Honeywell

System Startup Guide CD-ROM

SW11-500

Total Plant

Honeywell

Implementation
Startup & Reconfiguration - 1

System Startup Guide CD-ROM

SW11-500
Release 510
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TotalPlant

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About This Publication

This publication provides an example of the startup of a Total Plant Solution (TPS) Network System for Release 510 using Honeywell-supplied CD-ROMS. TPS is the evolution of TDC 3000^{X}

The tasks in this publication are intended to show you a system is initially configured. You should have filled in configuration forms based on the system you are working with, so you know exactly what information needs to be entered. If you are upgrading to a newer release of software, consult the *Customer Release Guide* for procedures. If you are reconfiguring an existing LCN network, refer to the *Network Data Entry* manual (see References).

You should know how to use functions such as the Command Processor, the Data Entity Builder, the Picture Editor, the Text Editor, etc., before attempting this procedure. In addition, you should know Global User Station (GUS) and Windows NT nagivation. This information is explained in the manuals listed in the References section of this manual.

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Table of Contents

INTRODUCTION
Section 1

1.1 SCOPE OF COVERAGE AND SUGGESTIONS

This "how-to" document covers the engineering tasks necessary to initially configure a History Module-based Total Plant Solution (TPS) System. Its step-by-step instructions cover all file and emulated disk manipulations necessary for initial system startup. It does not cover all permutations of data that can be entered. For instance, in developing the guide, we configured one Unit, one Area, a few points, and one Group; otherwise, the step-by-step instructions would have been far too bulky.

During Tasks 6-11 configure as much of the network as possible. At the very least, you will have to use the On-Line Network Reconfiguration procedures if you later wish to change the Network Configuration. Pay particular attention to accurately and completely configuring the History Modules; otherwise, you will have to perform time-consuming procedures if you have to change the History Module's volume configuration.

Refer to the Customer Release Guide to determine exactly what functions are included in the current software.

The procedures described in this publication require at least one Global User Station (GUS) with emulated disks from which configuration operations are performed.

1.2 HOW THIS STARTUP GUIDE IS ORGANIZED

This guide is organized as follows:

Section (Number and Title)	You Should Use the Information to
1. INTRODUCTION	Learn what this document is all about
2. OVERVIEW	Understand the overall System Startup process
3. INSTRUCTIONS	Take action necessary to start up your system
General Instructions	Understand the format of standard instructions
System Startup Task Record	Check off tasks completed & record information
Procedures	Know major objective for each set of tasks
One or more Tasks	Know subobjective represented by each task
Multiple Instructions	Know exact steps to accomplish each task
4. ERROR RECOVERY PROCEDURES	Solve a problem that you have encountered
A. APPENDIX	Load the GUS Personality into another Global Universal Station (GUS)
B. APPENDIX	Save Hiway Gateway checkpoint data in the History Module and on emulated disks
C. APPENDIX	Save Application Module checkpoint data in the History Module and on emulated disks
D. APPENDIX	Build points by exception
E. APPENDIX	Create exception build files from IDFS

1.3 HOW TO USE THE PROCEDURES IN THIS DOCUMENT

The procedures in this manual were developed on a sample system by the writers of this document and you can use them as a set of hard-and-fast rules for starting up a system.

One person can easily perform these procedures, but if two people are available, the most efficient method is to have one person read the step-by-step instructions while another person keys in the data.

1.4 WHAT TO DO BEFORE STARTING UP THE SYSTEM

Format History Modules

The system's hardware must be installed and checked out before performing system startup. Each History Module (HM) must be formatted before system startup. This is normally done at the factory. See your maintenance technician or Honeywell support engineer if there is any question.

Have Reference Material Available

You should have access to the publications listed under References during the entire system startup process.

Understand Various Responses After the Enter Key Is Pressed

In the Command Processor function, when the <ENTER> key is pressed, the command entered is redisplayed with all characters in the command in uppercase. In the Network Configuration functions, when the <ENTER> key is pressed, the data is entered and reappears in upper case and in cyan. Also in the Network Configuration functions, when a target (pick) is selected, it usually fills with full intensity white. After the <ENTER> key is pressed, the target reappears filled with half-intensity white. In Point Build, HG Library, and Area Database Parameter Entry Displays (PEDs), when the <ENTER> key is pressed the data entered reappears in cyan and in upper case.

Understand the Function of the HELP key

When you are entering configuration data, help information is available. If you get a red error message or if a data entry region reappears in red after you press the <ENTER> key, press the <HELP> key and any available help information is displayed.

Understand the Concept of Work Files

Work files accumulate configuration data that you enter until you perform an "install" function, which renames the work file to become your permanent site-specific configuration file.

Understand Time Delays

As you perform some of the procedures in this guide, time delays can occur. You may have to wait up to several minutes for a few of the responses listed in the instructions.

Printer Use

It is an advantage to have a printer attached to the Global User Station (GUS) where the configuration tasks are being performed. This allows you to print the display and perform file-print operations on that printer.

Understand How to Respond to Messages

The TPS *Messages Directory* gives you a definition of the message and error recovery procedures, if available.

Know What Files You Are Copying or Deleting

If you add "-D" at the end of command lines such as copy, delete, etc., the software lets you see exactly which files are being copied, deleted, etc. Using this feature allows you to know that all file operations are completed successfully.

1.5 REFERENCES

Publication Title	Pub Number	Binder
Advanced Process Manager Control Function and Algorithms	AP09-500	Implementation/Advanced Process Manager - 1
Advanced Process Manager Parameter Reference Dictionary	AP09-540	Implementation/Advanced Process Manager - 2
Application Module^{X} User Guide	AX09-500	Application Module^{X}
Button Configuration Data Entry	SW11-570	Implementation/Engineering Operations - 1
Command Processor Operation	SW11-507	Implementation/Startup & Reconfiguration - 1
Control Language/Application Module Data Entry	AM11-585	Implementation/Application Module - 3
Control Language/MC Reference Manual	PC27-510	Implementation/Hiway Gateway - 2
Control Language/MC Data Entry	PC11-585	Implementation/Hiway Gateway - 2
Configuration Data Collection Guide	SW12-500	Implementation/Startup & Reconfiguration - 2
Data Entity Builder Manual	SW11-511	Implementation/Engineering Operations - 1
Engineer's Reference Manual	SW09-505	Implementation/Startup & Reconfiguration - 2
Free Format Log Data Entry	HM11-560	Implementation/Engineering Operations - 1

1.5 REFERENCES (continued)

Publication Title	Pub Number	Binder
High-Performance Process Manager Control Function and Algorithms	HP09-500	Implementation/High-Performance Process Manager - 1
High-Performance Process Manager Parameter Reference Dictionary	HP09-540	Implementation/High-Performance Process Manager - 2
History Module Service	HM13-501	LCN Service - 2
HM History Group Form Instructions	HM12-500	Implementation/Engineering Operations - 1
Logic Manager Control Functions	LM09-500	Implementation/Logic Manager
Logic Manager Parameter Reference Dictionary	LM09-540	Implementation/Logic Manager
Messages Directory	SW09-507	Implementation/Startup & Reconfiguration - 3
Network Form Instructions	SW12-505	Implementation/Startup & Reconfiguration - 1
Network Gateway Implementation and Operation	NG09-510	Implementation/Network Gateway
Picture Editor Data Entry	SW11-550	Implementation/Engineering Operations - 3
PLC Gateway Control Functions	PL09-500	Implementation/PLC Gateway
Process Manager Control Functions and Algorithms	PM09-500	Implementation/Process Manager - 1
Process Manager Parameter Reference Dictionary	PM09-540	Implementation/Process Manager - 2
Control Language/Process Manager Data Entry	PM11-500	Implementation/Process Manager - 2
Process Operations Manual	SW11-501	Operation/Process Operations
Safety Manager Module Control Functions	SM09-500	Implementation/Safety Manager
Safety Manager Module Parameter Reference Dictionary	SM09-550	Implementation/Safety Manager
Text Editor Operation	SW11-506	Implementation/Engineering Operations - 3
GUS R510 Customer Release Guide	GU11-590	
Customer Release Guide, R510	SW11-591	TPS Network R510

1.6 THE SAMPLE SYSTEM THIS DOCUMENT IS BASED UPON

Figure 1-1 shows the system that this guide is based upon. Please memorize the definitions and be aware that your node numbers may be different. A Programmable Logic Controller Gateway (PLCG) and its associated controllers was also temporarily connected.

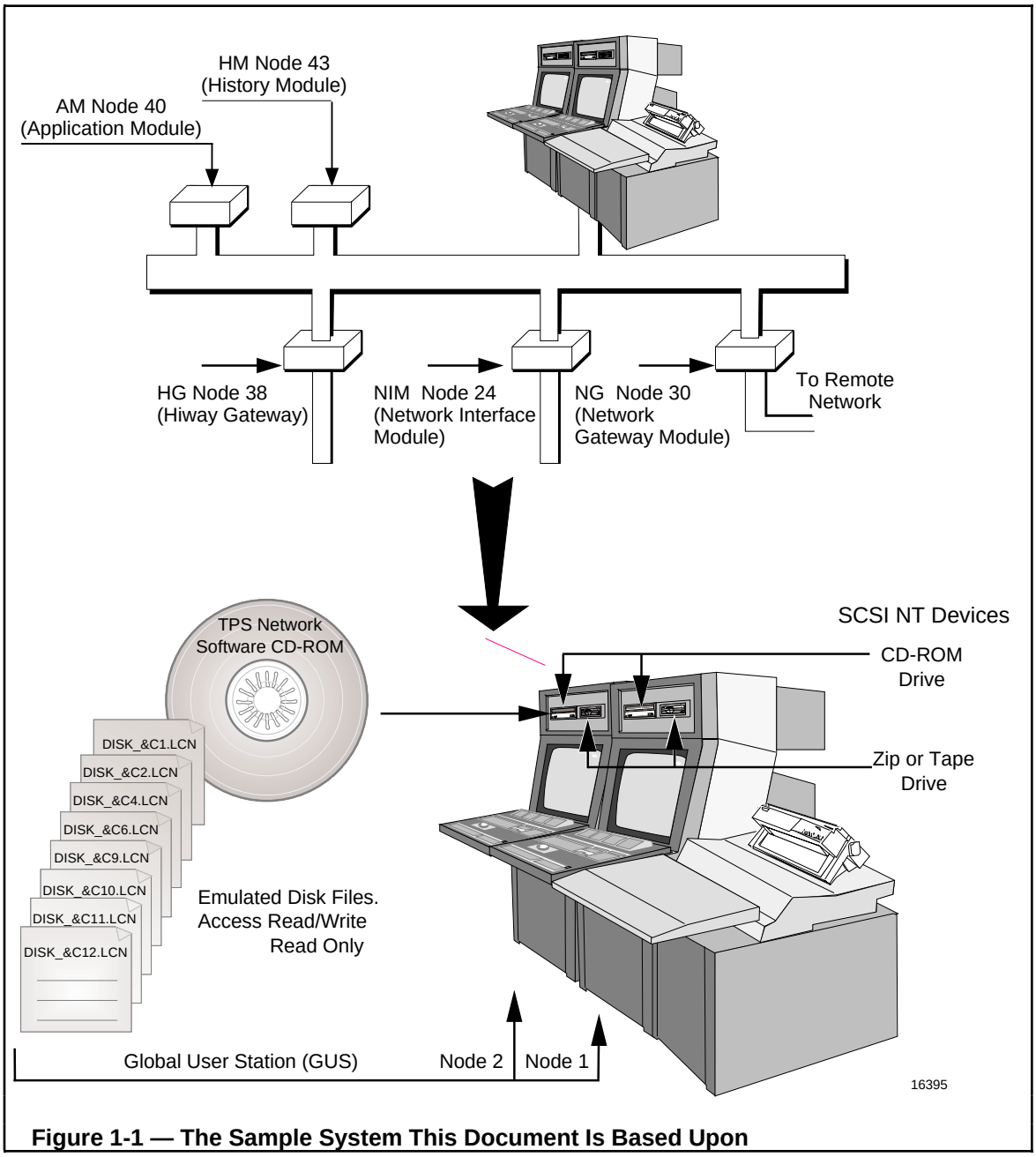


Figure 1-1 — The Sample System This Document Is Based Upon

OVERVIEW
Section 2

Figure 2-1 shows an overview of the build and modification sequences involved in the Total Plant Solution system startup process.

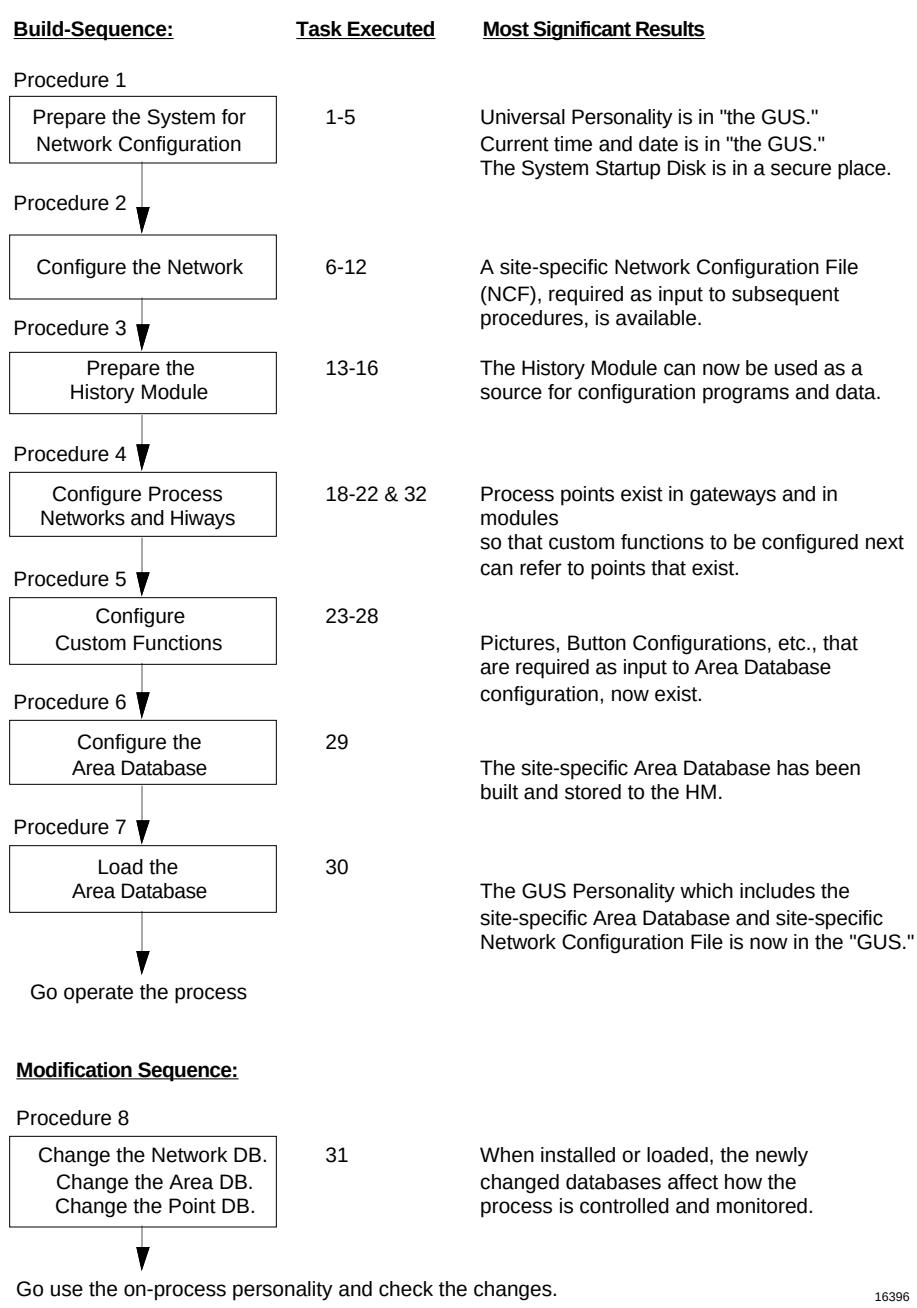


Figure 2-1 — Overview of the System Startup Process

INSTRUCTIONS
Section 3

3.1 GENERAL INSTRUCTIONS

The process of starting up a system is really the process of following step-by-step instructions that tell you how you use configuration programs and configuration data to specify the specifics of your unique site.

Program and Data Sources—During Tasks 2 through 16, the program and data sources are emulated disks. After the History Module (HM) has been loaded in Task 16, if it is necessary to restart the system, the GUS Personality must be loaded from W (for workstation); however, most other data and program sources can be read from the History Module by entering N (for NET) when the source is requested. Some infrequently used software is not loaded onto the HM, but can be accessed from emulated disks, if needed.

After an operating personality is running, emulated disks are accessed by their logical-device numbers (for example, $F1 for Drive 1 and $F2 for Drive 2, etc.).

Special Software—Two types of software are available for most node types. If a node contains an HMPU, K2LCN, or HPK2, you must load 68020 type software into that node. Also, in Task 10 you must specify the software used by these nodes as TYPE II (for example, HG II, USUNP II, etc.). If you do not know which nodes contain these boards, refer to Figure 3-2 for help. If a node contains a K4LCN, you must load 68040 type software into that node. In Task 10 you must specify the software used by these nodes as TYPE IV (for example, NIM IV, AM IV).

Organization—The organization of this section is based on the following hierarchy:

Procedure
  One or more Tasks
    Multiple Instructions

Eight procedures are made up of 32 individual tasks. The first seven procedures (Tasks 1-30 and 32) must be performed in sequence the first time you configure a system. Procedure 8 (Task 31) is a prerequisite for changing the database after your system is up and running on-process. Task 13 was made optional and moved to Appendix A, and Task 32, an addition, is located near the end of this manual. Some tasks instruct you to perform a task previously performed; therefore, the instructions in a given task are generally written as free-standing or re-entrant.

To make it easier for you to find a particular task, a task number has been printed in the upper left-hand and right-hand corner of each page. You can use the Table of Contents to first find Task Numbers and then find instructions.

Instructions—Instructions are presented as Action/Response pairs. Figure 3-1 shows the standard format of a sample task within a procedure. You must understand the parts of the standard format before performing the instructions that follow.

Examples—Examples are used extensively. They are based upon the sample system and example values used for developing this guide. If you decide to use the examples, you must substitute **your site-specific values** for our example values in most cases, but **be consistent**. Use the same Area and Console IDs throughout the procedure.

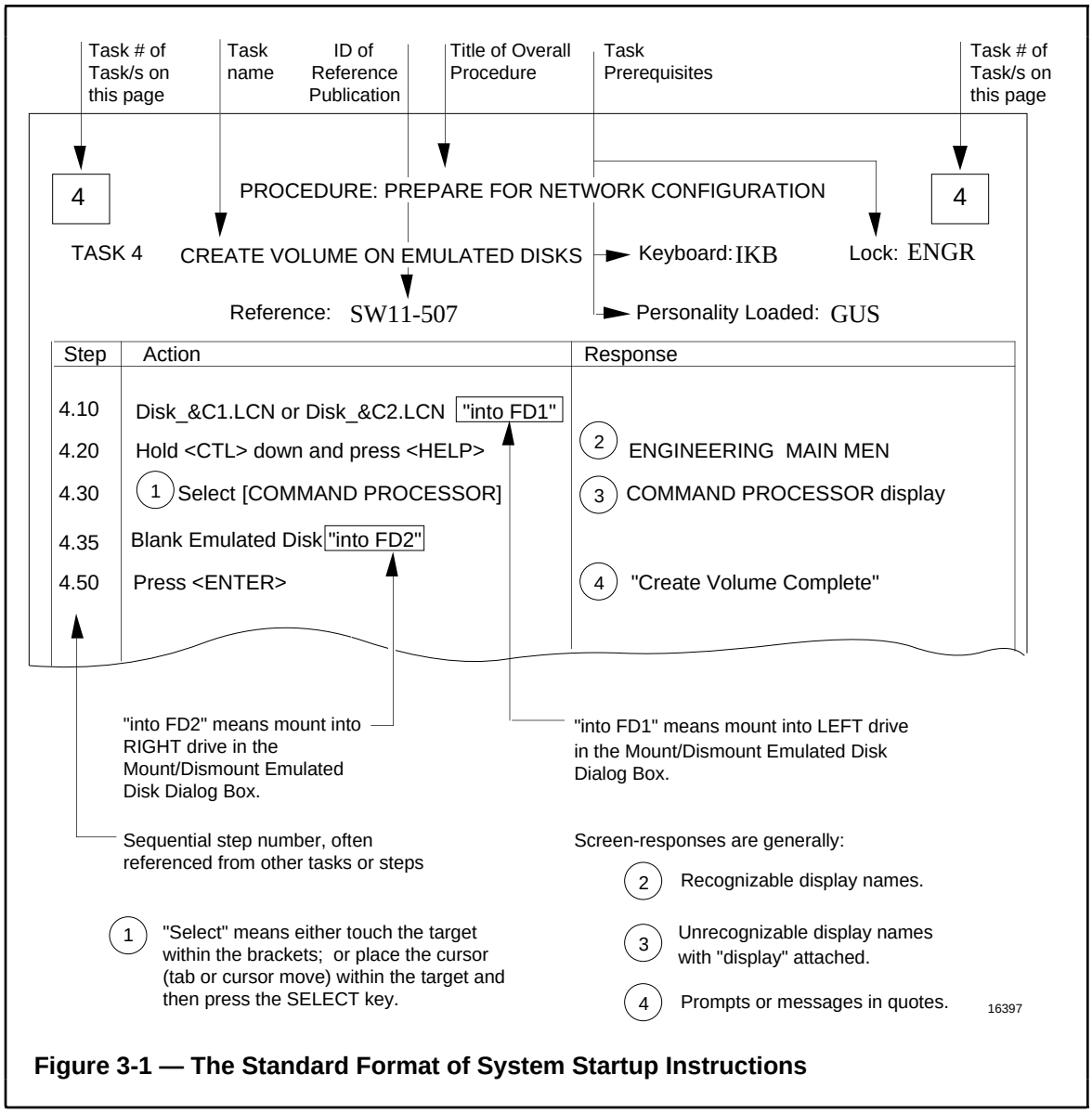


Figure 3-1 — The Standard Format of System Startup Instructions

3.2 SYSTEM STARTUP TASK RECORD

As each task is performed and completed you should record the indicated information and check the associated task box. You will find the recorded information useful to have when performing subsequent tasks.

Task # **Information to be recorded or checked off when configured.**

As you reset Nodes, check them off; also record Node Nos.

☐ 1 GUS ☐; AMs ☐; HMs ☐; HGs ☐; NIMs ☐; CIUs ☐ PLCGs ☐ NGs ☐; AXMs

_____; _____; _____; _____; _____; _____; _____; _____
_____; _____; _____; _____; _____; _____; _____; _____
_____; _____; _____; _____; _____; _____; _____; _____
_____; _____; _____; _____; _____; _____; _____; _____

☐ 2 Physical Device Nos:

Cartridge Drive Nos: ____, ____, ____, ____

Printers: _____, _____, _____, _____

☐ 3 ☐ 4 ☐ 5 ☐ 6

☐ 7 Unit IDs: ___; ___; ___; ___; ___; ___; ___; ___; ___; ___; ___; ___

Area Name: _____; Console Name: _____

☐ 8

☐ 9 Nodes: Type/Numbers : __/___, __/___, __/___, __/___, __/___, __/___

__/___, __/___, __/___, __/___, __/___, __/___

Hiway Numbers: ____, ____, ____, ____,

UCN Numbers: ____, ____, ____, ____,

☐ 10 Area Names: _____; _____; _____

User's Volume IDs:_____, _____, _____

* For configuration tasks in this document, CIU, CG, and CM broadly refer to the same thing.

SYSTEM STARTUP TASK RECORD (continued)

11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐

16 ☐ 17 ☐ 18 ☐ 19 ☐

☐ 20 Hiway Box Types/Box Nos/Slot Nos:

___/___/___ ___/___/___ ___/___/___ ___/___/___ ___/___/___

___/___/___ ___/___/___ ___/___/___ ___/___/___ ___/___/___

☐ 21 Point-IDF Names: _____; _____; _____; _____

Point IDs: _____

_____

☐ 22 Logic Block Conf.

☐ 23 Picture Filenames: _____

☐ 24 Button Filenames: _____

Picture _____/Button # _____; Picture _____/Button # _____

Picture _____/Button # _____; Picture _____/Button # _____

Picture _____/Button # _____; Picture _____/Button # _____

☐ 25 HG Library Names: _____

☐ 26 Free Format Log Filenames

☐ 27 HM History Groups

☐ 28 CL Configuration

☐ 29 Area Database—IDFs:_____

Areas Installed: _____

☐ 30 Node Numbers of USs Loaded: _____

☐ 32 Node (PMM) No./Primary (P),Redundant (R):

_____/___ _____/___ _____/___ _____/___ _____/___

3.3 NODE IDENTIFICATION

For nodes other than GUS nodes, Figure 3-2 shows how to determine what type of nodes you have, their node numbers, and which ones require 68020 vs 68040 software. Many modules have a tag to identify the module type. You will need this information when loading software, and for Task 10 configuration.

PRINTED WIRE BOARD A:

Board ID	Node Type
CNI	Plant Network
CLI	Computer Gateway
DHI	Hiway Gateway
NGI	Network Gateway
PNI/EPNI	Network Intf. Module
PLCI	PLC Gateway
WDC	History Module
AMR or EAMR	Redundant AM or AXM
SPC MMEM EMEM PMEM or no board	If the node contains an EPDG, TPDG, PDG or a VDG board in any slot, it is a US or UXS; if not, it is an AM or AXM. A UXS or AXM also contains a WSIboard.

PRINTED WIRE BOARD B:

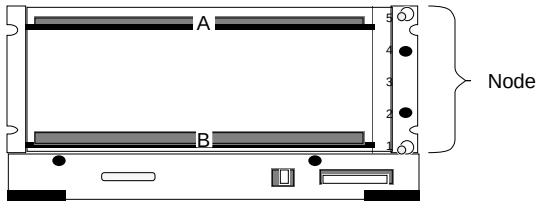
If printed wire board B is an HMPU, HPK2, or K2LCN, the node uses **Type II** software.

If printed wire board B is a K4LCN, the node uses **Type IV** software.

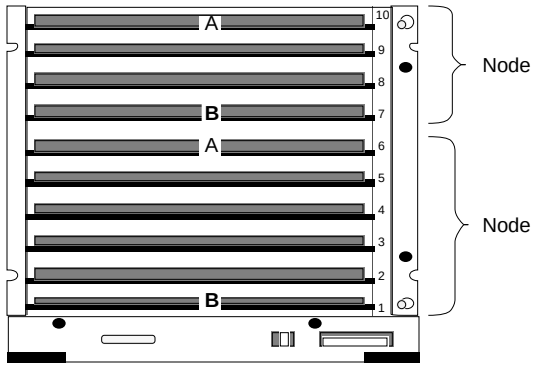
Examples:
Card Slot A = DHI
Card Slot B = HMPU
Node is Type II HG

Card Slot A = EPNI
Card Slot B = K4LCN
Node is a Type IV NIM

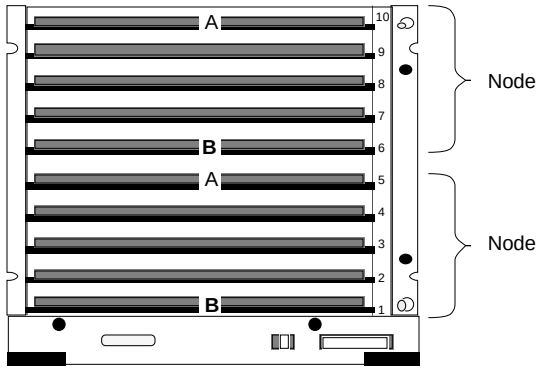
Node Number
The Node Number (or error code) is displayed on the board in slot B.



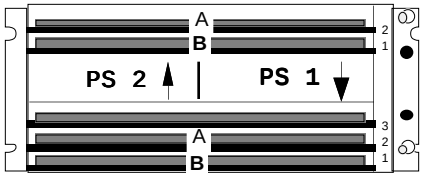
5 Card Slot Module



Split 6/4 Card Slot Module



Split 5/5 Card Slot Module



3/2 Dual Node Card File
(Arrows indicate which node receives power from the PS).

14901-A

Figure 3-2 — Node Identification

3.4 CD-ROM CONTENTS

GUS-TPS NETWORK SOFTWARE on CD-ROM

The GUS-TPS network software is provided to you on CD-ROM. The following emulated disk files, and personality images can be found on the related CD-ROM for this release.

Table 1-1 CD-ROM Contents for GUS-TPS Network Software

Emulated Disk File	Disk name/ Area Affected	Directories/Contents
DISK_&C1.LCN	System (for 68040)	&AMG (AM GDFs) &ARG (Area GDFs, initial area 00 files) &CUS (Custom backplane files) &DSY (Standard displays & display abstracts) &EC (Software migration command files & others) &HGG (HG GDFs) &LDR (Bootloader) &NMG, &NM2 (NIM GDFs) &OP1 (UNP Overlays) &OPR (US Oper Personality) &UNP (Universal
DISK_&C2.LCN	System (for 68020)	Same as &C1
DISK_&C4.LCN	Computer Gateway	Computing Module personalities (68020 & 68040)
DISK_&C6.LCN	Software Options	System Start-up, &ASY (64 Node NCF), &D01 (Null Area01.DA), CHCKPNT, S/W Options Key File (&KFO), TLK1, DIA1
DISK_&C9.LCN	Network Gateway	Network Gateway personalities (68020 & 68040)
DISK_&C10.LCN	Process Network	HM, HG personalities, UCN support files (68020 & 68040)
DISK_&C11.LCN	YH Support Files	EC, NIM, Global DES, Kanji, PM100
DISK_&C12.LCN	GUS Button File/ADB	Sample Button file and area database

NOTE

DISK_&C12.LCN contains a blank area database that references a sample button file configuration. The button file was created for use with a PC-101 keyboard and can be used as a template for creating your own custom button file.

GUS Workstation Personality installation files are found under directory PERS_US.

