CMA SPOOL USAGE STANDARDS AND PROCEDURES

December 2003

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1   INTRODUCTION

This document contains the State of Hawaii Executive Branch of Government's standards, conventions, and procedures that must be followed by users of the State's central site computer center when the user develops applications that can interface with CMA SPOOL. It also covers when and how they can use the remote terminal printer tool, CMA SPOOL.

1.1   Purpose

The purpose of this document is to present a standardized approach to developing CICS and NATURAL applications that interface with CMA SPOOL to allow printouts to be sent to remote terminal printers. It presents the policies under which the Information and Communication Services Division (ICSD) will operate the CMA SPOOL facilities. It also defines the standards by which batch jobs and TSO users will interact and interface with CMA SPOOL.

!.2   Scope

This document has ICSD's standards for developing CICS, NATURAL, and batch programs that use the remote print facilities of CMA SPOOL. It defines the parameters and conditions by which ICSD will support the CMA SPOOL for the benefit of all users of ICSD's central site.

1.3   Applicability

The standards defined in this document must be followed by anyone who must access CMA SPOOL to send printouts to remote terminal printers from online TSO, CICS, NATURAL, and batch programs. See Appendix-B for a list of display and printer devices supported.

1.4.   Comments and Suggestions

Comments, recommendations, proposals, or suggestions regarding the contents of this document may be sent either via email to icsd.admin.ppmo@hawaii.gov or in writing to:

> Information and Communication Services Division
> Project Planning and Management Office
> 1151 Punchbowl Street, B10
> Honolulu, Hawaii 96813-3024

2   GENERAL INFORMATION

The vendor has four documents to support CMA SPOOL. Each user agency DP coordinator has one copy of these manuals. The title of the vendor's reference manuals are:

> CMA SPOOL Messages and Codes
> CMA SPOOL Terminal Users Guide
> CMA SPOOL MVS User's Guide
> CMA SPOOL Programmers Guide

Should departmental or agency personnel desire additional copies of these vendor documents, they should contact their data processing coordinator for the copies.

3   CMA SPOOL SYSTEM CAPABILITIES

CMA SPOOL is a VTAM application that spools output for remote terminal printers. It is similar to the JES2 spooling facility of IBM's MVS/XA. CMA SPOOL interfaces JES2 with VTAM and MVS/XA. The files generated and spooled directly to CMA SPOOL or JES2 will be subsequently routed to a remote terminal printer or the JES2 primary spool.

There are several allowable methods to create spool files with CMA SPOOL:

a. Direct call to the CMA SPOOL interface routines from an application program without JCL requirements. Application programs may be CICS, NATURAL or batch programs.

b. Use of the ESFPRINT utility, a general purpose print program that copies/edits sequential datasets or partition dataset members to either SYSOUT datasets or the CMA SPOOL's spool dataset.

c. Modification of existing JCL statements that write to SYSOUT datasets to use the SUBSYS DD statement. This will send spooled output directly to CMA SPOOL's spool dataset.

d. Use the SYSOUT print class parameter to automatically transfer print output between JES2 and the CMA SPOOL's spool dataset. See Section 6, CMA SPOOL Operational Parameters, item "h."

Not all of the CMA SPOOL facilities will be available to ICSD central site users. The

available CMA SPOOL MENU system facilities and features will be restricted and controlled. As with JES2, there are supervisory and control functions that must only be handled by the Systems Operations Branch, and administrative and control functions that must only be handled by the Systems Services Branch.

CMA SPOOL supports controls through either the MVS System consoles or VTAM controlled terminals. The facility that allows CMA SPOOL to be controlled by VTAM terminals is called the CMA SPOOL MENU SYSTEM. Access to this facility can be achieved from a VTAM controlled terminal through TSO, TSO/ISPF, CICS, or NATURAL.

Any user attempting to connect to the CMA SPOOL MENU SYSTEM must be previously identified and authorized to use the online environment.

