The Control Editor, operating within or outside the Integrity Controls Environment (ICE) can detect, record and protect against named events that impact z/OS Configurations.

The Control Editor (TCE) Administrator Dialogs

Release 17.0
ICE17

USER GUIDE

Contact us for additional information:

NewEra Software Technical Support

800-421-5035 or 408-520-7100
Or text support requests to 669-888-5061

support@newera.com

www.newera.com

Rev: 2022-4-5

1 Foreword

1.1 Copyright, Trademark and Legal Notices

1.1.1 Copyrights

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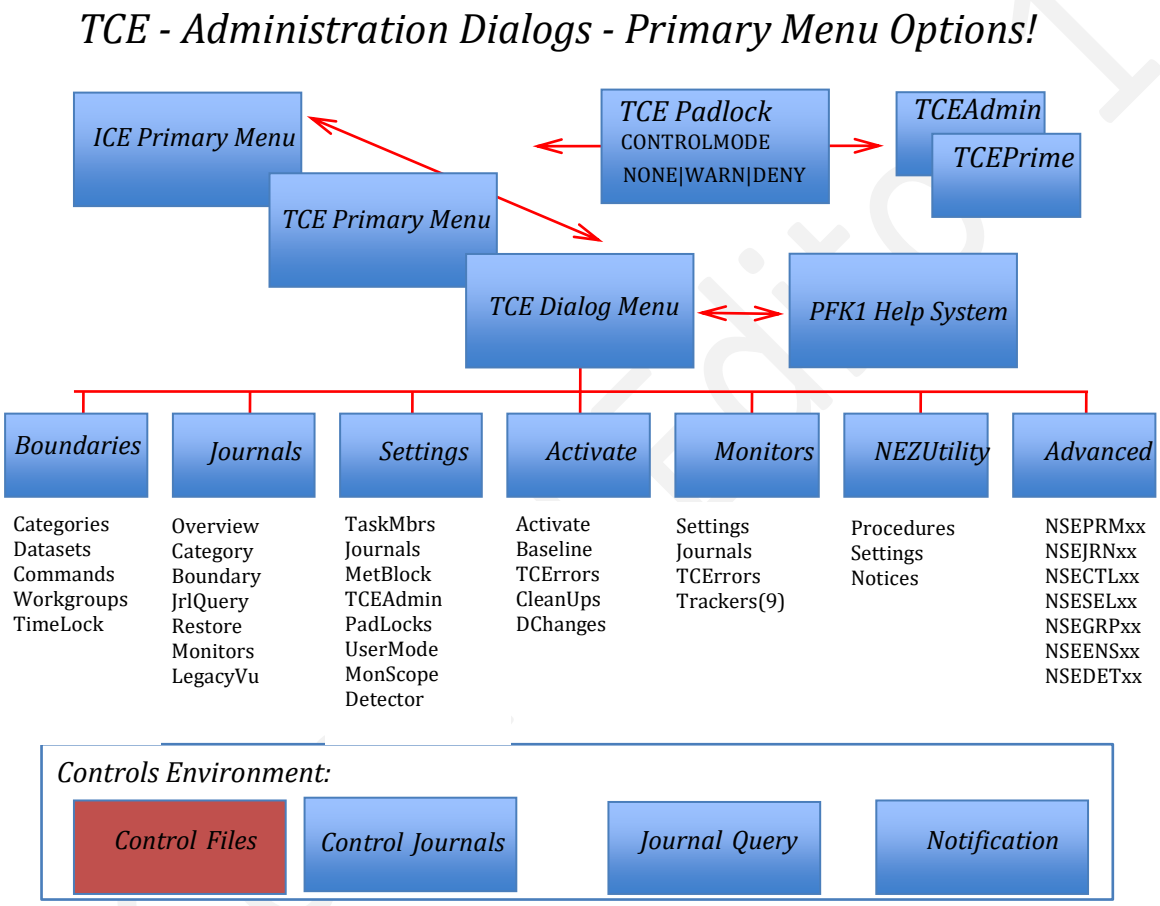
1.2 About this Document

This document is designed to answer the question, "How do I?" It is intended for those that have been given the responsibility to support and maintain The Control Editor (TCE) and its Control Configuration. It is assumed that these individuals, TCE Administrators, are familiar with the functions of TCE as explained in the *TCE User Guide* and should be using this document to supplement the *TCE User Guide* for a more detailed explanation of how to use the TCE Configuration Dialogs.