GUS-TPS APPLICATION MODULE on CD-ROM

Table 1-2 CD-ROM Contents for GUS-TPS Application Module

Emulated Disk File	CD Control No.	Disk name/ Area Affected	Directories/Contents
DISK_&C3.LCN	MP-M5AM31	Application Module	AM On-Process Personality, CL file read/write option package (68020 & 68040)

GUS-TPS HARDWARE VERIFICATION TEST SUITE (HVTS) on CD-ROM

Table 1-3 CD-ROM Contents for GUS-TPS Hardware Verification

Emulated Disk File	CD Control No.	Disk name/ Area Affected	Directories/Contents
DISK_&C5.LCN	MP-M5HW31	HVTS	Off-Line Verification & Test Systems

GUS-TPS MULTIPLE SCHEMATICS on CD-ROM

Table 1-4 CD-ROM Contents for GUS-TPS Multiple Schematics

Emulated Disk File	CD Control No.	Disk name/ Area Affected	Directories/Contents
DISK_MS.LCN	MP-SWXMS3	Multiple Schematics	MSCHEM, CSCHEM.LO custom load modules

GUS-UCN SIMULATORS

Table 1-5 CD-ROM Contents for GUS-UCN Simulators

Emulated Disk File	CD Control No.	Disk name/ Area Affected	Directories/Contents
DISK_USIM.LCN	MU-SWSM22	UCN Simulators	TPS Simulators for the APM and HPM. Includes the mountable volume: USIM

TPS Keyfile Options

Table 1-6 Floppy Disk Contents for TPS Keyfile Options

Emulated Disk File	CD Control No.	Disk name/ Area Affected	Directories/Contents
DISK_KF.LCN		Software Options	Software options Keyfile (&KFO)

GUS-Power PC (Base System)

Table 1-7 CD-ROM Contents for GUS-Power PC (Base System)

Emulated Disk File	CD Control No.	Directories/Contents
HI-BASESY	Base System	TDC Emulators, Native Window, LXS Interface, Integrated Keyboard Server, GUS Configuration Utility. Visual C++ Runtime Libraries Windows NT configured for GUS, under the \WINNT35 directory The file system, under the \BOOTNT 35 directory

GUS-POWER PC (PC SafeView)

Table 1-8 CD-ROM Contents for GUS-Power PC (PC SafeView)

Emulated Disk File	CD Control No.	Directories/Contents
HI-SFVIEW	PC SafeVoiew	GUS Safeview Visual C++ Runtime Libraries

GUS-POWER PC (Display Builder)

Table 1-9 CD-ROM Contents for GUS-Power PC (Display Builder)

Emulated Disk File	CD Control No.	Directories/Contents
HI-DSP100	Display Builder	Includes: Display Builder and Display Builder Runtime for PowerPC and Honeywell OLE for Process Control Data Server (HOPCSRVR) for the PowerPC.

GUS-INTEL OFF-LINE DISPLAY BUILD

Table 1-10 CD-ROM Contents for GUS-Intel Off-Line Display Build

Emulated Disk File	CD Control No.	Directories/Contents
HI-DISBLI	Off-Line Display Build	Includes: Off-Line Display Builder for Intel

1 PROCEDURE 1 – PREPARE FOR NETWORK CONFIGURATION 1

TASK 1 **RESET NODES and CREATE EMULATED DISKS**

Keyboard: N/A **Lock:** N/A

Reference: This Document **Personality Loaded:** N/A

NOTE

All GUS node addressing and configuration should be done prior to the beginning of Task 1. (See GUS R100, Customer Release Guide, for details.)

The following procedure places the CD-ROM emulated disk file names in the Available (Dismounted) Emulated Disks list. In order to actually use these emulated disks, the proper CD-ROM must be mounted at the time of their use. Steps are saved later by creating all the necessary files now.

Step	Action	Response
1.10	If not already running, execute the LCNP Status program from the "Honeywell GUS" program manager group and ensure that the LCNP is displaying the correct node number and is in the PWR_ON state.	
1.11	Start the Native Window program.	Native Window appears on the screen.
1.15	For all other LCN nodes: press the <RESET> button on the electronic chassis	Nodes go to a reset state **Note:** After reset, the indicators near the reset button display the Node Number
1.20	Record all node numbers	
1.25	**Turn power off to all HMs**	
1.26	Mount the TPS Network Software CD-ROM in the CD drive	
1.27	From Native Window Access menu select "Mount/Dismount Emulated Disks"	Mount/Dismount emulated disk dialog box appears
1.28	Select Create	Select Directory and Filename Dialog Box appears.
1.29	Select Drives (select CD drive letter)	Selected drive letter appears.
1.30	Select **DISK_&C1.LCN**	
1.31	Select OK	Emulated disk file is added to Available (Dismounted) Emulated Disks list.
1.32	Repeat Steps 1.28 - 1.31 for the following: **DISK_&C2.LCN** **DISK_&C4.LCN** **DISK_&C6.LCN** **DISK_&C9.LCN** **DISK_&C10.LCN** **DISK_&C11.LCN** **DISK_&C12.LCN**	

TASK 1 **RESET NODES and CREATE EMULATED DISKS** (continued)
Reference: This Document
Keyboard: N/A **Lock:** N/A
Personality Loaded: N/A

Step	Action	Response
1.33	Replace the TPS network software CD-ROM with the TPS AM CD; repeat steps 1.28 - 1.31 selecting DISK_&C3.LCN	**DISK_&C3.LCN** appears in the Available Dismounted Emulated Disk list.
1.34	Replace the TPS AM CD-ROM with the TPS Multiple Schematics Module CD; repeat steps 1.28 - 1.31 selecting DISK_MS.LCN	**DISK_MS.LCN** appears in the Available Dismounted Emulated Disk list.
1.35	Replace the TPS Multiple Schematics CD with the TPS network software CD and mount DISK_&C2.LCN in FD1 (Left); mount DISK_&C6.LCN in FD2 (Right)	
1.36	Place the TPS Keyfile Options floppy in the floppy disk drive; repeat steps 1.28 - 1.31 selecting the floppy disk drive and the file DISK_KF.LCN.	DISK_KF.LCN appears in the Available Dismounted Emulated Disk list.
1.37	Create several blank emulated disks on C:\USERS\TEMP\ for later use.	
1.40a	Select Create	Select Directory and Filename Dialog Box appears.
1.41b	Select the drive and directory where you want to store the emulated disk; type in the filename CNCF.LCN; press OK	
1.42c	Enter a size and allocation type and press OK to add the file to the Available Disks list. Read/Write minimum size = 20.	Emulated Disk file is added to Available Dismounted Emulated Disk list.
1.43d	Repeat steps 1.40 - 1.42 using the following disk names: **BKUPCNCF.LCN** **AREA_DB.LCN** **USER_VOL.LCN** **CHKPOINT.LCN**	

NOTE

If the “Mount/Dismount Emulated Disks” dialog page is exited and then restarted, previously created disk files may be inadvertently removed from the Available Disks list.

If the disk you need is not in the Available Disks list, repeat steps 1.26 - 1.31 to add the disk to the list again.

TASK 1 **RESET NODES and CREATE EMULATED DISKS** (continued)
Reference: This Document
Keyboard: N/A **Lock:** N/A
Personality Loaded: N/A

NOTE

Mount the appropiate CD in the CD-ROM drive to use the following emulated disks:

Use the GUS-TPS Network Software CD for:
- DISK_&C1.LCN
- DISK_&C2
- DISK_&C4
- DISK_&C6
- DISK_&C9
- DISK_&C10
- DISK_&C11
- DISK_&C12

Use the GUS-TPS Application Module CD for:
- DISK_&C3.LCN

Use the GUS-TPS Multiple Schematics CD for:
- DISK_MS.LCN

Use the GUS-TPS Keyfile Options diskette for:
- DISK_KF.LCN

Perform the following steps when a disk change is required during the execution of the PERS?VOL.EC file:

(√)_____1) DISMOUNT the currently mounted emulated disk and corresponding CD.

(√)_____2) MOUNT the required emulated disk and corresponding CD and continue as usual.

CAUTION

In the tasks that follow, you must load software appropriate for the node type. If the node contains an HMPU, HPK2,or K2LCN printed wiring boards, you must use 68020 type software. If the node contains a K4LCN printed wiring board, you must use 68040 type software (see Table 3-1). The first US is started on Area 01. GUS processor type selection is automatic.

TASK 2 **LOAD THE GUS PERSONALITY** **Keyboard:** IKB or PC **Lock:** ENGR
Reference: This Document **Personality Loaded:** none; reset

Step	Action	Response
2.10	Press (LOAD) on the IKB Keyboard (or <LOAD> on the Native Window Status Bar	"W,N,1,2,3,4,X?"
2.20	Press (1) then press (ENTER)	
2.21	Press (U) then press (ENTER)	Series of messages, ending with "NODE STARTING UP"... "NCF? N,1,2,3,4,X"
2.30	Press (2) and then press (ENTER)	"ABST N,1,2,3,4,X"
2.56	Press (1) and then press (ENTER)	"BUTT N, 1,2,3,4,X" (Will ask for button twice, but won't find any)
2.60	Press (1 or 2) and then press (ENTER)	SYSTEM STATUS Display appears
2.78	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
2.101	Select [**SUPPORT UTILITIES**]	SUPPORT UTILITY MENU
2.102	Select [**MODIFY VOLUME PATHS**]	MODIFY DEFAULT VOL PATHNAMES display
2.103	Select [**SET DEVICE PATH TO REM. MEDIA**]	Paths are changed from NET to $Fn, $Fn+1 (EG: $F1 and $F2)
2.104	Select [**MAIN MENU**]	ENGINEERING MAIN MENU
2.110	Select [**CONSOLE STATUS**]	CONSOLE STATUS AND ASSIGN display

TASK 2 LOAD THE GUS PERSONALITY
(continued)
Reference: This Document

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: none; reset

Step	Action	Response
2.120	Record device numbers for the printer and the drives. Skip to Step 3.30.	PRINTER DRIVES ACCESS ----- -------, ------- ENGR **NOTE:** If the drive numbers are other than 1 and 2, remember to substitute the correct numbers in place of $F**1** and $F**2** or FD**1** and FD**2** wherever these are used in the tasks that follow.

TASK 3 SET TIME AND DATE
Reference: This Document

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: Universal

Step	Action	Response
3.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
3.20	Select [**SYSTEM STATUS**]	CONSOLE STATUS AND ASSIGN display
3.30	Select [**TIME/DATE]**	"ENTER TIME: HH MM" appears at top left
3.50	Key in hours-space-minutes	EG: 14 25
3.60	Press <ENTER>	EG: 14:25 in upper-right corner, "ENTER DATE: DD MMM YY" in upper left corner
3.80	Key in days-space-month-space-year	EG: 15 JUN 95
3.90	Press <ENTER>	EG: 15: Jun 95 in upper right corner

TASK 4 **CREATE VOLUMES ON EMULATED DISKS** **Keyboard:** IKB or PC **Lock:** ENGR

Reference: SW11-507 **Personality Loaded:** GUS

Step	Action	Response
4.10	**DISK_&C1.LCN** or **DISK_&C2.LCN** into FD1	
4.20	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
4.30	Select **[COMMAND PROCESSOR]**	COMMAND PROCESSOR display
4.35	Dismount **DISK_&C6.LCN** Mount **CNCF.LCN**	
4.50	Key in a Create Volume command.	EG: **CR $F2>CNCF>**
4.51	Press <ENTER>	"VOLUME CORRUPTED" or "CREATE VOLUME COMPLETE"
4.52	Key in a Create Volume command.	EG: **CR $F2>CNCF> -MF 1000 -BS 512**
4.53	Key in a Create Directory command for the &CUS volume.	**CD $F2>CNCF> &CUS**
4.54	Press <ENTER>	"CREATE DIRECTORY COMPLETE"

NOTE

A 20 MB emulated disk supports up to 9995 files; however, some operations will be slowed as a function of the size of the directory; this example specifies 1000 files. Refer to the Command Processor manual for the maximum number of files supported by larger disks.

4.55	Key in a Create Directory command for the &ASY volume.	EG: **CD $F2>CNCF> &ASY**
4.56	Press <ENTER>	"CREATE DIRECTORY COMPLETE"
4.57	Repeat steps 4.55 and 4.56 to create &KFO volume.	EG: **CD $F2>CNCF> &KFO**
4.65	Remove the formatted emulated disk from FD2	This will be the system-specific NCF.
4.66	Repeat steps 4.35 – 4.57 with emulated disk **BKUPCNCF.LCN** (using same commands)	These volumes are used for backing up customer databases as suggested in the note at the end of Task 29.

TASK 4 **CREATE VOLUMES ON EMULATED DISKS**
Reference: SW11-507

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: Universal

Step	Action	Response
4.70	Repeat the Create Volume and Create Directory steps using the Volume/Directory names below to create additional volumes for future use.	
	1. Mount **AREA_DB.LCN** (Area Database) in FD2. for area button file for custom files Repeat step 4.70 if you have additional areas.	EG: **CR $F2>AR01>** **CR $F2>AR01> -F -MF 1000 -FD** **CD $F2>AR01> &D01** **CD $F2>AR01> BUTT** **CD $F2>AR01> &CUS** EG: **CD $F2>AR02> &D02** **CD $F2>AR03> &D03**
	2. Mount **USER_VOL.LCN** (Volumes) in FD2 for data points for custom graphics for CL.	EG: **CR $F2>USER>** **CR $F2>USER> -F -MF 1000 -FD** **CD $F2>USER> HMV1** **CD $F2>USER> PICT** **CD $F2>USER> CL**
4.80	Repeat the Create Volume steps to create a checkpoint volume; Mount **CHKPOINT.LCN** in FD2.	EG: **CR $F2>CKPT>** **CR $F2>CKPT> -F -MF 1000 -FD**

TASK 5 **COPY FILES**
Reference: SW11-507

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
5.10	If the COMMAND PROCESSOR display is still on the US go to step 5.20; if not, hold <CTL> down and press <HELP>. Then, Select [**COMMAND PROCESSOR**]	COMMAND PROCESSOR display
5.20	**DISK_&C6.LCN** into FD1	
5.30	Mount the **CNCF.LCN** emulated disk created in steps 4.50 – 4.65 into FD2. Key in a copy command for the NCF files.	EG: **CPV $F1>&ASY> $F2>&ASY> -D** [where $F1 and $F2 are the drive numbers assigned in the **DISK_&C6.LCN** disk (see step 2.120) or in Task 9 if the NCF has been installed (see step 9.95); these may differ]
5.35	Press <ENTER>	Lists files copied, followed by: "COPY VOLUME COMPLETE"
5.36	Key in a copy volume command for the Key File Option files.	EG: **CPV $F1>&KFO> $F2>&KFO> -D**

TASK 5 **COPY FILES** (continued) **Keyboard:** IKB or PC **Lock:** ENGR

Reference: SW11-507 **Personality Loaded:** GUS

Step	Action	Response
5.40	Press <ENTER>	"COPY VOLUME COMPLETE"
5.42	Key in a copy volume for the &D01 File (&D01 contains null Area 1 and Button Files).	EG: **CPV $F1>&D01> $F2>&D01> -D**
5.44	Press <ENTER>	"COPY VOLUME COMPLETE"
5.60	If you intend to assign this GUS to any area 2 - 10, go perform steps 5.64 – 5.78. **DISK_&C6.LCN** should be FD1 and **CNCF.LCN** in FD2.	**Note:** This GUS started up on Area 1. The proper area database is needed to reload if intention is to configure this GUS on another area.
5.64	Create a &D**nn** directory for whatever Area you will assign this GUS to (**nn** = 02 - 10).	EG: **CD $F2>CNCF> &D03** (where **nn** = **03** for this example)
5.66	Press <ENTER>	Create Dirctory Complete
5.70	Copy/Rename the &D01 volume for whatever Area (Dnn) you will assign this US to.	EG: **CPV $F1>&D01> $F2>&D03> -D** (where **nn** = **03** for this example)
5.74	Press <ENTER>	"COPY VOLUME COMPLETE"
5.76	Rename the added area file within &Dnn	EG: RN $F2>&D03>AREA01.DA AREA03
5.78	Press <ENTER>	RENAME COMPLETE

Figure 3-3 shows a graphic representation of the Tasks (6-11) that must be performed to Configure the Network.

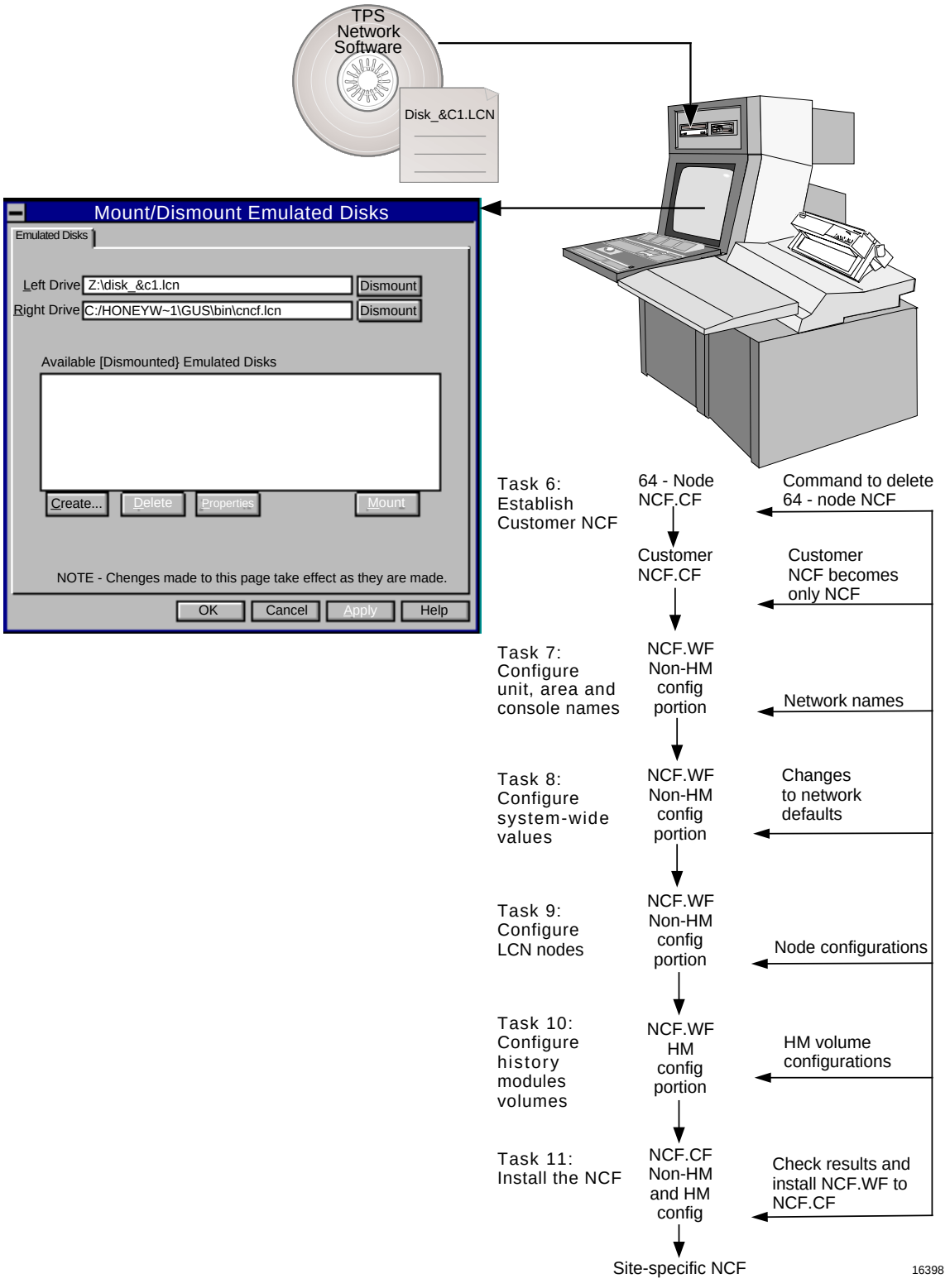


Figure 3-3 — Overview of Configuring the Network

TASK 6 **ESTABLISH CUSTOMER NCF** **Keyboard:** IKB or PC **Lock:** ENGR

Reference: SW11-505 **Personality Loaded:** GUS

Step	Action	Response
6.10	Mount **DISK_&C1.LCN** or **DISK_&C2.LCN** into FD1, **CNCF.LCN** into FD2	CNCF is the primary copy made in Task 5.
6.20	If the COMMAND PROCESSOR display is on screen, go to step 6.50; if not, hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
6.30	Select [**COMMAND PROCESSOR**]	COMMAND PROCESSOR display
6.50	Use FD2 device number from step 2.120 and delete the NCF files	EG: **$F2** EG: **DL $F2>&ASY>NCF.* -D**
6.60	Press <ENTER>	"DELETE COMPLETE"
6.70	Key in a rename command (Rename customer NCF file)	EG: **RN $F2>&ASY>CSTMRNCF.CF NCF**
6.80	Press <ENTER>	"RENAME COMPLETE"
6.90	Go to step 7.10. Be sure to read the warning below.	

WARNING

YOU SHOULD PERFORM TASKS 7 THROUGH 11 SEQUENTIALLY WITHOUT INTERRUPTION. DO NOT INTERRUPT THE SUGGESTED SEQUENCE AND DO NOT REMOVE THE CNCF DISK FROM THE DRIVE UNLESS YOU DO ONE OF THE FOLLOWING FIRST:

1. Return to Engineering Main Menu by holding <CTL> down and pressing <HELP>
2. Perform the Install NCF function (Task 11).

TASK 7 CONFIGURE UNIT, AREA, CONSOLE NAMES **Keyboard:** IKB or PC **Lock:** ENGR

Reference: SW11-505 **Personality Loaded:** GUS

NOTE

If you are not entering data from filled in configuration forms or if you want a printout of your entries, select File/Print Display to get a screen print after each configured page has been entered in Tasks 7-10.

Step	Action	Response
7.10	Mount **DISK_&C1.LCN** or **DISK_&C2.LCN** into FD1, **CNCF.LCN** into FD2	
7.20	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
7.30	Select [**UNIT NAMES**]	EDIT UNIT NAMES—PAGE 1 display
7.32	If the words OFF LINE appears at the end of the 2nd line on the screen header, skip to step 7.40.	NCF.CF time stamp does not match network; Use F3 for OFF LINE to complete "Enter"
7.35	Set NCF to " OFF LINE" Hold <CTL> down and press <3>	Warning Message: "OFF LINE" (Ignore backup reminder for now)
7.38	Press <ENTER>	EDIT UNIT NAMES display
7.40	Key in a UNIT ID and DESCRIPTION for each line item as required.	EG: **01** and **UNIT 1** for line 1
7.50	When finished, press <ENTER>	Values and ports reappear in cyan
7.52	Page forward, if necessary, and continue entries. Press <ENTER> after each page.	
7.60	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
7.70	Select [**AREA NAMES**]	EDIT AREA NAMES display
7.80	Key in a AREA NAME and DESCRIPTOR for each line item as required. Do not leave blank lines between entries. **Note:** An Area Name cannot contain spaces.	EG: **BOILER1** for line 1 Area Name EG: **AREA_1** for Area 1 Description EG: **REACTOR** for line 2 Area Name EG: **AREA _2** for Area 2 Description
7.90	When finished, press <ENTER>	Values and ports appear in cyan
7.100	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
7.110	Select [**CONSOLE NAMES**]	EDIT CONSOLES NAMES display
7.120	Key in a Console Description for each line item as required.	EG: **AREA_1 CONSOLE** for line item #1.
7.130	When finished, press <ENTER>	Values and ports appear in cyan

TASK 8A **CONFIGURE SYSTEM WIDE VALUES** **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-505 **Personality Loaded:** GUS

Step	Action	Response
8.10	Ensure **DISK_&C1.LCN** or **DISK_&C2.LCN** in FD1; **CNCF.LCN** into FD2	
8.20	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
8.30	Select [**SYSTEM WIDE VALUES**]	SYSTEM WIDE VALUES MENU display
8.33	Select [**SYSTEM ID**]	SYSTEM ID display
8.36	Key into SYSTEM DESCRIPTOR port	EG: **PLANT NUMBER 1**
8.39	Key into SYSTEM ID port	**Note**: No entry is required.
8.42	Press <ENTER>	Values and ports reappear in cyan
8.45	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
8.48	Select [**CLOCK SOURCE**]	CLOCK SOURCE display
8.51	Key into CLOCK LOCATIONS port (lowest number goes in left port)	EG: **24** and **38**
8.54	Press <ENTER>	Values and ports reappear in cyan
8.57	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
8.60	Select [**USER AVERAGE PERIOD**]	USER AVERAGE PERIOD display
8.63	Select a User Average Period	EG: **5 MINUTES**
8.66	Press <ENTER>	Values and ports reappear in cyan
8.69	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
8.72	Select [**SHIFT DATA**]	SHIFT DATA display
8.75	Key in changes as required	
8.78	Press <ENTER>	Values and ports reappear in cyan
8.81	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
8.84	Select [**CONSOLE DATA**]	CONSOLE DATA PAGE 1 display
8.85	Printed Trend Format must be set to [NUMERIC]	Required for correct operation of Trend printing.
8.86	Real Time Journal Header/Trailer Messages Select [BEG/END]	Required for correct operation of RTJ printing.

TASK 8A **CONFIGURE SYSTEM WIDE VALUES** (continued)
Reference: SW11-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
8.87	Key in/select changes as desired for all pages all pages (1-8). **Note**: NCF data at the top of the first page is read only (for reference).	EG: (on page 3) Alarm Summary Freeze Timeout (seconds): **180**
8.90	Press <ENTER>	Values and ports reappear in cyan
8.95	Press <PAGE FWD>	CONSOLE DATA—Page n display
8.110	Repeat steps 8.87 – 8.95 until pages 1 through 8 have been viewed and modified as required.	**Note**: Pages 9 and beyond are reserved. Do not change them without specific instructions.
8.111	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
8.114	Select [**SOFTWARE OPTIONS**]	SOFTWARE OPTIONS display
8.118	Ensure **CNCF.LCN** in FD2	"No Software Options" message
8.119	Dismount **DISK_&C1.LCN** or **DISK_&C2.LCN** from FD1	
8.120	Mount **DISK_KF.LCN** in FD1 and ensure that the TPS Keyfile Options diskette is in the floppy drive.	
8.122	Return focus to Native Window. Hold down <CTL> and press <0>	
8.136	Press <ENTER>	"BUSY"—SOFTWARE OPTIONS display
8.138	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
8.139	Dismount **DISK_KF.LCN** from FD1 and mount **DISK_&C1.LCN** or **DISK_&C2.LCN** again.	
	If you do not have a Network Gateway, skip to step 8.172	Note that NG Local System Ids must be configured before NG LCN Nodes
8.140	Select [**NG LOCAL SYSTEM ID**]	NG LOCAL SYSTEM ID display
8.144	Key into LOCAL SYSTEM NUMBER port	EG: **1**
8.148	Key into SYSTEM TITLE port (the first character must be an alpha)	EG: **P1**
8.152	Key into SYSTEM DESCRIPTION port	EG: **Plant Number 1**
8.156	Select a PIN ADDRESSING FORM option	EG: **LOCAL**
8.160	If you selected GLOBAL (above), key into GLOBAL VENDOR NUMBER port	EG: (Honeywell supplied IEEE number)

TASK 8A **CONFIGURE SYSTEM WIDE VALUES** (continued)
Reference: SW11-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
8.164	Press <ENTER>	Values and ports reappear in cyan
8.168	If you have other NGs repeat steps 8.144 through 8.164 for each.	Syst. Wide Value configuration for NGs continues in Task 8B after node configuration and HM volume configuration
8.170	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
8.172	Select [**TAG NAME OPTIONS**]	TAG NAMES display
8.176	Select a Tag Name option	EG: **LONG**
8.180	If you selected LONG, make a Formatting choice	EG: **YES**
8.184	Press <ENTER>	Values and ports reappear in cyan
8.186	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
8.198	Hold <CTL> down and then press <HELP>	ENGINEERING MAIN MENU

TASK 8B **CONFIGURE SYSTEM WIDE VALUES** (continued)
Reference: SW11-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	Copy GUS Custom Backplane Software	
8.20	Ensure **DISK_&C1.LCN** or **DISK_&C2.LCN** in FD1, **CNCF.LCN** in FD2	
8.21	Select [COMMAND PROCESSOR]	COMMAND PROCESS display
8.22	Key in a copy command for the GUS custom backplane files;	EG: "cp $Fs>&CUS>UPBASE.LO $Fd>&CUS>= -D"
8.23	Remove the TPS Network Software CD from the drive.	
8.24	Dismount **DISK_&C2.LCN** from FD1.	
8.25	Place the TPS Multiple Schematics CD in the drive.	
8.26	Mount **DISK_MS.LCN** in FD1.	**DISK_MS.LCN** is now mounted in FD1.
8.27	From the [COMMAND PROCESSOR] key in a copy command for the GUS custom backplane files;	EG: "cp $Fs>&CUS>SCHEM.LO $Fd>&CUS>= -D"
8.28	Remove the TPS Multiple Schematics CD and replace it with the TPS Network Software CD.	

TASK 8B **CONFIGURE SYSTEM WIDE VALUES** (continued)
Keyboard: IKB or PC **Lock:** ENGR
Reference: SW11-505 **Personality Loaded:** GUS

Step	Action	Response
8.29	Dismount **DISK_MS.LCN**	
8.30	Mount **DISK_&C2.LCN** in FD1	**DISK_&C2.LCN** is mounted.
8.31	Key in the Set Path command; type SP and press **<ENTER>**	Modify Volume Pathnames display.
8.32	Modify the volume path for EXT LOAD MODULES to now point to the logical device id of FD2.	
8.33	Press **<ENTER>**	
8.34	Hold <CTL> down and press <HELP>	Engineering Main Menu appears on screen.

9 PROCEDURE 2: CONFIGURE THE NETWORK 9

TASK 9 **CONFIGURE LCN NODES**
Keyboard: IKB or PC **Lock:** ENGR
Reference: SW11-505 **Personality Loaded:** GUS

WARNING

You must configure the Global Universal Station (GUS) you are using for system startup; otherwise, you will not be able to successfully start up your system. During Network Configuration, each display where you enter data must say OFF LINE at the end of line 2.