CMA SPOOL will automatically handle the selection of spool files for output processing to transfer files either to a remote terminal printer or to the JES2 primary spool dataset. It will automatically purge processed spool files after a predefined time interval.

CMA SPOOL automatically recovers from batch application program ABENDS. Recovery from most online CICS and NATURAL programs is also handled automatically but the degree of recovery is limited by the extent of damage incurred by the abending transaction.

The Production Services Branch (PSB) is responsible for controlling the access and use of CMA SPOOL. They have full authority over all CMA SPOOL functions. They are the primary source of control and the first level for users to contact for problem determination.

The Systems Services Branch (SSB) has secondary control and is the second level to contact for problem determination. They are responsible for resolving problems, installing enhancements, maintaining online and batch environments, and customizing and defining network groups.

3.1 Warning for Developers

Serious performance problems will result when developers fail to follow the procedures, routines, or standards presented this document.

4 CMA SPOOL SPECIFICATIONS

CMA SPOOL supports the DSPRINT interfaces as defined by IBM through the

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ESFPRINT program. This facility takes data and transmits it to a VTAM controlled terminal printer. DSPRINT facility support has been incorporated in the TSO/E and ISPF facilities supported by ICSD.

The ISPF interface is recommended since it is easier to use and does not require the user to have detailed knowledge of the product to use it.
.
The ISPF interface to ESFPRINT is documented in the help facilities of ISPF/PDF. The function is supported on ISPF panels that have the ability to route print to "BATCH" or "LOCAL". The option "LOCAL" invokes the ESFPRINT facilities.

The TSO/E interface to ESFPRINT is available in command or "READY" mode. ICSD does not support these uses, but the CMA SPOOL manuals describe the method for invoking this function.

4.1   OS/MVS JCL DD Statement

The OS/MVS JCL DD-statement SUBSYSTEM interface facility allows for the direct creation of or access to CMA SPOOL output data files from batch programs. These batch programs can be any utility program such as DYL-280-II, IEBGENER, or IEBDG, and application programs written in COBOL, PL/1, and FORTRAN.

Access to the SUBSYSTEM interface facility is accomplished by modifying the existing DD JCL statements. The "SYSOUT=" parameter must be removed and replaced with the "SUBSYS=" parameter. For example:

//REPORT DD SYSOUT=A
        is changed to read
//REPORT DD SUBSYS=(ESF,A,UAB,RPRTR)

where:
        ESF   is the subsystem name;
        A   is the output class code;
        UAB   is the owner name;
        RPRTR   is the destination name of the remote printer.

For more information on the subsystem interface parameters, see the vendor's CMA SPOOL MVS USERS GUIDE.

4.2   ESFPRINT

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The ESFPRINT utility is a general-purpose print program that provides the user with the ability to create a CMA SPOOL spool file or SYSOUT dataset. ESFPRINT will copy or edit data from a variety of sources similar to IEBGENER.

ESFPRINT can be invoked from ISPF, TSO, and a batch job.

The ISPF interface uses the ESFPRINT utility to transmit the data or job output to a designated remote terminal printer.

The native TSO execution entails knowledge of the TSO environment and is not supported under ICSD's TSO command security facility.

A batch job execution of ESFPRINT involves specifying ESFPRINT as the program name in the EXEC JCL statement with execution parameters passed through the PARM parameter. Specification of the parameters that directs ESFPRINT's execution can be specified in the PARM parameter or in a SYSIN file associated with the job step. For example, directly in the PARM parameter:

```
//S1    EXEC PGM=ESFPRINT,
//      PARM='DSNAME(DATA.SET.NAME) DEST(RPRTR)'
```

or using the SYSIN DDNAME:

```
//S1    EXEC PGM=ESFPRINT,PARM='SYSIN'
//SYSIN      DD    *
DSNAME(DATA.SET.NAME) DEST(RPRTR)
/*
```

Specifying the utility's parameters on the EXEC statement is subject to the limitations and restrictions defined in the OS/MVS JCL manual.

