09/4 Registry

ODP 9-493 27 March 1979

Onen retrenses To 0018-2/30.

STAT

MEMORANDUM FOR: Associate Deputy Director tor Administration, DDA

THROUGH : Deputy Director for Processing, ODP ()

STAT FROM

Chief Engineer, Engineering Division, ODP

SUBJECT : Comparison of CIA and NSA CRT Terminals

- 1. The specifications which controlled the procurement of our CRT terminal were prepared to meet the requirements documented in ODP Report, "User Requirements for an Agency Soft Copy Computer Terminal", dated 26 October 1979. The terminal which could satisfy these requirements needed to be quite sophisticated and used state-of-the-art technology. The contract which was recently signed will provide the Agency with just such a high quality terminal, which because of its flexibility, will be able to meet many Agency requirements in the next five years.
- 2. There have been some questions raised concerning the terminal which NSA procured last year and why we couldn't use it. It is the intent of this memorandum to answer these questions. The Purchase Description for CRT Terminals, dated 4 November 1976 from NSA is the basis for the following comparison.
- 3. There are some misconceptions about the NSA terminal which should be cleared up before making the comparison:
 - a. The NSA terminal does not meet full NACSEM 5100 when it is in the normal configuration.
 - b. The optional disk drives were not required to be TEMPEST approved.
 - c. The cost of the NSA terminal is \$3,800, however, in the normal configuration it is used with a cluster controller which is a separately priced item.

STAT

- d. The price for the terminal was established about two years ago and does not contain a corresponding inflation factor. Delta Data said they are loosing money on the NSA terminals and would not sell them at that price in the future.
- e. CIA is reaping the benefits of the TEMPEST development work which was part of the NSA contract. Without this previous effort our terminals would be more expensive and the delivery schedule significantly extended. The funds which we have allocated to TEMPEST are primarily for two items:
 - 1) Testing of the terminal for NACSEM 5100 compliance (there are sufficient differences between the two terminals to require re-testing).
 - 2) Development of TEMPEST floppy disk drives.
- 4. It should be noted that the CIA terminal could not be developed by any contractor for the price which has been negotiated (the competitive procurement was sent to 117 potential vendors). As a yardstick for comparison, the only known TEMPEST terminal which even comes close to our requirements (about 60%) is a modified Hewlett-Packard for \$7000.

STAT

Att: a/s

cc: Acting D/ODP

ATTACHMENT I

TERMINAL COMPARISON

Feature in CIA Terminal	NSA Terminal
F.2.1 (M) Standalone Terminal	Optional, normally clustered
F.2.2 (M) Configuration Variations	Less than CIA
F.2.2.1 (M) Functional Configuration	Less than CIA
F.2.3 (M) Local Peripheral Devices	No light pen, mouse, joystick
F.2.3.1 (M) Local Printer Characteristics	Not as many variations
F.2.3.2 (M) Simultaneous Operation	Yes, but concatenation not req.
F.2.3.3 (MO) Large Floppy Disk Drives	Yes, but not Tempest
F.2.3.4 (MO) Smaller Floppy Disk Drives	No
F.2.4 (M) Local Capability	No, but possible.
F.2.4.1 (M) Local Editing	Yes, but not as comprehensive
F.2.4.2 (M) Local Data Validation	No
F.2.5 (M) Size	Equivalent
F.2.6 (M) Resident Monitor	No
F.2.7 (M) Programmability	Yes
F.2.7.1 (M) Changeable Firmware	Yes
F.2.7.2 (M) Changeable Firmware Image	Not dynamically
F.2.7.3 (MO) User Programmability	Limited, assembly lang. only

