SYSTEMS PROBLEM MANAGEMENT
A USER'S GUIDE

May 2001

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Department of Accounting and General Services
Information and Communication Services Division

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1   INTRODUCTION

The "ICSD SYSTEMS MANAGEMENT PROGRAM" was developed by the Information and Communication Services Division for the State of Hawaii Executive Branch to establish standards for problem resolution and change implementation in an information processing environment.   This guide explains how problems are processed, how changes are scheduled for implementation, explains how to access and utilize the software product, and defines the responsibilities of all affected parties.

Comments, suggestions, and recommendations are welcomed.   Please send them to:

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

Telephone: 586-1920

2   GENERAL INFORMATION

2.1   The Systems Management Program

The Systems Management Program is composed of a set of processes aimed at managing the following areas: problems, changes, networks, recovery, performance, capacity, availability, audit/security, processing, and reporting.   Refer to 'Glossary' for a definition of the above processes.   These processes will help the ICS Division to better manage the routine functioning and operation of the information processing environment and enhance its ability to make changes to this environment.   Although there are ten (10) processes in the Systems Management Program, this guide defines the following three (3) processes initially scheduled for implementation:

- Problem Management is the process of minimizing the impact of problems affecting information systems hardware and software services.

- Network Management is the process of detecting and resolving network problems in an information processing environment.

- Change Management is the process of managing changes to hardware, software, documentation or procedures within an information processing environment.

2.2 Objectives

Systems Management Program: The overall objective of the Systems Management Program is to provide a method of managing available resources to meet objectives more effectively.   Through Systems Management, the ICS Division will be able to better direct, measure, and manage the day-to-day functioning and operation of the information processing environment.

The specific objectives for the three (3) processes are:

- Problem Management: To minimize the impact of problems and effectively manage problems through established procedures in order to maximize availability of data processing services and increase the level of service to users.

- Network Management: To contain or reduce the impact of network problems.

- Change Management: To ensure the efficient and prompt handling of all changes and to increase system availability, reliability, and performance through detailed planning and scheduling BEFORE making any changes.

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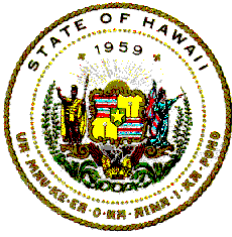
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2.3 Problem/Change Management Flow
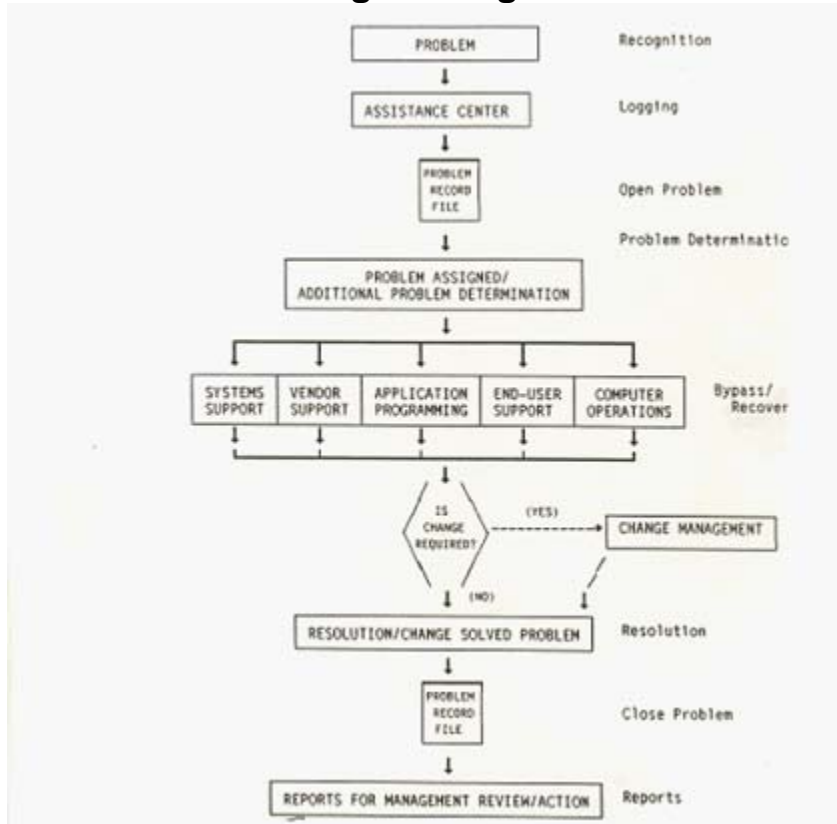
An explanation of the Problem/Change Management flow follows:

- Problem Reporting: The reporting of pertinent information about the problem for subsequent handling.

- Problem Coordination: The process of communicating, assessing, and assigning problems in an information system environment.

- Problem Resolution: The corrective action which repairs, replaces, or modifies the source of a problem.

  Solution Requires Change: In the event a change must be installed to correct a problem, a change proposal is initiated.

- Change Proposal: The submission of a request for a change needed to solve a problem or one that is needed to meet new requirements.

- Change Coordination: The process of communicating, scheduling, monitoring, and controlling changes to an information system environment.

- Change Installation: The installation of the approved change.

  Change Causes Problems: In the event the installed change causes a problem, the problem is reported for resolution.

2.4   Elements of the Problem Change Process

An explanation of the key elements follows:

- Problem Recognition: The detection and identification of problems or potential problems through monitoring, trend analysis and/or observation.

- Problem Reporting/Logging: The notification of a detected problem to a central point, and the recording of information about the problem for subsequent handling.

- Problem Determination: The identification of the source of a problem to a component level.

- Problem Bypass/Recovery: The partial or complete circumvention of a problem, usually prior to final resolution.

- Problem Resolution: The corrective action which resolves the problem by repair or installing a change.

- Problem Report and Control: The analysis and reporting of the status of problems and the review of the effectiveness and efficiency of the Problem Management System.

2.5   Elements of the Change Management Process

An explanation of the key elements follows:

- Change Entry: The notification of a plan to change the production environment and the initial entry of information regarding the planned change for subsequent handling.

- Technical/Service Assessment Review: The evaluation of technical feasibility, risk, and the effect of installing a proposed change in the production environment. Also, such things as year-end or month-end closing, user workloads, audit and security aspects, current problems, and approved changes being installed are also evaluated. The results and recommendations of the technical/service assessment review are forwarded to management for review.

- Approval and Schedule: The evaluation of technical and service assessment recommendations to determine if a change will be installed, delayed, or disapproved. The output of this element is a prioritized installation schedule of approved changes.

- Monitor Test: The tracking and documenting of test progress, and communicating the results to all concerned parties. Monitor test is system testing for the proposed change; it is not project testing.

- Monitor Install: The tracking and documenting of install progress, and communicating the results to all concerned parties. This includes ensuring that prerequisite changes are installed or scheduled to be installed.

- Report and Control: The coordination and reporting periodic review of the effectiveness and efficiency of the Change Management System.

3 POLICIES

3.1 Problem Reporting

All problems (hardware, systems software, environment, application software, network, documentation, and procedures) will be reported to the Production Services Branch (PSB): application software and documentation problems are reported to the PSB Scheduling and Control Unit; environmental problems are reported to the PSB DP Facilities Analyst or after hours to the PSB Computer Operations Unit; hardware, systems software, network, or procedure problems are reported to the Assistance Center.

3.2 Problem Resolution

Problem resolution will be performed by the appropriate Branch (Client Services, Systems Services, etc.) of the ICS Division according to the type of problem. All

problems will be resolved in the order of their priority codes and the Problem Resolver shall notify the Problem Reporter if the resolution time cannot be attained.

3.3 Changes

All changes to the host information processing environment will be proposed and planned through the Change Management System. Changes include at a minimum, operating system upgrades and modifications, production job stream modifications, application program changes, additions/deletions to the telecommunications network, and the addition/deletion of new products and tools (hardware or software).

Changes will be assigned a change category by the Project Manager proposing the change. This will facilitate the change review and implementation process. The change category codes are provided in Appendix 6.4 of this document.

3.4 Emergency Changes

Emergency changes are those that are necessary to sustain the operation of the computer and its systems software and/or application systems that are defined as being critical by management.

Emergency changes need only be coordinated with the appropriate Branch Chief prior to implementing them. After the emergency situation has been handled, emergency changes will be reviewed and validated after implementation.

3.5 Training

Training on the use of all newly installed equipment(s) or change(s) will be completed prior to their implementation. Emergency changes are exempt from this requirement. However, training must be provided as soon as possible after implementation.

4 PROCEDURES

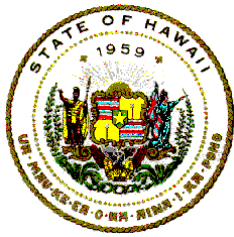## 4.1 Problem Reporting and Resolution

Responsibility	Step	Action
Reporter	1.	Gathers data for problem determination. The description, location, equipment (if applicable), criticalness of the problem, and other pertinent

information should be known when reporting a problem.