4.3   JES2/CMA SPOOL TRANSFER

The feature to transfer spool files between JES2 and CMA SPOOL allows JES2 files to transfer to CMA SPOOL files, and the file transfers are done without operator intervention and user knowledge of the specific processes required to accomplish the transfer.

To route job output to the desired printer, CMA SPOOL only needs to know the printer's VTAM netname and the JES2 destination names.

When spool files are transferred from JES2 to CMA SPOOL, their original form

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number and FCB name are transferred with them. This facility differs from the SUBSYS method, which uses the JES2 spool file as an interim staging area. The SUBSYS method does a direct write to the CMA SPOOL's spool through the OS/MVS/JES2 subsystem interface facility.

4.3.1   JES2 to CMS Spool

Job output spooled by JES2 can be transferred to CMA SPOOL's spool dataset automatically without operator intervention. This is done by setting up a JOB to allow the output to be written to a SYSOUT dataset with a DEST parameter set to ESF. Examples of this appear below:

Using the "DEST" DD statement parameter:

```
//SYSUT2 DD SYSOUT=(A,RMTPRTR),DEST=ESF
       or
//SYSUT2 DD SYSOUT=A,DEST=(ESF,RMTPRTR)
```

Using the "/*OUTPUT" statement:

```
/*OUTPUT zzzz DEST=ESF.RMTPRTR
       //REPORT1 DD SYSOUT=(A,,zzzz)
```

       zzzz is an arbitrary name chosen by the analyst/programmer

Using the "//xxxx OUTPUT" statement:

```
//xxxx OUTPUT JESDS=ALL,DEFAULT=YES,DEST=ESF.RMTPRTR
       //REPORT DD SYSOUT=A,OUTPUT=xxxx
```

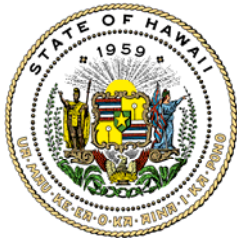   xxxx is an arbitrary name chosen by the analyst/programmer

Using the "/*ROUTE" statement:

```
/*ROUTE PRINT ESF
       //REPORT DD SYSOUT=(A,RMTPRTR)
```

4.3.2   CMA Spool to JES2

Output generated directly to CMA SPOOL can be routed back to JES2 by specifying the "/*ROUTE" destination of JES2.

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4.3.3 Virtual Printer Interface

CMA SPOOL supports a virtual printer interface. This virtual printer interface is only available in CICS and IMS. The interface allows existing programs to send output to CMA SPOOL through a virtual remote terminal printer without major modifications to the application transaction.

Output sent to a virtual printer is sent to a remote terminal printer by CMA SPOOL.

The virtual printer name and the real printer are defined as a pair at CMA SPOOL start-up time. This facility has specific usage constraints that developers must refer to in subsequent sections of this document.

4.3.4 CICS Interface

CICS applications transactions interface with CMA SPOOL through the CICS Command Level interface module, AESFCICS.

All service routines are invoked by linking to AESFCICS. Input parameters for these interface routines must follow the standards in this document. Developers must follow the CMA SPOOL CICS Command Level interface standards that are defined in subsequent sections of this document.

An eight-byte field containing the name of the service routine being invoked must prefix the parameter list passed to AESFCICS. For example:

```
01    OPEN-PARM.
      03    OPEN-ENTRY-PT        PIC X(08)   VALUE 'ESFOPNC '.
      03    OPEN-STATUS          PIC X(02)   VALUE '60'
.
EXEC CICS LINK PROGRAM  ('AESFCICS')
            COMMAREA (OPEN-PARM)
            LENGTH   (nnn)
END-EXEC.
```

4.3.5 NATURAL Interface

 NATURAL applications transactions interface with CMA SPOOL through the "DISPLAY/WRITE" interfaces. The user can specify the report file attributes by calling module ESFATTRB. All service routines are invoked as single function routines that use standard linkage conventions and contain descriptive names.