F.2.7.4 (M) BASIC Language	No
F.2.7.5 (MO) Floppy Disk Operating	No FDOS, utility programs only
F.2.7.6 (DO) Word Processing Software	No ~
F.2.8.1 (M) Assembly Language	Yes
F.2.8.2 (M) Debugger	Yes
F.2.9 (M) Software Source Files and	
Listing	No
F.3.1 (M) Display Area and Format	Equivalent
F.3.2 (DO) More Lines	No, 24 lines or less
F.3.3.1 (M) Screen Characteristics	Equivalent
F.3.3.2 (M) Cursor	Equivalent
F.3.3.3 (M) Tabbing	Equivalent
F.3.3.4 (M) Scrolling and Paging	Not req., probably in terminal
F.3.3.5 (M) Selective Highlighting	Equivalent
F.3.3.6 (M) Displayable Storage	Less
F.3.3.7 (M) Field Blanking	No
F.3.3.8 (M) Field Protect	Yes
F.3.3.9 (M) Format Mode	Yes
F.3.3.10 (M) Screen Segmentation	Yes
F.3.3.11 (MO) Simple Graphics	No
F.3.3.12 (MO) Larger Displayable Memory	No
F.3.3.13 (M) Password Suppression	N o
F.3.4 (M) Character Sets	Equivalent sets

F.3.4.1 (M) ASCII	Yes
F.3.4.2 (MO) APL	No
F.3.4.3 (MO) Other Character Sets	Yes
F.4.1.1 (M) Rollover	No
F.4.1.2 (M) Detachable Keyboard	Yes, but not also attachable
F.4.1.3 (M) Layout (Keyboard)	Different
F.4.1.4 (M) Repeat Function	Yes
F.4.1.5 (M) Function Keys	Fewer
F.4.1.6 (M) Shift Lock	Yes
F.4.1.7 (M) Color Coding (Keyboard)	Yes
F.4.1.8 (M) Key Caps	Yes
F.4.1.9 (M) Numeric Pad	<u>No</u>
F.4.1.10 (M) Keyboard Disable	Yes
F.4.1.11 (M) Acoustic Feedback	No
F.4.1.12 (M) Programmed Terminators	<u>N o</u>
F.4.2.1 (MO) Light Pen	No
F.4.2.2 (MO) Joystick	No
F.4.2.3 (MO) Mouse	No
F.4.3.1 (M) Audible Alarm	Yes
F.4.3.2 (M) On/Off Switch	Yes
F.4.3.3 (M) Status Lights	Yes
F.4.3.4 (M) Brightness Control	Yes
F.5.1 (M) Transmission Speed	Nearly equivalent

F.5.1.1 (MO) Higher Speed	No
F.5.2.1M) Synchronous and Asynchronous	
Operation	Yes
F.5.2.2 (DO) Combined Capability	
(Comm Mode)	No
F.5.2.3 (M) Transmission Mode	Similar
F.5.2.4 (M) CR/X-OFF Selection	<u>No</u>
F.5.2.5 (M) Character and Block	
Transmission	No buffered TTY
F.5.2.6 (MO) Polling	Yes
F.5.3.1 (M) RS-423	Yes
F.5.3.2 (M) RS-422 ?	No
F.5.4 (M) Line Wrap Around	<u>No</u>
F.5.5.1 (M) Asynchronous Protocol (TTY)	Yes
F.5.5.2 (M) Asynchronous Protocol (Block)	Yes
F.5.5.3 (M) Synchronous Protocol	Yes
F.5.6 (M) Error Control	Yes
F.5.7 (MO) Direct Memory Access	No
F.6.1 (M) Tempest	Terminal only
F.7.1 (MO) DD 5260 Emulation	No
F.7.2 (MO) DD 5600 Emulation	No
F.7.3 (DO) Beehive 400 Emulation	No
F.8.1 (M) CAM Software	No