	2.	Determines the type of problem and calls the Production Services Branch (PSB). See Appendix D, 'Types of Problems'.

The PSB, Assistance Center (AC) will refer the problem to the appropriate branch by calling.

PSB	3.	Opens a problem record from the information provided by the Reporter.

    3.1   If the on-line system is unavailable, refer to Section 4.3, 'Contingency Procedures'.

	4.	Provides a solution to the problem and closes the problem record.

    4.1   If the problem cannot be resolved, determines the type of problem and assigns the problem to the appropriate Branch for resolution.

Project Manager	5.	Determines priority of problem and assigns it to the Problem Solver for resolution.
Problem Solver	6.	Calls Problem Reporter if additional information is required to resolve the problem or to reschedule the resolution date and time.

    6.1   Forwards problem to proper Branch if assignment for problem resolution made incorrectly.

	7.	Reviews problem/change history files for similar problems/changes to aid in problem resolution.
	8.	Determines availability of bypass/recovery procedure and executes it when applicable.

9. Performs problem resolution.

    9.1   If the problem is not resolved within the time specified, informs the Problem Reporter and Project Manager of the delay.

    9.2   Initiates a change request if a change needs to be installed to resolve the problem. See Section 4.4 for 'Change Proposal and Implementation'.

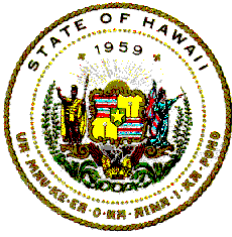| Responsibility	Step	Action
Project Manager	10.	Notifies the Branch Chief of any delays.
Problem Solver	11.	Provides feedback to and verifies with Problem Reporter that problem is resolved satisfactorily.
	12.	Updates the problem record.
Project Manager	13.	Closes the problem record.
Problem Coordinator	14.	Ensures that the problem record is complete and accurate.
	15.	Provides a weekly Status Report to the Branch Chiefs, Assistant Division Chief, and Division Chief.
	16.	Reviews information provided in reports with the appropriate Branch Chief.
	17.	Provides a monthly Trend Report to the Branch Chiefs, Assistant Division Chiefs, and Division Chief.

4.2   Network Problem Reporting and Resolution

Responsibility	Step	Action
Reporter	1.	Gathers data for problem determination. The description, location, equipment (if applicable),

<table>
<tr><td></td><td></td><td>criticalness of the problem, and other pertinent information should be known when reporting a problem.</td></tr>
</table>

	2.	Determines the type of problem and calls the PSD, AC, Network Control Unit (NCU at 5861900... See Appendix D, 'Types of Problems'.
PSB,AC,NCU	3.	Opens a problem record from the information provided by the Reporter.
	3.1	If the on-line reporting system is unavailable, refer to Section 4.3, 'Contingency Procedures'.
	4.	Provides a solution to the problem and closes the problem record.
	4.1	If the problem cannot be resolved, assigns problem to the Problem Solver.
Problem Solver	5.	Calls Problem Reporter if additional information is required to resolve the problem or to reschedule the resolution date and time.
	6.	Reviews problem/change history files for similar problems/changes to aid in problem resolution.
	7.	Determines availability of bypass/recovery procedure and executes it when applicable.
	8.	Performs problem resolution.
	8.1	If the problem is not resolved within the time specified, informs the Problem Reporter and Project Manager.
	8.2	Initiates a change request if a change needs to be installed to resolve the problem. See Section 4.4 for 'Change

Proposal and Implementation'.
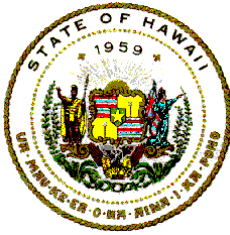
Responsibility	Step	Action
Project Manager	9	Notifies the Branch Chief of any delays.
Problem Solver	10	Provides feedback to and verifies with Problem Reporter that problem is resolved satisfactorily.
	11.	Updates the problem record.
Project Manager	12.	Closes the problem record.
Problem Coordinator	13	Ensures that the problem record is complete and accurate.
	14	Provides a weekly Status Report to the Branch Chiefs, Assistant Division Chief, and Division Chief.
	15	Reviews information provided in reports with the appropriate the Branch Chief.
	16	Provides a monthly Trend Report to the Branch Chiefs, Assistant Division Chiefs, and Division Chief.

Contingency Procedures

Should the on-line system become unavailable, these contingency procedures will be effectuated.

Responsibility	Step	Action
Reporter	1.	Gathers data for problem determination.
		The description, location, equipment (if applicable), criticalness of the problem, and other pertinent information should be known when reporting a problem.
	2.	Determines the type of problem. See Appendix D, 'Types of Problems'.
	2.1	Telephones the Production Services

Branch to report problems.

Note: If problem detection and resolution are within the same Branch, complete form ICSD T-213, 'Problem Data Sheet'.

PSB,AC   3.   Completes form ICSD T-213, 'Problem Data Sheet.

4.   Provides a solution to the problem and records it on the Problem Data Sheet.

4.1   If the problem cannot be resolved, determines the type of problem and assigns problem to the appropriate Branch for resolution. See Appendix C, 'Priority Codes for Problem'.

5.   Telephones the Project Manager of the appropriate Branch to relate information about the problem.

Project Manager   6.   Records problem information on another Problem Data Sheet.

7.   Determines priority of problem and forwards the Problem Data Sheet to Problem Solver for resolution.

Problem Solver   8.   Calls Problem Reporter if additional information is required to resolve the problem or to verify the priority code to ensure that the resolution date and time can be met.

9.   Performs problem resolution.

9.1   If the problem is not resolved within the time specified, informs the Problem Reporter and Project Manager of the delay.

Project Manager	10.	Notifies the Branch Chief of any delays.
Problem Solver	11.	Provides feedback to and verifies with the Problem Reporter that the problem is resolved satisfactorily.
TSCS/NCCS	12.	Opens the problem record from the information provided on the Problem Data Sheet when the on-line system becomes available.
	13.	Files Problem Data Sheet for one (1) day.
Problem Solver	14.	Updates the problem record when the on-line system becomes available.
	15.	Files Problem Data Sheet for one (1) day.
Project Manager	16.	Closes the problem record.

4.3   Change Proposal and Implementation

Responsibility	Step	Action
Change Requester	1.	Proposes a change and discusses it with the Project Manager.
Project Manager	2.	Gathers change request information and opens a change record.
	3.	Categorizes the change (E,1,2,3,4). See Appendix 6.4, 'Change Categories' for assistance in categorizing the change.
Change Coordinator	4.	Schedules and conducts a technical/service assessment meeting depending on the category code.
	5.	Forwards recommendation to the Branch Chiefs for review.
Branch Chief(s)	6.	Accepts, rejects, or defers the change after review.

| Project Manager | 7. | Notifies the Change Requester of the status of the change. |
		7.1 If the change request is disapproved, closes the change record.
	8.	Reviews history file for similar changes and updates change record to reflect any available information that would be helpful to installing the change.
Computer Scheduler	9.	Schedules and coordinates with the Project Manager the testing and installation dates/times of the change according to its category code.
Change Coordinator	10.	Schedules and conducts the schedule/approval meeting with the Branch Chiefs and Project Managers who have changes on the agenda.
Branch Chiefs	11.	Approves, rejects, or defers the change schedule.
Project Manager	12.	Notifies the Change Requester and closes the change record if the change request is disapproved based upon recommendations and/or scheduling.
Change Coordinator	13.	After the approval/schedule meeting with the Branch Chiefs, updates the change records to reflect the decisions of the meeting.
	14.	If training is needed, informs the appropriate branch chief.
Branch Chief	15.	Coordinates training sessions for affected parties with Project Manager.
Project Manager	16.	Notifies Users, Change Implementer, and affected parties of the upcoming change.

Change Implementer	17.	Installs the change according to schedule.
	18.	Ensures that testing is accomplished according to schedule and that the test results are documented by updating the change record.
	19.	If the change fails, executes backout procedures and notifies the Project Manager.
	19.1	Coordinates with the Project Manager, Scheduler, and Change Coordinator for a revised implementation schedule.
Project Manager	20.	Notifies the Change Requester of the status of the change.
Change Coordinator	21.	Monitors the progress of all changes.
Project Manager	22.	When change installation is completed, verifies with the Change Requester that the results are satisfactory.
	22.1	Updates configuration tables.
	22.2	Closes the change record.
Change Coordinator	23.	Provides a weekly Status Report to the Branch Chiefs, Assistant Division Chiefs, and Division Chief.
	24.	Evaluates report information with the Project Managers and Branch Chiefs and makes recommendation to the Division Chief.
	25.	Conducts quarterly report and control meetings with the Branch Chiefs.
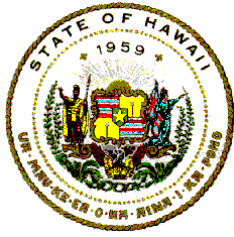
5 THE SOFTWARE PRODUCT

5.1 General Information

The State of Hawaii has purchased from IBM Corporation a Systems Management software product that is used for the operation of the Systems Management Program. The product is divided into three (3) programs which are defined below:

- Information/Management or Info/Man is an interactive program comprised of Problem, Change, Configuration, and Panel Modification Facilities. Information/Management creates and updates data records that document problems, changes, and configuration components.