Parameter input to these routines is standardized through the "CALL" interfaces. For example:

```
FIND CARS WITH COLOR = 'RED'
CALL 'ESFATTRB' '01DES=xxxxxxxx '
DISPLAY (01) MODEL MAKE YEAR
```

For more information on the use of the CMA SPOOL NATURAL "CALL" interface at the ICSD central site, consult the ICSD State of Hawaii IT Standards 11.11 NATURAL Standards and Conventions, Section 11.

4.3.6   Batch Program Interface

BATCH applications programs interface with CMA SPOOL through the program's "CALL" interface routines. All service routines are invoked as single function routines that use standard linkage conventions and use descriptive names. Parameter input to these routines are standardized through the "CALL" interfaces.

For more information on the use of the CMA SPOOL BATCH program "CALL" interface at the ICSD central site, developers should consult the BATCH program CMA SPOOL standards in subsequent sections of this document.

4.3.7   CMA SPOOL Menu System

The CMA SPOOL MENU System is the primary means of control to communicate with the CMA SPOOL function for ICSD Systems Operations Branch operators, Systems Services Branch personnel, and certain designated department coordinators.

The CMA SPOOL Menu System gives users control over CMA SPOOL files and control over printers when they are at a VTAM terminal that is connected to CICS, NATURAL, or TSO. Specific authorization of allowable functions is defined at CMA SPOOL start-up and is based on the CMA SPOOL user-id's (which may be a TSO user-id).

The scope of control that a user has is limited by devices defined in the user's network group. A network group is a group of terminals/printers related by project and department affiliation. The terminals/printers in a network group must be previously established and verified to CMA SPOOL.

The vendor's CMA SPOOL Terminal Users Guide has procedures for using CMA

SPOOL from the different types of terminals.

There are ICSD limitations and restrictions in the subsequent standards sections.

CICS: To use the CMA SPOOL Menu System via CICS, the user must sign on to CICS with a CICS operator name and password. "XSFM" is the CICS transaction-ID to get the menu system.

NATURAL: To use the CMA SPOOL Menu System via NATURAL, the user must first sign on to CICS with a CICS operator name and password, then sign on to NATURAL. "ESFM" is the NATURAL transaction-ID to get the menu system.

TSO/ISPF: Access to the CMA SPOOL Menu System via ISPF is limited to selected systems analysts and computer programmers.

Only TSO users who have option "E" on their ISPF/PDF PRIMARY OPTION MENU and who have been previously defined and verified to CMA SPOOL may use the CMA SPOOL Menu System.

4.4   WARNING FOR DEVELOPERS

Routines for the CICS environment, found in Section 4.3.4 CICS Interface, must be used to prevent catastrophic CICS performance degradations.

If INTERTEST is used to monitor a transaction that invokes the AESFCICS module, execution of the transaction will halt because a "wild branch" will be done by the AESFCICS module.

To allow for a valid branch, the programmer must enter the following INTERTEST command before executing the transaction:

CNTL EXCL,PROG=AESFCICS

5   CMA SPOOL STANDARDS

The purpose of the CMA SPOOL standards is to ensure effective operations of the product for all users of the ICSD central site.

These standards cover and control operational characteristics of CMA SPOOL to allow all users fair access to ICSD's facilities.

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These standards cover and control the access privileges of CMA SPOOL to ensure that users do not intentionally or unintentionally alter or delete output files spooled in the CMA SPOOL system that belong to another network group.

The standards are subject to the operational restrictions as stated in Section 6, CMA SPOOL Operational Parameters that the ICSD System Services Branch selected to provide efficient and fair access to the remote terminal printing facility for all ICSD Central Site users.

5.1 SPF USE

CMA SPOOL usage by TSO/ISPF users will be limited to the ISPF DSPRINT interface.

SPF provides panels that allow selected TSO users to select the DSPRINT interface facility from the various TSO/ISPF print panels. The HARDCOPY output screen is an example of one of these panels. The ISPF command panel selection-id is 3.6.

