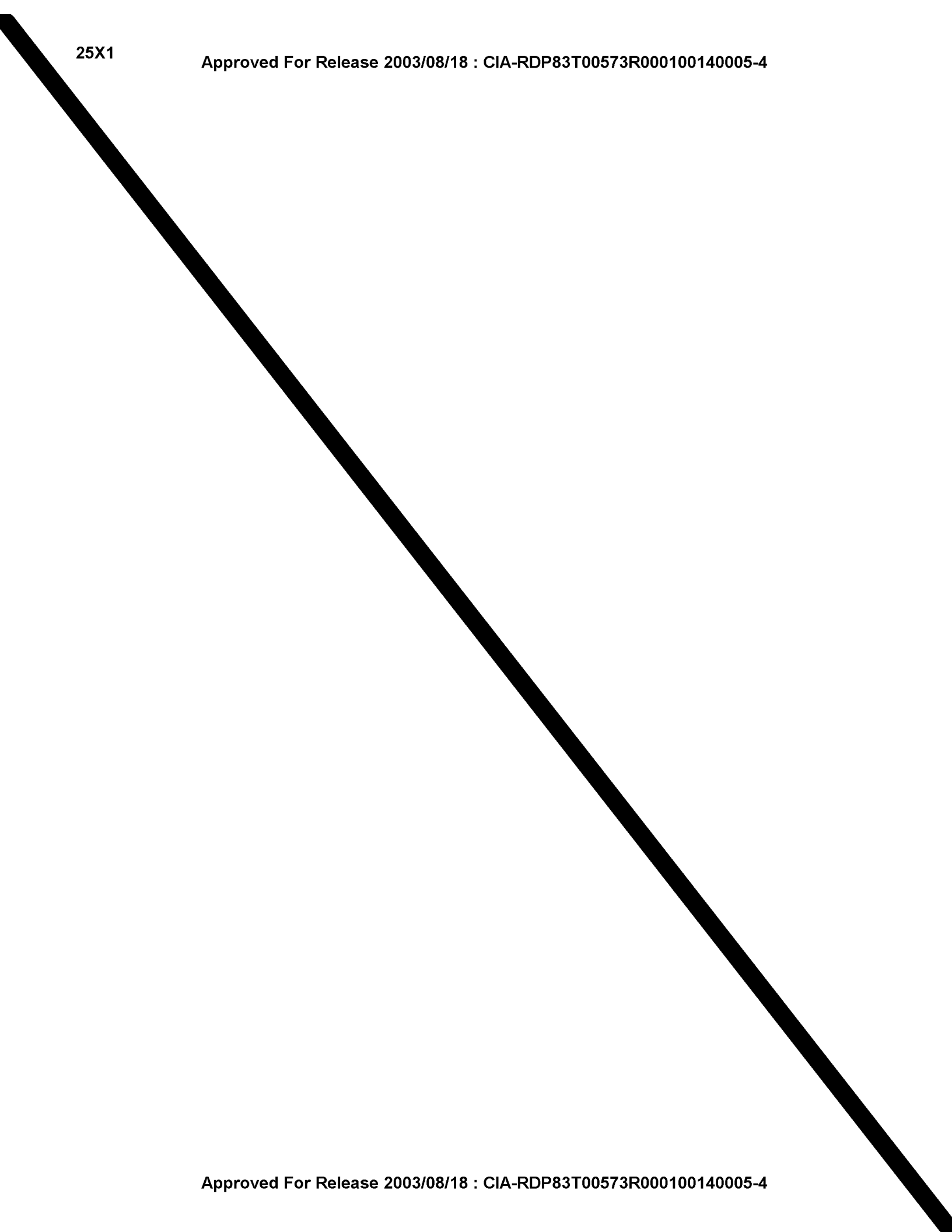


Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

COINS II

(U) By the end of 1976, the COINS II network was ready to begin testing. However, in November 1976, DIA advised the COINS PMO that because of a core limitation problem in its PDP 11/45 switch, it would not be able to complete the connection of the IDHSC network, including DIAOLS, to the COINS II network until after the PDP 11/45 switch was replaced with a PDP 11/70 in 1977.