1.2.1 How do I?

- As a *"How To Guide"* for the TCE Administrator, this document will address common TCE Configuration Tasks: How to Setup a Control Boundary, How to Enable Boundary Attributes (Notification, Descriptor, Padlock), How to Setup Interval Reporting and Other TCE Control Options.
- It is considered a *"Best Practice"* to review the Appendices that accompany this User Guide *BEFORE* attempting to accomplish any of the tasks outlined herein. Such a review will surely answer many questions that are certain to arise as the TCE Configuration is modified/updated.

1.2.2 Appendix A - Configuration Dialog Navigation

- TCE Configuration Dialogs are a highly structured set of interactive TSO/ISPF Selection and related Help Panels. See *Appendix A* to follow the Navigation Steps from Panel to Panel.

1.2.3 Appendix B – Configuration Dialog Access

- TCE Configuration Dialogs are secured by the TCE Padlock by default in WARN Mode. See *Appendix B* for an explanation of the initial logon process and steps required to reach the TCE Configuration Dialogs Primary Menu.

1.2.4 Appendix C – Configuring ICE Applications

- The Integrity Controls Environment (ICE) supports the full set of integrated ICE Applications: All of Image Focus, The Viewer, Fast DASD Erase, Recovery View and the Control Editor. See Appendix C for an explanation of how to configure and start the primary ICE Address Space IFOM.

1.2.5 Appendix C – TCE Configuration Members Detailed

- TCE Configuration Dialogs are accessed from the TCE Primary Menu. See *Appendix A* of this User Guide for a detailed description of the Logon Process and steps required to access the Configuration Dialogs.

1.2.6 Appendix E – The Update Event Descriptor

- Provides users with a method of collecting information about a z/OS configuration change: reason for the change, expectations, back out procedures and next steps to aid in improving system integrity and availability. TCE provides such a method via its Event Descriptor. See *Appendix E* of this User Guide for a detailed description of the Descriptor and its Configuration Options.

1.3 General Information

1.3.1 Other Documents and Resources

- In addition to this document, new users will benefit from the content of these three additional documents:

    1. The TCE User Guide;
    2. The Control Editor Read Me; and
    3. Getting Started with The Control Editor.

- All of these documents are available in PDF format as downloads on the NewEra web site or can be requested directly by contacting NewEra Technical Support by email at the following email address: support@newera.com.

1.3.2 Online Help – PFK1

- In addition to the information contained in this document and others, The Control Editor user may access an Online Help Tutorial for any given panel by pressing PFK1 once the panel is fully displayed.

1.3.3 Reporting Problems

- When reporting a Control Editor problem to NewEra Technical Support, please provide the following information so that we may resolve the issue expeditiously.

    1. The JOBLOG/JCL/MESSAGE output from IFOM and IFOS;
    2. The contents of the NSECTLxx and NSEJRNxx members;
    3. An ISPF 3.4 listing of the Journal Datasets showing the allocation and DCB information;
    4. An ISPF 3.4 listing of the datasets in NSECTLxx.

1.4 Technical Support Information

Around-the-clock-support	NewEra Software is dedicated to providing the highest level of technical support to meet our customers' growing needs. In order to meet these needs, NewEra provides technical support, 7 days a week, 24 hours a day.
Reach us by Telephone during Business Hours	Please use the following phone numbers to reach our technical support staff during normal business hours (6 AM to 4 PM Pacific Time): • In North America, dial 1-800-421-5035 • Outside North America, dial 1-408-520-7100 • Support inquiries may also be texted to 669-888-5061
Reach us by Telephone during non-Business Hours	In case of an emergency, during non-business hours, phone the above numbers to receive instructions on how to contact a Technical Support Representative or a Technical Support Manager.
Sending Email	Our technical support staff can be reached by email at support@newera.com. Email messages will be answered by the next business day. Product technical questions or product recommendations may be sent via email.
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We Want Your Suggestions!	NewEra understands the significance of providing our customers with the highest quality support and welcomes all suggestions as to how we may improve Technical Support.

1.5 About The Control Editor Configuration Dialogs

The primary user of the TCE Configuration Dialogs should be the TCE Administrator. Using a 3270 Interface these functions will assist the TCE Administrator in defining Control Boundaries (Datasets, Operator Commands, System Events) within which TCE will be vigilant, Event Notification Instructions and Management Reports.

1.5.1 Out-of-the-Box Defaults

- Since TCE comes *'Ready-to-Use, Out-of-the-Box'* and, therefore, conformed to TCE configuration defaults, you may be satisfied with your current Control Configuration. The default configuration will immediately enable basic productivity and control services to discover IPLPARM and PARMLIB z/OS Configuration Datasets.