Native use of the DSPRINT facility via ISPF Primary Menu Option 6 will not be supported at ICSD.

5.2 SUBSYSTEM INTERFACE USE

The CMA SPOOL subsystem interface will be fully supported through the OS/MVS JCL DD-statement parameter "SUBSYS=".

The vendor's CMA SPOOL MVS USERS GUIDE has the definitions and specifications of the various sub parameters. Use of this facility will be limited by the same restrictions imposed by OS/MVS JCL that are documented in the IBM OS/MVS JCL manuals.

The ESFALLOC CMA SPOOL TSO command will not be supported.

Omit the sub parameter field "RET=" to let the CMA SPOOL default value take effect. "RET=" defines the number of hours a file must be retained after it is printed.

The sub parameter field "OUTLIM=" to specify the maximum number of lines per spool file cannot be used to increase its value to a number that is greater than

the ICSD Central Site's preset maximum output line limit. See Section 6, CMA SPOOL Operational Parameters.

The OS/MVS JCL DD-statement sub parameter OUTLIM is ignored when the SUBSYS parameter is used. However, the CMA SPOOL sub parameter OUTLIM may be used as a valid SUBSYS DD-statement sub parameter when CMA SPOOL is used.

5.3   ESFPRINT UTILITY USE

The ESFPRINT utility will be available either under TSO through ISPF, or as a batch program. The execution of ESFPRINT as a batch program is invoked by using the PARM JCL parameter of the EXEC statement.

The execution step may have the ESFPRINT parameters specified directly in the EXEC's PARM statement, or indirectly via the referral to a SYSIN DD statement. Either method is acceptable but subject to operational restrictions.

When executing the ESFPRINT utility, omit the "RETAIN=" and "SUBSYS=" execution parameters. Let the CMA SPOOL default values take effect.

The "OUTLIM=" execution parameter in the SYSOUT DD-statement cannot be used to increase the maximum number of lines per spool file greater than the preset maximum output line limit. See Section 6, CMA SPOOL Operational Parameters.

5.4   JES2/CMA Spool Transfer Use

The standards covering the JES2/CMA SPOOL TRANSFER facility have two parts. The first is to transfer JES2 to CMA SPOOL, and the second is to transfer CMA SPOOL to JES2.

5.4.1   Transfer JES2 to CMA Spool

This interface automatically transfers JES2 SYSOUT datasets to the CMA SPOOL's spool retaining the JES2 file attributes. CMA SPOOL has four methods to perform this transfer. ICSD supports all four methods.

a.   The "DEST=" parameter for the SYSOUT DD-statement
b.   The "/*OUTPUT" JES2 statement
c.   The "OUTPUT" JES2 statement

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d.   The "/*ROUTE" JES2 statement

HOWEVER:

Users must refer to the IBM OS/MVS JCL manual and the CMA SPOOL MVS USER'S GUIDE for the exact syntax, options, and warnings.

5.4.2   CMA Spool to JES2

This interface will automatically transfer CMA SPOOL files to the JES2 spool.

The user must get explicit approval from the Systems Operations Branch to use this facility. e of this facility will be limited and controlled. Users requesting this service will be accommodated provided they could show that they have explored all available alternative solutions and have discounted the viability of the alternatives.

5.4.2.1   CICS Interface Use

The CMA SPOOL CICS Command Level interface standards apply to all interface types. The interfaces are subject to security limitations. All users will not be allowed access to all types.

These CICS standards apply to the use of the ESFOPNC, ESFSTAC, ESFPURC, and ESFROUC interface routines. These specific routines have been modified for CICS efficiency and environmental support.

5.4.2.2   COBOL CALL Verb

The vendor's CMA SPOOL Programmers Guide has examples of the COBOL "CALL" verb.

The sub parameter value "ESF" to specify the subsystem name must be blanks to allow the default value to take effect.

The sub parameter field "RET=" to indicate the number of hours to retain a file after printing must be set to binary zeros (LOW-VALUES) to allow the default value to take effect.