- Information/System or Info/Sys is basically a Report Format Facility that helps manage an information systems environment by providing an on-line, interactive way to collect, retrieve, and manage information. With Info/Sys, records can be interactively created, updated, or purged in addition to being displayed or printed from the Info/Sys data base.

- Information/MVS is an IBM maintained data base of current data and program product technical information that is used for assisting problem resolution.

  Info/Sys can be used alone or in combination with other programs such as Information/Management (Info/Man) and Information/Access. Info/Man extends the ability to gather and locate information about the system or network. Other tasks that can be performed by Info/Sys are:

- Report, track, and resolve problems detected in the State's information processing environment;

- Plan, coordinate, and monitor changes to the State's information processing environment;

- Maintain information about the State's system configuration of hardware and software components and their inter-relationships.

  With Info/Man, trends can be shown and unsolved problems can be located. It also provides a consistent method of addressing problems and changes, regardless of the environment, product, or program involved. It provides common data entry, updating, searching, and reporting facilities

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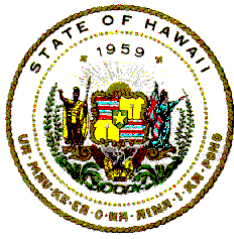
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5.2 Preliminaries

Basically, Info/Sys is executed on IBM workstations. However, through SNA lines, WANG workstations can also communicate with the IBM host CPU. Therefore, there are two separate procedures for logging on to Info/Sys, depending on the type of workstation.

1. LOGGING ON TO INFO/SYS

From an IBM PC or compatible (with 3270 emulation board)

a. From the DOS prompt, type: CD EMUL

   Press ENTER key.

b. Type: PSC

   Press ENTER key

   The 3270 Task Selection screen will display.

c. To select Communicate, type: A

   Press ENTER key.

d. Type: LOGON Xnnnn (Your user ID e.g., S1433).

   Press ENTER key in the numeric keypad.

e. Enter your PASSWORD in PASSWORD field.

   Press ENTER key in the numeric keypad.

   Note: If you entered the wrong ID press PF3 to exit.

From an IBM Workstation:

a. Type: LOGON Xnnnn (Your user ID e.g., S1433).

   Press ENTER key.

b. Enter your PASSWORD in PASSWORD field.

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Note: If you entered the wrong ID press PF3 to exit.

PROCEDURE should be IKJACNT

ACCT NMBR should be the same digits as your ID.

SIZE should be at least 2048.

d.   Press ENTER key.

You are logged on to ISPF.

Note: Three asterisks (***) indicate a broadcast message.
Whenever they appear, press ENTER key to continue processing.

e.   Press ENTER key.

The ISPF/PDF Primary Option Menu should be displayed.

f.   Select I (Info Sys).

Press ENTER.

The INFO/SYS PRIMARY OPTIONS MENU should be displayed.

From a Wang Workstation:

a.   From the Wang Office menu, press PF9 (Applications).

b.   From the Applications Menu, select PF17 (IBM CICS Access).
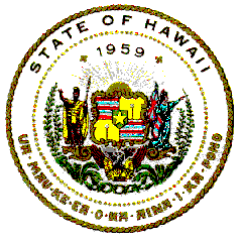
If all the ports are in use, you may also gain access by selecting:

SYSTEM UTILITIES

GENERAL TSO ACCESS

Note: PF keys are not listed because they could be numbered
differently for each workstation.

c.   At the ALOHA screen, type: CONNECT

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Press ENTER key.

You will see 'IKJ56700A ENTER USERID -'

d.   Type: your ID (e.g., S1433).

Press ENTER key.

e.   At the TIME SHARING OPTION screen, enter your PASSWORD.

Check to be sure that:

PROCEDURE code is IKJACNT.

ACCT NMBR should be the same digits as your ID.

SIZE should be at least 2048.

Press ENTER key.

You should log on to ISPF.

Note: Three asterisks (***) indicate a broadcast message.
Whenever they appear, press ENTER key to continue processing.

The ISPF/PDF PRIMARY OPTION MENU will be displayed.

f.   At the OPTION entry of the ISPF/PDF PRIMARY OPTION MENU
type: I (Info Sys).

Press ENTER.

The INFO/SYS PRIMARY OPTIONS MENU will be displayed.

2. SELECTING THE PRODUCT

In the top right corner of the screen the product name (SYSTEM or MANAGEMENT or ACCESS) is displayed.

To change the product, at the INFO/SYS PRIMARY OPTIONS MENU select . PRODUCT and press ENTER.

This takes you to the PRODUCT SELECTION screen, where the available products are listed. Select option 2. MANAGEMENT and press ENTER.
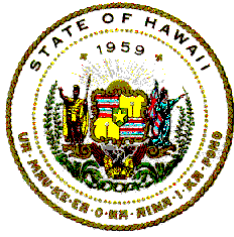
3. SELECTING THE CLASS

People assigned to more than one assignee class need to select which class they will use for a problem. To obtain your assignee class(es):

   a.   Select 4. CLASS from the INFO/SYS PRIMARY OPTIONS MENU and press ENTER.

   b   Your assignee class(es) to which you are assigned will be displayed. Select the appropriate class.

   c.   To return to the PRIMARY OPTIONS screen, type: ;INIT and press ENTER.

4. DEFINING YOUR USER PROFILE

Info/Sys allows you to set up what is known as a User Profile. This profile should contain information about you. To set up your user profile:

   a.   At the INFO/SYS PRIMARY OPTIONS MENU select 2. PROFILE and press ENTER.

   b.   At the Profile Summary screen, select 7. Data definition defaults and press ENTER.

   c.   At the DATA DEFINITION DEFAULTS screen, enter items 1 through 3:

               1. User's name

                   The format is last name first initial (e.g., Smithg).

               2. User's branch

               3. User's telephone

   d.   To save the information you have just entered, at the command line, type: END and press ENTER.

e. To return to the PRIMARY OPTIONS screen, type: ;INIT and press ENTER.

5. LINE COMMANDS

The line with the arrow is called the command line. On this line, you may give commands such as:

- ;BACK (BA) Takes you back to the previous screen without saving data.

- ;INIT (IN) Takes you directly back to the PRIMARY OPTIONS MENU. Any changes that were not permanently saved are lost.

- ;END (EN) Saves the information you've entered and returns you back to the major entry screen.

- ;CANCEL (CA) Cancels the prompting sequence and returns you to the major entry screen without saving any of the information entered.

- ;SEARCH (SE) Starts searching the data base according to the specified criteria.

- ;HELP (HE) May be used to obtain explanation of the current panel or complete descriptions of messages on screen.

- ;QUIT (Q) Ends the session and leaves Info/Sys. You must save data before you quit.

In some cases, a command may be mistaken for data entry. If this happens, a RESPONSE TYPE screen will appear, specifying these options:

1. COMMAND Treat the response as a command.
2. DATA Treat the response as data (not a command).
3. RETURN Return to the assisted entry panel.

NOTE: Remaining replies will be ignored.

A way to avoid this situation is to type a semi-colon (;) before the command. This tells the system that the word is a line command and not data.

6. PROBLEM ENTRY PANELS

There are four (4) primary PROBLEM ENTRY PANELS. They are 1) Problem Reporter, 2) Problem Open/Assignment, 3) Problem Resolver, and 4) Problem Close panels.

- The PROBLEM REPORTER ENTRY panel is used to record problem information.

- The PROBLEM OPEN/ASSIGNMENT ENTRY panel is used to assign the problem for resolution.

- The PROBLEM RESOLVER ENTRY panel is used by the Problem Resolver to record information about problem resolution and to transfer the problem to the Project Manager for review.

- The PROBLEM CLOSE ENTRY panel is reviewed by project managers and supervisors to verify that the problem was resolved according to schedule and that all information is complete. After this panel has been reviewed, the problem record can be CLOSED.

All field names (items) in the Problem Entry panels may have codes next to them to designate the following:

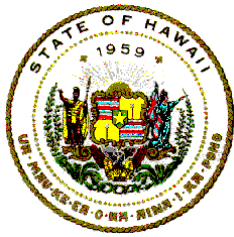|		
R	Required	Must be completed.
C	Condition	Depending upon completion of another item, may have to be completed.
D	Display	Displayed information only. Cannot update.
Blank	Optional	Enter information if known.

See Appendices for more information on Problem Entry panels.

7. ASSISTED-ENTRY PANELS

There are various ways of entering data:

1. In the command line, enter the number of the field and press ENTER.

    This will cause an Assisted-Entry Panel to appear. An Assisted-Entry Panel explains the use and form of the field, giving

examples of entered data. Data may be entered at the command line of this screen.