1.5.2 Best Practices

- It is a recommended *'Best Practice'* that the TCE Administrator become knowledgeable of these default services and their function before attempting to customize the TCE Controls Configuration to meet more site-specific needs using these TCE Configuration Dialogs.

2 Table of Contents

3 TCE Configuration Dialogs

Created primarily to augment and reinforce the control boundaries provided by the External Security Manager (ESM) and the Change Management Systems (CMS), TCE has grown in scope and function in its ability to serve as The Controls Environment (TCE), thus filling a long-standing '*Gap'* that exists between the ESM and the CMS. Now TCE provides a pathway for zEnterprise IT organizations to achieve a higher standard of control over the administration, support and maintenance of their z/OS Configurations. This affords these organizations the opportunity to attain the *'Best'* of Best Practices.

As each functional enhancement requested by users is added to TCE, its designers have been resolute that they be configured as user selectable options. TCE is delivered totally functional *'Out-of-The-Box'* and *'Ready-to-Use'* for new users, providing immediate boundary enhancements and reinforcement over the critical z/OS configuration datasets IPLPARM and PARMLIB.

As TCE users become familiar with these *'Out-of-The-Box'* control features they will want to extend those controls and change management overview. To get more requires customization of the TCE default control settings found in various TCE Configuration Members. The sole purpose of these TCE Configuration Dialogs is to assist the TCE Administrator(s) as they activate, maintain and support the selected set of TCE control options that best fit the needs of their organization.

3.1 The ICE Configuration Member NSEPRMxx

The central control elements that define the TCE configuration - TCE Service Task, TCE Member Suffix Definitions and TCE Licensing - are defined in the ICE Configuration Control Member NSEPRMxx. These definitions are read and processed as the TCE Primary Address Space, IFOM and becomes active with the submission and start of the IFOM Procedure (PROC).

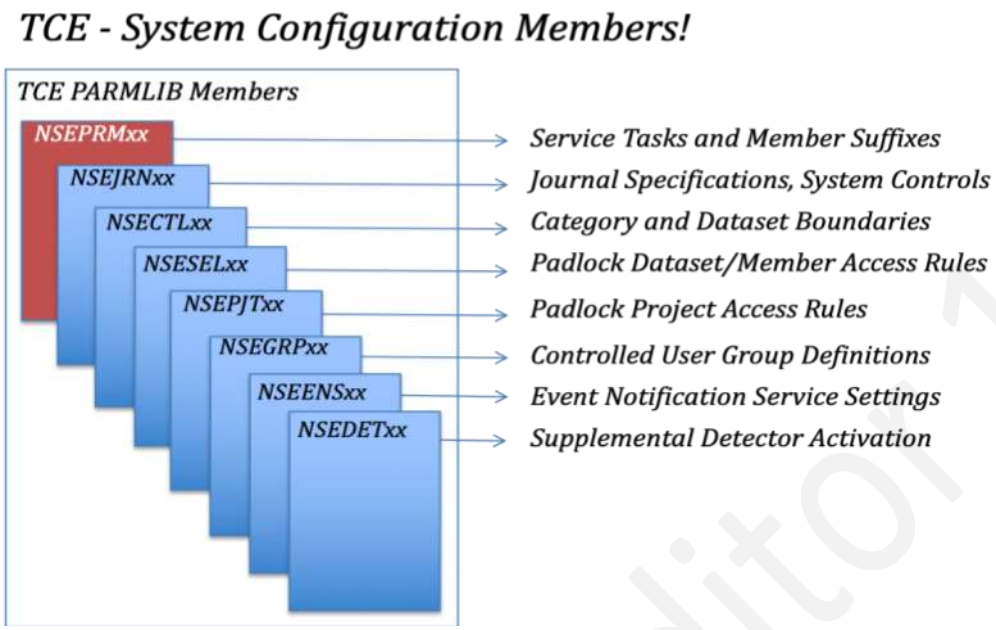
Because the TCE Configuration Dialogs only become functional after IFOM is fully initialized you will need to configure NSEPRMxx using the TSO/ISPF editor. NSEPRMxx is housed, along with all other ICE Configuration Members, in the TCE Parmlib Dataset, hlq.PARMLIB, where hlq represents the required high level qualifier assignment made in the IFOM PROC. See Appendix C – Configuring ICE Applications for a detailed description of the NSEPRMxx configuration and related requirements.