Step	Action	Response
9.10	Ensure **DISK_&C1.LCN** or **DISK_&C2.LCN** in FD1, **CNCF.LCN** in FD2	
9.20	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
9.30	Select [**LCN NODES**]	LCN NODE CONFIG—Page 1 display
	If necessary, <PAGE FWD> until you see the node number for one of your GUSs.	EG: **NODE 1** LCN NODE CONFIG—Page n display
9.50	Select a GUS Node Number	(EG: **1**) SELECT NODE TYPE display
9.60	Select [**UNIVERSAL STATION**]	UNIVERSAL STATION NODE display
9.70	Key into CONSOLE # port	EG: **01** (for nodes 1 and 2)
9.80	Key into STATION # port	EG: **1** for node 1 (2 for node 2)
9.90	Key into DEFAULT AREA port	EG: **BOILER1** (for nodes 1 and 2)

TASK 9 **CONFIGURE LCN NODES** (continued)
Reference: SW11-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
9.95	Key into CARTRIDGE DISK NUMBERS ports (ALWAYS) EG: on next pass:	EG: **1** and **2** for node 1 **3** and **4** for node 2 , etc.
9.110	Key into PRINTER NUMBER ports	EG: **1** for node 1, 2 for node 2, etc.
9.130	Select ACCESS LEVEL option	EG: [**OPER**] for nodes 1 and 2
9.134	Select DEFAULT LOAD PERS. option	EG: [**UP**] for nodes 1 and 2
9.140	Select OPERATORS KEYBOARD option (ALWAYS)	EG: [**YES**] for nodes 1 and 2
9.150	If this GUS supports touch screen, select TOUCH SCREEN option.	EG: [**YES**] for nodes 1 and 2
9.160	Select ENGINEERS KB option (ALWAYS).	EG: [**YES**] for nodes 1 and 2
9.161	<PAGE FWD> to enter values on the second page of the Universal Station display	Universal Station Node page 2 of 2
9.162	Enter the following information for the External Load Module Names: Name Pers UPBASE UP MSCHEM UP CSCHEM UP	
9.163	Press <ENTER>	Values and ports reappear in cyan.
9.164	Add 2000 to the Total (Modules plus additional memory) number displayed above the Maximum External Module Memory port; type the result in the Maximum External Module Memory port for “UP” personality.	
9.165	Press <ENTER>	Values and ports reappear in cyan.
9.180	If more GUSs, OPR, UNP, or UXSs need to be configured, you can hold <CTL> down,press <PAGE BACK>, and go back to step 9.50.	EG: **2** (configure as before, except Station 2, etc.)
9.190	Hold <CTL> down, press <PAGE BACK>	LCN NODE CONFIG—Page 1 display.
9.195	<PAGE FWD> look for NIM node number (if no NIM on system, skip to 9.254)	LCN NODE CONFIG—Page n display.
9.200	Select a NIM Node Number. If no NIM on system, skip to 9.254.	EG: **24**, SELECT NODE TYPE display
9.210	Select [**NETWORK INTERFACE MODULE**]	NETWORK INTERFACE MODULE Display
9.220	Key into REDUNDANT MEMBER ID port	EG: **25** or 0 if none

TASK 9 **CONFIGURE LCN NODES** (continued)
Reference: SW11-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
9.230	Key into UNIV. CONT. NETWORK port	EG: **3**
9.242	If you have External Load Modules that affect the NIM, press <PAGE FWD>	EXTERNAL LOAD MODULE display This can be done later with the On-Line Reconfiguration feature.
9.243	Key in data, select items as necessary	Obtain entry information from the External Load Module documentation.
9.244	After last data is entered, press <ENTER>	Values and ports reappear in cyan
9.245	Repeat 9.190 – 9.244 for each NIM node pair.	
9.250	Hold <CTL> down, press<PAGE BACK>	LCN NODE CONFIG - Page n display.
9.254	<PAGE FWD> (if necessary) to NG node # If no NG on system, skip to 9.284.	LCN NODE CONFIG -- Page n display.
9.258	Select a Network Gateway Node Number	EG: **30**, SELECT NODE TYPE display
9.260	Select [**NETWORK GATEWAY]**	NETWORK GATEWAY MODULE DISPLAY
9.264	Key into PIN LOCAL ADDRESS port	EG: **8**
9.266	Key into PIN GLOBAL ADDRESS part (first half Honeywell provided global address, if any)	EG: No entry.
9.268	Select CABLES FOR OUTPUT	EG: **A**
9.272	If you have External Load Modules that affect the NG, press <PAGE FWD>	EXTERNAL LOAD MODULE display This can be done later with the On-Line Reconfiguration feature.
9.274	Key in data, select items as necessary	Obtain entry information from the External Load Module documentation.
9.276	After last data is entered, press <ENTER>	Values and ports reappear in cyan
9.278	Repeat 9.250 – 9.276 for each NG node pair.	
9.280	Hold <CTL> down, press<PAGE BACK>	LCN NODE CONFIG -- Page n display.
9.284	<PAGE FWD> (if necessary) to HG node # (if the system doesn't have an HG or a PLCG, skip to step 9.318)	LCN NODE CONFIG—Page n display

TASK 9 **CONFIGURE LCN NODES** (continued)
Reference: SSW11-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
9.288	Select an HG or PLCG Node Number **Note:** HG and PLCG LCN nodes are configured exactly the same, but must be on different Data Hiways.	(EG: **38**) SELECT NODE TYPE display
9.290	Select [**HIWAY GATEWAY**]	HIWAY GATEWAY NODE display
9.294	Key into REDUNDANT MEMBER ID port	EG: **39** (using the next highest number for the REDUNDANT ID is recommended or 0 if none.)
9.298	Key into HIWAY NUMBER port	EG: **2**
9.304	If you have External Load Modules that affect the HG, press <PAGE FWD>	EXTERNAL LOAD MODULE display. This can be done later with the On-line Reconfiguration feature.
9.308	Key in data, select items as necessary. Press <ENTER> after last page	Obtain entry information from the External Load Module documentation.
9.310	Repeat 9.280 - 9.308 for each HG node pair.	
9.314	Hold <CTL> down, press<PAGE BACK>	LCN NODE CONFIG—Page n display
9.318	<PAGE FWD>; look for AM node No. (If the system does not have an AM, skip to step 9.372).	LCN NODE CONFIG—Page n display
9.322	Select an AM or A^{X}M Node Number	(EG: **40**) SELECT NODE TYPE display
9.326	Select [**APPLICATION MODULE**]	APPLICATION MODULE NODE display
9.328	REDUNDANT MEMBER Node ID port	EG: **0** (Enter node number or enter 0 if no redundant node)
9.340	Select a STARTUP MODE option	EG: [**Cold**]
9.344	Key into ASSIGNED UNITS port (the units must have been previously configured) Do not press Enter yet.	EG: **01** (multiple units must be separated by commas or spaces e.g., 01,A1,)
9.346	If AM/CL Background functions are used, or if this is an A^{X}M, or if Custom AM Software will be used, Go to the next step— If not, skip to step 9.360	

TASK 9 **CONFIGURE LCN NODES** **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Reference: SW11-505, AM12-510, AX11-500 **Personality Loaded:** GUS

Step	Action	Response
9.350	<PAGE FWD> to page 2.	USER MEMORY ALLOCATION display.
	Type in Page 2 information. Obtain from: *AM Implementation Manual* (Background/CL) *A^{X}M System Administration Manual* (A^{X}M) or Custom AM Software instructions.	Note that Page 2 and 3 data can be entered or changed later with the On-Line Reconfiguration feature if you are uncertain.
	These numbers may vary according to system requirements.	Typical entries for A^{X}M/Background/CL are: # BACKGROUND CL TASKS 10 # CONCURRENT DATA ACCESS 4 BACKGROUND TASK SIZE 15000 CVB SIZE (Default) 2000 INCLUDE INTERNETWORK PROC. YES USER MEMORY RESERVED 1
	Do not press Enter yet.	
9.354	<PAGE FWD> to page 3.	EXTERNAL LOAD MODULE NAMES display.
	Enter information per same manuals as used in the previous steps. A combination of entries is allowable for multiple functions.	Typical entries for Background/CL are: NAME PERSONALITY FILE AMO CONV AMO AMCL03 AMO
	Page 3—Further external directives must be set to “NO.” (This can’t be “YES” until the file NET>&CSD>APCFGxxx.x has been built.	Typical entries for A^{X}M are: NAME PERSONALITY AMCL06 AMO XACCES AMO
9.360	Press <ENTER>	Page 1 and (if necessary Page 2/3) complete.
9.365	Repeat 9.314- 9.360 for each AM or A^{X}M	
9.366	Hold <CTL> down, press<PAGE BACK>	LCN NODE CONFIG—Page n display
9.370	<PAGE FWD>; look for HM node No. (If the system does not have an HM, skip to step 9.372).	LCN NODE CONFIG—Page n display
9.372	Select an HM Node Number	EG: **43** SELECT NODE TYPE display
9.376	Select [**HISTORY MODULE**]	HISTORY MODULE NODE display
9.384	Key into REDUNDANT MEMBER NODE port.	EG: **0** (enter redundant node number or enter 0 if no redundant node)
9.388	Key into NODE PAIR NUMBER port	EG: **1**

TASK 9 **CONFIGURE LCN NODES** **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Reference: SW11-505, AM12-510, AX11-500 **Personality Loaded:** GUS

Step	Action	Response
9.398	If you have External Load Modules that affect the HM, press <PAGE FWD> (if External Load Modules not used, skip to 9.406)	EXTERNAL LOAD MODULE display This can be done later with the On-Line Reconfiguration feature.
9.402	Key in data, select items as necessary. Press <ENTER> after last page.	Obtain entry information from the External Load Module documentation.
9.406	Repeat 9.370 – 9.402 for each HM	
9.410	Hold down <CTL>, press<PAGE BACK>	LCN NODE CONFIGURATION display
9.412	<PAGE FWD> look for CM node number (if no CM on system, skip to step 9.454)	LCN NODE CONFIG—Page n display
9.416	Select a CM Node Number	EG: **51**, SELECT NODE TYPE display
9.420	Select [**COMPUTING MODULE**]	COMPUTING MODULE NODE display
9.422	Key in ASSIGNED UNITS port	EG: **01,**02,03,04 or 01 02 03 04
9.430	If you have External Load Modules that affect the CM, press <PAGE FWD> (if External Load Modules not used, skip the next step)	EXTERNAL LOAD MODULE display This can be done later with the On-Line Reconfiguration feature.
9.436	Key in data, select items as necessary. Press <ENTER> after last page	Obtain entry information from the External Load Module documentation.
9.440	Repeat 9.370 – 9.436 for each CM	
9.446	Hold <CTL> down, press <PAGE BACK>	LCN NODE CONFIG—Page n display
9.454	To print the LCN Node Config. hold <CTL> down, then press <4>. Select printer target, then press <ENTER>.	(US must be connected to printer) Print instructions appear. LCN configuration is printed.

TASK 10 **CONFIGURE HM VOLUMES** **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-505, HM13-500 **Personality Loaded:** GUS

Step	Action	Response
10.10	**DISK_&C1 .LCN**or **DISK_&C2 .LCN** into FD1, ensure **CNCF.LCN** in FD2	
10.13	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
10.16	Select [**VOLUME CONFIGURATION**]	HM PAIR SELECTION MENU
10.21	Select a Node Pair number	EG: **1** VOLUME CONFIGURATION display

TASK 10 **CONFIGURE HM VOLUMES** **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-505, HM13-500 **Personality Loaded:** GUS

Step	Action	Response
10.24	Key in the # of Winchester disk drives in the History Module	EG: **1** (each redundant pair counts as 1)
10.27	Key in the type or size of disks in the HM	EG: **3** for Wren 3 EG: **4** or 215040 for 210 MB SCSI drive EG: **5** or 454130 for 445 MB SCSI drive EG: **6** or 896046 for 875 MB SCSI drive
10.10	**DISK_&C1 .LCN**or **DISK_&C2 .LCN** into FD1, ensure **CNCF.LCN** in FD2	
10.13	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
10.16	Select [**VOLUME CONFIGURATION**]	HM PAIR SELECTION MENU
10.21	Select a Node Pair number	EG: **1** VOLUME CONFIGURATION display
10.24	Key in the # of Winchester disk drives in the History Module	EG: **1** (each redundant pair counts as 1)
10.27	Key in the type or size of disks in the HM	EG: **3** for Wren 3 EG: **4** or 215040 for 210 MB SCSI drive EG: **5** or 454130 for 445 MB SCSI drive EG: **6** or 896046 for 875 MB SCSI drive
10.30	Select configuration choices on the left side of the menu: HM INIT PERSONALITY SYSTEM VOLUME GDF FILES INCLUDED FILE MANAGER DESCRIPTORS	EG: [**YES**]—target changes in intensity [**YES**]—target changes in intensity [**YES**]—target changes in intensity [**NO**]
10.32	Key in AREA SOE JOURNAL size Numbers used in this section were for a Wren 3. Increase them for larger drives.	EG: **200** (If this HM will collect SOE events). For SOE, Process Unit Journals must also be configured on the same HM in step 10.515.
10.34	Key in BURST BUFFER size	EG: **2000**
10.38	Select SYS. UNIT JOURNALS option—YES if you want this HM assigned for journals	EG: **YES**—Added ports appear. If you select NO, skip to step 10.60
10.40	Key in STATUS CHANGE port	EG: **2048**
10.46	Key in ERROR port	EG: **2048**
10.50	Key in MAINT port	EG: **1024**
10.60	Press <ENTER>	Values and ports reappear in cyan

TASK 10 **CONFIGURE HM VOLUMES** (continued)
Reference: SW11-505, SW12-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
10.100	Select [**PROGRAM IMAGE**]	PROG IMAGE VOLUME CONFIG. display
10.110	Select NODE TYPE options. Select TYPE IV version for any node that has an K4LCN board, or TYPE II for others (see Figure 3-2). If both Type IV and II nodes exist for any function, select both versions.	EG: [**HG II**] [**USOPR II**] **[USUNP II**] **[NG II**] [**AM IV**] **[NIM IV]** The system must have the options you select. Select HG or HG II if the system has a PLCG.
10.112	Key in DUMP VOLUME SIZE	EG: **36000** or **0** for none
10.125	Press <ENTER>	Values and ports reappear in cyan
10.130	Hold <CTL> down, press<PAGE BACK>	VOLUME CONFIGURATION display
10.140	Select [**AREA**]	AREA DATA VOLUME CONFIG. display
10.144	Select a File Manager Descriptor option	EG: **NO**
10.150	Key into ports for each Area line item as required.	EG: A Name V Size Files **BOILER1 5000 150**
10.160	Press <ENTER>	Values and ports reappear in cyan
10.170	Hold <CTL> down, press<PAGE BACK>	VOLUME CONFIGURATION display
10.180	Select [**CHECKPOINT**]	P.N. FOR CHECKPOINT CONFIG display
	Note: Refer to the *Engineer's Reference Manual* for volume size guidelines.	

TASK 10 **CONFIGURE HM VOLUMES** (continued)
Reference: SW11-505, SW12-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
10.190	Key into ports for each Node Pair Number line item as required. **Note 1:** Enter zero for HG or PLCG Vol. Size & No. of Files. Configure an A^{X}M the same as an AM.	EG: NIM 24 20000 100 NIM 25 0 0 PLCG 31 0 0 HG 38 0 0 HG 39 0 0 AM 40 10000 200 (NODE NO. / VOLUME SIZE / NUMBER FILES)
	Note 2: Redundant node members—enter sequentially with Size/Files = 0	Numbers used were for a Wren 3. Increase them for larger HM drives (refer to SW09-505).
10.200	Press <ENTER>	Values and ports appear in cyan
10.210	Hold <CTL> down, press <PAGE BACK>	VOLUME CONFIGURATION display
10.310	Select [**CONTINUOUS HISTORY**]	CONT. HIST. UNIT AND GROUPS display
10.315	Key into UNIT ID port	EG: **01**
10.320	Key into NBR GROUPS port	EG: **60**
10.325	Continue entries as required	
10.330	Press <ENTER>	Values and ports reappear in cyan
10.335	Press <PAGE FWD> and repeat steps 10.315 – 10.330 until all required entries are complete.	
10.350	Select [**GROUP OPTIONS**] (you can select the [HM/UNIT OPTIONS] display target if desired for a display that allows you to assign options for all).	CONT. HISTORY GROUP OPTIONS
10.360	Select a SAVE RATE (you must select a save rate to get any history)	EG: **20**
10.365	Select either [**SNAPSHOTS**], [**USER AVG**] or both (you must select SNAPSHOTS to get trend data).	EG: Select both [**SNAPSHOTS**] and [**USER AVG**]
10.370	Key into PREARCHIVE HOURS port for SNAPSHOTS	EG: **48**
10.373	Key into PREARCHIVE HOURS port for USER AVG	EG: **48**

TASK 10 **CONFIGURE HM VOLUMES** (continued)
Reference: SW11-505, SW12-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
10.376	ARCHIVE [YES] [NO] Function not released	Leave [**NO**] options selected
10.380	Repeat steps 10.360 – 10.376 for all required entries.	
10.385	Press <ENTER>	Values and ports reappear in cyan
10.390	<PAGE FWD> and repeat steps 10.354 – 10.385 for all required entries.	
10.400	Hold <CTL> down, press <PAGE BACK>	CONT. HISTORY UNIT AND GROUPS display
10.410	Hold <CTL> down, press <PAGE BACK>	VOLUME CONFIGURATION display
10.510	Select [**JOURNALS**]	PROCESS UNIT JOURNAL CONFIG. display
10.515	Key into UNIT ID port	EG: **01** Note that Unit numbers you specify here are also the units from which SOE events are collected (if you specified an SOE Journal size for this HM node pair).
10.535	Key into the PROCESS ALARM port	EG: **2024**
10.540	Key into the PROCESS CHANGE port	EG: **2024**
10.545	Key into the OPERATOR MESSG port	EG: **600**
10.548	Repeat steps 10.515 – 10.545 for other applicable Units	
10.550	Press <ENTER>	Values and ports reappear in cyan
10.560	Press <PAGE FWD>	Page n of screen forms appears
10.570	Repeat steps 10.515 – 10.560 for all applicable Units	
10.575	Hold <CTL> down, press <PAGE BACK>	VOLUME CONFIGURATION display
10.630	Select [**CL STORAGE**]	CL STORAGE VOLUME CONFIGURATION display
10.634	Select a HIWAY FILE MGR Description choice	EG: **NO**
10.638	Select a NETWORK FILE MGR Description choice	EG: **NO**

TASK 10 **CONFIGURE HM VOLUMES** (continued) **Keyboard:** IKB or PC **Lock:** ENGR

Reference: SW11-505, SW09-505 **Personality Loaded:** GUS

Step	Action	Response
10.640	Key into HIWAY/NETWORK NBR. port	EG: **02**
10.650	Key into NUMBER OF FILES port	EG: **30**
10.660	Key into VOLUME SIZE port	EG: **100**
10.670	Repeat steps 10.640-10.660 for other applicable hiways	
10.680	Press <ENTER>	Values and ports reappear in cyan
10.690	Hold <CTL> down, press <PAGE BACK>	VOLUME CONFIGURATION display
10.800	Select [**USER FILE STORAGE**]	USER FILE STORAGE CONFIG. display
10.850	Key into Node Pair Number n ports for each line item as required (HMV1 is a general HM user volume, CL is for CL programs, CSW1 is for custom programs). Numbers used were for a Wren 3. Increase them for larger drives.	EG: Vol ID / # of Files / Vol Size / File Mgr. Descriptor **HMV1 1000 15000 FAST** **CL 200 3000 NO** **CSW1 200 3000 YES**
10.860	Press <ENTER>	Values and ports reappear in cyan
10.870	Hold <CTL> down, press <PAGE BACK>	VOLUME CONFIGURATION display
	CHECK HM VOLUME CONFIGURATION	
10.880	Hold <CTL> down and press <1>. This performs the **CHECK** function	Messages: "NCF FILE IS BEING PACKED INTO MEMORY...NEW NCF.WF IS BEING COPIED....HM CHECKER RUNNING."
10.881	To configure volumes for another HM, repeat all steps in Task 10.	
10.885	If errors are indicated, go to step 10.890; otherwise, skip ahead to Task 8C (next page).	
10.890	Hold <CTL> down and press <8>	NCF.ER file displayed
10.920	If you want a printed copy, hold <CTL> down and press <4>. Make sure the printer is on.	Print instructions appear
10.930	Select printer target, press <ENTER>	NCF.ER file is printed

TASK 10 **CONFIGURE HM VOLUMES** **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Reference: SW11-505, SW09-505 **Personality Loaded:** GUS

Step	Action	Response
10.940	If total HM size exceeds 100%,	Go to step 10.944 and reduce the size of the User Volume.
	If the number of virtual volumes is exceeded,	Go to step 10.944 and delete one or more User volumes, or delete the dump volume (10.112) or call a Honeywell support engineer.
10.944	Hold <CTL> down and press <PAGE BACK>	EDIT VOLUME CONFIG display
10.948	Go repeat steps 10.800 – 10.880 until errors are cleared.	
10.950	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU

TASK 8C **CONFIGURE SYSTEM WIDE VALUES** **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
(Network Gateway Completion)
Reference: SW11-505 **Personality Loaded:** GUS

If you do **not** have a Network Gateway, skip to Task 11. Note that the following steps could not be completed until the NG nodes were configured (Task 9). The following section completes NG configuration.

Step	Action	Response
8.944	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
8.948	Select [**SYSTEM WIDE VALUES**]	SYSTEM WIDE VALUES MENU
8.950	Select [**NG REMOTE SYSTEMS**]	NG REMOTE SYSTEM display
8.952	Key into # port	EG: **2**
8.953	Key into TITLE port	EG: **P2**
8.954	Key into DESCRIPTOR port	EG: **Plant NO. 2**
8.956	Select a CABLE FOR OUTPUT	EG: **A**
8.958	Key into RESP NG port	EG: **30**
8.960	Key into REMOTE SERVERS RESP LOCAL port	EG: **16**
8.962	Key in other ports as desired	
8.964	Press <ENTER>	Values and ports reappear in cyan

TASK 8C **CONFIGURE SYSTEM WIDE VALUES** (continued) (Network Gateway Completion) **Keyboard:** IKB or PC **Lock:** ENGR

Reference: SW11-505 **Personality Loaded:** GUS

Step	Action	Response
8.965	Page forward and continue to make entries if necessary. Press <ENTER> after each page.	
8.966	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
8.968	Select [**NG SECURITY DATABASE**]	NG SECURITY DATABASE AUTH. display
8.970	Key in a REMOTE SYSTEM NUMBER **or** select ALL SYSTEMS	EG: **ALL SYSTEMS**
8.972	Select [**DEFINE ACCESS EXCEPTIONS**]	NG SECURITY DATABASE AUTHORIZ. display
8.974	Select a default access for System Vol/Dir.	EG: **READ ONLY**
8.976	Select a default access for USER Vol/Dir.	EG: **READ /WRITE**
8.977	Key in a SYSTEM VOL name under EXCEPTIONS if desired and select the access level.	EG: no entry
8.978	Key in a USER VOL name under EXCEPTIONS if desired	EG: **CSW1**
8.980	Select default access for User Vol/Direc.	EG: **READ ONLY**
8.982	Page Forward to Parameter Access Defaults	EG: **Page 2**
8.984	Select a default access for Parameters	EG: **READ ONLY**
8.985	Select a NODE TYPE for EXCEPTIONS	EG: **AM**
8.986	Select a HIWAY/UNIT	EG: **01**
8.987	Select Exceptions for Parameter Access	EG: **READ/WRITE**
8.988	Continue entires for other node types. When all entries are complete, press <ENTER>	Values and ports reappear in cyan
8.990	Hold <CTL> down and then press <PAGE BACK>	NG SECURITY DATABASE AUTHORIZ. display
8.994	Hold <CTL> down and then press <PAGE BACK>	SYSTEM WIDE VALUES MENU
	Unless Honeywell has requested that you change NG Modem parameters, skip the NG MODEM DEFINITION configuration target.	

TASK 11 **INSTALL THE NCF**
Reference: SW11-505

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
11.01	Ensure **DISK_&C1.LCN** or **DISK_&C2.LCN** in FD1, **CNCF.LCN** in FD2	
11.20	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
11.30	Select [**UNIT NAMES**]	Units—Page 1 display
11.40	Press <ENTER>	
11.50	Hold <CTL> down and press <1>	"NCF FILE IS BEING PACKED INTO MEMORY...NEW NCF.WF IS BEING COPIED HM CHECKER RUNNING"
11.52	Hold <CTL> down and press <2>	"WARNING:...PRESS ENTER"
11.60	Press <ENTER>	"OFFLINE INSTALL COMPLETE—DATE/TIME)"
11.65	After the "INSTALL COMPLETE" message appears, remove the **CNCF.LCN** emulated disk from FD2	
11.66	Make a backup copy of **CNCF.LCN** emulated disk. Mount **CNCF.LCN** into FD1 and mount the backup (**BKUP_CNCF.LCN**) disk from step 4.66 into FD2.	
11.67	Select [**COMMAND PROCESSOR**]	COMMAND PROCESSOR display
11.68	Key in a disk copy command.	EG: **FCP $F1 $F2**
11.70	Press <ENTER>	"Media Copy Complete" If your primary CNCF disk becomes corrupted, you have a backup copy.
11.80	Remove both emulated disks from the drives.	

TASK 12 **RELOAD THE GUS PERSONALITY AND SET TIME AND DATE**
Reference: This Document

Keyboard: N/A **Lock:** N/A
Personality Loaded: N/A

Step	Action	Response
12.05	Go perform Task 1 (Reset all nodes)	**Note:** Not required for nodes previously reset.
12.10	Go perform Task 2 using **CNCF.LCN** from Task 11 and return here	You must reload the GUS using your site-specific CNCF (from Task 11)
12.20	Go perform Task 3 and return here	Current time/date in "this US"
12.30	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU

Figure 3-4 shows a graphic representation of the Tasks (13-15) that must be performed to prepare the History Module.

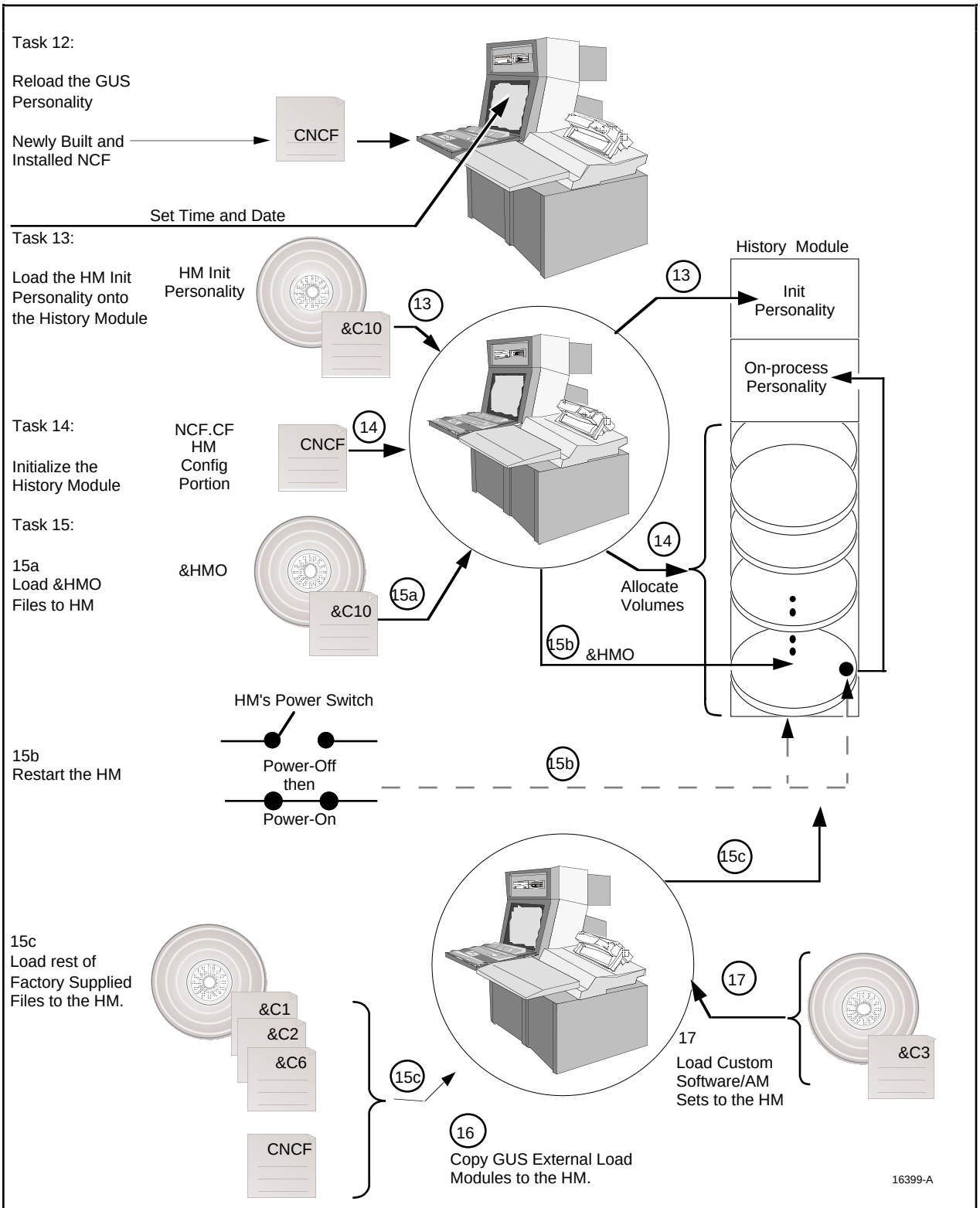


Figure 3-4 — Prepare the History Modules

TASK 13 LOAD THE HISTORY MODULE WITH THE HM INITIALIZATION PERSONALITY
Keyboard: IKB or PC **Lock:** ENGR
Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
14.05	Turn power ON at all HMs. **RECORD THE TIME** _____	HM Power was turned off in Task 1
14.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
14.15	Select [**SYSTEM STATUS**]	SYSTEM STATUS display
14.18	Select [**DE-SELECT**]	All nodes de-selected
14.20	Select the **HISTORY MODULE Node**	HM Node box selected
14.24	Select [**NODE STATUS**]	HISTORY MODULES display (Ignore HM status)

CAUTION

The HMs must have had power applied for at least 5 minutes before you press an HM's Reset button in the next step. Make sure you press it only once.

14.30	Reset each HM by pressing white RESET button on HM module.	Wait until the HM Status changes from FAIL or PWR-OFF to POWER_ON.
14.35	If any HM does not show POWER_ON status, turn its power off for a few seconds; then turn its power on and repeat step 14.30.	
14.40	Mount **DISK_&C10.LCN** in FD1, **CNCF.LCN** in FD2	
14.50	Select Number under NODE heading on the HISTORY MODULE display	EG: **43** (Number changes color)
14.60	Select [**LOAD/DUMP**]	LOAD/DUMP targets appear
14.64	Select [**MANUAL LOAD**]	PGM targets appear
14.70	Select [**INIT PROGRAM**]	PGM SOURCE FOR NODE NN display
14.80	Select [**ALTERNATE SOURCE**]	EG: Boxes [**1**] and [**2**] appear
14.90	Select **[1]** (if this is the number for the first emulated disk drive entered in step 9.95/9.100)	"VOL ID: &C10" and targets appear
14.100	Select [**EXECUTE COMMAND**]	DATA SOURCE FOR NODE NN display
14.110	Select [**ALTERNATE SOURCE**]	EG: Boxes [**1**] and [**2**] appear
14.120	Select [**2**]	"VOL ID: CNCF" and targets appear
14.130	Select [**EXECUTE COMMAND**]	HISTORY MODULES display

TASK 13 **LOAD THE HISTORY MODULE WITH THE HM INITIALIZATION PERSONALITY** (continued)

Keyboard: IKB or PC **Lock:** ENGR

Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
14.140	Press <ENTER>	Messages appear at the top of the screen "SINGLE LOAD; BUSY: HM NN, STATUS: LOAD, ...TYPE: HMOF, . . . OK" This can take several minutes to complete.
14.150	Repeat 14.50 - 14.140 to load the HM Init Personality to other HMs	

NOTE

1. If you get an error message, refer to the TPS *Messages Directory* for possible error recovery procedures.
2. From this point on, the emulated disk drive numbers will be as entered in Step 9.95 and may differ from the examples.