F.8.2 (M) Elapse	No
F.8.3 (M) Read Field	No
F.8.4 (M) Page Command	No
F.8.5 (M) Write to Field	No
F.8.6 (M) Clear n Characters	No
F.8.7 (M) Timed Read	No
F.8.8 (M) Read Tabs	No
F.8.9 (M) Move Cursor	Yes
F.9.1 (M) Design Considerations	Equivalent
F.9.2 (M) Quiet Operation	Yes
F.9.3 (MO) Tilting	No ·
F.9.4 (M) Color	Not specified
F.9.4 (H) 00101	Less
F.10.1 (M) Memory	
F.10.2 (M) Hardware Compatibility	Yes
F.10.3 (M) External Connectors	Not Specified
F.10.4 (M) Power Backup	No, but 33 ms power glitch
F.10.5 (M) Jump Start	No, but probably exists
F.10.6 (M) Expansion Space	No
F.10.7 (M) Reset	Yes
F. 10. / (H) Rescu	Equivalent
F.11.1 (M) Power	
F.11.2 (M) Temperature	Equivalent
F.11.3 (M) Humidity	Equivalent
F.11.4 (M) Power Cable	Equivalent

F.12.1 (M) Design Considerations	Equivalent
(Maintenance)	
F.12.2 (M) Access	Equivalent
F.12.3 (M) Adjustments	Equivalent
F.12.4 (M) Changeable Components	Equivalent
F.12.5 (M) Cables	Equivalent
F.12.6 (M) Self Test	Yes
F.12.7 (M) Diagnostics	Yes
F.12.7.1 (M) Diagnostic Operations	Yes

F.12.1 (M) Design Considerations	Equivalent
(Maintenance)	
F.12.2 (M) Access	Equivalent
F.12.3 (M) Adjustments	Equivalent
F.12.4 (M) Changeable Components	Equivalent
F.12.5 (M) Cables	Equivalent
F.12.6 (M) Self Test	Yes
F.12.7 (M) Diagnostics	Yes
F.12.7.1 (M) Diagnostic Operations	Yes

Declassified in Part - Sanitized Copy Approved for Release 2012/08/27 : CIA-RDP95-00972R000100170003-0 | MEMORANDUM FOR: Danny

I believe this is what you want. DIA was given a copy of our RFP some time ago. We are still talking to them.

NSA is looking at the suitability of our terminal. Delta Data told Hal that NSA had indicated some concern over those CIA terminals-obsoleting theirs. We will continue our dialog with everybody on this terminal.

STAT

ODP

Return to Sood report El. Montos to Honeles
They are wore defferences than I expected. I would never any moment that would never result in greater Community Date 28 March 1979

DDIP

26 Harch 1979

MERORANPUM FOR: Director Office of Data Processing

THROUGH

: Dejuty Director for Processing, OPP

STAT

FROM

Chief Engineer, Engineering Division, ODP

SUBJECT

: Comparison of CIA & NEA CPT Terminals

- 1. The specifications which controlled the procurement of our CRT terminal were prepared to met the requirements documented in ODP Report, "User Requirements for an Agency Soft Copy Computer Terminal", dated 26 October 1979. The terminal which could satisfy these requirements needed to be quite sophisticated and used state-of-the-art technology. The contract which was recently signed will provide the Agency with just such a high quality terminal, which because of it's flexibility, will be able to meet many Agency requirements in the next five years.
 - 2. There have been some questions raised concerning the terminal which MSA procured last year and why we couldn't use it. It is the intent of this memorandum to answer these questions. The Purchase Description for CRT Terminals, PDF C0-001/76, dated 4 Povember 1976 from NSA is the basis for the following comparison.
 - 3. There are some misconceptions about the USA terring 1 which should be cleared up before making the comperison:
 - a. The USA terminal does not meet full DACSEM 5100 when it is in the normal configuration.
 - b. The optional disk drives were not required to be Tempest approved.