3.2 The TCE Configuration Members

The suffixes of the TCE Configuration Members that will prevail and become active after the IFOM Address Space is started are defined on the NSWJSTI Task Statement as shown below:

```
TASK=NSWJSTI CTL(00) JRN(00) ENS(00) DET(00) SEL(00) GRP(00)
```

Each of the fully formed member names where 'xx' represents the member's suffix is represented in the diagram below. To the right is a long description of the menber function within the Integrity Controls Environment.



For a full discussion of each TCE Configuration Member, its function, control statements, keywords and construction, See Appendix D – TCE Configuration Members Detailed in this User Guide.

3.3 Using the Configuration Dialogs

Like NSEPRMxx, each of the TCE Configuration Members can be edited directly using TSO/ISPF. It is a Best Practice to limit access to the ICE HLQ.PARMLIB Dataset. Initially the External Security Manager (ESM) should be considered ideally suited to this control task. Later, as more is known about the TCE Padlock, the Padlock can be used to create 'Access Windows' to the TCE Configuration and/or limit the access of Administrators to specific TCE Configuration Members.

Whether the decision is made initially or later, as TCE configuration changes become more complex, these Configuration Dialogs will eventually become the *'Best Practice'* method for supporting and maintaining the TCE configuration. Note that changes made using either method, TSO/ISPF or Dialog Session are fully compatible one with the other.

3.4 Starting with Common Configuration Task

As promised this User Guide will provide step-by-step directions on how to perform the many Common Configuration Tasks, by example those listed below:

- Granting TCE Administrator Access – by default, in WARN Mode, all will be allowed access to the Configuration Dialogs. When a higher level of control is desired and before CONTROLMODE is upgraded to DENY, one or more TCE Administrators must be named by specifying a valid TSOUserId.

- Defining Levels of TCE Padlock Control – access to TCE Managed Resources can be controlled at several levels: Global, User, Boundary and Member. Each serves a specific function reinforcing and/or refining existing External Security Manager (ESM) control boundaries.

- Building Controlled Category Boundaries – a Controlled Category is a collection of Controlled Datasets the members of which form a Category Concatenation. By default TCE automatically creates IPLPARM and PARMLIB categories automatically included within each of their active IPL datasets. An unlimited number of possible Categories can be defined to and managed by TCE.

- Defining Controlled Category Attributes – each defined Controlled Category inherits a minimum set of default attributes. Each of these attributes - Padlock, Pop-Up, Notice and Descriptor - may be uniquely defined to satisify specific control requirements.

- Building Standalone Dataset Boundaries – in addition to the Controlled Dataset defined with a Controlled Category, individual datasets may be defined on a standalone basis. Such Controlled Datasets inherit a combination of default and optional custom attributes.

- Building Operator Command Boundaries – operator commands, for example SET, MODIFY, VARY, ACTIVATE may be defined to TCE with refinement of their originating source: Console, Started Task, Batch Job, TSO User. As commands are issued, TCE captures them and records both them and the z/OS system reply.

- Building Security Command Boundaries – security commands issued to change the configuration of IBM-RACF, CA-ACF2 and/or CA-Top Secret may be defined to TCE with the optional refinement of their originating source: Console, Started Task, Batch Job, TSO User. As commands are issued, TCE captures them and records both them

and the z/OS system reply. In addition, TCE can be called upon to restrict individual access to a user defined set of IBM-RACF commands.

- Defining a System Message Intercept – message identifiers specific to system messages can be defined to TCE with optional refinement or a specific message string. Such messages are identified, captured and recorded and may optionally be used to 'Kick-Off' a supplemental task, i.e., a named Rexx CList.

- Defining TCE Workgroup Boundaries – a TCE Workgroup Boundary is a collection of Padlock protected Controlled Datasets not previously defined within a Category Boundary or as a Stand Alone Dataset Boundary.

- Defining TimeLock Project Boundaries – a Project Boundary encompasses Datasets, Members, Commands and Technical Staff resources. Access to these resources can be controlled by both a highly secure password and access window. Projects can be defined, activated, stored/deleted and restored/reused at any time.

- Configuring the Email Notification Server – to send Email Notification an SMTP Email Server must be defined that can work together with the TCE Email Client to send mail.

- Interval Reports and Event Notification – Interval Reports: TCE Journal Updates, TCE Configuration Changes and TCE Configuration Errors may be selected and defined for execution based on Day, Date and Time settings. Event Notification - Staged, Command, Messages - accumulate events as they occur and forward/email reports at defined intervals within a 24 hour event cycle.