TASK 14 **INITIALIZE THE HISTORY MODULE**

Keyboard: IKB **Lock:** ENGR

Reference: This Document **Personality Loaded:** Universal

Step	Action	Response
15.10	Mount **DISK_&C1.LCN** or **DISK_&C2.LCN** in FD1, **CNCF.LCN** in FD2	
15.20	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
15.30	Select [**VOLUME CONFIGURATION**]	HISTORY MODULE PAIR SEL. Menu
15.40	Select Node Pair Number	EG: **1** (for Primary Node 43), VOLUME CONFIGURATION display
15.50	Hold <CTL> down and press <6> **Note:** Requires several minutes to complete	"HM INITIALIZATION RUNNING... DISC SURFACE HAS BEEN INITIALIZED AND A NEW LOCAL-NVCF FILE HAS BEEN WRITTEN"....

NOTE

If you get an error message, refer to the TPS *Messages Directory* publication, for possible error recovery procedures.

15.60	Hold <CTL> down, press <PAGE BACK>	HISTORY MODULE PAIR SELECTION Menu
15.70	Repeat 15.40 – 15.60 for each HM	
15.80	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU

TASK 15 **COPY SOFTWARE FROM EMULATED DISKS TO THE HISTORY MODULE**
Reference: This Document

Keyboard: IKB ot PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	HISTORY MODULE PREPARATION	
16.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
16.20	Select [**COMMAND PROCESSOR**]	COMMAND PROCESSOR display
16.30	Check that the HM Local Vol. file is on the HM by keying in a Catalog command.	EG: **CAT PN:NN>!9np>*.*** where NN = HM Node Number and np = node pair (**CAT PN:43>!901** for this sample system)
16.40	Press <ENTER>	"CATALOG COMPLETE"
16.50	If the L01_NVCF MM file is listed on the display, continue with step 16.70; else call for help.	Your Honeywell engineer
16.60	Assure printer is powered on.	To obtain a record of the files transferred in the upcoming steps
16.70	Key in "**PD ON**"	
16.80	Press <ENTER>	"Prompt To Dataout Turned On"
16.90	Key in "**DO** (Print Device ID)"	EG: **DO $P1**
16.100	Press <ENTER>	"DATA OUT COMPLETE"
16.110	Insert **DISK_&C10.LCN** in FD1	**Note**: Printer must be connected to the station
16.120	Key in an EC command for the Local Volume	EG: **EC $F1>&EC>LOC_VOL.EC $F1 43 01**
16.130	Press <ENTER>	"EC LOC_VOL.EC THIS EC IS USED TO COPY....."

At this point you have initiated an "Execute Command" program to simplify the task of loading a series of files from cartridge to the HM. You will be asked a series of questions to which you must respond by keying in a "Y" for yes or an "N" for no, followed by pressing <ENTER>.

NOTES:

1. The &HMI files can be copied to more than one HM.
2. The &HMO files must be copied to all HMs.
3. **DISK_&C10.LCN** contains both 68020 and 68040 HMO & HMI software. Answers to the EC questions will determine which type is loaded (HMs with K4LCN boards require 68040 software).

16.140	Shown here are the files that should be transferred during the execution of the above EC file. Check your printout to determine that all required files have been loaded on the HM(s). __ &LDR __ &HMI (HMOFxxx) files __ &HMO (HMONxxx) files When the EC program is complete, the message "Write Boot ...EC Complete" appears.
16.150	If you have other HMs, return to Step 16.120 to copy the &HMO (&HMI if desired) directory to the additional HM(s).

TASK 15 COPY SOFTWARE FROM EMULATED DISKS TO THE HISTORY MODULE (continued)
Keyboard: IKB or PC **Lock:** ENGR
Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
	NOTE The &ASY directory in the following steps must be copied to only one HM, your system HM.	
16.160	Ensure **CNCF.LCN** in FD2	
16.170	Copy the custom NCF files to the HM	EG: **CP $F2>&ASY>*.* PN:43>&ASY>= -D**
16.180	Press <ENTER>	"COPY COMPLETE"
	RESTART THE HISTORY MODULE	
16.190	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
16.200	Select [**SYSTEM STATUS**]	SYSTEM STATUS display
16.210	Select the **HISTORY MODULE** node	Node is selected
16.230	Select [**SHUT DOWN**]	Target changes color
16.240	Press <ENTER>	Status changes to **QUALIF**
16.250	At the HM module, **turn power OFF**, wait at least 5 seconds, and then **turn power ON**.	Status of the HM changes to: LOC LOAD, then READY, and finally **OK**. (Redundant disks may have a status of DISKPROB until synchronized). Type: HMON On-process personality is now running in the HM This process can take several minutes.

NOTE

If you get an error message, check the TPS *Messages Directory* publication (see References), for possible error recovery procedures.

TASK 15 **COPY SOFTWARE FROM EMULATED DISKS TO THE HISTORY MODULE** (continued)
Keyboard: IKB or PC **Lock:** ENGR
Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
	COPY REMAINING SOFTWARE TO THE HISTORY MODULE	
16.260	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
16.270	Select [**COMMAND PROCESSOR**]	Command Processor display
16.280	Assure printer is on	To obtain a record of the files transferred in the upcoming steps
16.290	Key in "**PD ON**"	
16.300	Press <ENTER>	"Prompt To Dataout Turned On"
16.310	Key in "**DO** (Printer Device ID)"	EG: **DO $P1**
16.320	Press <ENTER>	"DATA OUT COMPLETE"
16.330	If you want to enter files for modules with 68020 microprocessors, ensure **DISK_&C2.LCN** in FD1 and key in an EC command for the 68020 personality volume	EG: **EC $F1>&EC>PERS2VOL.EC $F1**
	For 68040 processor files, ensure **DISK_&C1.LCN** in FD1 and key in an EC command	EG: **EC $F1>&EC>PERS4VOL.EC $F1**
16.340	Press <ENTER>	"EC PERS2VOL.EC" or "EC PERS4VOL.EC" "THIS EC IS USED TO COPY....."

You should answer "Y" for each of the following files that is needed by a node that you have on your system.

If you have inserted DISK_&C2.LCN into FD1, answer "Y" only for nodes that use 68020 microprocessors. Then, for nodes that have 68040 microprocessors, place DISK_&C1.LCN in FD1 and repeat the procedure starting with Step 16.330. Answer "Y" for the files applicable to those nodes. In either case, save HM space, decline the copying of files for nodes that you do not have.

As part of this procedure, you may be requested to place other cartridges into the drive. The EC program you invoke will select the correct software from DISK_&C3, DISK_&C4, DISK_&C9, and DISK_&C10 for a Yes answer.

TASK 15 **COPY SOFTWARE FROM EMULATED DISKS TO THE HISTORY MODULE** (continued)
Keyboard: IKB or PC **Lock:** ENGR
Reference: This Document **Personality Loaded:** GUS

NOTE

Mount the appropiate CD in the CD-ROM drive to use the following emulated disks:

Use the GUS-TPS Network Software CD for:
DISK_&C1.LCN
DISK_&C2
DISK_&C4
DISK_&C6
DISK_&C9
DISK_&C10
DISK_&C12

Use the GUS-TPS Application Module CD for:
DISK_&C3.LCN

Use the GUS-TPS Multiple Schematics CD for:
DISK_MS.LCN

Perform the following steps when a disk change is required during the execution of the PERS?VOL.EC file:

(√)_____1) DISMOUNT the currently mounted emulated disk and corresponding CD.

(√)_____2) MOUNT the required emulated disk and corresponding CD and continue as usual.

NOTE

If the “Mount/Dismount Emulated Disks” dialog page was exited and then restarted, previously created disk files may have been inadvertently removed from the Available Disks list.

If the disk you need is not in the Available Disks list, repeat steps 1.26 - 1.31 to add the disk to the list again.

TASK 15 **COPY SOFTWARE FROM EMULATED DISKS TO THE HISTORY MODULE** (continued)
Keyboard: IKB or PC **Lock:** ENGR
Reference: This Document **Personality Loaded:** GUS

Step	
16.350	This step provides a list of the files that can be transferred during the execution of the above EC file(s), and the module with which each is associated. The "PERS2VOL" EC loads files to nodes with 68020 microprocessors and the "PERS4VOL" EC loads files to nodes with 68040 microprocessors. Most of the files on &C1 are for 68040 microprocessors and most of the files on DISC_&C2.LCN are for 68020 microprocessors (in some case there is no distinction). This software is normally copied to <u>only</u> the system HM. Note that file &LDR is loaded along with the other files.
	Module DISK_&C1 DISK_&C2 DISK_&C3 DISK_&C4 DISK_&C9 DISK_&C10
	US II __ &OPR US IV __ &OPR[k] US II __ &UNP (Also requires overlay files &OP1 on DISK_&C1 and DISK_&C2) US IV __ &UNP[k] (Also requires overlay files &OP1 on DISK_&C1 and DISK_&C2). US __ &OVG __ &OVG HG II __ &HGO HG IV __ &HGO[k] NIM II __ &NMO NIM IV __ &NMO[k] PM, APM, HPM, LM, SM __ &UCN AM II __ &AMO AM IV __ &AMO[k] CG II __ &CIO CG IV __ &CIO[k] NG II __ &NGO NG IV __ &NGO[k]
	k means type 68040 software (required when the node contains a K4LCN board). When the EC asks if you want to create/copy **&OVG**, answer Yes if you want the Equipment List functions. When the EC asks where, specify a user volume such as HMV1 or CSW1. When the EC copies the AM files it asks if you want to create/copy **&CUS** and **CLX**. This is optional software, but you should probably copy it in unless you know that it isn't needed. If you copy the Computer Gateway files, the EC asks if you want to copy **&CUS/&CUS.** You probably should. If the EC also asks where you want to create the directories, Key in the name of one of your User volumes such as CSW1 or HMV1. When the EC program is complete, the message "EC COMPLETE" appears. Check the printout to assure that all required files have been loaded.
16.360	If necessary, return to Step 16.330 and invoke the other EC.

TASK 15 **COPY SOFTWARE FROM EMULATED DISKS TO THE HISTORY MODULE** (continued)
Keyboard: IKB or PC **Lock:** ENGR
Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
16.370	Ensure **DISK_&C1.LCN** or **DISK_&C2.LCN** in FD1	Since the files on both disks are identical, you can use either one.
16.380	Key in an EC command for the System Volume	EG: **EC $F1>&EC>SYS_VOL.EC $F1 43** (the last parameter is the system HM node number)
16.390	Press <ENTER>	"EC SYS_VOL.EC....."
16.400	The files that can be transferred using the above EC command are listed here for comparison with your printout to determine that all required files have been loaded on the HM.	
	NOTE To the question "COPY VOLUME &ASY (YES/NO)" answer No ("**N**"). To the question "DO YOU WISH TO CHANGE TO ANOTHER DRIVE" usually answer No ("**N**"). To the question "DO YOU WISH TO SKIP &DSY...." usually* answer No ("**N**"). *This EC loads several small files. If you answer "No," the EC will load all of them. If you answer "Yes," you can choose to load or not load any or all of the following files: __ &DSY __ &HGG __ &AMG __ &ARG __ &NMG & NM2 The system does not have to have the node type to load any of these files.	
16.410	Ensure **CNCF.LCN** in FD2	
16.420	Copy the customer key file to the HM	EG: **CPV $F2>&KFO> NET>&KFO> -D**
16.424	Copy the null Area Database file to the HM	EG: **CPV $F2>&D01> NET>&D01> -D**
16.430	Press <ENTER>	"COMMAND COMPLETE"
16.443	You can copy certain standard displays (NCF Status, etc.) to a user volume on an HM other than that which contains the &DSY volume. The systems hunts for these displays in directory &DS2 on another HM If the main HM fails. To load the displays, ensure emulated DISK_&C1.LCN or DISK_&C2.LCN is in $F1. Key in the EC command **EC $F1>&EC>DS2_BKUP.EC $F1.** Press <ENTER>. When asked "Do you wish to create &DS2...?," answer, Yes. Key in the user volume name when asked.	
16.440	Return to Task 16.330 if any of the above software must be copied to a different HM (as determined earlier during Volume Configuration in Task 10).	
16.450	Key in "**PD OFF**"	
16.460	Press <ENTER>	"PROMPT TO DATAOUT TURNED OFF"
16.470	Key in **"DO"**	"DATA OUT COMPLETE"

TASK 16 **COPY GLOBAL USER STATION EXTERNAL LOAD MODULES TO THE HISTORY MODULE**
Reference:

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
16.50	Mount the TPS Multiple Schematics CD ROM in the CD Drive	
16.51	From Available Disks, select and mount **DISK_MS.LCN** into FD1	**DISK_MS.LCN** is mounted in FD1
16.52	From the Native Window COMMAND PROCESSOR, key in the command:	`CP $Fx>&CUS>SCHEM.LO NET>&CUS>= -D`
16.53	Dismount **DISK.MS.LCN** where: x = logical device id of drive where emulated disk is mounted.	

TASK 17 **COPY OPTIONAL SOFTWARE TO THE HISTORY MODULE**
Reference: AM27-510, Custom Software Documentation;
SW09-505 Engineer's Reference Manual
SW11-507 Command Processor Operation manual

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: Universal

If you purchased optional custom software (load modules) that were not loaded in Task 16, perform the following steps. If not, skip to Task 18.

These steps assume the COMMAND PROCESSOR is still selected.

Step	Action	Response
17.10	Create directories for the software you intend to load. List the contents of the cartridges, if necessary, to find the directories	In Task 10 you may have created a user volume for custom software (CSW1 in the example). You can also create a suitable directory under another volume, such as the example user volume HMV1.
	EG: Key in a Create Directory Command. Press <ENTER>	EG: **CD NET>CSW1 &nnn*** (where &nnn is custom software)
17.50	Copy the optional software into the History Module—	

	In FD1	Cmd Type	Example of command to be keyed	Press
17.80	DISK_&C__	Copy	EG: **CP $F1>&nnn>*.* NET>&nnn>= -D**	<ENTER>

*Substitute the volume name of the custom software cartridge(s) for &nnn.

TASK 17 **COPY OPTIONAL SOFTWARE TO THE HISTORY MODULE** (continued)

Keyboard: IKB or PC **Lock:** ENGR

Reference: AM27-510, Custom Software Documentation;
SW09-505 Engineer's Reference Manual
SW11-507 Command Processor Operation manual

Personality Loaded: GUS

17.90	Repeat Task 17 for each HM where you wish custom software copied.

NOTE

If the system has redundant disk drives, they can be synchronized now (or later). Refer to the *Engineers Reference Manual*, Section 7.5 and Section 5 in the *Command Processor Operation* manual for the procedure. The sample system did not have this feature.

Reboot GUS -- Station running Universal personality to GUS personality from WSI.

Figure 3-5 shows a graphic representation of the Tasks (18-22) that must be performed to Configure Process Networks and Hiways.

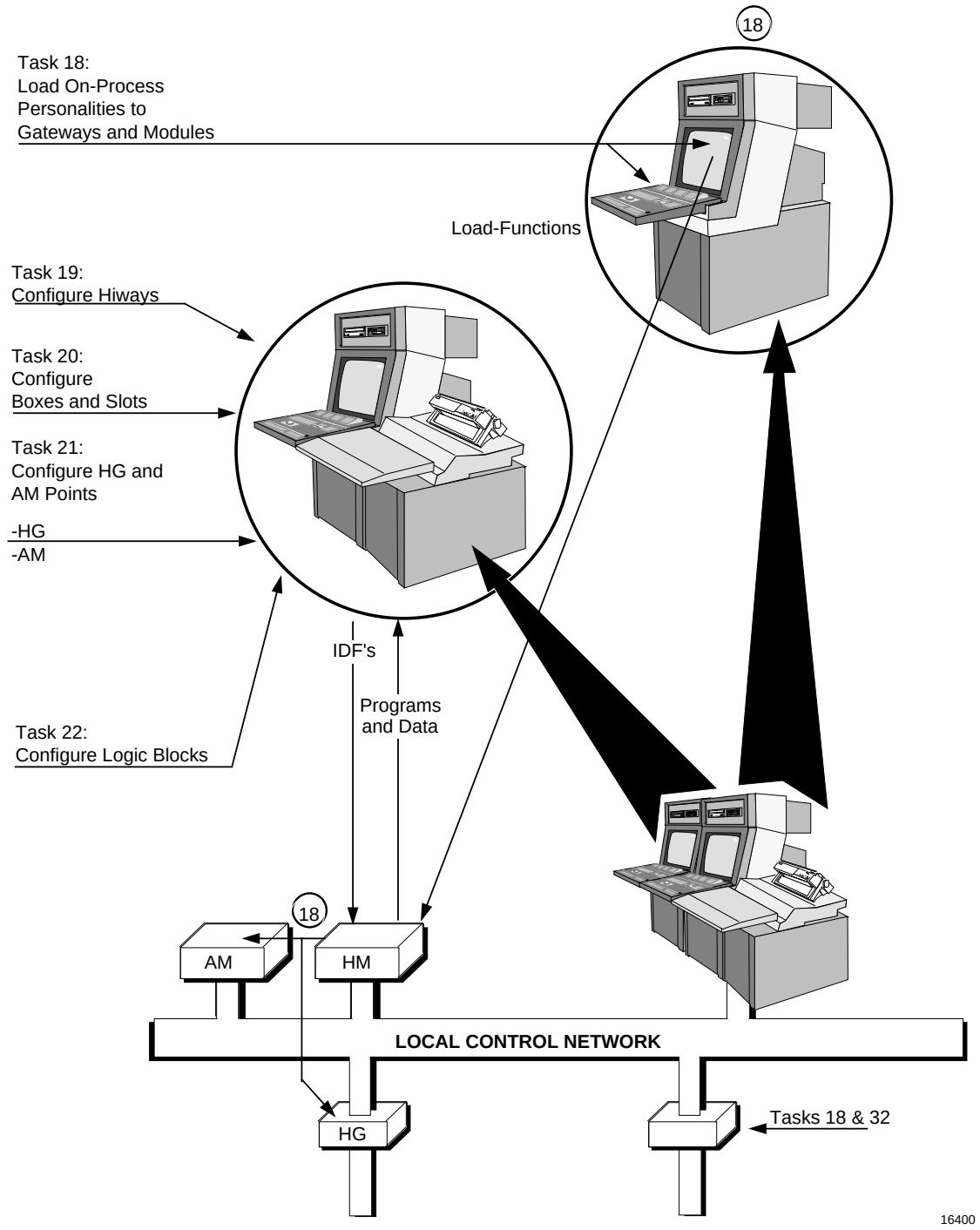


Figure 3-5 — Configure Process Networks and Hiways

TASK 18 **LOAD ON-PROCESS PERSONALITIES TO GATEWAYS AND MODULES**

Keyboard: IKB or PC **Lock:** ENGR

Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
18.01	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
18.03	Select [**SUPPORT UTILITIES**]	SUPPORT UTILITY MENU
18.04	Select [**MODIFY VOLUME PATHS**]	MODIFY DEFAULT VOL PATHNAMES display
18.05	Select [**SET DEVICE PATH TO "NET"**]	LDIDs (Logical Device IDs) are all filled in with **NET**.
18.06	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU

See Appendix A if you wish to LOAD another Global User Station (GUS) at this point.

Step	Action	Response
18.10	Select [**SYSTEM STATUS**]	SYSTEM STATUS display
18.20	Select an AM, NIM, or Gateway Node NIM example: Redundant NIM: NG example: HG/PLCG example, before Tasks 19-20 HG/PLCG example, after Tasks 19-20: AM example: CM example:	Only one node should be selected at a time EG: **24** for Network Interface Mod (NIM) EG: **25** for Redundant NIM EG: **30** for Network Gateway EG: **38** for Primary HG or PLCG Module EG: **39** for Redundant HG or PLCG Module EG: **40** for Application Modules or A^{X}Ms EG: **46** for Computing Modules

WARNING

1. Do not select a redundant (secondary) HG, PLCG, or NG node unless Hiway and Box/Slot Configuration has been done in Tasks 19 and 20.
2. The primary HG or PLCG of a redundant pair must be loaded first, using the &C6 checkpoint disk. After Hiway & Box/Slot configuration, the primary HG or PLCG is checkpointed. The secondary HG or PLCG is loaded later and must be started with a checkpoint volume from the primary node. See *Engineering Reference Manual*, Section 8.
3. Do not attempt to load a Primary HG or PLCG from one station and a Secondary node from a different station at the same time. The nodes will both fail.
4. Always load the primary AM before loading the redundant AM (if any).

18.30	Select [**NODE STATUS**]	Process Networks Node Status Display or Application Modules Node Status Display
18.40	Select [**MANUAL LOAD]**	NODE LOAD targets appear.
18.50	Select a **LOAD** option	EG: [**COLD LOAD**] for AM or A^{X}M EG: [**OPERATOR PROGRAM**] for HG, NG, PLCG, or NIM PGM SOURCE FOR NODE NN display

TASK 18 **LOAD ON-PROCESS PERSONALITIES TO GATEWAYS AND MODULES** (continued) **Keyboard:** IKB or PC **Lock:** ENGR
Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
18.60	Select [**DEFAULT SOURCE**]	[**EXECUTE COMMAND**] target appears.
18.70	Select [**EXECUTE COMMAND**]	DATA SOURCE FOR NODE NN display
18.71	Mount the TPS Network Software CD-ROM in the CD drive.	
18.72	Using the NT File Manager, locate and copy the file **DISK_&C6.LCN** from the CD to the directory where the emulated disks reside.	Copying dialog box appears.
18.73	Go to the emulated disk directory and rename the disk **DISK_&C6.LCN** to **COPY_&C6.LCN** (File/Rename)	You get an NT warning. This is a System Hidden or Read Only file. ACTION: Select "YES" File renamed to **COPY_&C6.LCN**
18.74	Create an emulated disk entry for the file **COPY_&C6.LCN** by selecting [Create]	
18.75	Select **COPY_&C6.LCN.** Press OK	**COPY_&C6.LCN** appears in the Available (Dismounted) Emulated Disks List
18.76	From the Available Disks List, select **COPY_&C6.LCN**	
18.78	Select Properties	Emulated Disks Information Dialog Box appears
18.79	Select Read/Write. Press OK.	
18.80	Mount **COPY_&C6.LCN** in FD1	**COPY_&C6.LCN** contains null checkpoints for all checkpoint nodes (HG, NIM, AM, A^{X}M, CG, and PLCG)
18.90	Select [**ALTERNATE SOURCE**]	Boxes [1], [2], etc. appear.
18.100	Select EG: [**1**]	Volume Identifier = **&C6** and [**EXECUTE COMMAND**]
18.110	Select [**EXECUTE COMMAND**]	GATEWAYS or AM display reappears.
18.120	Press <ENTER>	"BUSY: AM or GWY nn or CM" Status goes to LOAD.
18.130	Wait a few minutes	Status goes to OK when loaded.
18.134	Repeat 18.06-18.130 including other redundant modules	Note that PMs, APMs, and HPMs are loaded in a later task.
18.136	After loading an A^{X}M, Select the Node number under NODE	A^{X}M node number color changes to white Status should still be OK
18.138	Select **[SAVE DATA]**	CHKPT DEST display appears

TASK 18 **LOAD ON-PROCESS PERSONALITIES TO GATEWAYS AND MODULES** (continued) **Keyboard:** IKB or PC **Lock:** ENGR
Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
18.140	Select **[DEFAULT SOURCE]**	Additional targets appear
18.142	Select **[EXECUTE COMMAND]**	BUSY AM nn. Node status =SAVE... then OK
18.144	Select **[SHUTDOWN]**	Node should still be selected
18.145	Press <ENTER>	Node status changes to READY...QUALIF
18.146	Select **[LOAD/DUMP]**	Additional targets appear
18.147	Select [**AUTOLOAD NET**]	
18.148	Press <ENTER>	Node status = LOAD...LOC LOAD...OK Node Type changes to **AxM**
18.149	Repeat steps 18.136 - 18.148 for all A^{X}Ms.	
18.150	Remove the emulated disk from the disk drive.	

TASK 19 CONFIGURE HIWAYS **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-505 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
19.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU

NOTE

The primary HG or PLCG must be loaded and running with the startup data base (loaded in Task 18). If the system does not have an HG or PLCG, skip to task 21.

$HIWAYnn Where nn is hiway number		
19.70	Select [**HIWAY GATEWAY**]	HG-BUILD TYPE AND CONFIG. MENU
19.75	Select [**HIWAY CONFIG**]	HG-HIWAY POINT ASSIGN. PED display
19.80	Key into HIWAY NUMBER port	EG: **02**
19.90	Select HTD ASSIGNMENT option	EG: [**THISHG**] (HTD is mandatory if a Basic OP Station is on the Hiway)
19.100	Fill in the remaining ports as required and press <ENTER>	PED reappears with values in cyan
19.110	Press <COMND>	COMMAND DISPLAY

NOTE

1. You should make an IDF with a different name for each HG pair and each PLCG pair.
2. When building a database create the IDFs in this order:
   a. In this task, create the Hiway Configuration database for the HG pair or PLCG pair.
   b. In Task 20, create the box/slot database for the HG pair, or PLCG pair and then create the database for all the boxes and devices on the Hiway.

TASK 19 CONFIGURE HIWAYS **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-505 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
19.120	If this is the first write to this IDF, go to step 19.130; If not, go to step 19.160	IDF for this example is **HIWAY2**
19.130	Select [**WRITE TO IDF**]	Pathname ports and target appear.
19.140	Key into REFERENCE PATH NAME port	EG: **NET>HMV1>**
19.150	Key into pathname for IDF port	EG: **HIWAY2**
19.160	Press <ENTER>	Hiway Config data written to IDF. HG-HIWAY POINT ASSIGNMENT display
19.170	Press <COMND>	COMMAND DISPLAY
19.180	Select [**LOAD**]	
19.190	Press <ENTER>	Hiway Config data loaded to HG or PLCG. PARAM ENTRY display reappears
19.200	Repeat 19.10 – 19.190 for each other Hiway to be configured.	EG: **HIWAY4** for a PLCG

TASK 20 CONFIGURE BOXES AND SLOTS **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-505 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
20.05	Hold <CTL> down and press <9>. If the HG BUILD TYPE MENU appears go to step 20.20; if not go to 20:10	HG-BUILD TYPE AND CONFIG. MENU
20.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
	$HYxxBnn Where xx is the Hiway number and nn is the box number	
20.15	Select [**HIWAY GATEWAY**]	HG-BUILD TYPE AND CONFIG. MENU
20.20	Select [**BOX/SLOT CONFIG**]	HG-BOX POINT ASSIGNMENT PED display
20.30	Key into HIWAY NUMBER port	EG: **02**
20.40	Key into BOX NUMBER port	EG: **02** for an HG (Configure HG or PLCG before other Hiway boxes) **03** if you have an HG or PLCG pair **04** if you have a Basic Station **05** for a MC, 10 for CB, etc. (configure 1 box/pass)

NOTE

If this box is the HG or PLCG, the box number of the first node of a redundant pair must be an even number and the second node must be the next odd number.

20.50	Select a BOX TYPE option	EG: [**HG**] [**CB**] if box is CB [**MC**] if box is MC
20.55	Select a BOX ASSIGNMENT option	EG: [**THISHG**]

NOTE

If an HG or PLCG pair is not your master HG pair for this Hiway, the BOX ASSIGNMENT for that HG or PLCG pair must be either [**REMOTEHG**] or [**ADDEDHG**].

20.90	Select a LOAD DESTINATION (if appl.)	EG: [**HG_HIWAY**]
20.95	Press <ENTER>	PED reappears with values in cyan. (If PLCG, perform steps in Note at end of Sec. 20 to clear address error).

TASK 20 **CONFIGURE BOXES AND SLOTS** (continued)
Keyboard: IKB or PC **Lock:** ENGR
Reference: SW11-505 & SW11-511 **Personality Loaded:** GUS

NOTE

If you selected any options outlined in yellow or if you keyed data into any port outlined in yellow, the content of the PED set or PED changes when you press the <ENTER> key. You should press <ENTER> after each PED page.

Step	Action	Response
20.100	Press <PAGE FWD> to next PED page key in data, select options, and press <ENTER> after each page	HG-BOX CONFIGURATION PED
	CHECK THE DATA YOU HAVE ENTERED	
20.110	When you have paged forward and entered all PED pages hold <CTL> down and press <8>.	PARAM ENTRY DISP SET STATUS display
20.120	If "Display Set Entered?" is Yes, and no errors are indicated, go to step 20.150; else go to 20.130	Display Set Entered? Yes Errors? NO
20.130	Select a Display Title option, correct data and press <ENTER>	Applicable PED appears.
20.135	Repeat step 20.120	Go check that data is all OK.
	WRITE TO IDF	
20.150	Press <COMND>	COMMAND DISPLAY
20.160	If this is the first write to this IDF, go to step 20.165; if not, go to step 20.190	IDF for this example is **HY2BXSL**.
20.165	Select [**WRITE TO IDF**]	Pathname ports and target appear.
20.170	Key into REFERENCE PATH NAME port	EG: **NET>HMV1>**
20.180	Key into pathname for IDF port	EG: **HY2BXSL**
20.190	Press <ENTER>	Hiway Config data written to IDF. HG-BOX POINT ASSIGNMENT PED display

TASK 20 **CONFIGURE BOXES AND SLOTS** (continued) **Keyboard:** IKB or PC **Lock:** ENGR

Reference: SW11-505 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
20.195	Repeat steps 20.30 – 20.190 for the redundant HG or PLCG.	
20.200	Repeat steps 20.30 – 20.190 for each other box/slot.	All configured boxes/slots on IDF
20.210	Press <COMND>	COMMAND DISPLAY
20.220	Select [**LOAD MULTIPLE**]	Additional pathname ports appear
20.230	Key into REFERENCE PATH NAME port	EG: **Net>HMV1>**
20.240	Key into pathname for IDF port	EG: **HY2BXSL**
20.245	Press <ENTER>	"WAIT" in yellow; "PROCESSING ..." "OPERATION COMPLETE" (See note below if an error results)
20.250	Press <COMND>	COMMAND DISPLAY
20.260	Select [**PRINT ENTITIES**]	Path name ports/targets appear. REF. PATH NAME = NET>HMV1>
20.270	Select [**PRINT IDF ENTITIES**]	
20.280	Use default Print Device ID	EG: **$P1**
20.290	Press <ENTER>	Box Slot configuration parameters are printed

NOTE

Entity names in the printout identify Hiway and Box numbers as follows:
"$HIWAYnn" where nn is the Hiway number.
"$HYnnBnn" where nn after HY is Hiway number and nn after B is Box number.

Address Error—If an address error results when loading Box/Slot data to a Hiway Box, make sure you saved the data in an IDF. Then proceed as follows (doing this on another station is preferable):

Call up the System Status Display.
Select the appropriate HG Node.
Select [NTWK/HWY STATUS] near the bottom of the display.
Select [HIWAY CMND].
Select [INIT ADDR].
Select [EXECUTE COMMAND]. The address errors should be cleared.
Return to the BOX/SLOT configuration display and repeat the LOAD MULTIPLE steps.
This time the result should be "OPERATION COMPLETE."

PLCG Interface—Certain PLCG interface functions have to be programmed with a Local Loader Station, refer to PLCG documentation for details.