The sub parameter field "OUTLIM=" to specify the maximum number of lines per spool file cannot be used to increase its priority to a value that is greater than the preset maximum output line limit. See Section 6, CMA

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SPOOL Operational Parameters.

"INTERTEST", the online test/debugging tool, cannot be used with any program that uses the COBOL "CALL" verb. The CALL verb presents a serious risk to the system's production environment.

The programmer must ensure that parameter lists are specified to reside wholly within the requested storage area.

Programmers should refer to the vendor's CMA SPOOL ROGRAMMERS GUIDE for specific information on the use of the available COBOL verb alternatives.

5.5   Warning For Developers

Use of these interface routines in non-CICS environments will cause unpredictable results especially in batch program environments.
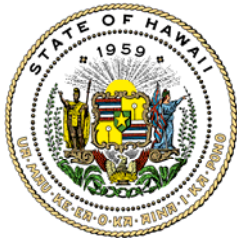
Failure to follow these standards will result in serious CICS performance problems, and will cause the offending transaction to immediately deactivate.

6   CMA SPOOL OPERATIONAL PARAMETERS

This section defines how CMA SPOOL parameters are configured at ICSD. These are the default parameter values. The operational characteristics of the parameter values are specified below.

a.   Maximum number of print records CMA SPOOL can handle: 2.5 million

b.   Maximum number of print records allowed per spool file: 15,000

c.   Length of time spool files remain in CMA SPOOL after completion of output processing: 5 hours

d.   Length of time spool files remain in CMA SPOOL without processing: 24 hours

   Note: Time varies for weekends and/or holidays.

e. Processing priority for spool files will be based on output size:

Priority	Number of Lines	
15	100	
14	200	
13	300	
12	400	
11	500	
10	600	
09	700	
08	800	
07	900	
06	1,000	
05	2,000	
04	3,000	
03	4,000	
02	5,000	
01	10,000	
00	15,000	max limit

f. Printer acquisition interval will be: 10 minutes

g. The PURGE function will be initiated every: 30 minutes

h. The JES2 to CMA SPOOL JES2 output class will be: K

Although the job control statement's output CLASS=K is available for programmers to route output to CMA SPOOL, there are other transfer methods. These are the use of the SUBSYS parameter or the direct application program calls.

The DD-statement SUBSYS parameter or the direct application program calls are more efficient. They provide the programmer with more control and flexibility over the transfer of selected output files.

i. Remote terminal printers will queue output files printed for purge processing: PURGE

7   CMA SPOOL NETWORK GROUPS

A NETWORK GROUP is a collection of printers, designated display terminals, and
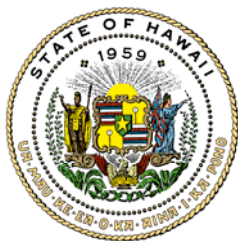
spool files directed toward these printers.

Each NETWORK GROUP is assigned a unique NETWORK GROUP NUMBER and is independent of other NETWORK GROUPs.

The printers and display terminals that belong to a NETWORK GROUP are logically associated. Logical associations are not based on hardware type but may be related geographically or along departmental lines.

A display terminal in one network group cannot control a printer in another network group.

A printer can be shared between network groups. A unique alias name must be assigned to the printer in each of the groups that will be sharing the printer.

The alias name, instead of the node name, must be used to reference the shared printer. A shared printer can only be controlled on the CMA SPOOL Menu System by its alias name. For example:

        NETWORK GROUP 1   PRTRNAME=printerA
                               PRTRNAME=printerB, ALIAS=aliasX

        NETWORK GROUP 2   PRTRNAME=printerB, ALIAS=aliasY
                               PRTRNAME=printerC

Whereby, "printerB" is shared between network group 1 and network group 2. The alias name, "aliasX" and "aliasY", will be assigned to that printer for each group.

The alias name, "aliasX" or "aliasY", and not the node name "printerB", must be used when referring to the printer name, such as in the Program Definition in the File Definition Section, JCL output parameters, and the CMA SPOOL Menu System.