- \$1740 Bis

- c. The cost of the NSA terminal is 93,800, however, in the normal configuration it is used with a cluster controller which is a seperately priced item.
- d. The price for the terminal was established about two years ago and does not contain a corresponding inflation factor. Belta Data said they are looning money on the FSA terminals and would not sail them at that price in the future.
- e. CIA is remping the bunefits of the Tempest development work which was part of the RSA contract. Without this previous effort our terminals would be more expensive and the delivery schedule significantly extended. The funds which we have allocated to Tampest are primarily for two items:
 - 1) Testing of the terminal for EACSPH 5100 compliance (there are sufficient differences between the two terminals to require re-testing).
 - 2) Development of Tempest floppy disk drives.
- 4. It should be noted that the CIA terminal could not be developed by any contractor for the price which has been negotiated (the competitive procurement was sent to 117 potential vendors). As a yardstick for comparison, the only known Tompest terminal which even comes close to our requirements (shout 60%) is a modified Hewlett-Packard for \$7000.

\neg	т	Λ	T	
•		\mathbf{L}		

Att: a/s

2

ATTACHMENT I

TERMINAL COMPARISON

.	~ ~	+11	~~	in	CTA	Ter	mina:	1
P (1.11		111	C 11		114 I 1 1 I I I I I I	٠.

NSA Terminal

F.2.1 (M) Standalone Terminal	Optional, normally clustered
F.2.2 (M) Configuration Variations	Less than CIA
F.2.2.1 (M) Functional Configuration	Less than CIA
F.2.3 (M) Local Peripheral Devices	No light pen, mouse, joystick
F.2.3.1 (M) Local Printer Characteristics	Not as many variations
F.2.3.2 (M) Simultaneous Operation	Yes, but concatenation not req.
F.2.3.3 (MO) Large Floppy Disk Drives	Yes, but not Tempest
F.2.3.4 (MO) Smaller Floppy Disk Drives	Мо
r.2.4 (M) Local Capability	No, but possible.
F.2.4.1 (M) Local Editing	Yes, but not as comprehensive
F.2.4.2 (M) Local Data Validation	No
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Equivalent
F.2.6 (M) Resident Monitor	No
P.2.7 (M) Programmability	Yes
F.2.7.1 (M) Changeable Firmware	Yes
F.2.7.2 (M) Changeable Firmware Image	Not dynamically
F.2.7.3 (MO) User Programmability	Limited, assembly lang. only

F. 2. 7. 4 (N) BASIC Language	No
F.2.7.5 (MO) Floppy Disk Operating	No PDOS, utility programs only
F. 2.7.6 (DO) Word Processing Software	No
F.2.8.1 (M) Assembly Language	Yes
F.2.8.2 (M) Debugger	Yce
F. 2.9 (H) Software Source Files and	
Listing	<u> Ро</u>
F.3.1 (M) Display Area and Format	Fourvalent
F.3.2 (DO) Hore Lines	No, 24 lines or less
F.3.3.1 (H) Screen Characteristics	Equivalent
F.3.3.2 (M) Cursor	Equivalent
F.3.3.3 (H) Tabbing	Equivalent
F.3.3.4 (M) Scrolling and Paging	Not req., probably in terminal
F.3.3.5 (N) Selective Bighlighting	Equivalent
F.3.3.6 (M) Displayable Storage	Less
F.3.3.7 (M) Field Blanking	No
F.3.3.8 (H) Field Protect	Yes
F.3.3.9 (H) Format Hode	Yes
F.3.3.10 (H) Screen Segmentation	Yes
F.3.3.11 (HO) Simple Graphics	Po
F.3.3.12 (HO) Larger Pisplayable Hemory	li c
. F.3.3.13 (H) Password Suppression	l'o
F.3.4 (M) Character Sets	Equivalent sets