TASK 21 CONFIGURE POINTS **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-511 **Personality Loaded:** GUS

Step	Action	Response
21.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
21.20	Select [**HIWAY GATEWAY],** or [**APPLICATION MODULE**], or [**COMPUTING MODULE**] [**NTWK INTERFACE MODULE**] (if the system has a PLCG, select [HIWAY GATEWAY]. If the system has none of the above, skip to Task 22).	EG: [**HIWAY GATEWAY**] HG/AM/CM BUILD TYPE MENU
21.21	Select a Point Build option	EG: [**REGULATORY**]

NOTE

1. For detailed information on point building, refer to the *Data Entity Builder Manual,* (see References). For point building tips and precautions, refer to Section 9 in the *Engineers Reference Manual.*
2. The general scenario of point building is to key into ports, select options on each PED page, press <ENTER> and then <PAGE FWD> to the next PED page. The pages in a particular PED set may change depending upon what type of box, algorithm, or point you are configuring.
3. If you select any **options outlined in yellow** or if you key data into any port outlined in yellow, the content of the PED set or PED changes when you press the <ENTER> key. You should press <ENTER> after each page.
4. Steps 21.30 through 21.420 describe the process of building a typical PID Normal point for a **Basic** Controller. For other types of points see Tables 3-2 through 3-4. When building any of the example points, use default values and options for items not on the list.

	POINT BUILD	
21.30	Key into TAG NAME port	EG: **HG1001**
21.40	Key into UNIT ID port	EG: **01**
21.50	Key into POINT DESCRIPTOR port	EG: **CB REG POINT**
21.60	Key into POINT KEYWORD port	EG: **CBpid**
21.64	PRIMARY MODULE POINT ID	- - - - - - - -
21.66	Key into POINT ASSOCIATED DISPLAY	EG: **DISP1** (R510 and later systems)
21.70	Key into HIWAY NUMBER port	EG: **02**

TASK 21 **CONFIGURE POINTS** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
21.75	Select BOX TYPE option	EG: [**CB**]
21.80	Key into BOX NUMBER port	EG: **10**
21.90	Select POINT DISCLOSURE option	EG: [**FULL**]
21.100	Select LOAD DESTINATION option	EG: [**HG_HIWAY**]
21.110	Press <ENTER>	PED reappears with values in cyan
21.120	Press <PAGE FWD>	ALGORITHM Selection display
21.125	Select ALGORITHM option	EG: [**PIDNORM**]
21.130	Press <ENTER>	PED reappears with values in cyan
21.135	Press <PAGE FWD>	HG-PV CONFIGURATION display
21.140	Key into E.U. DESCRIPTOR port	EG: **GAL/HOUR**
21.150	Select CHARACTERIZATION option	EG: [**SQRROOT**]
21.160	Select INPUT CONDITIONING option	EG: [**SQRROOT**]
21.170	Select PV DECIMAL FORMAT option	EG: [**D2**] (places point at 999.99)
21.180	Key into OVERVIEW VALUE port	EG: **20**
21.190	Select PV RANGE OPTION	EG: [**CLMPZERO**]
21.200	Select CLAMP VALUE OPTION	EG: [**NOCLAMP**]
21.210	Press <ENTER>	PED reappears with values in cyan
21.220	Press <PAGE FWD>	HG—ALARMING display
21.225	Select ALARM FORMAT option	EG: [**ALFMT00**]
21.230	Key into PVLOTP port	EG: **10**
21.240	Key into PVHITP port (far right)	EG: **100**
21.250	Select ALARM PRIORITY option	EG: [**HIGH**]
21.260	Press <ENTER>	PED reappears with values in cyan

TASK 21 **CONFIGURE POINTS** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
21.270	Press <PAGE FWD>	HG-OPERATING CONFIGURATION display
21.290	Select PV SIGNAL Type option	EG: [**PV**]
21.310	Select INITIALIZATION option	EG: [**INIT**]
21.320	Key into SETPOINT port	EG: **43**
21.330	Press <PAGE FWD>	
21.350	Key into OUTPUT HIGH LIMIT port	EG: **100**
21.360	Key into INTEGRAL HIGH LIMIT port	EG: **100**
21.370	Key into FILTER CONSTANT port	EG: **1**
21.380	Press <ENTER>	PED reappears with values in cyan
21.390	Press <PAGE FWD>	HG-MODE CONFIGURATION display
21.400	Select NORMAL MODE option	EG: [**CAS**]
21.410	Select NRML MODE ATTRIBUTE option	EG: [**OPERATOR**]
21.420	Press <ENTER>	PED reappears with values in cyan
	CHECK THE DATA YOU ENTERED	
21.430	When you have paged forward and entered all PED pages, hold <CTL> down and press <8>.	PARAM ENTRY DISPLAY SET STATUS display
21.440	If "Display Set Entered?" is Yes, and no missing data or errors are indicated, go to step 21.460; else 21.450.	
21.450	Select a Display Title option, correct data and press <ENTER>	Applicable PED appears. PED set is corrected.
21.455	Repeat step 21.440.	

TASK 21 **CONFIGURE POINTS** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

NOTE

You should make IDFs with different names for the points that you build in each box on the hiway. (HG1, CB1, etc.)

Step	Action	Response
	WRITE TO IDF	
21.460	Press <COMND>	COMMAND DISPLAY
21.470	If this is the first write to this IDF, go to step 21.475. If not, go to step 21.510.	In this example, the IDF is HGPNTS for HG, AMPNTS for AM, etc.
21.475	Select [**WRITE TO IDF**]	Additional port/target appear.
21.480	Key into REFERENCE PATH NAME port	EG: **NET>HMV1>**
21.500	Key into pathname for IDF port	EG: **HGPNTS** for HG, **AMPNTS** for AM
21.510	Press <ENTER>	Point Config data written to IDF PARAMETER ENTRY DISPLAY
21.520	Repeat steps 21.30 – 21.510 for each other point.	All configured points are on IDF for HG, or IDF for AM, etc.
21.530	Press <COMND>	COMMAND DISPLAY
21.540	Select [**LOAD MULTIPLE**]	Additional ports/target appear
21.550	Key into Reference Pathname port	EG: **NET>HMV1>**
21.555	Select [**WITH OVERWRITE**]	
21.560	Key into Pathname For IDF port	EG: **HGPNTS** for HG; **AMPNTS** for AM
21.570	Press <ENTER>	"WAIT" in yellow; "ENTITY NAMES" Point Config data loaded to HG. "OPERATION COMPLETE"
21.572	If errors occur, select the point on the error display. Make corrections; then repeat steps 21.530 – 21.570.	

TASK 21 CONFIGURE POINTS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Reference: SW11-505 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
21.580	If the Command Display is not on the screen, press <COMND>	COMMAND DISPLAY
21.590	Select [**LIST ENTITIES IN IDF**]	Additional ports/target appear.
21.600	Key into REFERENCE PATH NAME	EG: **NET>HMV1>**
21.605	Key into pathname for IDF port	EG: **HGPNTS** for HG, **AMPNTS** for AM
21.610	Key into pathname For SEL LIST	EG: **BXSL.EL**
21.614	Select BUILD TYPES of entities to list	EG: **HG** or **AM** or **CIU** as applies. Additional targets appear.
21.618	Select types of entities	EG: **ALL**
21.620	Press <ENTER>	"BUSY", DISPLAY OF LIST FILE display
21.630	For a printout, press <COMND>	COMMAND DISPLAY
21.640	Select [**PRINT FILE**]	Ports/std. suffixes appear
21.650	Key into pathname for FILE port	EG: **BXSL.EL**
21.655	Key into Printer Print Device ID port	EG: **$P1** (default used)
21.660	Press <ENTER>	Point IDs are printed. (For more details, select PRINT ENTITIES)
21.670	Repeat Task 21 to build "master" points for other Data Hiway boxes.	EG: **MC point** (see Table 3-3)
21.680	Go to Appendix D of this document to **EXCEPTION BUILD** other Data Hiway box points as required.	
21.690	Repeat Task 21 to build other "master" points for AM and CL.	EG: **AM points** (vlratio is used in task 28 for CL). See Table 3-2.
21.680	Go to Appendix D of this document to **EXCEPTION BUILD** other AM or CL points as required.	

NOTE

You should save HG and AM checkpoints to emulated disk at this time. To do so, go perform instructions in Appendix B (HG) or C (AM) of this document.

Table 3-2 — Example AM Points

a. AM/CL Point VLRATIO (Regulatory)

TAG NAME	VLRATIO
UNIT ID	01
POINT DESCRIPTOR	CL Point
ENGR UNITS DESCRIP.	Fur/Ftnt
POINT KEYWORD	CLPOINT
POINT ASSOCIATED DISPLAY	(blank) (R510 and later systems)
PRIMARY MODULE POINT ID	- - - - - - - -
POINT DISCLOSURE	[FULL]
PV ALGORITHM	[CL]
CONTROL ALGORITHM	[NULL]
OVERVIEW VALUE	25
I/O DISPLAY SUPPR.	[NOSUPPR]
POINT EXEC. PERIOD	[NOPERIOD]
PV DECIMAL FORMAT	[D1]
PV RANGE HIGH	100.0
PV RANGE LOW	0.0
PV RANGE EXT. HIGH	102.9
PV RANGE EXT. LOW	-2.9
NUMBER ASSC. CL BLKS	1

All others—default values.

b. AM Point (Regulatory)

TAG NAME	AM101
UNIT ID	01
POINT DESCRIP.	TEMPERATURE
ENGR UNITS DESCRIP.	KBTU/MCF
POINT KEYWORD	TEMPA
POINT ASSOCIATED DISPLAY	(blank) (R510 and later systems)
PRIMARY MODULE POINT ID	- - - - - - - -
POINT DISCLOSURE	[FULL]
PV ALGORITHM	[SUMMER]
CONTROL ALGORITHM	[NULL]
POINT EXEC. PERIOD	5SEC
PV DECIMAL FORMAT	[D2]
PV RANGE HIGH	1.0
PV RANGE LOW	0.0
PV RANGE EX. HI	1.0
PV RANGE EX. LOW	-1.0
ALGORITHM EQN TYPE	[EQA]
OVERALL GAIN	0.01
NUMBER INPUT CONN.	1
SOURCE POINT. PARAM.	HG1001.OP
ALM ENB STATE	DISABLE

All others—default values.

Table 3-3 — Example Parameters for (Regulatory) MC Point HG0501

TAG NAME	HG0501
UNIT ID	01
POINT DESCRIPTOR	MC REGULATORY POINT NO 1
POINT KEYWORD	MCPID
PRIMARY MODULE POINT ID	- - - - - - - -
POINT ASSOCIATED DISPLAY	(blank) (R510 and later systems)
POINT DISCLOSURE	[FULL]
HIWAY NUMBER	02
BOX TYPE	[MC]
BOX NUMBER	05
POINT DISCLOSURE	[FULL]
SLOT NUMBER	01
LOAD DESTINATION	[HG]
ALGORITHM	[PIDNORM]
E. U. DESCRIPTOR	GAL/HR
OVERVIEW VALUE	20
PV RANGE OPTION	[CLMPZER0]
ALARM FORMAT	[ALFMT00]
ALARM PRIORITY	[LOW]
DISPLAY SUPPRESSION	[NOSUPPR]
OPERATOR MODE CHANGE	[PERMIT]

All others—default values.

Table 3-4 — Example Parameters for PLCG Digital Input Point PLC0801

TAG NAME	PLC0801
UNIT ID	01
POINT DESCRIPTOR	PL DIGITAL POINT NO 1
POINT KEYWORD	PL DIGIN1
PRIMARY MODULE POINT ID	- - - - - - - -
POINT ASSOCIATED DISPLAY	(blank) (R510 and later systems)
HIWAY NUMBER	04
BOX TYPE	[DHP]
BOX NUMBER	8
POINT DISCLOSURE	[BRIEF]
LOAD DESTINATION	[HG_HIWAY]
INPUT SLOT NUMBER	1
INPUT SUBSLOT NUMBER	1
ALARM FORMAT	[STATE1]
ALARM PRIORITY	[HIGH]
UPPER BOX TEXT	ON
LOWER BOX TEXT	OFF
PC TYPE	[MODICON]
INPUT 1 SPECIFIER CODE	0

All others—default values.

TASK 22 CONFIGURE LOGIC BLOCKS
Reference: MC11-500
Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

NOTE

If the system has no Multifunction Controllers, skip to Task 32 to configure NIMs, PMs, APMs, and HPMs. If neither Multifunction Controllers nor NIMs, go to Task 23.

Step	Action	Response
22.01	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
22.03	Select [**SYSTEM STATUS**] display	
22.03	Select the Hiway Gateway Node	Node box is selected
22.05	Select [**NTWK/HWYSTATUS**]	Multifunction Controller Status display
22.07	Select [**BOX STATUS**]	
22.09	Enter Box Number	EG: **5**
22.11	Press <ENTER>	BOX STATUS DISPLAY
22.14	Select [**IDLE**]	Target changes color
22.16	Select [**EXECUTE COMMAND**]	MF CTLR STATUS: IDLE
22.18	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
	CONFIGURE LOGIC BLOCKS	
22.20	Select [**LOGIC BLOCKS**]	LBC-BOX SELECTION display appears
22.22	Key into PATHNAME port	EG: **NET>HMV1>LB020520** (02 = Hiway 2; 05 = Box 5, 20 = revision level 20)
22.24	Press <ENTER>	Message: "SELECT FUNCTION"
22.25	Hold <CTL> down and press <2> (function key = F2)	Message: "TEXT BUILDER IS SELECTED"
22.26	Select [**CREATE**]	LBC-TEXT BUILDER display
22.27	Key into BLOCK NUMBER	EG: **1**
22.28	Press <ENTER>	Additional ports displayed
22.29	Key into ENTER ALGORITHM port	EG: **1**
22.30	Press <ENTER>	Algorithm number changes to AND; additional ports appear
22.31	Key into INPUT PARAMETER #1	EG: **LP(01).SOA**
22.32	Key into INPUT PARAMETER #2	EG: **LP(11).SOA**

TASK 22 **CONFIGURE LOGIC BLOCKS** (continued) **Keyboard:** IKB or PC **Lock:** ENGR

Reference: MC11-500 **Personality Loaded:** GUS

Step	Action	Response
22.33	Key into INPUT PARAMETER #3	EG: **LP(12).SOA**
22.34	Tab to NEXT BLOCK, [**YES**], press <SELECT>	Block 1 information appears in lower half of display. At top left, Block Number changes to 2
22.35	Tab to ENTER ALGORITHM; key into port	EG: **3**
22.36	Press <ENTER>	Algorithm number changes to XOR; Additional ports appear
22.37	Key into INPUT PARAMETER #1	EG: **LB(102)**
22.38	Key into INPUT PARAMETER #2	EG: **LB(103)**
22.39	Key into INPUT PARAMETER #3	EG: **LB(104)**
22.40	Tab to NEXT BLOCK, [**YES**], press <SELECT>	Block 2 information is added to lower half of display. At top left, Block Number changes to 3
22.41	Tab to ENTER ALGORITHM; key in	EG: **7**
22.42	Press <ENTER>	Algorithm number changes to FLIP-FLOP; additional ports appear
22.43	Key into INPUT PARAMETER #1	EG: **LB(102)**
22.44	Key into INPUT PARAMETER #2	EG: **LB(103)**
22.45	Key into OUTPUT PARAMETER	EG: **FL(001)**
22.46	Tab to NEXT BLOCK [**YES**], press <SELECT>	Block 3 information is added to lower half of display
22.47	Hold <CTL> down and press <^> (function key = F12)	Message: "WRITING FILE NET> HMV1>LB020520.JS"
22.48	Hold <CTL> down and press <4> (function key = F4)	LBC Compile Display appears; Message: "LBC COMPILE STARTED" Message: "WRITING FILE NET> HMV1>LB020520.JL/.JO"
	Wait	Message: "COMPILE COMPLETED" when compile is finished.
22.49	Hold <CTL> down and press <5> (function key = F5)	Message: "LBC DATA LOAD STARTED"

TASK 22 **CONFIGURE LOGIC BLOCKS** (continued)
Reference: MC11-500

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
22.50	Hold <CTL> down and press <6> (function key = F6)	Message: "READING DATA BASE"- then LBC Compare Display appears with last line "NO DIFFERENCES FOUND"
22.51	For other Multifunction Controllers, hold <CTL> down and press <1>. Then, repeat 22.22-22.50	
	The following steps add comments to the file. If you do not want to add comments, skip to 22.68	Comments are used to document the logic block configuration.
22.52	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
22.53	Select [**COMMAND PROCESSOR**]	COMMAND PROCESSOR display
22.54	Type in EDIT command	EG: **EDIT NET>HMV1>LB020520.JS** (.JS = Source File)
22.55	Press <ENTER>	Logic Block data from previous steps appears
22.56	Move the cursor to the end-of-file: Hold <CTL> down and press <3>, Hold <CTL> down and press <2>	Jump Menu appears Cursor moves to end-of-file following existing text
22.58	Press <RETURN>	
22.60	Type in the comments, for example: **— <RETURN>** **— LOGIC BLOCKS 001 THROUGH 003 ARE OVERTEMP/CONTROL ALARMS.<RETURN>** **— THE OUTPUT OF THIS CIRCUIT CONTROLS A SECONDARY CIRCUIT<RETURN>** **— CONSISTING OF LOGIC BLOCKS 010 THROUGH 017.<RETURN>**	
22.62	Move the cursor to the beginning-of-file: Hold <CTL> down and press <3>, Hold <CTL> down and press <1>	Jump Menu appears Cursor moves to beginning-of-file
22.64	Update and exit from the file: Hold <CTL> down, press <1>, Hold <CTL> down, press <2>	Quit Menu appears Message: “FILE WAS UPDATED- X LINES WRITTEN”
22.66	Repeat 22.54-22.64 for other Logic Block Files.	
22.68	Hold down <CTL> and press <HELP>	ENGINEERING MAIN MENU

NOTE

If the system has a **Network Interface Module/ / UCN devices,** go to Procedure 9, Task 32 near the back of this manual. When the NIM and UCN nodes have been configured, continue on to Task 23.

Figure 3-6 shows a graphic representation of the Tasks (23-28) that must be performed to Configure Custom Functions.

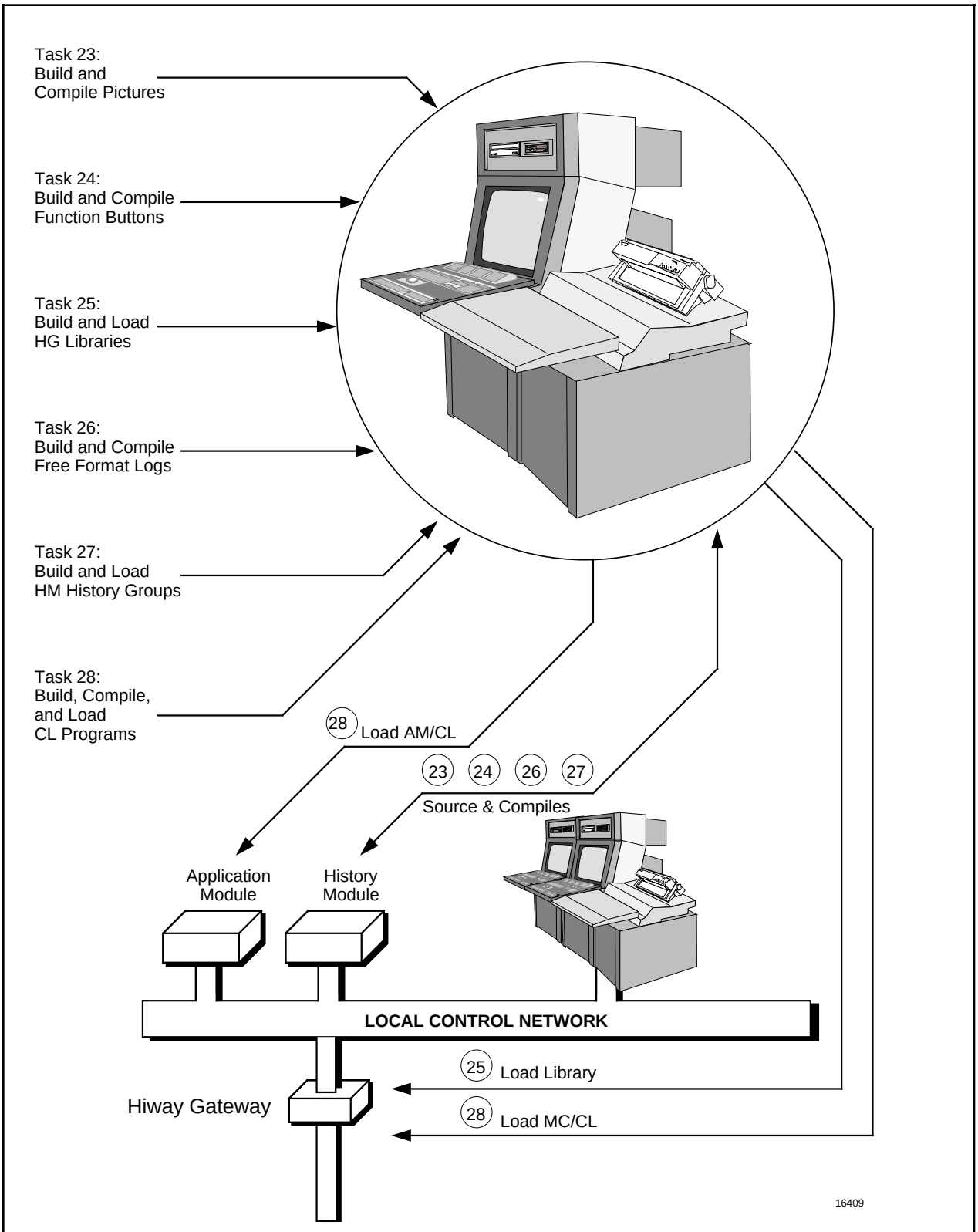
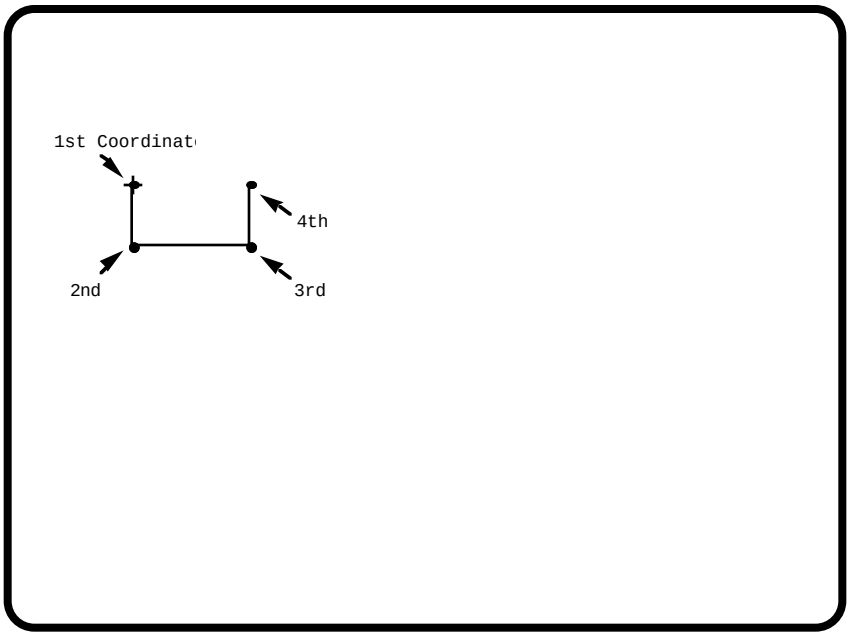


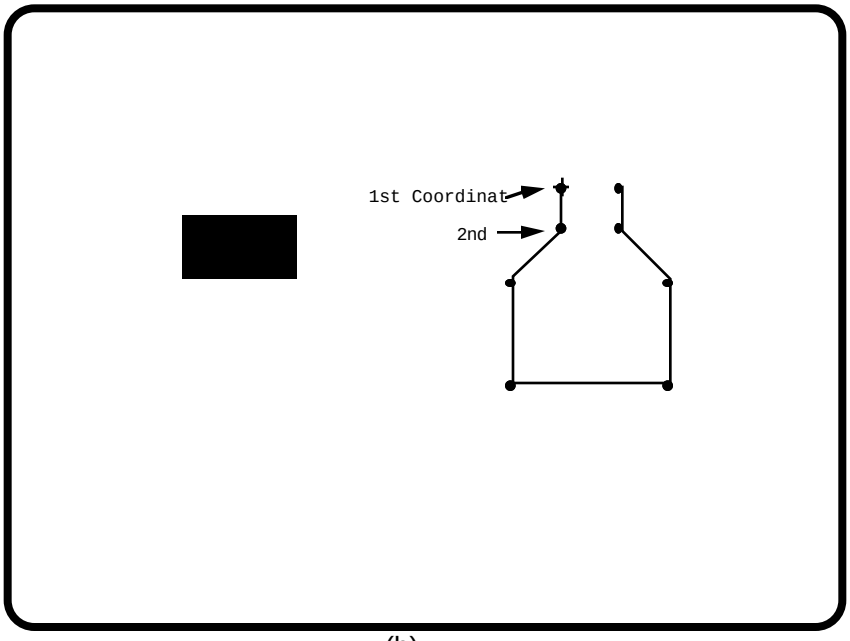
Figure 3-6 — Configure Custom Functions

TASK 23 **BUILD AND COMPILE PICTURES** **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW09-550 & SW11-550 **Personality Loaded:** GUS

Step	Action	Response
23.10	Make sure points referenced by pictures have been built and loaded.	
23.14	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
23.18	Select [**PICTURE EDITOR**]	PICTURE EDITOR display
23.19	The following steps and Figure 3-7 show how to build a simple Custom Graphic Display.	If pictures were prebuilt, go to step 23.160 to read them in and then compile them on the HM.
23.22	Key in a Picture Editor command	EG: **ADD SOLID**
23.28	Press <ENTER>	Prompt: “ENTER ... COORDINATES”
23.32	Move cursor to desired location	Hold <CTL> down, press <TAB> keys
23.40	Press <SELECT>	Cross marks the coordinate (see Figure 3-7a)
23.44	Repeat steps 23.32 – 23.40 until all of the coordinates are selected.	Note that <DEL> deletes the last coordinate selected if you need to make a correction.
23.48	Press <ENTER>	Command Completed **Note:** The **NEW** command clears the screen if you want to redraw.
23.56	Repeat steps 23.22 – 23.48 to build additional objects.	EG: Another Solid. (Figure 3-7b)
23.60	Hold <CTL> down and press a color key (color keys are on the keypad).	EG: **<CTL> and <4>** Status indicator at top center of screen changes to white.
23.65	Key in a Picture Editor command	EG: **ADD LINE**
23.70	Press <ENTER>	Prompt: “ENTER ... COORDINATES”
23.75	Move cursor to desired location	EG: Hold <CTL> down; press TAB
23.80	Press <SELECT>	Cross marks the Coordinate
23.85	Repeat steps 23.75 – 23.80 until all of the coordinates are selected.	EG: Lines connect objects (See Figure 3-7c).
23.90	Press <ENTER>	Command Completed



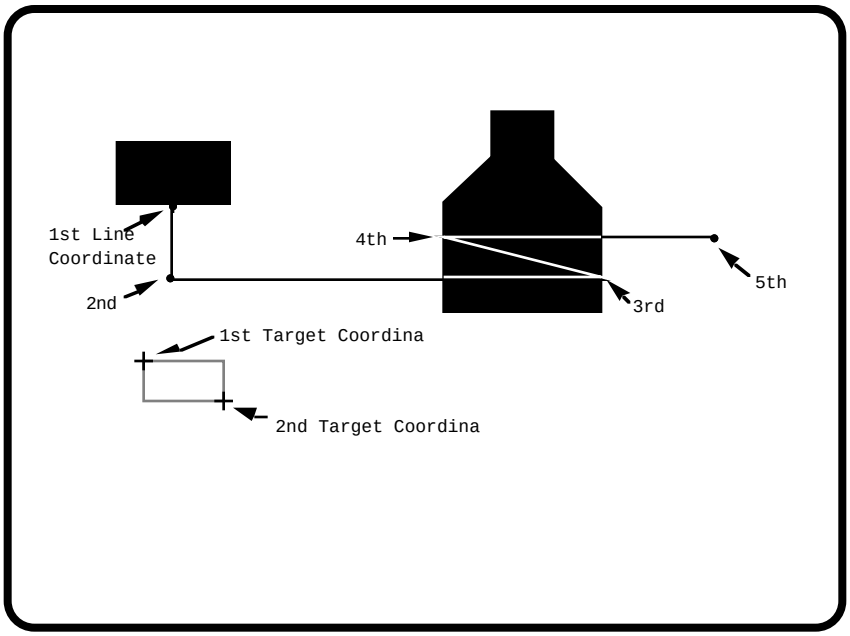
(a)



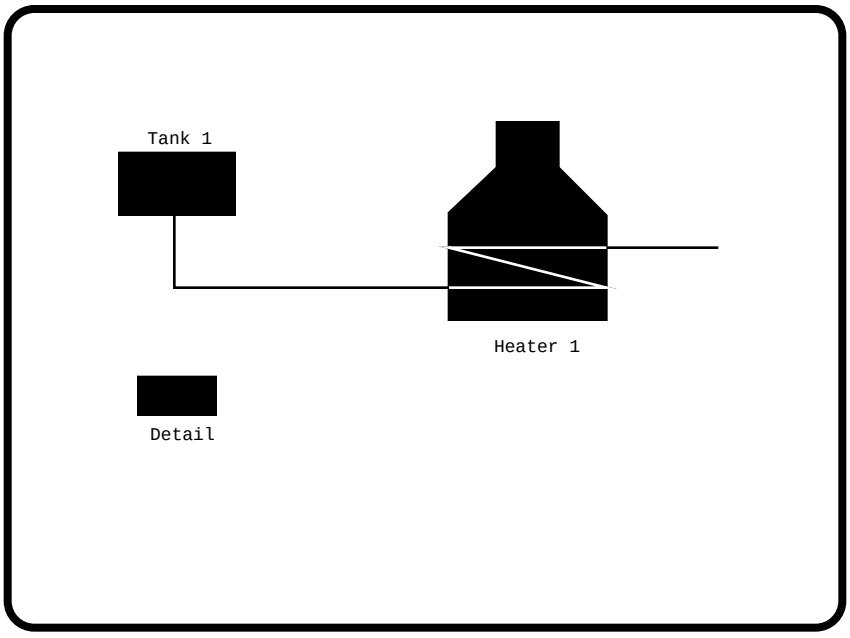
(b)

Figure 3-7 — Picture Building 2600

(Continued)



(c)



(d)

Figure 3-7 — Picture Building (Continued) 2661

TASK 23 **BUILD AND COMPILE PICTURES** (continued) **Keyboard:** IKB or PC **Lock:** ENGR

Reference: SW09-550 & SW11-550 **Personality Loaded:** GUS

Step	Action	Response
23.94	Key in Picture Editor commands to add conditional behavior, etc.	EG: **SEL SOL;ADD COND**
23.98	Press <ENTER>	Prompt: "ENTER ... COORDINATES"
23.102	Move cursor to desired location	EG: Place cursor on solid rectangular object
23.106	Press <SELECT>, then press <ENTER>	Object turns white and blinks; Screen Form appears.
23.110	Key in screen form information (points you refer to must have been built and loaded in Task 21)	EG: (in condition block): **IF HG1001.PV > 75 THEN SET RED** **ELSE SET CYAN**
23.114	Press <ENTER>	Picture returns (or point Type/Format requested if point not found)
23.118	Key in commands to add targets	EG: **ADD TARG**
23.124	Press <ENTER>	Prompt: "ENTER ... COORDINATES"
23.128	Move cursor to desired location	EG: Place cursor under first solid rectangular object (see Figure 3-7c)
23.132	Press <SELECT>	Cross marks 1st target coordinate
23.136	Move cursor; press <SELECT>	Rectangle drawn around coordinates
23.140	Press <ENTER>	Target screen form appears
23.145	Key into Action area	EG: **DETAIL("HG1001")**
23.150	Press <ENTER>	Picture returns (or point Type/Format requested if point not found)
23.154	Enter any other commands to complete desired custom display.	EG: **ADD TEXT** Label objects (see Figure 3-7d)
23.156	Press <ENTER> to complete command	
23.159	Go to step 23.210 to compile the display	
Follow steps 23.160 – 23.190 to read in prebuilt pictures from emulated disks.		
23.160	Insert emulated disk with picture files in FD1; key in the **SET PATHNAME** command	EG: **S P $F1>VOL1>DISP1** (where VOL1 is the volume name and DISP1 is the file name)
23.170	Press <ENTER>	Pathname appears at top of display

TASK 23 **BUILD AND COMPILE PICTURES** (continued) **Keyboard:** IKB or PC **Lock:** ENGR

Reference: SW09-550 & SW11-550 **Personality Loaded:** GUS

Step	Action	Response
23.180	Key the **READ** command onto the command line.	EG: **READ DISP1** (Assumes DISP1 is filename)
23.190	Press <ENTER>	Picture appears on US screen
23.210	Key in a **COMPILE** command	EG: **COMPILE NET>HMV1>DISP1**
23.220	Press <ENTER>. Picture on the screen is compiled onto the HM	Message: "WRITING SOURCE FILE" Message: "WRITING OBJECT FILE"
	To have a redundant schematic, you should compile it to other HMs, cartridge disks, or floppies now.	No redundant schematics were configured on the example system.
23.230	Repeat steps 23.19 – 23.220 until each of your pictures is compiled.	
23.240	If you want to save picture source files insert cartridge in FD1.	EG: USER (volume created in task 4)
23.241	Press <ESC>	"ESCAPED FROM PICTURE EDITOR"
23.244	Key in a copy command	EG: **CP NET>HMV1>DISP1.DS $F1>PICT>DISP1 -D**
23.248	Press <ENTER> Source file is copied	Message: "COPY COMPLETE"
23.249	Hold <CTL> down and press <HELP>	Return to Picture Editor

TASK 24 **BUILD AND COMPILE BUTTONS** **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-570 **Personality Loaded:** GUS

Step	Action	Response
	Make sure all the points and pictures you need were created in previous tasks	
24.20	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
24.30	Select [**BUTTON CONFIGURATION**]	BUTTON CONFIGURATION MENU
24.35	Select a button (EG: **7**)	ACTION & LAMP DATA regions appear
24.40	Key into the Action region	EG: **DETAIL("HG1001")**
24.45	Press <ENTER>	BUTTON CONFIGURATION MENU appears
24.50	Select another button (EG: **8**)	ACTION & LAMP DATA regions appear
24.55	Key into the Action region	EG: **SCHEM("DISP1")**
24.60	Press <ENTER>	BUTTON CONFIGURATION Menu
24.65	Select another button (EG: **9**)	Action & Lamp Data regions appear
24.70	Key into the Action region	EG: **SCHEM(R_STR)**
24.75	Press <ENTER>	PARAMETER ENTRY display
24.80	Key into ports exposed by Actor.	EG: **10** into "Tip Length" EG: **"ENTER SCHEMATIC NAME"** into "Prompt 1–30 Char"
24.85	Press <ENTER>	BUTTON CONFIGURATION MENU
	CONFIGURE A DISPLAY SET	
24.90	Select another button	EG: **10** ACTION & LAMP DATA regions appear
24.100	Key into the Action region	EG: **CROSSCRN(1);SCHEM("DISP1");CROSSCRN(2);GROUP(1,0)**
24.140	Press <ENTER>	BUTTON CONFIGURATION MENU
24.150	Repeat steps 24.35 – 24.140 to configure rest of buttons in set	Buttons for all stations in an Area are configured by this task.