(U) As a contingency measure, the COINS PMO requested both NPIC and NSA to dual connect their host processors so that they could operate in both the COINS I and COINS II networks simultaneously. When this action was completed it permitted the COINS II network to become operational in October 1977, less DIA. As indicated in Diagrams 2A and 2B, the COINS I and COINS II networks operated concurrently until January 30, 1980 when the connection between the COINS II network and the IDHSC network, (see Diagram 2A) including DIAOLS, was completed after which the old COINS I communications circuits were disestablished. This connection permits "batch" interrogations to continue to flow between COINS II and the IDHSC network but it does not permit the IDHSC community to access interactive systems in COINS II (e.g., NSA/SOLIS) or vice versa. It is important to note that as a result of this connection, the DIA/DIAOLS system is a HOST in the IDHSC network and not in the COINS II network. However, a joint DIA/COINS PMO team has been established to develop the specifications for a gateway between IDHSC and COINS which could handle both batch transactions and interactive connections in either direction. Severe budget constraints in FY80 and FY81 prevent both DIA and the COINS PMO from beginning construction of this gateway until FY82, with it becoming operational in FY83.



Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

COINS II - TODAY

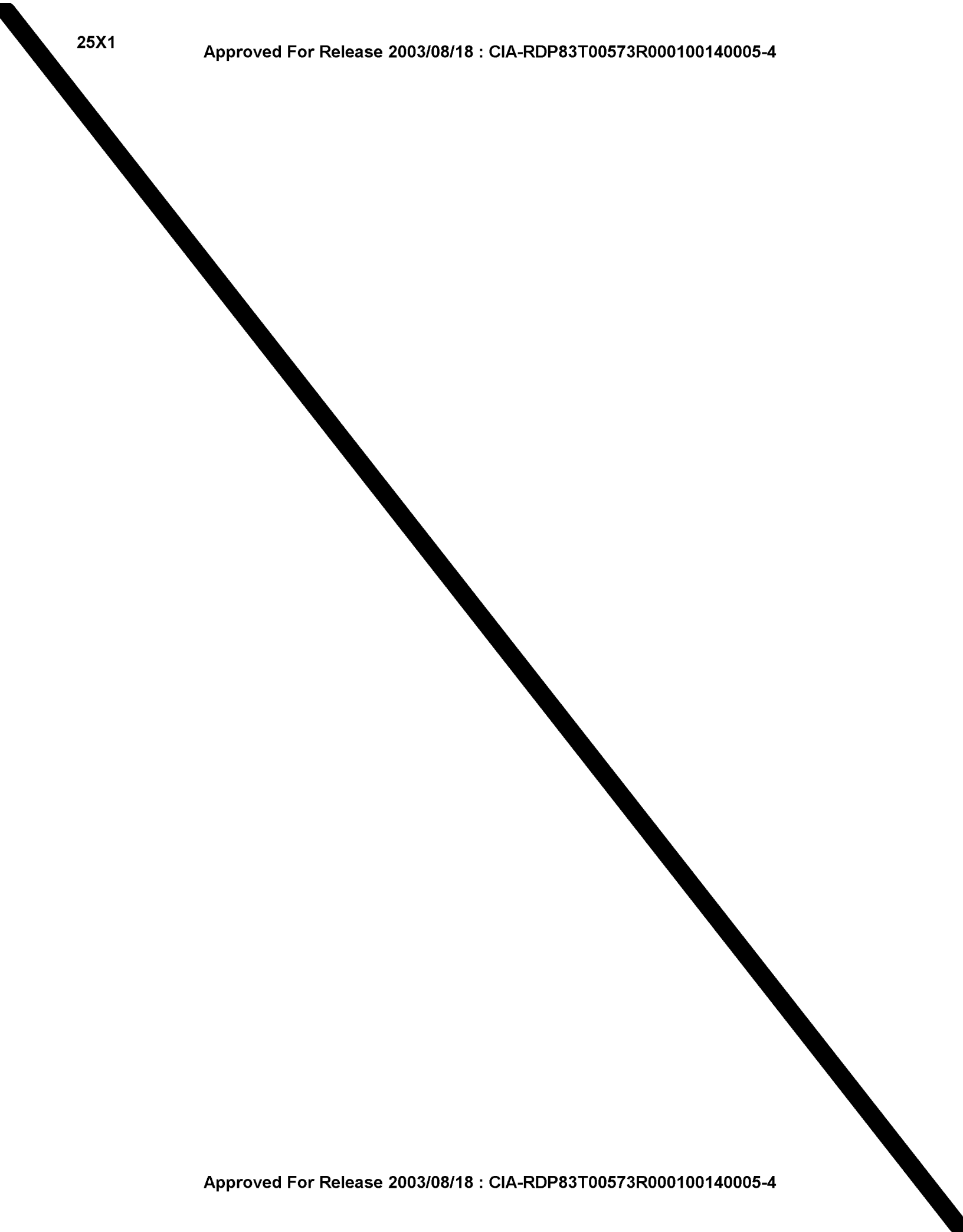
(U) The COINS II network today is a distributed network based on the transfer of the packet switching network (PSN) technology developed by the ARPANET, including the IMP's. In addition, the existing NSA T1 digital communications network (TETRAHEDRON) available in the Washington intelligence community was expanded and used for inter-nodal communications in COINS II instead of traditional voice grade circuits.