Note, in the examples:

- Spaces are not accepted

- Data is not case sensitive

- One of the replies may be the equal sign (=)

    The equal sign is used to recall data from the User Profile or system defaults.

2. In the command line, you may also bypass the Assisted-Entry Panel by using a comma to separate the field number from the data; for example, 2,B&F.

    You may also make multiple field entries by stringing them together; for example, 2,B&F,3,548-1928.

3. Data may also be entered directly into the field by moving the cursor to the beginning of the blank and typing your entry. TAB moves cursor from field to field.

    When you press ENTER after an entry, or when you END the record to save it, data will be validated.

8. HELP PANELS

In addition to Assisted-Entry Panels, certain fields also have access to extended Help Screens. To display a Help Screen, type ;HELP at the command line. While displaying a Help Screen, data may not be entered at the command line. The Help Screen must first be ENDed (returning you back to the Assisted-Entry Panel) to enter data.

Currently, the entry fields that have access to Help Screens are:

- Reporter Dept.

- Problem Type

- Problem Status

- Cause Code

- Symptom Code

- Device Type

- Assignee Class

- Project Manager's Name

5.3   Recording/Logging a Problem

INITIAL ENTRY OF A PROBLEM

The PROBLEM REPORTER ENTRY Screen

When a problem is reported to either the NCCS or TSCS, the person receiving the information becomes the Recorder of the problem. Internally in ICSD, you should enter problems as the Recorder. Through Info/Sys the Recorder records the known information about the problem. To accomplish this:

1.   Select option 5. ENTRY from the PRIMARY OPTIONS MENU.
        This will take you to the INFO/MANAGEMENT ENTRY screen.

2.   Select option 1. PROBLEM from the INFO/MANAGEMENT ENTRY screen.

        This will take you to the PROBLEM REPORTER ENTRY screen.

3.   Entry must be made to all fields labeled 'R' (required) next to the field name.

        NOTE: If these fields are not completed, the system will not
                    allow you to save the problem record.

        See Section 5.8 for an explanation of each field.

4.   When complete, at the command line enter END to save, or
        CANCEL to purge the information entered.

This will take you to the PROBLEM SUMMARY screen.

The PROBLEM SUMMARY Screen

At the PROBLEM SUMMARY screen you have the option to:

1.   Alter the Reporter data just entered (option 1);

2.   Add other information to the problem record (options 2-6);

3.   File the record and display PRIMARY OPTIONS MENU (option 7).

Right after initial entry of the problem, option 8. Freeform text <u>should</u> be entered by the Recorder. This will allow you to give a more detailed description of the problem. To do this:

1.   Select 4. Freeform text from the PROBLEM SUMMARY screen.

2.   Select 1. DESCRIPTION from the PROBLEM TEXT ENTRY screen.

3.   Enter the details of the problem.

4.   Type END at the command line then Select 5. to exit.

The last step is necessary to file the problem record and is accomplished by selecting option 7. File record. When the problem record is filed, the system will assign it a problem number, and this number will be used to recall the problem for update and/or display. Be sure to record this number, it will be the fastest way to retrieve it again.

5.4   Opening a Problem Record

Before a problem can be worked on, it must first be "opened" by the Project Manager. This is accomplished by the Project Manager changing the Problem Status from INITIAL to OPEN.

After the problem number is known, the procedure to resolve the problem is:
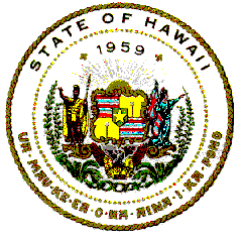
1.   From the PRIMARY OPTIONS MENU, select 7. UTILITY.

        The UTILITY options displayed are:

                1.   Display
                2.   Print
                3.   Copy
                4.   Purge
                5.   Update

2.   From the UTILITY options, select 5. UPDATE.

        The UTILITY ENTRY DIALOG screen will be displayed.

3.   At this screen, first enter item 2, the problem number that needs to be
        updated (e.g., 2,101).

4.   Then ENTER again to initiate the function.

        The PROBLEM SUMMARY screen will be displayed.

        At this point, you would select the type of data to be updated (e.g., 1 for
   Reporter Data, etc.).

        To open and assign the problem:

5.   Select 2. Open/Assign Data.

        The PROBLEM OPEN/ASSIGNMENT ENTRY screen is displayed.

        Note: Some data from the Reporter Entry screen is carried over to this
        panel.

6.   Enter required data (R) fields.

7.   Change 2. Problem Status from INITIAL to OPEN.

8.   Fill in any of the optional fields where data is known.

9.   Save the record by entering: END

10.   File the record by selecting option 7. File record.
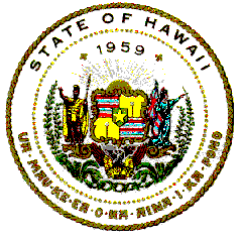
5.5   Resolving an Assigned Record

During the problem solving process, the problem record must be kept up to date, and this will involve displaying the current data and making updates where appropriate.

KNOWING YOUR PROBLEMS

Project Managers should notify the problem solvers about problems assigned to them. Also, individuals can periodically search for records which have been opened and assigned to them. To do this, you would search for problems with your Assignee Name and OPEN as the Problem Status code.

DISPLAYING THE PROBLEM DATA

Once you know the problem numbers assigned to you, you can display the information for those problems by following these steps:

1.   From the PRIMARY OPTIONS MENU, select 7. UTILITY.

        The UTILITY menu will display.

2.   From the UTILITY menu, select 1. DISPLAY.

        This takes you to the UTILITY ENTRY DIALOG screen.

3.   Enter in item 2, the problem number by typing on the command line: 2,##
        (where ## = the problem number).

4.   Press ENTER to initiate the function.

        The PROBLEM SUMMARY DISPLAY should appear.

5.   The PROBLEM SUMMARY DISPLAY is only a brief summary of the
        problem. To see more details, select 1. Reporter display.

        The PROBLEM REPORTER DISPLAY screen appears.   This screen
        contains all the initial information entered by the problem recorder.

        The (H) next to a field indicates that a history journal of entries is

maintained for that field.

6.   After viewing the problem record, exit by entering, at the command line: ;INIT

     NOTE: These procedures can be followed to display problem data at any point in the problem life cycle.

UPDATING THE PROBLEM RECORD

During the cycle of the problem, the problem record may be updated by entering data into any of the following:

- Reporter Data

- Open/Assign Data

- Resolution Data

- Close Data

- Supplemental Data

     Reporter Data

     This will bring up the REPORTER PROBLEM ENTRY screen in which changes can be made on existing information or new information may be entered.

     Open/Assign Data

     This will bring up the PROBLEM OPEN/ASSIGNMENT ENTRY screen which contains the information entered by the Project Manager during the assigning of the problem. Typically, the Project Manager would enter data to the following items:

          7. Assignee Name
          8. Assignee Class
          11. Date Opened
          12. Time Opened

     Resolution Data

This will display the PROBLEM RESOLVER ENTRY screen. Some fields are completed from previous screens. Before re-assigning the problem to the Project Manager, the Resolver must complete the following fields:

    6. Cause Code
15. Date User Notified
17. Date Resolved
18. Time Resolved
19. Total Man-hours
25. Resolved By
27. Resolution Info

Close Data

This will display the PROBLEM CLOSE ENTRY panel. Most of the items are completed from previous panels. The Project Manager should review the problem record to ensure that the problem was resolved according to schedule. After review, the Project Manager closes the problem by completing the following items:

    9. Date Closed
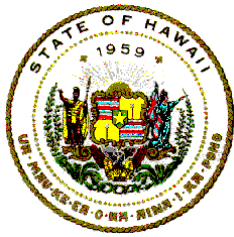10. Time Closed

Supplemental Data

This will display the PROBLEM SUPPLEMENTAL ENTRY screen. All fields here are optional in which you may enter any additional information on documentation (location/availability) or vendor.

This panel is normally used by Systems Analysts and can be disregarded by all others.

RECORDING THE SOLUTION

In addition to completing the Resolution Data Entry panel, the Resolver should describe in detail the solution. To do this:

1. From the PROBLEM SUMMARY screen, select 4. Freeform text.

2. From the PROBLEM TEXT ENTRY screen, select 3. RESOLUTION.

3. Enter the details of the resolution process.

4. At the command line, type END then select 5. END to return to the PROBLEM SUMMARY screen.

5. File the record by selecting option 7. File record.

    ASSIGNING THE PROBLEM TO THE PROJECT MANAGER FOR CLOSING

    The resolved problem must be reassigned to the Project Manager for closing. Change 21. Assignee Class in the PROBLEM RESOLVER ENTRY panel.