NOTE

If you want a button on the Operator Keyboard to call up either the Overview Display or the Area Trend Display, configure them here. For the Universal Work Station's Engineering Keyboard, <PAGE FWD> from the main Button Menu to the PF Button Menu and configure as desired.

24.160	Key **COMPILE** xxx into the cmd line	EG: **COMPILE NET>&D01>BUTTON**
24.170	Press <ENTER>	"WRITING SOURCE/OBJECT FILE"
24.180	Key in a **PRINT** command	EG: **PRINT 7..10 $P1**
24.190	Press <ENTER>	Button Config. record is printed

TASK 25 BUILD AND LOAD HG LIBRARIES **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-511 **Personality Loaded:** GUS

Step	Action	Response
	NOTE: If you don't have a Hiway Gateway, skip to Task 26.	
	HG LIBRARY $HnnLIBx where nn = Hiway No. and x = Library No.	
25.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
25.15	Select [**HIWAY GATEWAY**]	HG-BUILD TYPE AND CONFIG. MENU
25.20	Select [**HG LIBRARY**]	HG LIBRARY CONFIGURATION display
25.30	Key into HIWAY NUMBER port	EG: **02** (configured in Task 9)
25.40	Key into LIBRARY NUMBER port	EG: **1**
25.50	Key into INDEX ports	EG: **ON** (into "Index 001" port) EG: **OFF** (into "Index 002" port) EG: **TRUE** (into "Index 003" port) EG: **FALSE** (into "Index 004" port)
25.60	Key into other Index ports as required. Press <ENTER> after page is done	PED reappears with values in cyan
25.70	Press <PAGE FWD> and key into Index ports as required.	New PED page appears.
25.80	When a given library is complete, press <COMND>	COMMAND DISPLAY
25.82	Select [**WRITE TO IDF**]	Pathname Ports and target appear.
25.83	Key in a REFERENCE PATHNAME	EG: **NET>HMV1>**
25.84	Key in an IDF Pathname	EG: **HGLIB**
	Press <ENTER>	Library is saved in IDF. HG-LIB. CONFIG display
25.85	Press <COMND>	COMMAND DISPLAY
25.90	Select [**LOAD**]	
25.100	Press <ENTER>	"BUSY" HG-LIBR. CONFIGURATION display

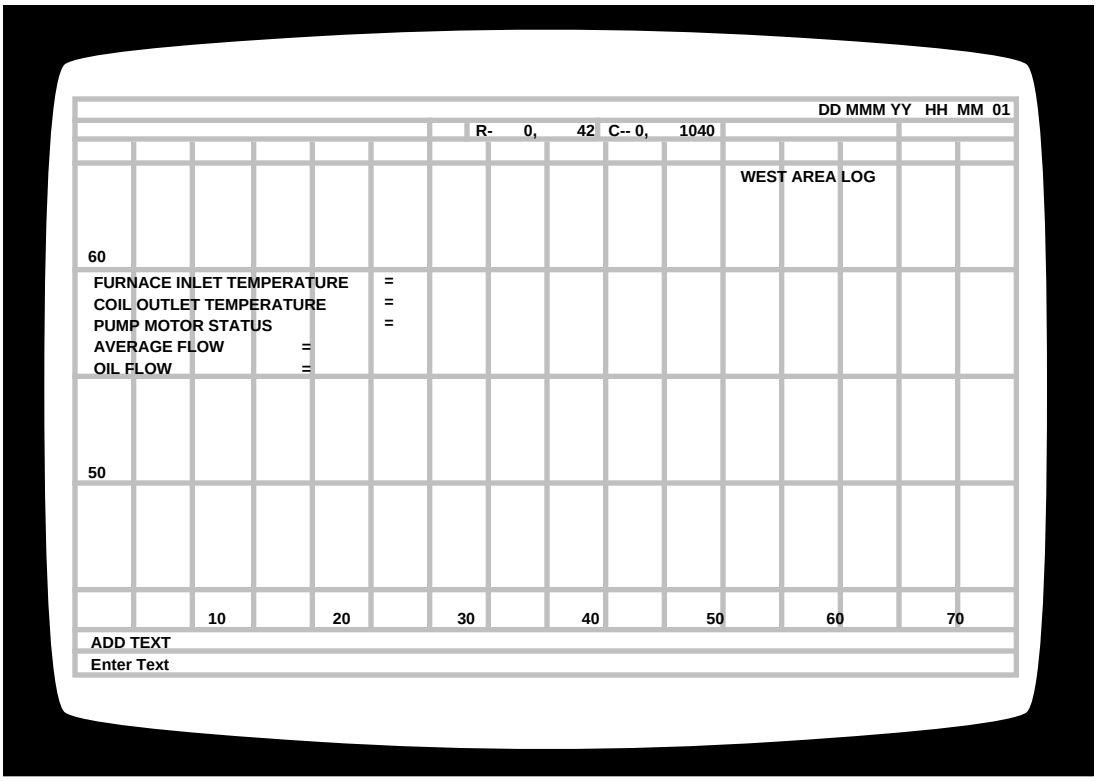
NOTE

You should save the HG checkpoint(s) on HM and perhaps emulated disk at this time. See Appendix B of this document for instructions.

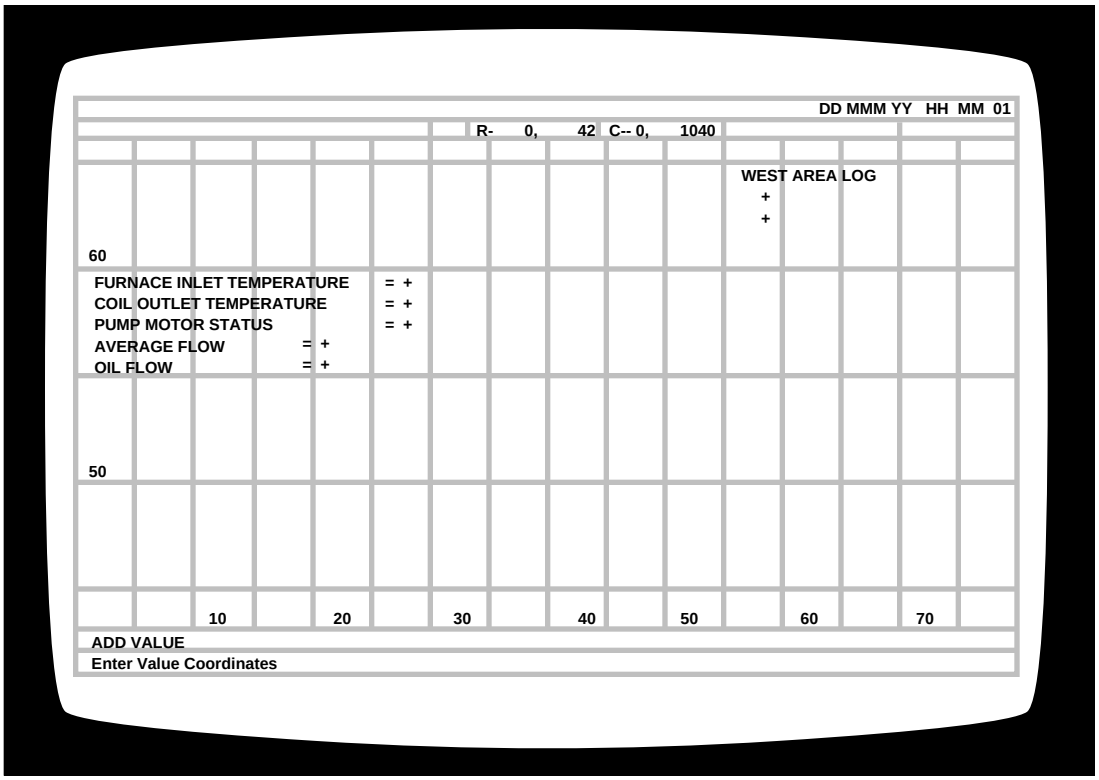
25.110	Repeat Task 25 for each other HG Library to be configured.	EG: Library numbers 2, 3, and 4

TASK 26 BUILD AND COMPILE FREE FORMAT LOGS **Keyboard:** IKB or PC **Lock:** ENGR
Reference: HM11-560 **Personality Loaded:** GUS

Step	Action	Response
26.10	Make sure points referenced in the logs have been built and loaded in Task 21.	Prebuilt logs can be read in from removable media and compiled on the HM per step 26.90
26.14	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
26.18	Select [**FREE FORMAT LOGS**]	FFL BUILDER display. At top of screen, R- 0, 42 indicates the Edit region is now at top left of drawing area.
26.22	On Cmd line, type: **SET GRID ON**	
26.26	Press <ENTER>	Grid appears
26.34	Enter Command: **ADD TEXT,** press <ENTER>	"ENTER TEXT" System ready for text input
26.38	Move cursor to locations where you want text and type it in. Figure 3-8 shows an example of text in a Free Format Log.	EG: **WEST AREA LOG** (title) **FURNACE INLET TEMPERATURE = COIL OUTLET TEMPERATURE =** etc. See Figure 3-8a.
26.42	Press <ENTER>	Text is added to display
26.46	Enter Command: **ADD VALUE** Press <ENTER>	"ENTER VALUE COORDINATES" System waits for you to specify Value coordinates
26.50	Move cursor to each point where you want a value; press <SELECT>. Note cursor location (e.g., C-224, 944) on 2nd line at that time.	+ Marks Value locations. (see Figure 3-8b)
26.54	Press <ENTER>	Screen form appears requesting EXPRESSION for Value at XXX, YYY. (e.g., VALUE AT 224, 944)



a. Text Locations



b. Value Locations. Selected locations are marked by +.

Figure 3-8 — Free Format Log Example

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TASK 26 **BUILD AND COMPILE FREE FORMAT LOGS** **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Reference: HM11-560 **Personality Loaded:** GUS

Step	Action	Response
26.58	Enter EXPRESSION information for each value (one per pass)	EG: **SYS_TIME** (1st Value) **SYS_TIME** (2nd Value) **HG1001.PV** **HG1002.PV** etc. for others (points must exist)
26.62	Press <ENTER>	Screen form requests FORMAT
26.74	Enter Format information (one per pass)	EG: **DATEMM-DD-YYENDDATE** (1st Value) **TIMEHH:MM:SSENDTIME** (2nd Value) **R-ZZZZ9.99** (other Values)
26.78	Press <ENTER>	String of letters replaces cross at value location (e.g., DTDTDT, R-ZZZZ9.99, etc.). EXPRESSION for the next value appears.
26.79	Repeat steps 26.58 – 26.78 until all Value information is entered	
26.80	If **TYPE** is requested, Enter TYPE information for that Value.	EG: DATE, TYPE, REAL, etc. (If type is known to the system, this screen form is omitted.
26.82	Enter command: **SET GRID OFF,** press <ENTER>	Grid disappears
26.90	If FFL was prebuilt you can read it in from cartridge disk at this time	EG: **READ $F1>VOL2>FFL001** (reads file FFL001 from cartridge named VOL2)
26.94	Enter Command to compile log	EG: **COMPILE NET>HMV1>FFL001**
26.96	Press <ENTER>	"WRITING SOURCE/OBJECT FILE" Log named FFL001 is compiled on HM
26.100	Repeat steps 26.22 – 26.96 for each FFL.	

TASK 27 **BUILD AND LOAD HM HISTORY GROUPS** **Keyboard:** IKB or PC **Lock:** ENGR
Reference: HM12-500 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
	HM HISTORY $CHuu(n)	**uu = Unit No., n = Hist. Group**
	Note: The **HM** On-Line Personality must be running for Task 27.	Check the System Status display for "HISTORY MODULES-STATUS OK"
27.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
27.20	Select [**HM HISTORY GROUPS**]	CH HEADER DISPLAY
27.30	Key into UNIT port	EG: **01**
27.40	Key into HISTORIZATION GROUP	EG: **1**
27.50	Key into ENTITY.PARAMETER table Suggestion: Move cursor to the port; then, press <CLR-ENT>.	EG: **HG1001.PV**
27.60	When all applicable entries to the ENTITY.PARAM table are complete, press <ENTER>	Values and ports turn cyan
27.70	Press <COMND>	COMMAND DISPLAY
27.80	Select [**WRITE TO IDF**]	Pathname ports and target appear.
27.90	Key in a REFERENCE PATHNAME	EG: **NET>HMV1>**
27.100	Key in an IDF Pathname	EG: **HMHIS**
	Press <ENTER>	Library is saved in IDF. PED display.
27.105	Press <COMND>	COMMAND DISPLAY
27.110	Select [**LOAD**]	
27.115	Press <ENTER>	PARAMETER ENTRY DISPLAY

TASK 28 BUILD, COMPILE, AND LOAD CL PROGRAMS
Reference: AM11-575 & SW27-500

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	CREATE CL SOURCE FILE	If you are not using CL, skip to Section 29.
28.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
28.20	Select [**COMMAND PROCESSOR**]	COMMAND PROCESSOR display
28.30	Key in an EDIT command	EG: **EDIT NET>CL>VLR_CALC.CL**
28.40	Press <ENTER>	Message: "OPEN FILE - FILE NOT FOUND"
28.50	Key in CL source file statements	EG: See Figure 3-9. This example is similar to Fig. 3-4 in the *CL/AM Overview Manual.* The point named in the BLOCK header must be a point built in task 21 (e.g., VLRATIO). All points referenced in the statement must exist (e.g., HG1001, HG1002). CLSLOTS must equal 1 or be greater than 1. In this example, PVALGID = CL.
28.60	Move cursor to 1st letter on line 1: Hold down <CTL>, then press <3>, hold down <CTL>, then press <1>	JUMP MENU Cursor moves to start of file.
28.70	Update and exit: Hold down <CTL>, then press <1>, hold down <CTL>, then press <2>	QUIT MENU Source file is transferred from temporary file to user volume. Message: "FILE WAS UPDATED xx Lines...."
	COMPILE THE CL/AM BLOCK	
28.90	Key in a Compile command	EG: **CL VLR_CALC**
28.100	Press <ENTER>	Elapsed time for Pass 1, Pass 2, Pass 3, time for compilation = nn.n sec. "Errors detected:None"
	If errors were detected, examine the **.LE** file. A caret (^) marks the error(s). Make corrections, then recompile the file.	EG: **PRINT NET>CL>VLR_CALC.LE**
	LINK (AND LOAD) THE CL BLOCK	
28.110	Key in a Link Command	EG: **LK VLR_CALC VLRATIO**
28.120	Press <ENTER>	Elapsed time for linker = nn.n seconds. "Errors Detected None"

```
BLOCK VLR_CALC  (POINT VLRATIO; AT PV_ALG)
--
-- CALCULATE INTERNAL VAPOR/LIQUID RATIO FOR COLUMN NO. 2.
--
EXTERNAL  HG1001,  HG1002
LOCAL WL, WV, RATIO
LOCAL CP = 0.806   --LIQUID HEAT CAPACITY
LOCAL LAMBDA = 653.0    --HEAT OF VAPORIZATION
--
-- CALCULATE INTERNAL LIQUID FLOW RATE FROM HEAT AND MATERIAL BALANCE
SET WL = ((HG1001.PV - HG1002.PV)
&         * CP/LAMBDA)
--
-- CALCULATE INTERNAL VAPOR FLOW RATE FROM MATERIAL BALANCE
SET WV = HG1001.PV + WL
--
-- CALCULATE VAPOR/LIQUID RATIO AND STORE AS PV
SET RATIO  = WV/WL
--

IF BADVAL (RATIO) THEN (CALL SET_BAD (PVCALC);
&                        SET PVAUTOST = BAD)
                  ELSE  (SET PVCALC = RATIO;
&                        SET PVAUTOST = NORMAL)
--
END VLR_CALC
```

Figure 3-9 — CL Source File Example

Figure 3-10 shows a graphic representation of the Task (29) that must be performed to Build and Install the Area Database.

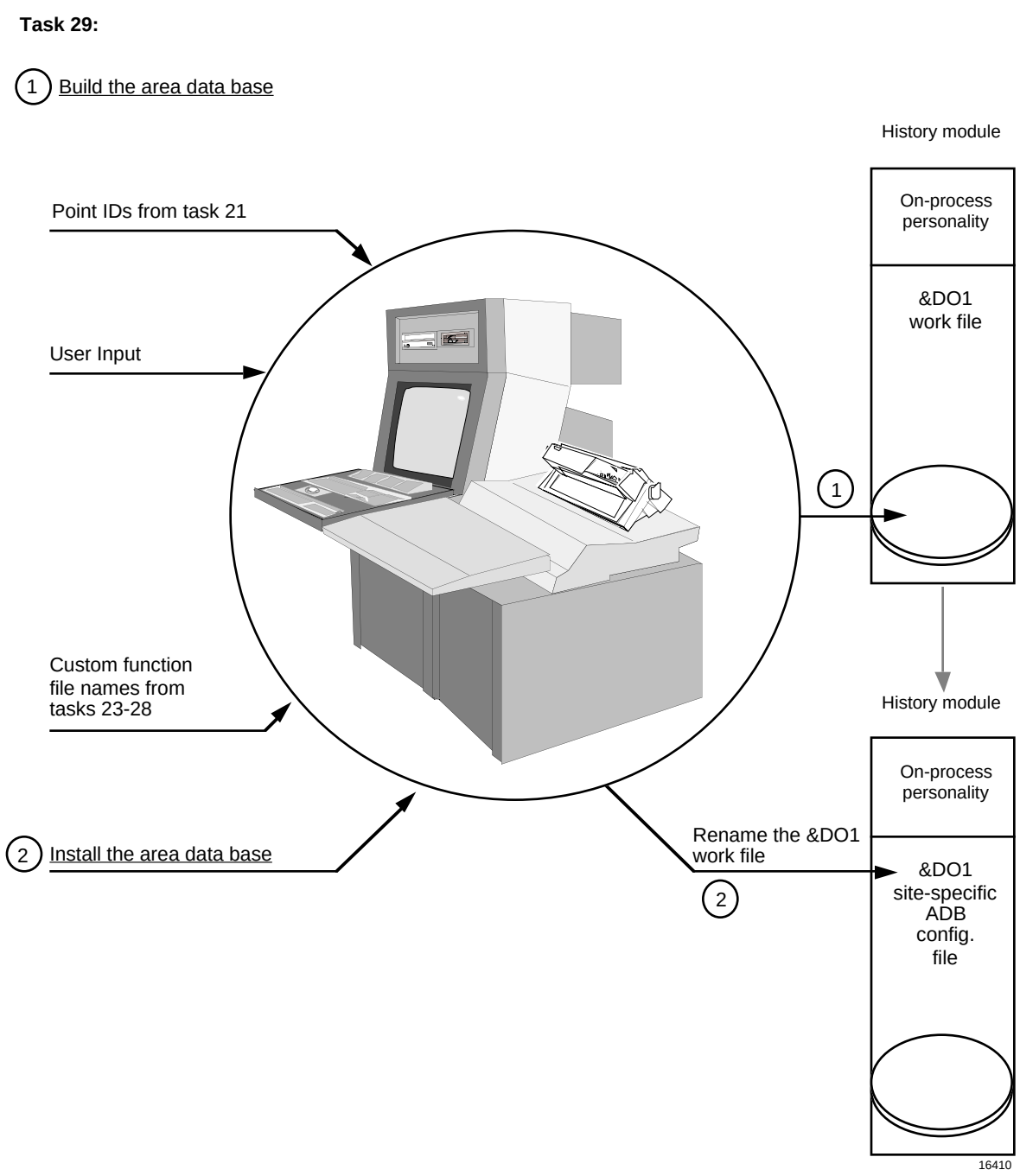

Figure 3-10 — Build and Install the Area Database

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE**
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

NOTE

1. Points to be referenced in the Area Database must already be configured in Task 21. Custom functions to be referenced in the Area Database must already be configured in Tasks 23, 24, 25, 26, 27, and 28.

2. In the steps that follow, the Area Database entity IDs required for reconstituting, loading, or reading a given part of the Area Database is listed just to the right of the bold heading for each part.

Step	Action	Response
	COPY BLANK AREA DATA BASE	
29.06	Key in an Unprotect command to the Area Data Base; then press <ENTER>	EG: **UNPT NET>&D01>AREA01.DA** "FILE UNPROTECT COMPLETE"
	UNIT ASSIGN $RUNTSTS	
29.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
29.20	Select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.30	Select [**UNIT ASSIGNMENT**]	UNIT ASSIGNMENT DISPLAY CONFIG.
29.40	Select Unit ports that you want to be in the area.	EG: **01** Selected port(s) turn green
29.45	Press <ENTER>	UNIT ID targets appear

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
29.47	Enter Unit ID(s)	EG: **01**
29.50	Select INITIALLY ASSIGNED? option	Select [**YES**] for each unit initially assigned to this area.
29.70	Press <ENTER>	PED reappears with values in cyan
	SET A PATHNAME AND WRITE TO IDF	
29.80	Press <COMND>	COMMAND DISPLAY
29.90	Select [**WRITE TO IDF**]	Pathname ports and target appear
29.100	Key into Reference Path Name port	EG: **NET>HMV1>**
29.110	Key into pathname for IDF port	EG: **BOILER1**
29.120	Press <ENTER>	Unit Assignment data written to IDF
	GROUP DISPLAY $OGROUP(n) where n can be 1 to 400	
29.130	If UNIT ASSIGN display is on screen, hold <CTL> down and press <9>	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.140	Select [**GROUP**]	GROUP DISP. CONFIGURATION display
29.150	Key into GROUP NUMBER port	EG: **1**
29.160	Key into GROUP TITLE port	EG: **WEST GROUP**
29.170	Key into the POINT IDS port	EG: **HG1001**
29.180	Select IN THE TREND SET? option	EG: [**YES**]
29.190	Repeat 29.170 – 29.180 for each other point in this group.	
29.200	Select a TREND TIMEBASE option	EG: The default option
29.201	Press <ENTER>	PED reappears with values in cyan
29.203	<PAGE FWD> to the Associated and Help display definitions. Key into ports as desired.	
29.210	Press <ENTER>	PED reappears with values in cyan

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	WRITE TO IDF WHEN PATHNAME IS ALREADY SET	
29.220	Press <COMND>	COMMAND DISPLAY with **[WRITE TO IDF]** selected
29.230	Press <ENTER>	GROUP DISPLAY CONFIG data to IDF
29.240	To configure more groups, hold <CTL> down and press <PAGE BACK>. Go repeat 29.140 – 29.230	
	UNIT TREND DISPLAY $OUNTRND(n) where n can be 1 to 36	
29.250	If GROUP DISP CONFIG is on screen hold <CTL> down and press <9>	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.255	Select [**UNIT TREND**]	UNIT TREND DISPLAY CONFIG display
29.260	Key into TREND DISP NUMBER port	EG: **1**
29.265	Key into TREND TITLE port	EG: **UNIT 1 TRENDS**
29.270	Select TREND TIMEBASE option	EG: [**2 HOURS**]
29.275	Key in names of point(s) to be trended in cyan and/or yellow	EG: **HG1001** (CYAN)
29.280	Press <ENTER>	PED reappears with values in cyan
29.285	<PAGE FWD>	RELATED DISPLAY 001 DEF display
29.290	Key into SCREEN NUMBER port(s) and DISPLAY TYPE port(s)	EG: **1** EG: **ALARMSUM**
29.295	Press <ENTER>	PED reappears with values in cyan or SCHEMATIC NAME port appears if DISPLAY TYPE entered was SCHEM

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
29.300	Key into SCHEM. NAME port (if any)	EG: **DISP1**
29.305	Press <ENTER>	PED reappears with values in cyan
29.310	<PAGE FWD>	Next page appears
29.315	Repeat 29.290 – 29.310 to configure remaining Related Displays, and on Page 6, Assoc. Display and Help Display	Related, Associated, and Help displays configured
	WRITE TO IDF WHEN PATHNAME IS ALREADY SET	
29.320	Press <COMND>	COMMAND DISPLAY with correct pathnames entered.
29.325	Press <ENTER>	UNIT TREND CONFIG. data to IDF
29.330	Repeat 29.260 – 29.330 to configure other Unit Trend displays. Use <PAGE FWD> and <PAGE BACK> as necessary.	All Unit Trend displays configured and stored in IDF
	SYSTEM STATUS DISPLAY $OSYSTAT	
29.350	If PED display is still on the screen Hold <CTL> down and press <9>	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.360	Select [**SYSTEM STATUS**]	SYSTEM STATUS DISPLAY CONFIG display
29.364	If the screen is blank, press <PAGE FWD>	Next page appears
29.370	Key into Associated Display ports: SCREEN NO. port DISPLAY TYPE port Press <ENTER> CONSOLE NUMBER	 EG: **0** EG: **CONSTAT** CONSOLE # port appears EG: **1**

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	SYSTEM STATUS DISPLAY (continued)	
29.380	Key into HELP DISPLAY DEF ports: SCREEN NO. port DISPLAY TYPE port	 EG: **1** EG: **SYSSTAT**
29.390	Press <ENTER>	PED reappears with values in cyan
	WRITE TO IDF	
29.400	If not first write to IDF, press <COMND> and go to 29.410. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY with [WRITE TO IDF] selected. Example IDF is BOILER1.
29.410	Press <ENTER>	SYS STAT DISP CONFIG-data to IDF
	FREE FORMAT LOGS $OFFLOG(n) where n can be 1 to 100	
29.420	If PED display is on the screen, hold <CTL> down and press <9>. If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION MENU AREA CONFIGURATION MENU
29.430	Select [**FREE FORMAT LOG**]	FREE FORMAT LOG CONFIG. display
29.440	Key into LOG NUMBER	EG: **1**
29.450	Key into LOG NAME	EG: **FFL001**
29.470	Key into LOG DESCRIPTION	EG: **WEST AREA LOG**
29.480	Accept default for INVOC. TYPE	EG: **DEMAND**
29.490	Accept default for PRINTER ID	EG: **1**
29.500	Press <ENTER>	PED reappears with values in cyan

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	WRITE TO IDF	
29.510	If not first write to IDF, press <COMND> and go to 29.515 If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (with path name set)
29.515	Press <ENTER>	FFL CONFIG DATA to IDF
29.520	Repeat 29.440 – 29.515 for other Free Format Logs	All FFL configuration data in IDF
	HIWAY BOX ANNUN POLICY $DMONBLK	
29.610	If PED display is on the screen, hold <CTL> down and press <9>. If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu AREA CONFIGURATION Menu
29.620	Select [**PROC NTWK ANNUN POLICY**]	PROCESS NETWORK DEV. ANNC. CONFIG display
29.630	Key into PROCESS NTWK NBR port	EG: **2**
29.640	Select ADDRESS ANNUNC. options	EG: [**YES**] for all addresses
29.650	Press <ENTER>	PED reappears with values in cyan
29.660	Check PED set status (<CTL> <8>)	Display Set Entered?-Yes If errors, see: 29.1060 – 29.1080
29.670	If not first write to IDF, press <COMND> and go to 29.680. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (with pathname set)
29.680	Press <ENTER>	HIWAY ANN PLCY CONFIG-data to IDF
	PATHNAME CATALOG $OABSTRT	
29.690	If PED display is on the screen, hold <CTL> down and press <9>. If Engineering Main Menu is on the screen, select [**AREA DATABASE**]	AREA CONFIGURATION Menu AREA CONFIGURATION Menu

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
29.700	Select [**PATHNAME CATALOG**]	PATHNAME CATALOG CONFIG. display
29.710	Key into BUTN CONF VOLUME ID port	EG: **&D01**
29.720	Key into BUTN CONF FILE NAME port	EG: **BUTTON**
29.724	Key into SCHEMATIC or FFL PATHNAMES—most critical pathname in top left-hand port, then left to right, then second line left to right, etc.	EG: **NET>HMV1** (your user volume), **NET>&DSY**, **NET>&D01, NET>DIA1,** etc.
29.750	Key into MEM. RES SCHEMATIC OR FFL FILE NAME port and select [FFL] if you entered a FFL filename	EG: **FFL001 [FFL], DISP1, DISP2, DISP3**, etc.
29.760	Press <ENTER>	PED reappears with values in cyan
29.764	Use <PAGE FWD> to add more schematic/FFL names	All schematic/FFL file names entered
	WRITE TO IDF	
29.770	If not first write to IDF, press <COMND> and go to 29.780. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (with pathnames set)
29.780	Press <ENTER>	PATHNAME CAT CONFIG-DATA to IDF

PROCESS MODULE GROUP DISPLAY $OMODGRP(n) where n can be 1-50

NOTE

If a MC process module point wasn't configured in Task 21, go to 29.890.