(U) As indicated in Diagram No. 3, the COINS II network consists of five IMP's (HIS316) inter-connected by 64KB channels within the T1 network including sufficient alternate routine to provide reasonable assurance of circuit availability. The hardware and software used for the IMP's are the same as those used in ARPANET. In general, the software for the IMP's in the COINS network is one software release behind that of the ARPANET.

(U) Initially, the COINS II network was composed of the two batch host file processors, at NSA and NPIC, which were dual connected to both the COINS I and the COINS II network. These systems were only capable of handling batch interrogations. In addition, a new host file processor, the NSA/SOLIS system was added to the COINS II network. This was the first interactive processor in the network and it is available only in an interactive mode. To minimize the impact on interactive connections, a file processor to the COINS II network Front End Processor (FEP) is used. Further more, two Terminal Access Systems were added to the COINS II network; one was for operational use, and the other known as the Network Service Host (NSH) is used to support a wide range of activities in the COINS PMO.

... User Support Information Subsystem (USISS);
... Network Usage Information Subsystem (NUISS);
... Terminal Transfer Research Facility (TTRF).

(U) In the event of a hardware failure in the TAS, the NSH is used as a backup.



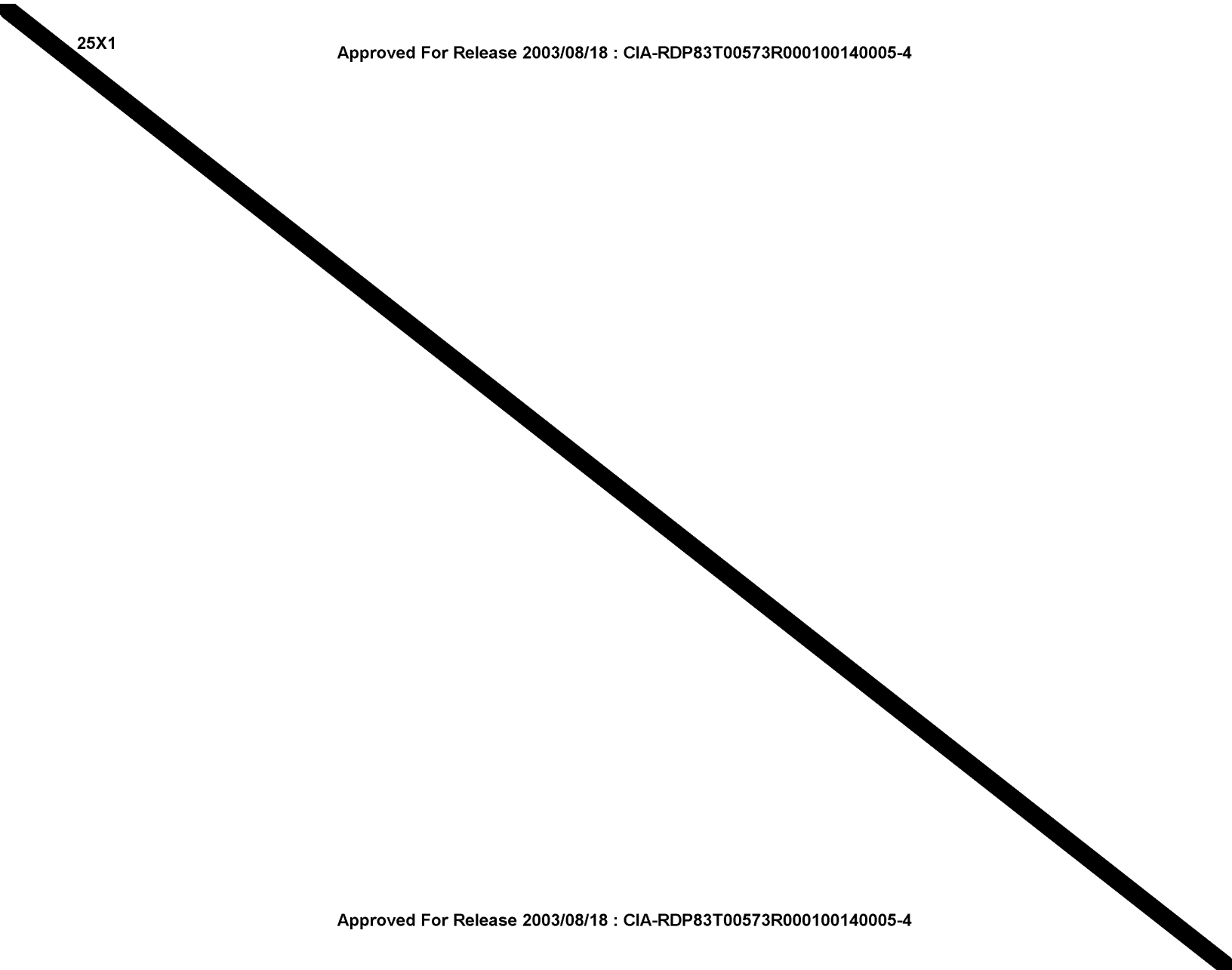
Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