3.5 Beyond Common Configuration Task

After these Common Configuration Tasks have been mastered those unique tasks, not specifically addressed but needed to satisfy a refinement, should be easily accomplished. If at any time assistance is needed, first use PFK1 Help as it is provided with each Panel and Pop-Up. Second, when needed, call on NewEra Technical Support for expert guidance. It is likely that your discussions with NewEra Technical Support will lead to additional task guidance in future versions of this User Guide.

3.6 Activating Configuration Changes

Before any TCE Configuration Update can take effect, it must be activated. Activation updates the control settings enforced by TCE Primary Address Space IFOM and the various IFOM Sub-Tasks. There are two methods of Activation:

3.6.1 Stoping and Restarting IFOM

Stopping and restarting the TCE Primary Address Space IFOM may be used to activate configuration updates. However, stopping IFOM will result in an immediate suspension of The Controls Environment, TCE functions and services to all users. This practice would only be used under emergency circumstances or in advance of installing a new release.

3.6.2 Dynamic Activation

The TCE Configuration may be updated dynamically, at any time, by the TCE Administrator without having to stop and restart IFOM. This dynamic activation option is found on the TCE Dialogs Primary Menu. When used, the update takes immediate effect and has no adverse impact on TCE users.

3.7 Tips and Tricks

There are five types of Configuration Dialog interface panels: Menus, Setting Selections, Worksheet Listings, Support Pop-Ups and Hybrid combinations. Each is supported by a panel specific tutorial that is displayed using PFK1; when finished with a tutorial review use PFK3 to return to the originating panel.

3.7.1 TCE Menus

TCE Dialog Menu panels are used primarily to navigate and present a list of selectable options. Each option is identified in the panel by Selection Character, Short and Long Option Name. The following methods may be used to select an option:

- Place the Selection Character on the TSO/ISPF Command Line and press enter.
- Cursor under the Option Short Name and press enter.
- Cursor into the entry point that follows the Short Name, enter ‘S’ and press enter.

3.7.2 Setting Selections

TCE Dialog Selection panels are configuration element specific, designed to display the set of optional settings that support the element.

- In certain cases, the option set will be displayed in a *‘Left and Right Orientation’*. Initially, in this form of presentation, current settings will be shown in both left and right columns. Updates. if any, are made in the right column and automatically saved when returned to the prior menu.

- When appropriate the option set will be paired and displayed with a related, controlling element. For example, Descriptor Panel Name is displayed adjacent to the Control Category it supports. In such presentations, Setting Descriptor Attributes, for example, a checkmark (/) is necessary to denote that the option/attribute is, in fact, to be set as defined.

- When the option value set is fixed, i.e., ON|OFF or NONE|WARN|DENY, the list of possible values can often be cycled/toggled by placing the cursor under the value field and pressing enter.

- When selecting from a list of commands or naming system message IDs, the command/message listing panels will support a number of selection options. A Blank indicates the command/message is not selected, '/' indicates that it is, '/*' indicates selection BUT in a non-operative state, '/+' indicates selection with additional qualification, i.e., Event Notification, Source Exclusion, Padlock Control.

3.7.3 Worksheet Listings

Worksheet Listings are interactive TSO/ISPF Tables. They are designed to support filtering and compound queries. They can be sorted ascending/descending and displayed, in the panel header, as a unique set of Row Selection Options. All Row Selection Options are entered using the entry point that precedes each table row. Pop-Up panels intended to ensure accuracy in data entry generally support Row Selection functions such as Add or Update.

3.7.4 Support Pop-Ups

Support Pop-Ups assist in configuration tasks originating from Worksheet Listings. They are activated using worksheet specific Row Selection Options. When a Support Pop-Up is displayed, current configuration settings or values derived from a configuration model are shown in its input fields. Overtype values shown to update a given field; changes are automatically saved when you return to the Worksheet. Context Sensitive Assistance will display, to the extent possible, a complete list of valid alternative values for each field. To use Content Sensitive Assistance, cursor into an input field and press enter. Selections made from the list will be automatically entered into the originating field when returning to the Support Pop-Up.

3.7.5 Panel Hybrids

Certain Dialog Panels will combine both navigation and setting functions. Such panels are designed to *'Show'* and *'Control'* the state of Key Configuration settings, i.e., the current state of CONTROLMODE, Padlock Boundaries, External Notification. Changes in configuration settings made, using such panels, are saved as you move forward with an option selection or back to a prior panel using PFK3.