F.3.4.1 (M) ASCII	Yes
F.3.4.2 (MO) APL	No
F.3.4.3 (MO) Other Character Sets	Yes
F.4.1.1 (%) Pollover	I c
F.4.1.2 (H) Detachable Reyboard	Yes, but not also attachable
F.4.1.3 (H) Layout (Reyboard)	Different
F.4.1.4 (H) Repeat Function	Yes
F.4.1.5 (H) Function Peys	Tever
F.4.1.6 (N) Shift Lock	Усе
F.4.1.7 (B) Color Coding (Reyboard)	Yes
F. 4.1.8 (M) Rey Caps	Yes
F.4.1.9 (M) Numeric Pad	No
F.4.1.10 (h) Reyboard Disable	Yen
F.4.1.11 (B) Acoustic Feedback	Но
F.4.1.12 (li) Programmed Terminators	li o
F.4.2.1 (HO) Light Pen	70
F. 4.2.2 (NO) Joystick	<u>Ro</u>
T.4.2.3 (h0) Fouse	lic
F.4.3.1 (8) Audible Alarm	Yeo
F.4.3.2 (r) Gn/Off Switch	Yes
F.4.3.3 (B) Statue Liphts	Yes
F.4.3.4 (H) Brightness Control	Тев
F.5.1 (M) Transmission Speed	Bearly equivalent

F.5.1.1 (HO) Higher Speed	No
P. 5. 2. 1M) Synchronous and Asynchronous	
Operation	Yes
F.5.2.2 (DO) Combined Capability	
(Comm Fode)	No
F.5.2.3 (N) Transmission Mode	Similar
F.5.2.4 (N) CR/X-OFF Selection	<u>Fo</u>
P.5.2.5 (M) Character and Block	
Transmission	No huffered TTY
F.5.2.6 (HO) Polling	Yes
F.5.3.1 (H) RS-423	Yea
「	Пе
F.5.4 (H) Line Wrap Around	lio
F.5.5.1 (N) Asynchronous Protocol (TTY)	Yes
F.5.5.2 (M) Asynchronous Protocol (Block)	Yes
F.5.5.3 (M) Synchronous Protocol	Tes
F.5.6 (M) Error Control	Yes
F.5.7 (HO) Direct Memory Access	Ro
F.6.1 (M) Tempest	Terrinel only
F.7.1 (HO) DD 5260 Emulation	Ко
F.7.2 (NO) DD 5600 Emulation	Fo
F.7.3 (DO) Beehive 400 Emulation	li o
F.8.1 (H) CAP Software	N o

F.8.2 (H) Elapse	no
F.8.3 (H) Read Field	По
F.S.4 (II) Page Command	Fo
F.8.5 (M) Write to Field	NO.
F.6.6 (H) Clear n Characters	No
F. 8.7 (h) Timed Read	li o
F.8.8 (H) Read Tabs	No
F.8.9 (N) Hove Cursor	<u> Үся</u>
F.9.1 (h) Peeign Considerations	Fauivalent
F.9.2 (H) Quiet Operation	Yes
F.9.3 (MO) Tilting	Fo
7.9.4 (H) Color	Not specified
F.10.1 (N) Memory	I.esu
F.10.2 (N) Wardware Compatibility	Yen
F.10.3 (N) External Connectors	For Specified
P.10.4 (M) Power Backup	No. but 33 me power glitch
F.10.5 (N) Jump Start	No, but probably exists
F.10.6 (M) Expansion Space	No
F.10.7 (11) Reset	Yes
F.11.1 (M) Power	Fquivalent
F.11.2 (H) Temperature	Equivalent
F.11.3 (N) Pumidity	Fow ivalent
P.11.4 (H) Power Cable	Lquivelent

F.12.1 (M) Design Considerations	Equivalent
(Maintenance)	
F.12.2 (M) Access	Fquivalent
F.12.3 (M) Adjustments	Equivalent
F.12.4 (H) Changeable Components	Equivalent
F.12.5 (M) Cables	Equivalent
F.12.6 (M) Self Test	Yes
F.12.7 (Y) Diagnostics	Yes
F.12.7.1 (M) Piegnostic Operations	Yes