5.6   Closing the Problem

During When Project Managers receive a resolved problem, it is their responsibility to complete all remaining data fields and close the record. To close the record:

1.   From the PRIMARY OPTIONS MENU, select 7. UTILITY.

       The UTILITY options displayed are:

              1.   Display
              2.   Print
              3.   Copy
              4.   Purge
              5.   Update

2.   From the UTILITY options, select 5. UPDATE.

       The UTILITY ENTRY DIALOG screen will be displayed.

3.   Enter in item 2, the problem number by typing on the command line: 2,## (where ## = the problem number).

4.   Then ENTER again to initiate the function.

       The PROBLEM SUMMARY screen will be displayed.

5.   Select 5. Close Data.

       The PROBLEM CLOSE ENTRY panel is displayed.

Note: Data from other entry panels are carried over to this one.

6.   Be sure that the required fields are completed.

7.   Fill in any of the optional fields where data is known.

8.   Save the record by entering: END

9.   File the record by selecting option 7. File record.
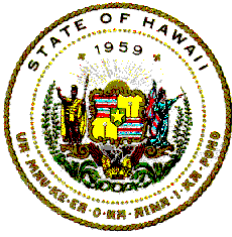
5.7   Searching the Database

There may be times when you need to SEARCH for problems that are assigned to you. This is accomplished through the INQUIRY option in the PRIMARY OPTIONS MENU.

The steps are as follows:

1.   From the PRIMARY OPTIONS MENU, select 6. INQUIRY. This takes you to the INFO/MANAGEMENT INQUIRY screen.

2.   Select 1. PROBLEM. This takes you to the PROBLEM INQUIRY screen.

3.   At the PROBLEM INQUIRY screen, determine your search criteria. Begin by selecting one of the following options:

        1.   REPORTER
        2.   STATUS
        3.   CLOSE
        4.   SYMPTOMS
        5.   RESOLUTION
        6.   SUPPLEMENTAL
        7.   CLASSES
        8.   CONTROL

        Each of these Search options has a list of fields which may be searched upon. Some have more than one screen of field options. This is noted in the upper right corner of the screen (e.g., 1 OF 3). To continue to the next screen press ENTER.

        Note: Once you press ENTER to pass one of the field option screens, you

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cannot go back. You must continue pressing ENTER until you are returned to the Inquiry screen in which you began your search criteria.

You can enter more than one criterion to search by; for example:

    a.   Project managers may want to search for problems assigned to them which have to be opened. To do this, select:

        2.   STATUS
        1.   PROBLEM STATUS (screen 2 of 3)
        Type in: INITIAL and press ENTER
        Type in: END and press ENTER
        Type in: END and press ENTER
        Back at the PROBLEM INQUIRY screen, select:

        8.   CONTROL
        1.   TRANS CLASS
        Type in your Assignee code and press ENTER

    b.   Problem resolvers may want to search for problems assigned to them. To do this, select:
        2.   STATUS
        1.   ASSIGNEE NAME (screen 1 of 3)
        Type in: your name (e.g., smithj) and press ENTER
        Press ENTER again to go to screen 2 of 3
        1.   PROBLEM STATUS (screen 2 of 3)
        Type in: OPEN and press ENTER
        Type in: END and press ENTER
        Type in: END and press ENTER

        Back at the PROBLEM INQUIRY screen, select:

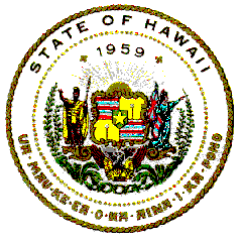   8.   CONTROL
        1.   TRANS CLASS (for new problems) or OWNER (for problems you've already accessed and filed back)

        Type in your Assignee code and press ENTER

    4.   After the search criteria have been selected, at the command line enter: SEARCH.

    5.   Your screen should display those records which match the

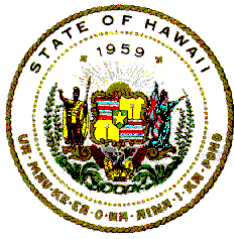search criteria. At this point, note the record number(s).

6.   To return to the PRIMARY OPTIONS MENU, enter: ;INIT

Important: To begin a new search argument or to restart one, be sure to go all the way back to the PRIMARY OPTIONS screen; otherwise, the previous arguments will not be cleared.

5.8   Main Entry Panels

1.   PROBLEM REPORTER ENTRY

1. Reported By*   The name of the person reporting the problem.

2. Reporter Dept.*   The code of the department reporting the problem.

3. Reporter Phone*   The phone number of the person reporting the problem.

4. Date Reported*   The date the problem is reported.

5. Recorded By*   The name of person recording the problem.

6. Time Reported*   The time the problem is reported.

7. Priority of   The priority or urgency of the problem as
   Problem*   determined at the time it is reported.

8. Problem Status*   The current status of the problem. Enter INITIAL.

9. Problem Type*   The type of problem being reported.

10. Symptom Code*   Enter the code that best describes the symptom of the problem.

11. Error/Abend Code   Enter the system abend or user error code.

12. Job Name   The name of job affected by the problem.

13. Manufacturer	Enter the manufacturer's name.
14. Device Type	Name of the device affected by the problem.
15. Physical Address	The physical address of the device.
16. Cluster Name	The name of the cluster control unit affected by the problem.
17. Serial Number	The serial number of the problem device.
18. Circuit Number	The circuit number of the problem circuit.
19. PM Name*	The name of the project manager or supervisor to whom this problem will be assigned.
20. Assignee Class*	The assignee class code for where the problem is to be resolved.
21. Prob Description*	A 45-character description of the problem.

'*' indicates a (R) required field

2.   PROBLEM OPEN/ASSIGNMENT ENTRY

1. PM Name*	The project manager's or supervisor's name.
2. Problem Status*	Current status of the problem. Enter OPEN.
3. Reported By*	The name of the person reporting the problem.
4. Priority of Problem*	The priority or urgency of the problem as determined at the time it is reported.
5. Reporter Phone*	The phone number of the person to contact for information about the problem.
6. Reporter Dept.*	The department code reporting the problem.
7. Assignee Name*	The name of the person who is responsible

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for resolving the problem.

8. Assignee Class* The assignee class code that is responsible for problem resolution.

9. Date Reported* The date the problem is reported.

10. Time Reported* The time the problem is reported.

11. Date Opened* The date the problem was OPENED.

12. Time Opened* The time the problem was OPENED."

13. Symptom Code* The code that best describes the symptom of the problem.

14. Error/Abend Code The system abend code or user error code.

15. Cluster Name The name of the machine cluster affected by the problem.

16. Circuit Number The communications circuit affected by the problem.

17. Job Name The name of job affected by the problem.

18. Description* A 45-character description of the problem.

* indicates a 'R' required field

3.   PROBLEM RESOLVER ENTRY

1. Reported By* The name of the person reporting the problem.

2. Problem Status* The current state of the problem. Enter RESOLVD.

3. Reporter Phone* The phone number of the person to contact for information about the problem.

4. Priority of* The priority or urgency of the problem as

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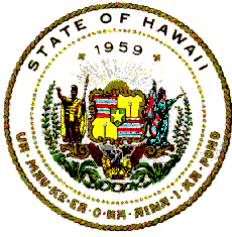
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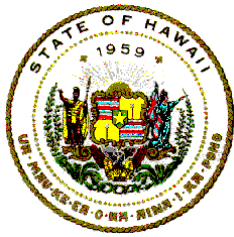|		
	Problem	determined at the time it is reported.
5.	Problem Type*	The type of problem.
6.	Cause Code*	The code that indicates the reason for the problem.
7.	Symptom Code*	The code that best describes the symptom of the problem.
8.	Error/abend Code	The character code identifying the error for this problem.
9.	Manufacturer	The name of the manufacturer.
10.	Device Type	The name of the device affected by the problem.
11.	Physical Address	The physical address of the device.
12.	Job Name	The name of the job affected by the problem.
13.	Serial Number	The serial number of the problem device.
14.	Rerun Time	The amount of time spent to rerun a program.
15.	Circuit Number	The communications circuit affected by the problem.
16.	Cluster Name	The name of the machine cluster affected by the problem.
17.	Resolved By*	The name of the person who resolved the problem.
18.	Date User Notified*	The date the problem reporter was notified of its resolution.
19.	Date Resolved*	The date the problem was resolved.
20.	Time Resolved*	The time the problem was resolved.

21. Total Man-hours   The actual time spent fixing the problem.

22. Overtime Man-hrs   The overtime hours spent fixing the problem.

23. Fix Change No.   The record ID of the change solving the problem.

24. Cause Change No.   The record ID of the change suspected of causing the problem.

25. Assignee Name*   The name of the person who is responsible for resolving the problem.

26. Assignee Class*   The assignee class code of the person who is responsible for resolving the problem. This field is updated when responsibility for the problem is assigned to a different person.