29.790	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATABASE**]	AREA CONFIGURATION Menu
29.795	Select [**PROCESS MODULE GROUP**]	MODULE GROUP DISP CONFIG display
29.800	Key into GROUP NUMBER port	EG: **1**
29.810	Key into GROUP TITLE	EG: **MIX AND SOAK GROUP**

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
29.815	Key into PROCESS MODULE ID ports	EG: **SCALE1**
29.820	Press <ENTER>	PED reappears with values in cyan
29.825	<PAGE FWD>	RELATED DISPLAY 001 DEF display
29.830	Key into Screen Number port(s) and Display Type port(s)	EG: **1** EG: **SCHEM**
29.835	Press <ENTER>	PED reappears with values in cyan and additional port(s) displayed.
29.840	Key into added port(s)	EG: **DISP1**
29.845	Press <ENTER>	PED reappears with values in cyan
29.850	<PAGE FWD>	Next page appears
29.855	Repeat 29.830 – 29.850 to configure ASSOCIATED DISPLAY and HELP DISPLAY	RELATED, ASSOCIATED, and HELP displays configured
	WRITE TO IDF	
29.865	If not first write to IDF, press <COMND> and go to 29.870. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] (with path name BOILER1 set)
29.870	Press <ENTER>	PED display
29.880	Repeat 29.800 – 29.870 to configure other Process Module Groups. Use <PAGE FWD> and <PAGE BACK> as necessary.	All Process Module Groups configured and stored in IDF

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	MODULE SUMMARY DISPLAY $OUNITSM(n) where n can be 1 to 36	
29.890	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION MENU
	If Engineering Main Menu is on the screen, select [**AREA DATABASE**]	AREA CONFIGURATION MENU
29.900	Select [**MODULE SUMMARY**]	UNIT SUMMARY DISP CONFIG display
29.910	Select an option for each Line	EG: [**HEADER**] for Line 01, page 1
29.920	Press <ENTER>	EG: TITLE port appears for Line 1
29.930	Key into each Title port	EG: **WEST UNIT 1**
29.940	Press <ENTER>	PED reappears with values in cyan
29.950	Use <PAGE FWD> to get to more pages to configure and repeat steps 29.910 – 29.940 for each.	UNIT SUMMARY DISP CONFIG display – n
29.960	<PAGE FWD> to RELATED DISP DEF	RELATED DISP DEFINITION display – 1
29.970	Key into each pair of SCREEN NUMBER and DISPLAY TYPE ports	EG: **0** EG: **ALARMSUM**
29.980	Press <ENTER>	PED reappears with values in cyan
29.990	If desired, <PAGE FWD> to next page and repeat steps 29.970 – 29.980.	RELATED DISP DEFINITION display – n
29.1000	<PAGE FWD> to ASSOCIATED DISPLAY DEFINITION	ASSOCIATED & HELP DISPLAY DEFINITION
29.1010	Key into each pair of SCREEN NUMBER and DISPLAY TYPE ports	EG: **0** EG: **UNITALRM**
29.1020	Press <ENTER>	Unit ID port appears.
29.1030	Key into Unit ID port	EG: **01**
29.1040	Press <ENTER>	PED reappears with values in cyan

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	CHECK PED SET STATUS	
29.1050	Hold <CTL> down and press <8>	PED Set Stat display
29.1060	If "Display Set Entered?" is Yes, and no missing data or errors are indicated, go to 29.1090; else 29.1070.	If "No," check "Missing Data?" and "Errors?"
29.1070	Select a Display Title option, correct data and press <ENTER>	Applicable PED appears.
29.1080	Repeat step 29.1060	
	WRITE TO IDF	
29.1090	If not first write to IDF, press <COMND> and go to 29.1100. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (with pathname set).
29.1100	Press <ENTER>	MOD SUM DISP CONFIG data to IDF
	ANNUNCIATOR DISPLAY $ANNDATA	
29.1110	If PED display is on the screen, hold <CTL> down and press <9>. If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu AREA CONFIGURATION Menu
29.1115	Select <**ANNUNCIATOR**>	ANNUNCIATOR DISPLAY CONFIG. display
29.1120	Key into BOX NUMBER port	EG: **1**
29.1125	Key into BOX TITLE port	EG: **AIR FLOW** **Note**: Annunciator display boxes have two lines of four characters each
29.1128	Select a Point Usage	EG: [**ENTITY ID]**
29.1130	Key into NUMBER OF POINTS port	EG: **1**
29.1131	Press <ENTER>	
29.1132	Key into POINT NAMES ports	EG: **HG1001**
29.1135	Key into SCREEN NUMBER port	EG: **1**
29.1140	Key into DISPLAY TYPE	EG: **SCHEM**

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
29.1145	Press <ENTER>	Additional port(s) appear
29.1155	Key into added port(s)	EG: **DISP1**
29.1160	Press <ENTER>	PED reappears with values in cyan
	WRITE TO IDF	
29.1165	If not first write to IDF, press <COMND> and go to 29.1170	COMMAND DISPLAY, [WRITE TO IDF] selected; (with path name set)
	If first write to IDF, go perform 29.80 – 29.110 and return here.	
29.1170	Press <ENTER>	ANNUNC. CONFIG DATA to IDF
29.1175	Repeat 29.1110 – 29.1170 for other boxes on Annunciator	All Annunciator Box configuration data in IDF
	PROCESS JOURNALS $OPRCJOR(n)	
29.1200	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION Menu
	If Engineer Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.1202	Select [**PROCESS JOURNAL**]	PROCESS JOURNAL CONFIG. display
29.1204	Key into JOURNAL NUMBER port	EG: **1**
29.1206	Key into JOURNAL NAME port	EG: **PRJNL001**
29.1208	Key into JOURNAL TITLE port	EG: **WEST AREA PROCESS ALARMS**
29.1212	Select JOURNAL TYPE	EG: [**ALARM**]
29.1214	Select INVOCATION TYPE	EG: [**PERIODIC**]
29.1216	Select INITIALLY ACTIVE option	EG: [**NO**]
29.1220	Select DAYS OF WEEK option	EG: **ALL** (default)
29.1222	Key into START TIME port	EG: **0:10**
29.1224	Key into PERIOD port	EG: **12:0**
29.1226	Key into PRINTER ID port	EG: **1**
29.1228	Press <ENTER>	PED reappears with values in cyan
29.1230	Press <PAGE FWD>	Next page of PED appears
29.1232	Key into TIME SPAN port	EG: **12**

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
29.1234	Key into NUMBER OF UNITS port	EG: **1**
29.1236	Press <ENTER>	PED reappears with Unit ID Box(s)
29.1240	Key into (Unit ID) box	EG: **01**
29.1243	Press <ENTER>	PED reappears with values in cyan
29.1246	If not first write to IDF, press <COMND> and go to 29.1248. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (with path name set)
29.1248	Press <ENTER>	PROC. JOURNAL CONFIG data to IDF
29.1250	Repeat 29.1204 – 29.1248 to configure remaining journals	
	SYSTEM JOURNALS $OSYSJOR	
	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.1300	Select [**SYSTEM JOURNAL**]	SYSTEM JOURNAL CONFIG. display
29.1310	Key into JOURNAL NUMBER port	EG: **1**
29.1320	Key into JOURNAL NAME port	EG: **SYJNL001**
29.1330	Key into JOURNAL TITLE port	EG: **SYSTEM JOURNAL NO. 1**
29.1340	Select JOURNAL TYPE	EG: [**SYSTAT**]
29.1350	Select INVOCATION TYPE	EG: [**DEMAND**]
29.1360	Key into PRINTER ID port	EG: **1**
29.1370	Key into TIME SPAN port	EG: **24**
29.1390	Press <ENTER>	PED reappears with values in cyan

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
29.1400	If not first write to IDF, press <COMND> and go to 29.1410. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (with path name set)
29.1410	Press <ENTER>	SYS. JOURNAL CONFIG-data to IDF
29.1420	Repeat 29.1310 – 29.1410 to configure remaining journals	
	REAL-TIME JOURNALS $RTJNL	
29.1430	If Command display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATABASE**]	AREA CONFIGURATION Menu
29.1440	Select [**R-T JOURNAL ASSIGNMENT**]	R-T JOURNAL ASSIGNMENTS DISPLAY CONFIGURATION
29.1450	Key into PRINTER ID ports	EG: **1** (into all ports)
29.1460	Select JRN TYPE-INIT ACT? options	EG: [**No**] for SYS STATUS CHANGES
29.1470	Press <ENTER>	PED reappears with values in cyan
29.1490	If not first write to IDF, press <COMND> and go to 29.1500. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (with path name set)
29.1500	Press <ENTER>	REAL-TIME JRNL config-data to IDF

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

OVERVIEW DISPLAY $OOVERVW

Step	Action	Response
29.1510	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.1520	Select [**OVERVIEW**]	AREA OVERVIEW DISP CONFIG display
29.1530	Key into GROUP NUMBERS ports	EG: **1** (into Index 01)
29.1540	Key into NUMBER OF FIELDS port	EG: **1**
29.1550	Press <ENTER>	FIELD DEFINITION ports appear
29.1560	Key into FIELD DEF ports: FLD TITLE TOP LEFT ELEMENT WIDTH HEIGHT	EG: **WEST GROUP** EG: **1** EG: **1** EG: **1**
29.1570	Press <ENTER>	PED reappear with values in cyan
29.1573	<PAGE FWD> to the Related/Assoc. and Help Display definitions. Key into ports as desired.	
29.1578	Press <ENTER>	PED reappears with values in cyan
29.1580	Check PED-set status: Hold <CTL> down and press <8>	"Display Set Entered?"-Yes If errors, see: 29.1060 – 29.1080
29.1590	If not first write to IDF, press <COMND> and go to 29.1600.	COMMAND DISPLAY, [WRITE TO IDF] selected; (with path name set)
	If first write to IDF, go perform 29.80 - 29.110 and return here.	
29.1600	Press <ENTER>	OVERVIEW DISP CONFIG data to IDF

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

AREA TREND DISPLAY $OTREND		
Step	**Action**	**Response**
29.1610	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.1615	Select [**AREA TREND**]	AREA TREND OV. DISP CONFIG display
29.1620	Key into TREND TITLE port	EG: **WEST AREA TRENDS**
29.1625	Select TREND TIMEBASE option	EG: [**8 HOURS**]
29.1630	Key in names of points to be trended in cyan and yellow	EG: **HG1001** (cyan)
29.1635	Press <ENTER>	PED reappears with values in cyan
29.1640	<PAGE FWD>	RELATED DISP 001 DEF display
29.1645	Key into each SCREEN NUMBER port and each Display Type port	EG: **1** EG: **SCHEM**
29.1650	Press <ENTER>	PED reappears with values in cyan and SCHEMATIC NAME appears (or other port depending on the DISPLAY TYPE entered).
29.1655	Key into each additional name port	EG: **DISP1**
29.1660	Press <ENTER>	PED reappears with values in cyan
29.1665	<PAGE FWD>	Next page appears
29.1670	Repeat 29.1650 – 29.1665 to configure remaining Related Displays, and on page 7, Associated and Help display	RELATED, ASSOCIATED, and HELP displays configured
WRITE TO IDF WHEN PATHNAME IS ALREADY SET		
29.1675	Press <COMND>	COMMAND DISPLAY, [WRITE TO IDF] selected; (with pathnames set)
29.1680	Press <ENTER>	AREA TREND CONFIG. data to IDF

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

STANDARD LOGS $OLOG(n) Where n can be 1 to 100

Step	Action	Response
29.1900	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.1905	Select [**STANDARD LOG**]	STANDARD LOG CONFIGURATION display
29.1910	Key into LOG NUMBER port	EG: **1**
29.1920	Key into LOG NAME port	EG: **BLR1RPT**
29.1930	Key into LOG DESCRIPTION port	EG: **DAILY BOILER LOG**
29.1940	Enter other data as required.	EG: Use default values.
29.1950	Key into NUM VALUES PER POINT port	EG: **1**
29.1960	Key into NUMBER OF POINTS port	EG: **1**
29.1965	Press <ENTER>; press <PAGE FWD>	INDEX ports appear.
29.1970	Key into INDEX ports until all Point IDs have been keyed in.	EG: **HG1001** (for Index 001) (from step 21.30)
29.1980	Press <ENTER>	PED reappears with values in cyan

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	WRITE TO IDF	
29.2000	If not first write to this IDF, press <COMND> and go to 29.2005. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; with correct pathnames.
29.2005	Press <ENTER>	Standard Log config data to IDF
	PRINTED TREND $OPRTRND(n) where n can be 1 to 100	
29.2010	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.2012	Select [**PRINTED TREND**]	PRINTED TREND DISP CONFIG display
29.2014	Key into TREND NUMBER port	EG: **1**
29.2016	Key into TREND NAME port	EG: **BOILER 1**
29.2018	Key into TREND TITLE port	EG: **BOILER 1 TREND RECORD**
29.2020	Select INVOCATION Type	EG: [**PERIODIC**]
29.2024	Select INITIALLY ACTIVE option	EG: [**NO**]
29.2028	Select START TIME port	EG: [**0**]:[**10**]
29.2032	Key into PERIOD port	EG: **1:30**
29.2036	Key into PRINTER ID port	EG: **1**
29.2040	Key into TIME SPAN port	EG: **2**
29.2044	Key into GROUP NUMBER port	EG: **1**
29.2050	Press <ENTER>	PED reappears with values in cyan

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
	WRITE TO IDF	
29.2070	If not first write to this IDF press <COMND> and go to 29.2080. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (pathname is set)
29.2080	Press <ENTER>	PRINTED TREND CONFIG. data to IDF
29.2085	Repeat 29.2014 – 29.2080 for other Printed Trends.	All printed trends configured and stored in IDF
	LCN NODE ANNUNCIATION POLICY $ANPOLC	
29.2090	If PED display is on the screen, hold <CTL> down and press <9>. If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu AREA CONFIGURATION Menu
29.2094	Select [**LCN NODE ANNUNC. POLICY**]	LCN NODE ANNUNC. POLICY display
29.2102	Use <PAGE FWD> to get to all node numbers you wish annunciated. Select [ADDRESS ANNUNCIATED] option	EG: **01, 02, 24, 25, 30, 38, 39, 40, 43,** and **46** EG: [**YES**] for each of above nodes
29.2106	Press <ENTER>	PED reappears with values in cyan
29.2108	If not first write to IDF, press <COMND> and go to 29.2112. If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (pathname is set)
29.2112	Press <ENTER>	LCN NODE ANNUN config data to IDF

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

SEQUENCE OF EVENTS JOURNAL $SOEJOR(n)		
Step	**Action**	**Response**
29.2120	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION Menu
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION Menu
29.2124	Select [**SOE JOURNAL ASSIGNMENT**]	SEQUENCE OF EVENTS JOURNAL display
29.2128	Key into JOURNAL NUMBER	EG: **1**
29.2130	Key into JOURNAL NAME	EG: **SOEJNL01**
29.2134	Key into JOURNAL TITLE	EG: **BOILER1 SEQ OF EVENTS**
29.2138	Key into HM NODE NUMBER	EG: **43**
29.2140	Press <ENTER>	PED reappears with values in cyan
29.2144	If not first write to IDF, press <COMND> and go to 29.2148.	COMMAND DISPLAY, [WRITE TO IDF] selected; (pathname is set)
	If first write to IDF, go perform 29.80 – 29.110 and return here.	
29.2148	Press <ENTER>	SOE JOURNAL config data to IDF

REPORT DISPLAY $OREPORT(n) where n can be 1 to 100		
Step	**Action**	**Response**
29.2150	If PED display is on the screen, hold <CTL> down and press <9>.	AREA CONFIGURATION MENU
	If Engineering Main Menu is on the screen, select [**AREA DATA BASE**]	AREA CONFIGURATION MENU
29.2154	Select [**REPORT**]	REPORT DISPLAY CONFIGURATION display
29.2156	Key into REPORT NUMBER port	EG: **1**
29.2160	Key into REPORT NAME port	EG: **WESTRPT**
29.2164	Key into REPORT TITLE port	EG: **WEST AREA REPORT**
29.2170	Select INVOCATION TYPE option	EG: [**DEMAND**]
29.2175	Key into NO. ITEMS IN REPORT port	EG: **1**

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

Step	Action	Response
29.2180	Press <ENTER>	ITEMS IN REPORT port appears.
29.2185	Key into Items In Report port **Note**: Items must be previously built as trends or logs	EG: **BLR1RPT** (configured in 29.1920)
29.2190	Press <ENTER>	PED reappears with values in cyan
	WRITE TO IDF	
29.2194	If not first write to IDF, press <COMND> and go to 29.2198 If first write to IDF, go perform 29.80 – 29.110 and return here.	COMMAND DISPLAY, [WRITE TO IDF] selected; (with path name set)
29.2198	Press <ENTER>	REPORT CONFIGURATION data to IDF

NOTE

Nodes associated with the area being multiple loaded must have a status of OK before the load multiple can be successfully performed.

LOAD MULTIPLE ENTITIES FROM IDF

Step	Action	Response
	SELECT AN AREA	
29.2205	Press <COMND>	COMMAND DISPLAY
29.2208	Select [**SELECT AREA**]	Area Ports/Target appear
29.2212	Key into REFERENCE PATH NAME port	EG: **NET>HMV1>**
29.2216	Select an area	EG: **[1]**
	Current AREA DATA BASE pathname port is filled in automatically	EG: **NET>&D01>AREA01**
29.2218	Press <ENTER>	"OPERATION COMPLETE"
29.2220	Select [**LOAD MULTIPLE**]	Additional Ports/Target appear

TASK 29 **BUILD, SELECT, AND INSTALL AREA DATABASE** (continued)
Reference: SW11-511

Keyboard: IKB or PC **Lock:** ENGR
Personality Loaded: GUS

INSTALL THE AREA DATABASE

NOTE

The Area Database is installed to a volume and file with the volume name of &Dnn and with the file name of AREAnn. For &Dnn, the directory names of &D01 through &D10 were automatically created during the HM Volume Configuration task, Task 10. For AREAnn, nn is the index number from the Area Names configuration list that you configured in Task 7. For example, the first area name you entered into the list is automatically accessed by AREA01, the second name by AREA02, etc.

Step	Action	Response
29.2230	Key into REFERENCE PATH NAME port	EG: **NET>HMV1>**
29.2240	Key into pathname for IDF port	EG: **BOILER1**
29.2250	Key into current AREA DATA BASE pathname port	EG: **NET>&D01>AREA01**
29.2260	Press <ENTER> Wait—Entities are listed twice	"PROCESSING ENTITIES..." "OPERATION COMPLETE"
29.2270	Press <COMND>	COMMAND DISPLAY
29.2280	Select [**INSTALL AREA**]	Additional targets appear.
29.2290	Key a (destination) pathname into **Current AREA DATA BASE p/nm** port	EG: **NET>&Dnn>AREAnn** (where nn is equal to 01–10 in both cases)
29.2295	Key a (source pathname) into the **Pathname for WORKFILE** port.	EG: **NET>&D01>AREA01**
29.2300	Press <ENTER>	"OPERATION COMPLETE"

NOTE

1. Most of the Command Display functions deal with IDFs; however, Exception Build files are more portable. If you want to create Exception Build files from your IDFs, follow the instructions in Appendix E.

2. After the Area Database is completely built, the IDFs and Area Database files can be copied to emulated disk and then deleted from the User Volume NET>HMV1>Boiler1.

3. For security, you should copy the following onto disk: Area Database (&D01), Pictures, Free Format Logs, Button source files (.DS and .KS files), and custom files (CUS/CLX, etc.).

4. Go perform the EC in Task 31, steps 31A.10 - 31A.50 to save all the &ASY files. Use the resulting disk as the new backup if you have to reload from disk or to perform On-Line Network Reconfiguration.

TASK 30 **CHANGE AREA DATABASE ON GUS STATIONS**

Keyboard: IKB or PC **Lock:** ENGR

Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
30.150	To change the Area Database on a GUS station: From the <CONSOLE STATUS> display; select the [AREA CHANGE] target.	"W, N, 1, 2, 3, 4, X?" Selected Area Database targets appear on the display.
30.151	Select the target for AREAnn	
30.152	Select [DEFAULT SOURCE]	
30.153	Select [EXECUTE COMMAND]	Message "Busy US:xx, Area Change in Progress" appears.

TASK 31 **CHANGE NETWORK CONFIGURATION** **Keyboard:** IKB or PC **Lock:** ENGR
Reference: SW11-505 **Personality Loaded:** GUS

Step	Action	Response
	MAKE A BACKUP COPY OF &ASY	
31.10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
31.30	Select [**COMMAND PROCESSOR**]	COMMAND PROCESSOR display
31.35	**DISK_&C1.LCN** or **DISK_&C2.LCN** into FD1	
31.36	Create a new emulated disk named **ASY_BKUP.LCN** and mount it in FD2	
31.40	Key in an EC command	EG: **EC $F1>&EC>ASY_BKUP.EC $F2 $P1** (printer $P1 is optional)
31.45	Press <ENTER>	Message: "THIS EC WILL...." "....." "..... CONTINUE (Yes/No)?"
31.50	Key in **YES**, then press <ENTER>	Message: "THIS EC... IS THIS CORRECT?"
31.55	Key in **YES**, then press <ENTER>	Message: "MOUNT BACKUP MEDIA...."
31.60	Press <ENTER> (the EC prepares to update the Backup Log).	"UNPT NET>&ASY>BKUP_LOG.XX...." "DO YOU WANT TO RE-INITIALIZE...."
31.65	Key in **YES**, then press <ENTER> (the EC formats the emulated disk in FD2, and begins copying files to it).	"CR $F2>&ASY> -F -MF 500" "COPYING ...." "EC COMPLETE"
31.68	Dismount the emulated disk from FD2.	
31.70	Make backup copies of other files that you created (for example, mount the **AREA_DB.LCN** emulated disk in FD2 and copy the area files, button files, and custom software files).	EG: CP NET>&D01>*.* $F2>&D01>= -D CP NET>&CUS>*.* $F2>&CUS>= -D CP NET>&CLX>*.* $F2>&CLX>= -D

NOTE

Refer to the *Network Data Entry* manual (see References) for information on network reconfiguration.

CAUTION

The NIM(s) must be loaded with its operating personality and have a status of OK on the System Status Display before starting this procedure. The NIM was loaded in Task 18.

If you are configuring a PM or HPM, the procedure is nearly identical to the **APM** configuration described below except where noted. The sample system did not have an SM or LM. Refer to the manuals in Section 1, References, if necessary, to configure these.

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
Reference: PM09-540, AP09-540, & HP09-540 **Personality Loaded:** GUS

Step	Action	Response
32.110	Hold <CTL> down and press <HELP> If you don't have a NIM, skip to Task 23	ENGINEERING MAIN MENU
	$NMhhNnn Where hh is the UCN number and nn is the NIM Node number	
	CONFIGURE THE NIM UCN ADDRESSES	
32.115	Select [**NETWORK INTF. MODULE**]	NIM BUILD TYPE SELECT MENU
32.120	Select [**UCN NODE CONFIGURATION**]	UCN-NODE CONFIGURATION display
32.130	Key into NETWORK NUMBER port	EG: **03**
32.140	Key into UCN NODE NUMBER port (NIM node number)	EG: **01** (primary NIM node # on 1st pass) EG: 02 (redundant NIM node number, if any, on 2nd pass)
32.150	Select an NODE TYPE option	EG: [**NIM**]
32.160	Select a NODE ASSIGNMENT option	EG: [**THISNIM**]
32.165	Press <ENTER>	PED reappears
32.169	Select a LOAD SCOPE option	EG: [**NIMANDPM**]
32.173	Select a NUMBER OF MESSAGE TEXTS	EG: [**3**]
32.180	Press <ENTER>	Message Text ports appear
32.184	Key in message text	EG: [**OUT/SERV**] [**RED TAG**] [**IN USE**]
32.188	Select an SOE SYNC option	EG: [**ENABLE**] (if NIM has EPNI board)
32.190	Press <ENTER>	PED reappears with values in cyan

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

NOTE

If you select any options outlined in yellow or if you key data into any port outlined in yellow, the content of the PED-set or PED changes when you press the <ENTER> key. You should press <ENTER> after each PED page.

Step	Action	Response
32.210	Press <PAGE FWD> to next PED page (if any) key in data, select options, and press <ENTER> after each page	UCN NODE CONFIGURATION Ped
	WRITE TO IDF	
32.320	Press <COMND>	COMMAND DISPLAY
32.400	If this is the first write to this IDF, go to step 32.460; if not, go to step 32.485	IDF for this example is **NIMIDF**
32.460	Select [**WRITE TO IDF**]	Pathname ports and target appear.
32.470	Key into REFERENCE PATHNAME port	EG: **NET>HMV1>**
32.480	Key into pathname for IDF port	EG: **NIMIDF**
32.485	Press <ENTER>	NIM Config data written to IDF. UCN NODE CONFIGURATION display
32.488	Repeat steps 32.130 – 32.485 for redundant NIM (if any)	
32.490	Repeat steps 32.130 – 32.488 for each other NIM pair.	All configured NIMs on IDF
32.500	Press <COMND>	COMMAND DISPLAY
32.510	Select [**LOAD MULTIPLE**]	Additional pathname ports appear
32.515	Key into REFERENCE PATHNAME port	EG: **NET>HMV1>**
32.520	Key into pathname for IDF port	EG: **NIMIDF**
32.525	Press <ENTER>	"WAIT" in yellow; "PROCESSING ..." “OPERATION COMPLETE” COMMAND DISPLAY
32.530	Hold <CTL> down and press <1>	UCN NODE CONFIGURATION display

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
	$NMhhNnn Where hh is the UCN number and nn is the APMM Node number	
	PM/APM/HPM NODE CONFIGURATION	The UCN NODE CONFIGURATION display should be on the screen.
32.550	Key into NETWORK NUMBER port	EG: **03**
32.560	Key into UCN NODE NUMBER port (APMM node number)	EG: **03** (Primary node # on first EG: 04 pass, redundant node #, if any, on second pass)
32.570	Select [**UCN NODE TYPE**]	EG: [**APM**]
32.580	Select a NODE ASSIGNMENT option	EG: [**THISNIM**]
32.590	Press <ENTER>	PED reappears with values in cyan
32.595	Key in any other data/select options press <ENTER>	
	WRITE TO IDF	
32.610	Press <COMND>	COMMAND DISPLAY
32.620	If this is the first write to this IDF, go to step 32.630; if not, go to step 32.660	IDF for this example is **APMMIDF**
32.630	Select [**WRITE TO IDF**]	Pathname ports and target appear.
32.640	Key into REFERENCE PATHNAME port	EG: **NET>HMV1>**
32.650	Key into pathname for IDF port	EG: **APMMIDF**
32.660	Press <ENTER>	APM Config data written to IDF. UCN NODE CONFIG. PED display
32.670	Repeat steps 32.550 – 32.660 for the redundant APMM (if any).	
32.680	Repeat steps 32.550 – 32.670 for each other APMM	All configured APMMs in IDF
32.700	Press <COMND>	COMMAND DISPLAY
32.710	Select [**LOAD MULTIPLE**]	Additional pathname ports appear
32.720	Key into Reference Pathname port	EG: **NET>HMV1>**
32.730	Key into pathname for IDF port	EG: **APMMIDF**
32.740	Press <ENTER>	"WAIT" in yellow;"...OPERATION COMPLETE"
	Repeat steps 32.550 - 32.740 for other PMs, or HPMs (if any).	Use different IDF names for PMs and HPMs

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
	LOAD THE APM	
32.742	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
32.744	**DISK_&C6.LCN** copy into FD1	
32.746	Select [**SYSTEM STATUS**]	SYSTEM STATUS display
32.748	Select the NIM Node	Node Box is selected
32.750	Select [**NTWK/HWY STATUS**]	UCN nn STATUS display
32.754	Select [**nn APM nn**] The status must be *ALIVE* (Select target 2nd time if loading the redundant node)	Target fills with color; selected node is highlighted
32.758	Select [**LOAD/SAVE RESTORE**]	Additional targets appear
32.762	Select [**PROGRAM LOAD**]	Target turns white
32.766	Select [**ENTER**]	PGM SOURCE FOR NODE nn display
32.770	Select [**DEFAULT SOURCE**]	EXECUTE target appears
32.774	Select [**EXECUTE**]	DATA SOURCE FOR NODE nn display
32.778	Select [**ALTERNATE SOURCE**]	Targets [1], [2], etc. appear
32.782	Select EG: **[1]**	&C6 and [EXECUTE COMMAND]
32.786	Select [**EXECUTE COMMAND**]	"**BUSY UCN** nn" [nn APM nn **LOADING]** " * " "MOUNTAPM nn DATA BASE"
32.790	Select [**MOUNT APMnn DATA BASE]** (Primary node only)	Additional targets appear
32.794	Select [**ABORT REQUEST**] (Primary node only)	EG: [**nn APM nn**] [**IDLE**] [**ALIVE/IDLE]** [**LOADED**]
32.796	Repeat Tasks 32.754 – 32.794 for redundant APM (if any)	EG: [**nn APM nn**] [**IDLE**] [**BACKUP]** [**LOADED**]
32.798	Repeat Tasks 32.754 – 32.796 for other PMs, APMs, or HPMs	