8   SECURITY

The staff and terminals of both the Systems Operations Branch and the Systems Services Branch have full control over all terminals and spool files for control, problem determination, and maintenance purposes.

CMA SPOOL resources that are subject to security precautions are the spool files and the remote terminal printers.

CMA SPOOL security can be controlled via two methods:

1.   Security can be provided externally through programs such as RACF.

        The external security facility can be provided by RACF and is based on the CMA SPOOL "USER-ID".

2.   Security can be provided internally through the use of the NETWORK GROUPs.

The internal security facility allows a properly authorized user and terminals to control spool files and printers within their own NETWORK GROUPs.

9   SUPPORT FOR CMA SPOOL

CMA SPOOL support is divided into two categories:

1.   Support in the event of a network problem.

        These types of problems may be quite common. Network problems should be corrected by the Production Services Branch's Assistance Center (AC).

2.   Support for output routing problem resolution.

        The problems associated with the CMA SPOOL software will be handled by the Systems Services Branch's Systems Software Section (SSS).

ICSD has established and published procedures for people who use the State's central computer site to report systems and operations related problems.

These problem-reporting procedures stipulate that during the normal business hours (Monday through Friday, 7:00 a.m. until 5:00 p.m.), and after normal business hours (and on weekends and holidays), all information processing and communications related problems should be reported to the AC at 586-1900 (see Appendix-A).

10   USER RESPONSIBILITIES

There are certain duties and responsibilities for people who access and use terminals with printers.

a.   Each person who uses a printer is expected to take pride in the physical appearance of the printer.

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b.   Each user is responsible for ensuring that an adequate amount of paper or forms is in or near the printer for use by the next person.

c.   Each user is responsible for forms used by the terminal's printer.

d.   Each user is responsible for ensuring that there is physical security for the printer, paper, or forms.

Each user is responsible for ensuring that unauthorized people do not gain access to the CMA SPOOL MENU facility under their control.

11   USING CMA SPOOL EXTENDED SPOOLING FACILITY

See the vendor's CMA SPOOL Terminal User's Guide for information on the proper use of the extended spooling facility.

Sample menu list of a typical CMA SPOOL Menu System panel seen after the ISPF/PDF PRIMARY OPTION MENU OPTION "E" is entered. A similar menu list is seen after the CICS transaction "XSFM" is entered or the NATURAL transaction "ESFM" is entered during an online session.

```
----------------------- CMA SPOOL  (SELECT) ----------------------------
COMMAND INPUT ===:                              SCROLL ===: CSR
SUBSYSTEM=ESF  USERID=A1234
F          -      DISPLAY FILES AWAITING PRINT
FA         -      DISPLAY ALL FILES
P          -      DISPLAY PRINTERS
OP         -      SET OWNER PREFIX
PP         -      SET PRINTER PREFIX
RG         -      SET RELATED GROUP
RN         -      SET RELATED PRINTERNAME
?          -      HELP

PF1=HELP PF3=END PF4=RETURN PF7=UP PF8=DOWN PF10=LEFT
PF11=RIGHT
```

Sample information on typical CMA SPOOL Menu System SELECT "help" panel seen after the PF1=HELP key is entered.

```
----------------------- CMA SPOOL  (SELECT) ----------------------------
COMMAND INPUT ===:                              SCROLL ===: CSR
```

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The following commands are available:

Display commands:

FA	-	Display all files in the group
F	-	Display files, which are not printed
P	-	Display printers

Control commands:

OP	-	Set owner prefix
		Limits the file display to files, whose filename match the prefix parameter
PP	-	Set printer prefix
		Limits the file and printer displays to files/printers which match the prefix parameter
R	-	Show last command
RG	-	Set a new network group
RN	-	Set a new network group (the one the specified printer belongs to)

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APPENDIX A - OPERATIONAL HOURS/PROBLEM CONTACTS/MODIFICATIONS

OPERATIONAL HOURS - CMA SPOOL will normally be available 24 hours a day, 7 days a week to any authorized users of the ICSD Central Site.