27. Prob Description*   A 45-character description of the problem.

28. Resol Description*   A 45-character description of the resolution.

* indicates a 'R' required field

4.   PROBLEM CLOSE ENTRY

1. Resolved By*   The name of the person who resolved the problem.

2. Problem Status*   The current state of the problem. Enter CLOSED.

3. Date Reported*   The date the problem was reported.

4. Time Reported*   The time the problem was reported.

5. Date Opened*   The date the problem was OPENED.

6. Time Opened*   The time the problem was OPENED.

7. Date Resolved*   The date the problem was resolved.

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8. Time Resolved*   The time the problem was resolved.

9. Date Closed*   The date the problem is CLOSED.

10. Time Closed*   The time the problem is CLOSED.

11. Date User   The date the problem reporter was
    Notified*   of its resolution.

12. Cause Code*   The cause code that indicates the reason for
                           the problem.

13. Overtime Man-   Overtime hours spent fixing hours problem.

14. Total Man-hours*   The total actual time spent fixing the
                           problem.

15. Prob Description*   A 45-character description of the problem.

16. Resol Description*   A 45-character description of the resolution.

* indicates a 'R' required field

6   APPENDICIES

6.1   Change Management Meetings and Reviews

Regularly scheduled Branch Chief and Management Team meetings are held with the Division Chief, Assistant Division Chief, Branch Chiefs and Project Managers (as appropriate). The topics in the Technical and Service Assessment Meeting, Approval and Schedule Meeting, and Report and Control Meeting as defined below, are included on the agenda of the Branch Chiefs' and Management Team meetings. Special meetings to expedite the Problem and/or Change Management processes will be scheduled by the Coordinator.

Technical and Service Assessment Meeting - This meeting is conducted to review change implementation from a technical and service standpoint and to discuss its potential impact on the system and their users.

If category code is E (emergency), to expedite the change, a technical/service assessment meeting will not be scheduled.
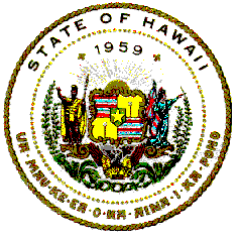
If category code is 1 or 2, the change must be reviewed before being approved for implementation.

If category code is 3 or 4, the change may be reviewed optionally before being approved for implementation.

Approval and Schedule Meeting - This meeting is held to review the assessment recommendations if any, obtain management approval for the change, review and confirm the change schedule, and to resolve any scheduling conflicts to ensure an orderly implementation of changes. The participants in this meeting are the Change Coordinator, Project Managers, and Branch Chiefs.

Report and Control Meeting - This meeting is held to review change related failures, as well as selected installed changes to determine if they met their expectations. Results of this meeting should identify weak areas of the change management system and develop appropriate action plans to correct them.

6.2 Lead Times for Change Categories

Lead time is the amount of time required to evaluate and adequately plan for change implementation. Lead time is measured from the time the change is submitted until the change is actually installed.
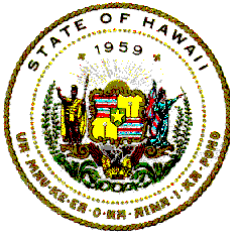
Emergency lead time is the amount of time required to implement a categorized change under emergency change conditions.

CHANGE CATEGORY	LEAD TIME	EMERGENCY LEAD TIME
E	same day	same day
1	21 work days	1 day
2	14 work days	1 day
3	7 work days	same day
4	3 work days	same day

6.3 Examples of Change Categories

1. SOFTWARE

TYPE OF CHANGE	E	1	2	3	4
a. System					

	E	1	2	3	4
Emergency changes	X				
Massive temporary fixes			X		
Specific fix during maintenance					X
Enhancements, tools, tuning					X
System generations			X		
Program products			X		
New releases and conversions			X	X	
Data set changes			X		
Procedural changes		X	X	X	X

b. <u>Application</u>

	E	1	2	3	4
New releases		X	X		
Specific fixes			X	X	
Functional enhancements				X	
Emergency fixes	X				
Data base change		X	X	X	X
Control language changes			X	X	X

2. HARDWARE

TYPE OF CHANGE	E	1	2	3	4
Engineering changes				X	
Microcode changes			X		
Moves and re-cabling			X	X	X
Installation of hardware		X	X	X	
Equipment upgrades		X	X	X	
Terminal moves				X	X
Emergency fixes	X				

3. NETWORK

TYPE OF CHANGE	E	1	2	3	4

a. <u>Software</u>

	E	1	2	3	4
Specific fix during maintenance				X	X
Emergency fixes	X				
Node name and path changes				X	
New release and conversions			X		

b. <u>Hardware</u>

	E	1	2	3	4
Path changes			X	X	
Spool device changes			X	X	

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4.   ENVIRONMENT

TYPE OF CHANGE	E	1	2	3	4
Electrical			X		
Cooling		X	X		
Building		X	X		

6.4   Change Categories

Change categories provide a method of determining the degree of evaluation and planning required before implementing a change in the production environment. Changes that could seriously disrupt service if implementation problems were experienced will require a greater degree of evaluation and planning than those changes that have little or no impact.

Categories are defined as having the following attributes:

Category E	Emergency only; Agreement of management
	Note: Emergency changes are those that are necessary to sustain the operation of the computer(s) or its software systems.
Category 1	Possible major impact; High visibility (all users) Lengthy install time; Backout difficult or impossible
Category 2	Possible significant impact; High visibility (multiple users); Involved backout procedures
Category 3	Change visible to user; Backout quick and easy; Probably will work
Category 4	Minimal impact; Routine events; Known to work; Failure won't hurt; Repetitive process

6.5   Risk and Impact Assessments for Change

For changes, a risk and impact assessment should be made to establish a change category. Since short lead times increase the probability of a problem resulting from a change, lead times are a definite factor in determining risk. The following tables are the Risk and Impact Assessment codes:

Risk assessment is the probability of a failure resulting from a change and/or the difficulty in recovering from a failure (e.g. backout procedures).

Risk Category 1 (High Risk)	Complex; Difficult to apply; Difficult to backout
Risk Category 2	May not work; Backout with some difficulty
Risk Category 3	Probably work; Easy to backout
Risk Category 4 (Low Risk)	Known to work; Specific fix Repetitive process

Impact assessment is the potential effect of a failure from a change and may also be used in conjunction with severity and priority codes to communicate the effects of a problem.

Impact Category 1 (High Impact)	Majority of users affected High visibility Data integrity affected Long duration of outage/recovery
Impact Category 2	Multiple users affected
Impact Category 3	Single/few users affected Backout duration is minimal
Impact Category 4	No users affected
(Low Impact)	Low visibility Failure won't hurt

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6.6 ICSD T-213, 'Problem Data Sheet'

Form Completion Instructions

ICSD T-213, Problem Data Sheet

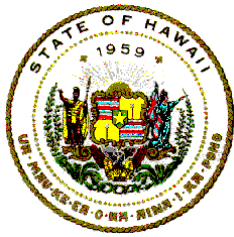|		
1.	TEMP. PROBLEM NO.	The manually assigned number by which the problem is identified. Problems recorded by the TSCS will have a prefix 'T' before the assigned number and a 'N' for those recorded by the NCCS.
2.	REPORTED BY	The name of the person reporting the problem.
3.	DEPT./PMS CODE/ ADDRESS	The department name, PMS code of project, and the address or location of the malfunctioning equipment if applicable.
4.	PHONE NO.	The phone number of the person reporting the problem.
5.	RECORDED BY/DATE/ TIME	The name of the person recording the problem and the date and time.
6.	PROBLEM TYPE	Check the appropriate box that indicates the type of failure.
7.	EQUIPMENT TYPE	The type of equipment (monitor, printer, tape drive, etc.) that is malfunctioning.
8.	MANUFACTURER/ MODEL NO.	The manufacturer of the equipment (IBM, WANG, etc.) and the model no. (PC-PM004, 5271, etc.).
9.	SERIAL NO./ID	The manufacturer's ser. no. of the equipment and ID (terminal 222) if known.
10.	MESSAGE ID ERROR	The error message (abend code, JCL error, etc.) associated with the problem.

11.	SUPPORTING DOCUMENTATION	Indicate what documentation (dump, console hard copy, etc.) is available to assist in problem resolution.
12.	SYMPTOM CODE	The symptom code which best describes the symptom that occurred.
13.	DESCRIPTION OF PROBLEM	Describe the problem. If software, indicate name of software component (CICS, VTAM, etc.) or if a specific job, indicate job name and/or program name
14.	SEVERITY CODE	Do not use.
15.	PRIORITY	The priority (1 - 5) assigned to the problem.
16.	SPECIFIED DATE/ TIME OF RESOLUTION	The date and time problem resolution should be accomplished. Resolution date/time is derived from priority code.
17.	ASSIGNED TO BRANCH	The Branch assigned to resolve the problem and the date and time.
18.	ASSIGNED TO (PERSON)	The person to resolve the problem and the DATE/TIME date and time.
19.	REASSIGNED TO (BRANCH)	The Branch and the date and time problem is reassigned.
20.	ASSIGNED TO PERSON	The person to resolve the problem and the date and time.
21.	RESOLUTION DESCRIPTION	Describe the corrective action.
22.	CAUSE CODE/ DESCRIPTION	The cause code and description that best describes the cause of the problem.
23.	RESOLUTION TIME (MAN-HOURS)	The total amount of man-hours spent on problem resolution. If more than one

person, enter the combined man-hours

.