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
	$NMhhBuu Where hh is the UCN number and uu is the APMM Node number	
	PM/APM/HPM **NODE SPECIFIC CONFIGURATION**	
32.800	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
32.802	Select [**NETWORK INTF. MODULE**]	NIM BUILD TYPE SELECT MENU
32.806	Select **[NODE SPECIFIC CONFIG.]**	NODE SPECIFIC CONFIGURATION MENU
32.808	Key into NETWORK NUMBER	EG: **03**
32.814	Key into NODE NUMBER	EG: **03** (Primary APMM)
32.816	Key into NODE TYPE	EG: APM
32.818	Press <ENTER>	
32.820	Press <PAGE FWD> to next PED page, key in data, select options, and press <ENTER> after each page or gold port	NODE SPECIFIC CONFIG. PED
32.822	Select a CONTROL PROC. OPTION (Not Applicable for HPMs)	EG: **[ON]**
32.826	Key into NUM OF REG CONTROL SLOTS	EG: **25**
32.830	Key into NUMBER OF FAST REG	EG: **5**
32.834	Key into NUMBER OF REG PV SLOTS	EG: **20**
32.840	Key into NUM OF FAST REG PV SLOTS	EG: **5**
32.844	Key into NUMBER OF LOGIC SLOTS	EG: **10**
32.846	Key into NUM OF FAST LOGIC SLOTS	EG: **3**
32.850	Key into NUM OF DIG. COMP. SLOTS	EG: **15**
32.852	Key into NMBER OF FAST DIG. COMP.	EG: **2**
32.854	Key into NUM OF DEV. CTL SLOTS	EG: **4**
32.856	Key into NMBER OF FAST DEV. CTL	EG: **2**
32.858	Key into SEQUENCE PROCESSING	EG: **1_PU**
32.860	Key into NUM OF PROC MODULE SLOTS	EG: **10**

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
32.862	Key into NUM OF NUMERICS SLOTS	EG: **48** (Multiples of 16 only)
32.864	Key into NUM OF STRINGS SLOTS*	EG: **16** (Multiples of 16 only)
32.866	Key into NUM OF TIMES SLOTS*	EG: **32** (Multiples of 32 only)
32.868	Key into NUM OF ARRAY SLOTS*	EG: **10**
32.870	Select an SI DATA... SCAN Period*	EG: **1.0**
32.874	Select a SCAN RATE	EG: **[REG1LOG1]**
32.880	Select a PACKAGING OPTION (Select REDUN if redundant nodes)	EG: **[REDUN]**
32.883	Select a Simulation Indicator option*	EG: **ON**
32.885	Press <PAGE FWD> to next PED page, key data, select options, and press <ENTER> after each page	I/O MODULE CONFIGURATION PED
32.900	Choose an I/O Module number, press <PAGE FWD> if necessary	EG: **I/O MODULE NUMBER 1**
32.910	Key into FILE NUMBER	EG: **1**
32.920	Key into CARD NUMBER (Example is 1st card Number if REDUN is selected)	EG: **11** for **APM;** (9 for PM, 03 for HPM)
32.930	Select a MODULE TYPE	EG: [**HLAI**]
32.932	If the system has redundant IOPs, select REDUN. If not, skip to 32.940	EG: IOMB File and Card number ports
32.934	Enter redundant IOP File and Card No.	EG: File 2, Card No. 11
32.940	Choose another I/O Module number, press <PAGE FWD> if necessary	EG: **MODULE NUMBER 2**
32.950	Key into IOM-A FILE NUMBER	EG: **1**
32.960	Key into IOM-A CARD NUMBER	EG: **12** for **APM**
32.970	Select MODULE TYPE	EG: [**AO**]
32.975	Select a FAILURE OPTION	EG: [**HOLD**]
32.980	Key in any other data/select options, press <ENTER>	
32.990	Press <PAGE FWD> to next PED page (if any) key in data, select options, and press <ENTER> after each page	I/O MODULE CONFIGURATION PED

***** Not applicable for PMs

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
32.995	Repeat steps 32.940 through 32.990 to configure other I/O Modules	
	WRITE TO IDF	
32.1000	Press <COMND>	COMMAND DISPLAY
32.1020	If this is the first write to this IDF, go to step 32.1030; if not, go to step 32.1060	IDF for this example is **APMCONFG**
32.1030	Select [**WRITE TO IDF**]	Pathname ports and target appear.
32.1040	Key into REFERENCE PATHNAME port	EG: **NET>HMV1>**
32.1050	Key into pathname for IDF port	EG:**APMCONFG** or HPMCONFIG
32.1060	Press <ENTER>	I/O Module Config data written to IDF. IO MODULE CONFIG. display
32.1070	Repeat steps 32.800 – 32.1060 for other APMs on this UCN (if any)	
32.1080	Repeat steps 32.800 – 32.1070 for each other PM, APM, or HPM primary (if any)	All configured PMs, APMs, HPMs on IDFs (use different IDF names for PMs and HPMs)

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
32.1100	Press <COMND>	COMMAND DISPLAY
32.1110	Select [**LOAD MULTIPLE**]	Additional pathname ports appear
32.1115	Key into Reference Pathname port	EG: **NET>HMV1>**
32.1120	Key into pathname for IDF port	EG:**APMCONFG**
32.1125	Press <ENTER>	"WAIT" in yellow;.."OPERATION COMPLETE"
32.1150	Repeat steps 32.1100 – 32.1150 for PMs or HPMs (if any)	PMs, APMs, HPMs loaded with Node Specific Configuration Data
	PM/APM/HPM POINT BUILDING	
32.1200	Hold <CTL> down and press <9>	NIM BUILD TYPE SELECT MENU
32.1220	Select [**PROCESS POINT BUILDING**]	NIM PROC. POINT BUILD TYPE display
32.1230	Select a Point Build Type	EG: [**REGULATORY CONTROL**] NIM-POINT ASSIGNMENT display
32.1240	Key into TAG NAME port	EG:**FC2401**
32.1244	Select a NODE TYPE	EG: **APM**
32.1250	Select a POINT FORM option	EG: [**FULL**]
32.1260	Key into the POINT DESCRIPTOR port	EG: **TOWER FLOW CONTROL**
32.1265	Key into the E. U. DESCRIPTOR port	EG: **KB/D**
32.1275	Key into the POINT KEYWORD port	EG: **FLOW**
32.1285	Key into the UNIT ID port	EG: **01**
32.1290	Key into the NETWORK NUMBER port	EG: **03**
32.1295	Key into the NODE NUMBER port	EG: **03**
32.1300	Key into the SLOT NUMBER port	EG: **01**
32.1310	Key in other data/select options press <ENTER>	
32.1315	Press <PAGE FWD>	Next PED page
32.1320	Select a Control Algorithm; press <ENTER>	EG: [**PID**]

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
32.1325	Press <PAGE FWD>	Next PED page
32.1330	Key into PV RANGE HIGH port	EG: **25.00000**
32.1335	Select a PV SOURCE OPTION	EG: [**ALL**]
32.1340	Press <ENTER> after each page and after any entry boxed in yellow	
32.1345	Press <PAGE FWD>	Next PED page
32.1350	Select a NORMAL MODE	EG: [**AUTO**]
32.1355	Select a NORMAL MODE ATTRIBUTE	EG: [**OPERATOR**]
32.1360	Key in any other data/select options; press <ENTER> after each page	
32.1365	Press <PAGE FWD>	Next PED page
32.1370	Key into SET POINT HIGH LIMIT port	EG: **25.00000**
32.1380	Key into SET POINT LOW LIMIT port	EG: **0.000000**
32.1390	Key into SET POINT port	EG: **15.00000**
32.1395	Key in any other data/select options; press <ENTER> after each page	
32.1400	Press <PAGE FWD>	Next PED page
32.1420	Select an ALGORITHM FORM option	EG: [**IDEAL**]
32.1430	Key into OVERALL GAIN VALUE port	EG: **0.699200**
32.1440	Key into INTEG. TIME IN MINUTES port	EG: **0.100000**
32.1445	Key in any other data/select options; press <ENTER> after each page	
32.1450	Press <PAGE FWD>	Next PED page
32.1460	Key into INPUT CONN. SOURCE port	EG: - - . - -
32.1462	Key into OUTPUT DEST. SOURCE port	EG: !AO02S02.OP
32.1465	Key in any other data/select options; press <ENTER> after each page	
32.1470	Press <PAGE FWD>	Next PED page

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
32.1485	Key in any other data/select options; press <ENTER> after each page	
32.1490	Press <PAGE FWD>	Next PED page
32.1500	Key into PV HIGH TRIP POINT port	EG: **25.00000**
32.1502	Key into PV LOW TRIP POINT port	EG: **0.000000**
32.1504	Key into POSITIVE PV ROC TRIP port	EG: **32.00000**
32.1508	Press <ENTER> after each page and after each entry boxed in yellow	
32.1510	Press <PAGE FWD>	Next PED page
32.1512	Key into NEG. PVROC TRIP POINT port	EG: **20.00000**
32.1514	Key into DEV HIGH TRIP POINT port	EG: **5.000000**
32.1516	Key into DEV LOW TRIP POINT port	EG: **5.000000**
32.1518	Press <ENTER>	
32.1520	Press <PAGE FWD> to next PED page. Enter any other data/select options and press <ENTER> after each page until all pages are configured.	
32.1522	Hold down <CTL> and press <8>	PED STATUS display
32.1524	Check for proper status	"Display Set Entered?" Yes Errors? No
32.1526	If status is OK, go to step 32.1530; else select faulty item; enter corrections.	
	WRITE TO IDF	
32.1530	Press <COMND>	COMMAND DISPLAY
32.1532	If this is the first write to this IDF, go to step 32.1534; if not, go to step 32.1560	IDF for this example is **APMPNTS**
32.1534	Select [**WRITE TO IDF**]	Pathname ports and target appear.
32.1540	Key into REFERENCE PATHNAME port	EG: **NET>HMV1>**
32.1550	Key into pathname for IDF port	EG: **APMPNTS**

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
32.1560	Press <ENTER>	NIM Point Config. data written to IDF. NIM Point PED display
32.1570	Repeat steps 32.1240 – 32.1560 to build other points of this type, or hold <CTL> down and press <9>. Then repeat steps 32.1230 – 32.1570 to build other types of NIM Points until all NIM points are built If you want to clone points from a master point, go to Appendix D	
32.1600	Press <COMND>	COMMAND DISPLAY
32.1610	Select [**LOAD MULTIPLE**]	Additional pathname ports appear
32.1620	Key into Reference Pathname port	EG: **NET>HMV1>**
32.1630	Key into pathname for IDF port	EG: **APMPNTS**
32.1640	Press <ENTER>	"WAIT" in yellow; "PROCESSING ..." "OPERATION COMPLETE"
	Build/load points for PMs and HPMs (if any) by repeating steps 32.1200 - 32.1640	Use different IDF names for PM or HPM points
NIM LIBRARY CONFIGURATION		
$NhhLIBn Where hh is the UCN number and n is the library number		
Note that the NIM Library is usually automatically loaded while compiling an APM Sequence program. The following steps illustrate how to access, manually load, or modify it.		
32.1710	If the COMND or Point CONF. display is on screen, hold <CTL> down and press <9> twice. Then go to step 32.1720. Else hold <CTL> down and press <HELP>	POINT TYPE BUILD MENU, then NIM BUILD TYPE SELECT MENU ENGINEERING MAIN MENU
32.1715	Select [**NETWORK INTF. MODULE**]	NIM BUILD TYPE SELECT MENU
32.1720	Select [**LIBRARY CONFIGURATION**]	NIM LIBRARY CONFIGURATION display
32.1722	Key into the NETWORK NUMBER port	EG: **03**
32.1724	Key into the Library Number port	EG: **1**
32.1728	Press <ENTER>	

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

Step	Action	Response
32.1730	<PAGE FWD>	
32.1732	Key into the INDEX ENTRY ports	EG: **TRUE** for 002, **FALSE** for 003, etc.
32.1734	Press <ENTER>	
32.1736	<PAGE FWD>. Enter any other data, press <ENTER> after each page.	
	WRITE TO IDF	
32.1740	Press <COMND>	COMMAND DISPLAY
32.1745	If this is the first write to this IDF, go to step 32.1755; if not, go to step 32.1765	IDF for this example is **LIBCNFG**
32.1750	Select [**WRITE TO IDF**]	Pathname ports and target appear.
32.1755	Key into REFERENCE PATHNAME port	EG: **NET>HMV1>**
32.1760	Key into pathname for IDF port	EG: **LIBCNFG**
32.1765	Press <ENTER>	NIM Library Config data written to IDF. NIM LIBRARY CONFIGURATION display
32.1767	Repeat steps 32.1724 – 32.1765 to build Libraries 2/3 (if desired) for this UCN	
32.1770	Repeat steps 32.1722 – 32.1767 to build Libraries for other UCNs.	
32.1800	Press <COMND>	COMMAND DISPLAY
32.1810	Select [**LOAD MULTIPLE**]	Additional pathname ports appear
32.1820	Key into Reference Pathname port	EG: **NET>HMV1>**
32.1830	Key into pathname for IDF port	EG: **LIBCNFG**
32.1840	Press <ENTER>	"WAIT" in yellow; "PROCESSING ..." "OPERATION COMPLETE"

TASK 32 CONFIGURE UCN NODES & SUBSYSTEMS **Keyboard:** IKB or PC **Lock:** ENGR
(continued)
Ref: PM09-540/AP09-540/HP09-540, & SW09-505 **Pers. Loaded:** GUS

NOTE

In the following steps you will not be able to save data for any IO Processor for which you have not previously built and loaded at least one data point. When saving data, all IOPs that are configured for a given PM, APM, or HPM will assume a "DB Invalid" status (and should not be validated until a point has been built and loaded).

Step	Action	Response
	SAVE CHECKPOINT DATA FOR A NIM AND PM, APM or HPM	
32.1910	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
32.1920	**CHKPOINT.LCN** emulated disk into FD1	
32.1930	Select [**SYSTEM STATUS**]	SYSTEM STATUS display
32.1934	Select the NIM Node	Node Box is selected
32.1938	Select [**NTWK/HWY STATUS**]	UCN nn STATUS display
32.1945	Select the appropriate APM target	**nn APM nn** target fills with color
32.1950	Select [**LOAD**/**SAVE RESTORE**]	Additional targets appear.
32.1955	Select [**SAVE DATA**]	Target changes color; additional targets
32.1960	Select [**ENTER**]	SAVE UCN NODE display
32.1965	If you wish to save checkpoints on emulated disk, go to step 32.1970. If you wish to save checkpoints on an HM, select [**DEFAULT SOURCE**] and then go to step 32.1980.	**Note**: Both NIM data and the associated APM data is saved by this procedure.
32.1970	Select [**ALTERNATE SOURCE**]	Targets [**1**] and [**2**] etc. appear
32.1975	Select **[1]**	EG: Volume ID = **CKPT**
32.1980	Select [**EXECUTE COMMAND**]	"BUSY UCN nn display and " ***** "
32.1999	Wait for status to change	"SAVED"
32.2000	Repeat steps 32.1945 – 32.1999 for other PMs, APMs, and HPMs.	

If you entered Task 32 after Task 22, continue to Task 23 next.

ERROR RECOVERY PROCEDURES
Section 4

Task #	Error Conditions	Reason and Recovery Procedure
Many	GUS Node fails with an Internal File Manager error.	1. Copy to existing, protected file. 2. Installing to a protected NCF.CF. 3. HG checkpoint to a protected file. 4. Picture Editor/Button Configurator read or write to protected file. 5. Using DEB commands to write to a protected IDF or Entity List File.
	HG Fails	Manually reset the HG and then repeat Task 18.
2	GUS Personality will not load.	One of the nodes is active. Check that <u>all</u> on the NET are in the RESET state. Then repeat Task 2. You may have to press RESET on the HM an extra time because it may have autobooted.
12	1. A change to &ASY was made to a copy of &ASY on the HM. 2. The changed &ASY on the HM <u>was not</u> copied to a cartridge. 3. A load of the GUS personality is being attempted, using emulated disks that include the CNCF.LCN emulated disk that existed before changing the &ASY on HM. 4. The CNCF.LCN emulated disk will not read in and the Station dies.	The time-stamp on the CNCF emulated disk is not the same as the time-stamp for &ASY in one of the nodes. To recover, do the following: 1. Load the GUS Personality, using "W" and answering the NCF? prompt with N (NET) for HM as the source of the NCF. 2. If recovery step 1 works, copy the &ASY from HM to the CNCF.LCN you were trying to load from. 3. Try the new CNCF.LCN emulated disk to load the GUS Personality from emulated disks.

Task #	Error Conditions	Reason and Recovery Procedure
15	Got a message of "HM INIT DID RESPOND FOR 1 MINUTE(REVIEW)"	Power to the Winchester disks is off, even though power to the HM node is on. Turn the power to Winchester disks to the "on" position. Repeat Tasks 14 and 15.
18	On-Process Personality isn't successfully loaded into a module or gateway.	Select the red failure message at the top of the display, to call up the module or gateway status display. On that display, select the node number for the node you are trying to load. This causes an error message to appear. If the message is TARGET NODE FAILED DURING LOAD, check the module or gateway to see if power is on, all boards have a green light on, and the node number appears in the red digits on the front of the unit. If, instead, the red digits show -189 or -190, reset the module or gateway and try to load it again. If another error code appears, call a hardware technician. If you were attempting to load a node or gateway using an HM as the program and data source, and the error message is FILES NOT FOUND, check the HM's status as described in the preceding paragraph. If it has failed, turn its power (power to both the module and disk drive) off, wait five seconds, and turn power back on. In about two minutes, its status on the module status display should become OK. If so, reset the node you were trying to load and try again. If you get the same error message again: a) Use the GUS Personality's Command Processor functions to make sure that the volumes mentioned in Task 18 are all on the source HM. b) Try to load the node using emulated disks. If this works, you may have to delete and recopy all the volumes on the HM. Get a hardware technician's assistance.

NOTE

If you do not find a description of your problem in these error recovery procedures, see the TPS *Messages Directory* (see References).

Appendix A

TASK 13 **LOAD THE GUS PERSONALITY INTO ANOTHER GLOBAL USER STATION**

Keyboard: IKB or PC **Lock:** ENGR

Reference: This Document **Personality Loaded:** GUS

Step	Action	Response
13.20	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
13.30	Select [**CONSOLE STATUS**]	Console Status display Other US Status seen on This US PWR_ON or QUALIF
13.40	Select the number of the other Universal Station.	EG: **2** (for STN #2, node no. 2) LOAD or DUMP NODE targets appear
13.50	Select **[LOAD/DUMP]**	LOAD/DUMP targets on screen
13.51	Select **[AUTOLOAD.NET]**.	Press “Enter to Execute” appears.
13.55	Press **[<ENTER>]** System Status Display appears on GUS when LOAD complete.	

SAVE HG OR PLCG CHECKPOINTS
Appendix B

Perform the task described below if you wish to SAVE checkpoint data for an HG or PLCG and its Boxes. You must have created a Checkpoint emulated disk (CHKPOINT.LCN) in Task 4 before performing this task. You should save the HG and Box checkpoint data on a disk first, and then save it on the HM. No HM volume has to be created as the HG checkpoint volume is preconfigured.

Appendix B **SAVE CHECKPOINT DATA FOR A HIWAY GATEWAY AND ITS BOXES**

Keyboard: IKB or PC. **Lock:** ENGR

Reference: SW11-501 & SW09-505 **Personality Loaded:** GUS

Step	Action	Response
START	**SAVE HG/BOX CHECKPOINT**	
10	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
20	Mount **CHKPONT.LCN** HG checkpoint emulated disk into FD1	EG: Volume ID = **CKPT**
30	Select [**SYSTEM STATUS**]	SYSTEM STATUS display
34	Select HG Node	Node Box is selected
40	Select [**NTWK/HWY STATUS]** Hiway/box status must be running	HIWAY STATUS display
44	Select [**BOX CMND]**	
48	Enter Box Number	EG: **05**
52	Press <ENTER>	BOX STATUS DISPLAY
56	Select **[ENABLE PROC]**	Target changes color
60	Select [**EXECUTE COMMAND**]	Wait...Box Status: OK
62	Repeat steps 44 - 60 for other boxes	All Box Status = OK
64	Select [**SAVE DATA**]	[**ALL BOXES**] target appears.
68	Select [**ALL BOXES**]	SELECT SAVE BOX PATH display
70	If you wish to save checkpoints on emulated disk, go to step 80. If you wish to save checkpoints on an HM, select [**DEFAULT SOURCE**] and then go to step 100.	

Keyboard: IKB or PC. **Lock:** ENGR

Reference: SW11-501 & SW09-505 **Personality Loaded:** GUS

Step	Action	Response
80	Select [**ALTERNATE SOURCE**]	Boxes [**1**] and [**2**] appear
90	Select [**1**]	EG: Volume ID = **CKPT**
100	Select [**EXECUTE COMMAND**]	HIWAY STATUS display
110	Select [**START FUNCTION**]	Asterisk appears by box number as data is saved. "Busy HWY nn"
120	Wait for status of last applicable box to change to "SAVED."	

SAVE AM CHECKPOINT
Appendix C

Perform parts of the task described below to SAVE checkpoint data for an Application Module, A^{X}M, or a Computing Module. You must have created a checkpoint emulated disk (CHKPOINT.LCN) in Task 4 before performing this task. You should always save the AM checkpoint data on a emulated disk first, and then save it on the HM. No HM volume has to be created as the AM and CM checkpoint volumes are preconfigured.

Appendix C **SAVE CHECKPOINT DATA FOR AM OR CM MODULES**

Keyboard: Engr. **Lock:** ENGR

Reference: SW11-501

Personality Loaded: Universal

Step	Action	Response
10	Mount the checkpoint **CHKPONT.LCN** emulated disk into FD1	EG: Volume ID = **CKPT**
20	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
30	Select [**SYSTEM STATUS**]	SYSTEM STATUS display
34	Select AM Node	Node Box is selected (Similar for Computing Module)
40	Select [**NODE STATUS]**	Application Modules display
50	Select **NODE** number	EG: **40**
60	Select [**SAVE DATA**]	CHKPT DEST FOR NODE NN display
70	If you are saving checkpoint data on an emulated disk, go to step 90.	
80	If you have saved checkpoint data on an emulated disk and now wish to save it on HM, select [**DEFAULT SOURCE**] and go to step 110.	
90	Select [**ALTERNATE SOURCE**]	Boxes [**1**] and [**2**] appear.
100	Select [**1**]	
110	Select [**EXECUTE COMMAND**]	STATUS changes from “OK” to “SAVE” “OK” for the selected node in step 50.
120	Repeat steps 60 – 110 to save checkpoint data to the HM.	

EXCEPTION BUILDING
Appendix D

The steps listed describe the basic exception build procedure of cloning a point from a master point that you have previously built using Parameter Entry Displays. Refer to Section 7 in the Data Entity Builder manual for variations.

Appendix D **BUILD POINTS BY EXCEPTION FOR HG, AM, AXM, CM, PLCG, AND PM/APM/HPM POINTS** **Keyboard:** IKB. **Lock:** ENGR

Reference: SW11-506 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
	CREATE THE EXCEPTION BUILD SOURCE FILE	
05	If the appropriate Data Entity Builder Menu function is already selected, go to step 10; otherwise go to step 15.	EG: [**HIWAY GATEWAY**], [**APPLICATION MODULE**], [**NETWORK INTERFACE MODULE**] etc.
10	Press <COMND>, then go to step 30	COMMAND Display
15	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
20	Select [**BUILDER COMMANDS**]	COMMAND Display
30	Select [**PRINT ENTITIES**]	PATHNAMES display
40	Key into REFERENCE PATHNAME port	EG: **NET>HMV1>**
50	Select [**PRINT IDF ENTITIES]**	Additional pathnames ports
60	Key into PATHNAME FOR IDF port	EG: **HGPNTS** (or AMPNTS, etc.)
70	Key master point ID into PATHNAME FOR SELECTION LIST	EG: **HG1001** (or AM101, etc.)
80	Key a file name into PRINT DEVICE ID or DESTINATION PATHNAME	EG: **HGEXCBLD.EB** (or AMEXCBLD.EB, or PMEXCBLD.EB, etc.)
100	Press <ENTER>	"BUSY...OPERATION COMPLETE"
110	Press <ESC>	"ESCAPED FROM DEB"
120	Key in an Edit command and the pathname of the source file	EG: **ED NET>HMV1>HGEXCBLD.EB** or ED NET>HMV1>AMEXCBLD.EB
130	Press <ENTER>	Point parameters displayed

Appendix D **BUILD POINTS BY EXCEPTION BUILDING** (continued) **Keyboard:** IKB. **Lock:** ENGR

Reference: SW11-506 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
140	Tab* down to **&N** item; tab over and type new point name over old point name.	EG: **&N HG1002**
150	Tab to other parameters that you want to change; key in changes	EG: SLOTNUM = **02** EG: EUDESC = **BBLS/HR**
160	Hold down <CTL> and press <3>	JUMP Menu
170	Hold down <CTL> and press <2>	Jump to End-Of-File
180	Press <RETURN> three times	Inserts three blank lines
190	Key in an end of source file indicator	EG: **&E**
	BUILD ADDITIONAL POINTS	
200	If you want to clone another similar point, copy the parameters as follows	If no other points need to be cloned, go to step 310.
210	Hold down <CTL> and press <3>	JUMP Menu
220	Hold down <CTL> and press <1>	Jump to Beginning-Of-File
230	Tab down to **&T** item	
240	Hold down <CTL> and press <2>	BLOCK Menu
250	Hold down <CTL> and press <1>	"MARK AT LINE: N"
260	<PAGE FWD>, <TAB> to end of parameters	EG: All parameters highlighted

*Press <HELP> to display the Text Editor Help functions; <Page FWD> to see more. Press <HELP> to return to the editor.

Appendix D **BUILD POINTS BY EXCEPTION BUILDING** (continued) **Keyboard:** IKB. **Lock:** ENGR

Reference: SW11-506 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
270	Hold down <CTL> and press <2>	"BUSY"..."LINES WRITTEN: NN"
280	Place cursor on blank line just above the &E	
285	Hold down <CTL> and press <4>	"LINES READ: NN" (parameters copied)
290	Tab down/over to &N item; Type new point name over old point name.	EG: **&N HG1003**
300	Tab to other parameters that you want to change; key in changes	EG: SLOTNUM = **03**
305	If there are other similar points to clone, repeat Steps 210 - 300	
	WRITE SOURCE TO SOURCE FILE	
310	Hold down <CTL> and press <1>	QUIT Menu
320	Hold down <CTL> and press <2>	Message : "FILE UPDATED NN LINES WRITTEN"
	PROCESS THE EB SOURCE FILE	
330	Hold <CTL> down and press <HELP>	COMMAND DISPLAY
340	Select [**EXCEPTION BUILD**]	Ports/targets appear
350	Key into REFERENCE PATHNAME port	EG: **NET>HMV1>**
360	Key into pathname for SOURCE file port	EG: **HGEXCBLD.EB**
370	Key into pathname for IDF port	EG: **HGPNTS**
375	Key into pathname for SELECTION LIST port	EG: blank to select all points in Exception Build File
380	Key into OPT path for TEMPLATE port	EG: blank to select all points in Exception Build File
390	Press <ENTER>	"PROCESSING ENTITY: nnnnnn"... "OPERATION COMPLETE"
395	Wait until the COMMAND DISPLAY reappears.	Points built by exception are added to the named IDF

Appendix D **BUILD POINTS BY EXCEPTION BUILDING** (continued) **Keyboard:** IKB. **Lock:** ENGR

Reference: SW11-506 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
	SAVE/LOAD CLONED POINTS	
460	Select [**LOAD MULTIPLE**]	Additional ports/target appear
470	Key into REFERENCE PATH NAME port	EG: **NET>HMV1>**
475	Select [**with OVERWRITE**]	
480	Key into pathname for IDF port	EG: **HGPNTS**, **AMPNTS**, **APMPNTS**, etc.
485	Key into pathname for SELECTION LIST port	EG: blank for all points in IDF
487	Press <ENTER>	"WAIT" in yellow; "ENTITY NAMES". Pt. Config data written to IDF. "OPERATION COMPLETE"
495	If errors occur, select the point on the error display. Make corrections; then repeat Steps 460 – 495.	

CREATE EXCEPTION BUILD FILES FROM IDFS
Appendix E

The steps listed describe the basic procedure to generate exception build files from Intermediate Data Files (IDFs). Refer to Section 7 in the *Data Entity Builder* manual for basic information on the Command Menu functions. This procedure does not destroy the IDFs. Intermediate Data Files have the suffix: .db. Exception Build Files have the suffix .eb.

Appendix E **CREATE EXCEPTION BUILD FILES FROM IDFS** **Keyboard:** IKB. **Lock:** ENGR

Reference: SW11-506 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
05	If any Data Entity Builder Menu function is already selected, go to step 10; otherwise go to step 15	EG: Any ped or the Command Display.
10	Press <COMND>, then go to step 30	COMMAND Display
15	Hold <CTL> down and press <HELP>	ENGINEERING MAIN MENU
20	Select [**BUILDER COMMANDS**]	COMMAND Display
30	Select [**PRINT ENTITIES**]	PATHNAMES display
40	Key into REFERENCE PATHNAME port	EG: **NET>HMV1>**
50	Select [**PRINT IDF ENTITIES**]	Additional pathnames ports
60	Key into pathname for IDF port	EG: **HGPNTS (or AMPNTS, etc.)**
65	If you do not remember all the IDF names, this procedure will list them— press <ESC>. Key in a Data Out command to your printer. Press <ENTER>.	EG: **DO $P1** "DATA OUT COMPLETE"
	Key in a List command with a .db suffix, press <ENTER>.	EG: **LS NET>HMV1>*·db** DB files are listed and printed.
	Key in another DO command to stop printing. Press <ENTER>.	EG: **DO** "DATA OUT COMPLETE"
	To return to the Command Display, Hold <CTL> down and press <HELP>	
70	Leave Pathname for SELECTION LIST blank	
80	Key a file name into PRINT device ID or DESTINATION pathname	EG: **HGPNTS.EB** (or AMPNTS.EB, or PMPNTS.EB, HPMPNTS, etc.)

Appendix E **CREATE EXCEPTION BUILD FILES FROM IDFS** (continued) **Keyboard:** IKB. **Lock:** ENGR

Reference: SW11-506 & SW11-511 **Personality Loaded:** GUS

Step	Action	Response
100	Press <ENTER>	"WAIT...PROCESSING ENTITY: nnnn OPERATION COMPLETE"
110	Repeat steps 60 - 100 for other IDFs that you want to convert to .EB files.	
	If you want to see which exception build files have been generated, press <ESC>. Key in a List command with an .eb suffix (EG: LS NET>HMV1>*.eb).	To review the contents of an .eb file, escape as before, then key in an edit command EG: **ED NET>HMV1>HGPNTS.EB**
114	To exit the Text Editor, press F1 twice	"Do you really wish to abort this edit?"
118	Key in the letter **y**	Command Processor Menu
122	To return to the Command Menu, Hold <CTL> down and press <HELP>	

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