However, the Terminal Access System (TAS) and Network Service Host (NSH) which is also a TAS in its own right, are directly connected to an IMP. Table 1 is a list of the hosts available in COINS II including TAS's and those available in the IDHSC network which operate with the COINS network. The following information is also indicated in the table.

- o Number of files available for access
- o Number of remote terminals available for users
- o Operating mode of each host in the COINS network (i.e., batch only, interactive only or both)
- o Type of host in the COINS network.
  - SERVER host is one which makes files and services available to the network (e.g., NSA/SOLIS)
  - USER host is one which permits users to operate with server hosts in the network (e.g., TAS)
  - BOTH a user and a server host (e.g., DIA/DIAOLS)

(U) The Terminal Access System (TAS) in the COINS PMO was installed initially to provide intelligence organizations in the Washington, DC area, which did not have a host processor, with remote terminals. Using these terminals they could access COINS II in either a "batch" or "interactive" mode depending upon the capability of the host being accessed. It should be stressed that only remote terminals on the TAS are able to operate with the NSA/SOLIS system in an interactive fashion. However, remote terminals on a TAS can operate with any host in the network regardless of whether it is batch or interactive. The demand for more remote terminals on the TAS became evident:

(1) after NSA adopted the policy that all access to NSA/SOLIS would be via COINS II vice remote terminals directly connected to SOLIS. As a result, remote terminals directly connected to SOLIS at Treasury, State, DIA/NMIC, were gradually transferred to the TAS.



Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

(U) (2) after it became apparent that there would be a significant delay in making the connection between COINS II and the IDHSC network, the COINS PMO offered DIA a contingency plan to provide DIA, the military services, and U&S Command with direct access to COINS II via a remote terminal off the TAS. The arrangement offered was that each organization requesting access to COINS II via a direct terminal had to be approved by DIA and be willing to pay for the 9600 BPS circuit required including MODEM's and KG's for both ends of the circuit. If necessary, the COINS PMO would loan each organization approved by DIA a TEMPESTED TTY Model 40 and also provide the necessary users training after terminals are installed. The main interest of the organizations was access to the NSA/SOLIS system but they have the flexibility of using any host in COINS or IDHSC to which they are authorized access.

(U) A third COINS TAS has been installed in PACOM in 1979 as part of the COINS ARPANET Test Facility.

(U) In 1977, at the request of ASD(C^3I) and in cooperation with DIA and PACOM, the COINS PMO initiated an effort to determine the extent to which the ARPANET could be used to handle COINS traffic. This effort involved the installation of a COINS TAS in Honolulu, Hawaii on a PDP 11/45 provided by PACOM, and it is connected to the COINS II Network via the ARPANET using PLI/KG-34's. (See Diagram Nos. 4A and 4B). The PACOM TAS called AKU has seven TEMPEST approved TTY Model 40's connected to it, five of which are on loan from the COINS PMO. This facility is still in a test mode but it should be declared operational by June 1980 after some new software modules are installed in the Gateway and in the TAS in Honolulu. However, users operating from terminals on the AKU TAS can access either batch or interactive systems in COINS II.

(U) The TAS in the COINS PMO, and the COINS/ARPANET Gateway which permits the AKU TAS in Honolulu to have access to COINS II are located in the COINS Network Control Center (CNCC) in the COINS PMO at NSA. Because of personnel constraints, the CNCC is only manned from 0600 to 2300 five days a week less weekends and holidays. Organizations using these systems to access COINS are restricted accordingly.

Next 20 Page(s) In Document Exempt

Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

ABORT ANALYSIS

(U) Within the COINS network the term "ABORT" refers to a message type generated by the interrogated host which signals the abandonment of processing of an interrogation. There are currently four types of aborts for batch processing and five for interactive.

Batch

a. Abort Fault - error due to user's mistake in the format or text of an interrogation.

b. Abort Cause - error due to interrogated host's hardware or software.

c. Abort Error - error in transmission.

d. Abort TMA #3 - file to be interrogated does not exist on host processor (caused by a user trying to interrogate a file which does not exist on the host processor addressed).

Interactive

a. Abort Ø - No terminal activity for n seconds.

b. Abort 1 - Number of retransmissions to Host/terminal exceeds n.

c. Abort 2 - Unable to receive/enter data from/to network.

d. Abort 3 - Addressed host down.

e. Abort 4 - Invalid network log-on attempt.

(U) Currently, all interactive aborts are tabulated as abort Ø.

(U) The following tables (numbers 11 and 12) present abort statistics for hosts sponsoring files, and for hosts originating interrogations.

Next 2 Page(s) In Document Exempt

Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

APPENDIX A

(U)This appendix contains the list of all COINS files that are presently active. It includes their abbreviated and expanded names and is listed by file sponsoring agency.

Next 1 Page(s) In Document Exempt

Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

APPENDIX B

(U) This appendix contains tables which list the COINS file sponsors, the files they control, and the number of interrogations to each file for fiscal years 1976, 1977, 1978 and 1979.

Next 3 Page(s) In Document Exempt

Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

APPENDIX C

(U) This appendix contains a breakdown of file usage for each file sponsor. The usage for each file by user agency is presented.

Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4

Next 4 Page(s) In Document Exempt

Approved For Release 2003/08/18 : CIA-RDP83T00573R000100140005-4