24.	FIX CHANGE NO.	The change request number if a change was made to resolve this problem.
25.	RESOLVED BY DATE/TIME	The person who resolved the problem and the date and time.
26.	PROBLEM CLOSED BY DATE/TIME	The person who closed the problem and the date and time.

6.7 Codes and Descriptions

A. PROBLEM STATUS

This field indicates the current state of the problem and is used for problem tracking. Problems are frequently sorted by problem status for presentation of reports.

A. <u>Code</u>   <u>Description</u>

INITIAL   INITIAL - Indicates that there is a suggested or potential problem.

OPEN   OPENED - The problem is being actively pursued.

RESOLVD   RESOLVD - The problem has been resolved and waiting to be closed.

CLOSED   CLOSED - The problem has been completed.

B. DEPARTMENT CODES

The following codes are used to identify the department reporting the problem. Enter the appropriate code.

<u>Code</u>   <u>Description</u>

DAGS   Accounting and General Services
DOA   Agriculture
AG   Attorney General Office
B&F   Budget and Finance

DBED	Business and Economic Development
CCH	City and County of Honolulu
CCA	Commerce and Consumer Affairs
DOC	Corrections
HC	County of Hawaii
CK	County of Kauai
CM	County of Maui
DOD	Defense
DOE	Education
HHL	Hawaiian Home Lands
DOH	Health
HOUSE	House of Representative
HRD	Human Resources Development
DHS	Human Services
JUD	Judiciary
DLIR	Labor and Industrial Relations
DLNR	Land and Natural Resources
LA	Legislative Auditor
LRB	Legislative Reference Bureau
OHA	Office of Hawaiian Affairs
GOV	Office of the Governor
LG	Office of the Lieutenant Governor
OMB	Ombudsman
DPS	Personnel Services
SEN	Senate
SEC	State Ethics Commission
TAX	Taxation
DOT	Transportation
UH	University of Hawaii

Note: Do not enter the alpha code of the department. For example, 'O' for the Department of Budget and Finance. The correct code is B&F.

C.   PRIORITY CODES FOR PROBLEMS

Priority codes are assigned to problems to indicate their criticalness and impact on ICSD's users, to establish time-frames for problem resolution, and to determine the order in which problems are resolved.

Priority Code Management	Description	Expected Resolution Time	Notify After

1	System/component down or procedure unusable; critical impact; no alternative available.	2 hours	4 hours
2	Component down/degraded; procedure unusable; critical impact; bypass or alternative available.	1 day	3 days
3	Component down/degraded; procedure unusable/difficult to use; not critical but restricted function and some operational impact; alternative or bypass available.	5 days	7 days
4	Component/procedure unusable but circumvention possible with no operational impact; not critical; deferred maintenance acceptable.	10 days	14 days
5	No impact	As time permits	

D.   TYPES OF PROBLEMS

This field provides a mean of categorizing problems into logical groupings so that it would be possible to present all the hardware problems together, the system software problems together, etc. Select the code that best describes the type of problem or change.

Code Description

APP   APPLICATION SOFTWARE - Programs and packages (payroll, inventory, report cards, etc.) designed to satisfy a specific end-user.

DOC   DOCUMENTATION/PROCEDURES - The management of documents and procedures, which may include the actions of identifying, acquiring, processing, storing, and disseminating them.

DTR   DISTRIBUTION - The routing of input/output (reports, forms, tapes, etc.) materials used for or created by an information processing system.

ENV   ENVIRONMENT/FACILITIES - The physical conditions surrounding a computer installation, including heat, vibration, and so forth.

HDW HARDWARE - Physical equipment used in information processing, as opposed to programs, procedures, rules, and associated documentation.

NET NETWORK - Elements (lines, modems) that are part of a network environment. The elements are directly related to communications and operations of a network system.

SSW SYSTEMS SOFTWARE - Software that interacts with hardware functions, including operating systems, compilers, and utility software. It serves as the interface for program products as well as user programs and is directly involved with the management of system resources.

E. SYMPTOMS

For problem determination, it is important to understand what symptoms occurred at the time the problem was recognized. Select the code that best describes the symptom at the time the problem occurred.

Code   Description

ABEND   ABEND CODE - A alpha/numeric code that the operating system issues to a program if it detects a situation that is not allowed. An application program may also issue a USER abend code to indicate the detection of a situation that it should not allow.

BCHK   BAND CHECK - (4248 Printer)

BINJAM   LASER OUTPUT BIN JAM

BROKBELT BELT BROKEN

CHANERR   CHANNEL DETECTED ERROR

CHILFAIL   BUILDING OR STANDALONE CHILLER FAILURE

CNTRDY   FAILS TO READY - A device with a "READY" indicator (indicating it is operational) does not turn this indicator 'on' even when it is turned 'off' then 'on'.

CONTFAIL   CONTROL UNIT FAILURE

CRIMPTAP   CRIMPED TAPE

DATACHK   DATA CHECK - An illegal character was detected during a read operation of physical media (tape, disk, etc.) or transmission over telecommunication lines.

DOCJAMS   DOCUMENT JAMS IN TRACK

DOCSPEND   DOCUMENTATION - Job processing interrupted due to non-existent, required updating, and/or revisions pending.

DOGEARS   BENT CORNER OF PAPER

DROPCHR   PRINTER DROPPING CHARACTER

DRPRDY   DROPS READY - A device with a "READY" indicator (indicating it is operational) has the READY indicator on initially then when is used the READY indicator goes out (indicating it is inoperative).

EQCCHECK   EQUIPMENT CHECK

FEEDER   FEED ERRORS

FEDBFAL   FEED BELT FAILURE

FORMCHK   FORM PRINTING OUT OF ALIGNMENT

FORMS   SPECIAL FORMS - Shortage of special forms. Print in hold.

FORMSDEF   EFECTIVE FORM - Manufacturer defects in special form.

HEAT   THERMAL - A signal indicating the temperature in a device is higher than normal.

INKSMEAR   INK SMEARING ON FORMS

IOERROR   INPUT/OUTPUT ERROR
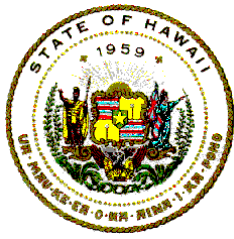
JAMS   PAPER JAM

JCL   JCL ERROR - JCL error message appeared in JES2 listing.
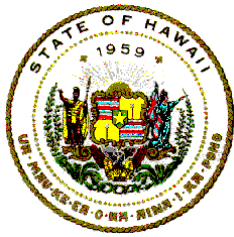
KYBDLCK   INPUT INHIBITED - Keyboard is locked. Whatever is typed on the keyboard will not be displayed on the screen. There will usually be an "X" on the bottom of the screen under the line.

LDFAIL   LOAD FAIL - The failure of a device controlled by programs on diskettes to successfully put these programs in its memory and execute them.

LINKFAIL   LINK FAILURE - Failure of one link in the communication network.

LOOP   LOOP - Repetitive execution of the same statement or statements.

MCHCKK   MACHINE CHECK

MICFERR   MICROFILM ERROR

MISC   MISCELLANEOUS - Unable to classify under any of the listed conditions.

MISLIST   MISSING LISTINGS - User not receiving reports.

MSSG   MESSAGE - A phrase or short explanation from the operation system or application program providing information on the status of a job or program.

NETFAIL   NETWORK FAILURE - Total failure of communication network.

NOCARR   NO CARRIER - Break in communication line.

NOISY   NOISY - A condition relating to excessive sonic emissions from a device.

NOSCRN   BLANK SCREEN/NO CURSOR - No display on the terminal or no cursor display.

OVRRN   OVERRUN - Loss of data because a receiving device is unable to accept data at a rate it is transmitted.

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PATCH	INSTALLATION OF SOFTWARE PATCH TO CORRECT A PROBLEM
PCBD	PHOTORECEPTOR BELT DAMAGED
PERF	PERFORMANCE - A condition where a device attempts to process work at a rate high enough to affect the responsiveness of programs.
PMAINT	PREVENTIVE MAINTENANCE performed by Customer Engineer
POORPRTQ	POOR PRINT QUALITY
POWER	POWER OUTAGE - The lost or lack of electrical power to a hardware unit.
PRINTCHK	PRINT CHECK
PRGMCHK	PROGRAM CHECK - A condition that occurs when programming errors are detected by an I/O channel.
PROFAIL	PROCESSOR FAILURE
RESPEND	RESPONSE PENDING - Host system waiting for a response to a poll.
RIBCHK	RIBBON CHECK
RTNCD	RETURN CODE - A numeric number that an application program or system utility program uses to influence the execution of succeeding steps in a job.
SNAPTAPE	SNAPPED TAPE
STACKFAL	STACKER ASSEMBLY FAILURE
STACKJM	STACKER JAMMED
STORDFAL	STORAGE DIRECTOR FAILURE
SYSFAIL	SYSTEM FAILURE/CRASH

SYSHUNG   SYSTEM HUNG

TAPECONT TAPE CONTAMINATED

TAPEOFF   TAPE GOES OFF THE REEL

TAPEPROB TAPE PROBLEMS - Tape problems (contamination, oxidation, crimps, none or too many reflectors, etc.).