CMA SPOOL's availability is subject to the following exceptions:

a.   Monthly scheduled preventive maintenance

b.   Power and environmental excursions

c. Weekly maintenance of CMA SPOOL, to be performed as needed, usually on Wednesday at 9:00 a.m.

d. PROBLEM CONTACTS

Network problems should be referred to the ICSD Assistance Center (AC) at 586-1900.

CMA SPOOL problems are reported to the AC (586-1900) during normal business hours and after normal business hours.

CMA SPOOL problem support will be processed as a priority value of 2. A priority value of "1" is highest, a "5" is lowest.
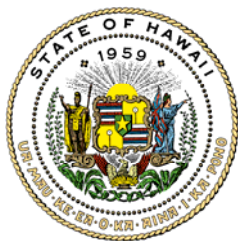
e. MODIFICATION SCHEDULES

Proposed viable modifications to CMA SPOOL will be processed within 72 hours or less from the time and date the request is received by the Systems Software Section.

The request must be in the form of a written memorandum from a project manager to the Systems Software Section. It must define the specific change or modification, and must state when the specific change or modification is required.

Normally CMA SPOOL does not require a complete shutdown to resolve and correct a problem. In the case of a severe problem, a system shutdown will be scheduled as far in advance as possible, and if possible, it will be limited to weekends or Wednesday at 9:00 a.m.

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APPENDIX B - DISPLAY AND PRINTER DEVICES SUPPORT

CMA SPOOL supports terminals and printers conforming to SNA LU (Logical Unit) Types 0, 1, 2, 3, and 4. The following is a brief list of devices from the "CMA Software USA" documentation:

IBM 3277 Model 2
IBM 3278 Model 1, 2, 3, 4, 5
IBM 3279 Model 2, 3
IBM 3262
IBM 3268
IBM 3284
IBM 3286
IBM 3287
IBM 3288
IBM 3289
IBM 3770
IBM 3800 Model 3
IBM 3812
IBM 3816
IBM 3820
IBM 3825
IBM 3827
IBM 3835
IBM 4214
IBM 4224
IBM 4234
IBM 4245
IBM 5210
IBM 6670
IBM 7436
AGFA-400
HP-IDA
HP-IDEX
HP 2686
HP 2686D
HP 2686X
VERSATEC, XEROX 2700, CENTRONICS 9380 and 9380E

Support does exist to print APL/TEXT feature, graphics, and compression of data that must be sent to LU Type 1 and 3 printers.

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APPENDIX C - PROCEDURES TO REQUEST ACCESS TO CMA SPOOL

ADDING/DELETING A PRINTER TO/FROM CMA SPOOL

All requests to add printers to CMA SPOOL must be sent to the Systems Software Section via a REMOTE PRINT REQUEST Form ICSD-195. The form is available online and accessible by clicking on Forms Central on the Government in Hawaii home page at:

http://www.ehawaiigov.org/government/html/

The request will be processed within three (3) working days after the Systems Software Section receives the request.

CREATING A NETWORK GROUP

All requests to create a NETWORK GROUP must be sent to the Systems Software Section via a REMOTE PRINT REQUEST Form ICSD-195.

Approval to create a NETWORK GROUP will be made as a joint decision with input from personnel in the Production Services Branch, Systems Services Branch, and with the department or user agency's liaison from the appropriate ICSD Client Services Branch.

REQUESTING ACCESS TO THE CMA SPOOL MENU SYSTEM

All requests for access to the CMA SPOOL MENU SYSTEM must be sent to the Systems Software Section via a REMOTE PRINT REQUEST, Form ICSD-195.

Approval to access the CMA SPOOL MENU SYSTEM will be made as a joint decision with input from personnel in the Production Services Branch, Systems Services Branch, and with the department or user agency's liaison from the appropriate ICSD Client Services Branch.