TOT   TIME OUT - Control unit timed out. No response to poll.

TRACFAL   TRACTOR OR SPROCKET FAILURE

UNEVNREW TAPE REWINDING UNEVENLY

UNIPL   UNABLE TO IPL

USERSUB   NO JOB IN SYSTEM - Job submitted by user not in system.

VACNOP   VACUUM NOT OPERABLE

WAIT   SYSTEM WAIT STATE - A condition that an operating system places itself in when it encounters a situation it cannot resolve. All work is stopped and a message may be issued to the operator to resolve the situation.

WINOP   WINDOW NOT OPERABLE

WRNGIP   INCORRECT INPUT

WRNGOP   INCORRECT OUTPUT

F.   CAUSE

The cause field identifies the reason the problem occurred. They provide a finer level of detail for periodic management summary reports. Select the code that best describes the cause of the problem.

Code   Description

CHNG   RESULT OF CHANGE - A failure caused by a change in the

information processing system.

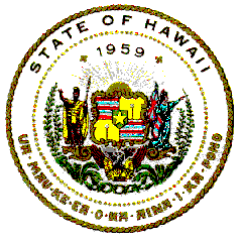|	
CONFAIL	CONTROL UNIT - Component or micro-code failure in the control unit.
DOCSPEND	DOCUMENTATION - Job processing interrupted due to non-existent, required updating, and/or revision pending.
ERRPROC	ERRONEOUS PROCEDURES - An incorrect description of course of action taken to produce a specified result.
FORMS	SPECIAL FORMS SHORTAGE - Print in hold. No forms available or insufficient amount.
HDW	HARDWARE FAILURE - A failure in a hardware unit that halts its operation.
HEAPP	HUMAN ERROR - Application Programming
HECNTRL	HUMAN ERROR - Scheduling and Control
HECMPT	HUMAN ERROR - Computer Operations
HEDTNTRY	HUMAN ERROR - Data Entry
HEENV	HUMAN ERROR - Environment
HESYS	HUMAN ERROR - Systems Support
HEUSER	HUMAN ERROR - User
INDOC	INSUFFICIENT DOCUMENTATION - The lack of adequate documentation which prevents the completion of the required task.
INPTERR	INPUT ERROR - A discrepancy between the data read and the true specified value.
LNEBRK	LINE BREAK - Break in the communication line.
MISLIST	MISROUTED OUTPUT LISTINGS - User/Programmer did not receive output/JCL listing.

MODFAIL   MODEM FAILURE - Component failure in the data modem.

NODOC   DOCUMENTATION UNAVAILABLE - Documentation which has been lost, misplaced, or never generated.

NOISLNE   NOISY LINE - Noise in the communication line.

NONE   NO TROUBLE FOUND.

PERFCAP   INADEQUATE PERFORMANCE/CAPACITY - The degradation of throughput, response time and/or availability of memory. Lack of sufficient storage, channel and so forth.

PNF   PROCEDURES NOT FOLLOWED - Failure to follow the prescribed procedures in order to complete a task successfully.

POWER   POWER OUTAGE - The loss or lack of electrical power to a hardware unit.

SYSFAIL   SYSTEM FAILURE/CRASH

TAPEPROB   TAPE PROBLEMS - Any problems due to tape contamination, oxidation, crimps, no reflectors or too many reflectors.

UNK   UNKNOWN CAUSE

USERSUB   NO JOBS IN SYSTEM - Jobs submitted by user not in system.

VTAMFAIL   VTAM FAILURE - Unidentified or invalid logical address in VTAM table.

G.   DEVICE TYPES

Device types pertain to hardware units used in computer operations or those connected to the mainframe

H.   ASSIGNEE CLASS CODES

To obtain the Assignee Class Code, refer to 'Problem Management, Assignee Class Codes' listing. Each Branch is to forward an updated listing to the other branches whenever changes occur.

7   GLOSSARY OF TERMS

ACCESSIBILITY - A measure of how the system capacity is distributed to users in a manner that is consistent with the performance commitment.

ASSISTANT DIVISION CHIEF - Responsible for the management and operations of several Branches in a Division.

AUDIT AND SECURITY MANAGEMENT - The process of developing plans, procedures and standards for the auditing of Information Resources and Operations, for the maintenance of physical and logical security of Information Resources, and for detection of breaches and attempted breaches of security procedures.

AVAILABILITY - The measurements of time that define the interval during which a service or resource is fully available.

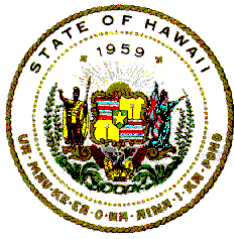BRANCH CHIEF - Responsible for the management and operations of a Branch in a Division.

CAPACITY MANAGEMENT - The process of determining the system capacity needed to deliver specific levels through quantification and analysis of present and projected workloads.

CHANGE - Any activity that modifies a production environment and/or that can potentially cause a problem.

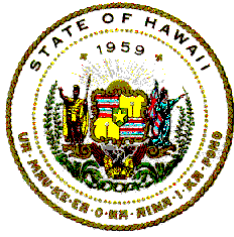CHANGE CALENDAR - Master schedule of dates and times with priorities for change implementation.

CHANGE COORDINATOR - Administers the change management process and is responsible for the day-to-day change management activities. Several key responsibilities include:

- Conduct change status meetings
- Monitor the creation and updates of change records
- Provide exception reports
- Maintain and distribute a change calendar or planned changes

CHANGE IMPLEMENTER - Individual who installs an approved change.

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CHANGE MANAGEMENT - The process of planning, coordinating, and implementing changes to the information processing production, distribution, and system facilities.

CHANGE REQUEST - Document requesting the integration of a change into the production environment through the change control process.

CHANGE REQUESTER - Individual who submits a request for a change, whether to solve a problem or as a result of new requirements.

CONFIGURATION TABLE - Data base of hardware and software components of a system.

DIVISION CHIEF - Chief of the ICS Division.

DOCUMENTATION - Instructions (procedures, recovery techniques, etc.) required by others.

EDUCATION/TRAINING - The training required before the change can be used.

HELP DESK (TSCS OR NCCS) - Performs initial logging function to open a problem record. Resolves problem if possible or forwards it to the appropriate Branch for resolution.

IMPACT - The effect of a failure.

LEAD TIME - The amount of time required to evaluate and adequately plan for a change. Lead time is measured from the time the change is submitted until the change is actually installed.

MANAGEMENT REPORTING - The identification and flow of the data and information necessary for managing the information systems service.

NETWORK MANAGEMENT - The process of detecting and resolving network problems in an information processing environment.

OUTAGE - The interval during which a scheduled service or resource is not available.

PERFORMANCE MANAGEMENT - The process of quantifying, measuring, correcting and reporting system service levels.

PROBLEM - An unplanned or unexpected deviation from a predefined standard or expectation.

PROBLEM COORDINATOR - Administers the problem management process and is responsible for the day-to-day problem management activities. Several key responsibilities include:

- Conduct problem status meetings
- Monitor the creation and updates of problem records
- Provide exception reports

PROBLEM DATA SHEET - Documented description of a problem used as input to the problem management process when the on-line system is unavailable.

PROBLEM MANAGEMENT - The process of minimizing the impact of problems affecting information systems services.

PROBLEM REPORTER - Anyone who reports a problem.

PROBLEM SOLVER - Individual responsible for solving a problem.

PROJECT MANAGER - Individual responsible for managing projects.

RECOVERABILITY - The measure of ease and time to repair facilities to operational status.

RECOVERY MANAGEMENT - The process of planning the procedures and standards to provide service to the users in the event of a failure or disaster.

RELIABILITY - The dependability or length of time between failures.

RESPONSE TIME - The elapsed time from the final character of input to the first character received in response.

RISK - The probability of failure.

SEVERITY - Indication of the degree of breakage and recovery possible for a component.

SYMPTOM - The condition, message number or abend code which caused the reporter to recognize the problem.
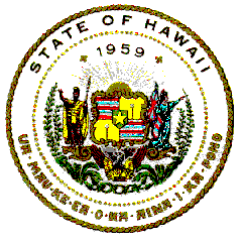
SYSTEMS MANAGEMENT PROGRAM - A program composed of a set of processes aimed at managing the following areas: problems, changes, networks, recovery, performance, capacity, availability, audit/security, processing, and reporting.

TIMELINESS - The frequency with which service is provided in the time required and deadlines met.