3.7.6 Advanced Function

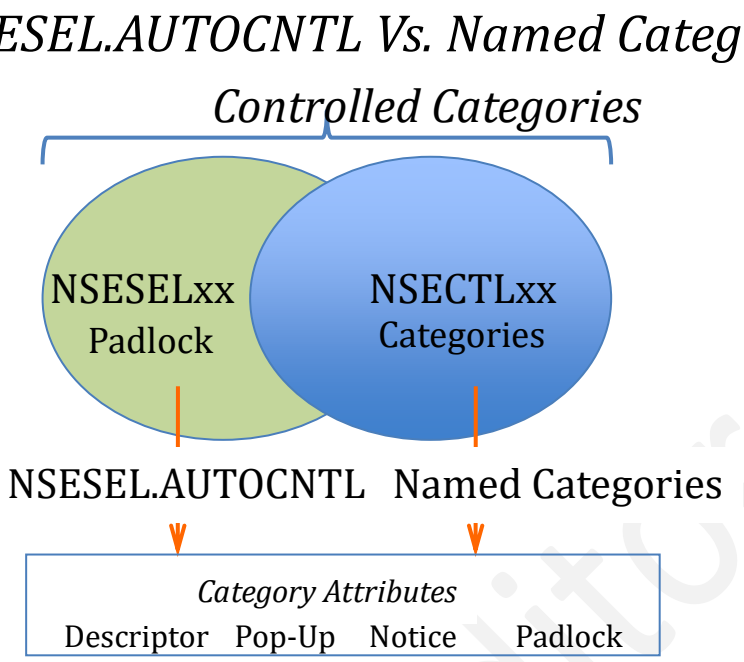
The Advanced functions supporting each TCE Configuration Member are available from the TCE Dialog Primary Menu. Each is designed to support Administrator's supporting the multiple instances of the Integrity Controls Environment that would arise from multiple ICE ParmLib HLQs or from multiple NSEPRMxx members supporting various systems in the same ICE ParmLib member set.

The ParmLib of the *'Running System'* and any multiple NSEPRMxx members contained in it are discovered automatically. The controlling NSEPRMxx members will be noted in the advanced worksheet 'ACT' column with the value 'Yes'.

To include a *'Remote System'* under Advanced Function, that system's ICE High-Level qualifier must be added to the Advanced Worksheet. All NSEPRMxx members discovered within the added system's ICE ParmLib will be discovered, analyzed for content and automatically added. This *'Complete Picture'* of both the configuration of running and remote systems is updated each time an Advanced Function Worksheet is displayed.

3.7.1 Controlled Datasets Derived From NSESELxx

Control Datasets appear in both the NSECTLxx and NSESELxx Configuration Members. Those in NSECTLxx are defined as elements of a Controlled Category. Control Datasets defined in NSESELxx may be defined independently and controlled by TCE Padlock functions. As a result, it is possible datasets defined for Padlock Control will not be defined in NSECTLxx. When such a mismatch is detected TCE will automatically create the NSESEL.AUTOCNTL Category and include these discovered Padlock Dataset entries. With each start of IFOM or dynamic activation of NSECTLxx or NSESELxx TCE performs a new cross-member discovery and updates the dataset grouping defined to NSESEL.AUTOCNTL. Any Dataset included in the NSESEL.AUTOCNTL inherits the control features afforded any Controlled Dataset.



3.8 Common Configuration Access Functions

Common configuration access functions are found in the header of many Setting Selection and List Type panels. An example of such a panel header as shown below:

```
                TCE 17.0 - Access List - Operator SET Commands

--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB          00 00 Yes   21    PROBI1 19/11/01 12:59
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm
```

These functions are generally related to the primary TCE Configuration Member that is the target of a settings update. They show update information: Last User, Date and Time. Member source information: TCE ParmLib, NSEPRM Suffix and Target Member Suffix. In addition, the header provides direct access to all TCE ParmLib Members in the TCE Controlling Target and Active Control Cards by count, as seen in the 'Ctls' sub-column.

3.8.1 Displaying a 3.4 Member List

To view a TSO/ISPF 3.4 style member-listing, cursor under the Controlling Target ParmDsn and press enter. Once the member list is displayed, place an 'S' before a member name and press enter to display its content in TSO/ISPF Browse. To View Active Control Cards, cursor under the control card count and press enter.

3.8.2 Direct Editing of TCE Members

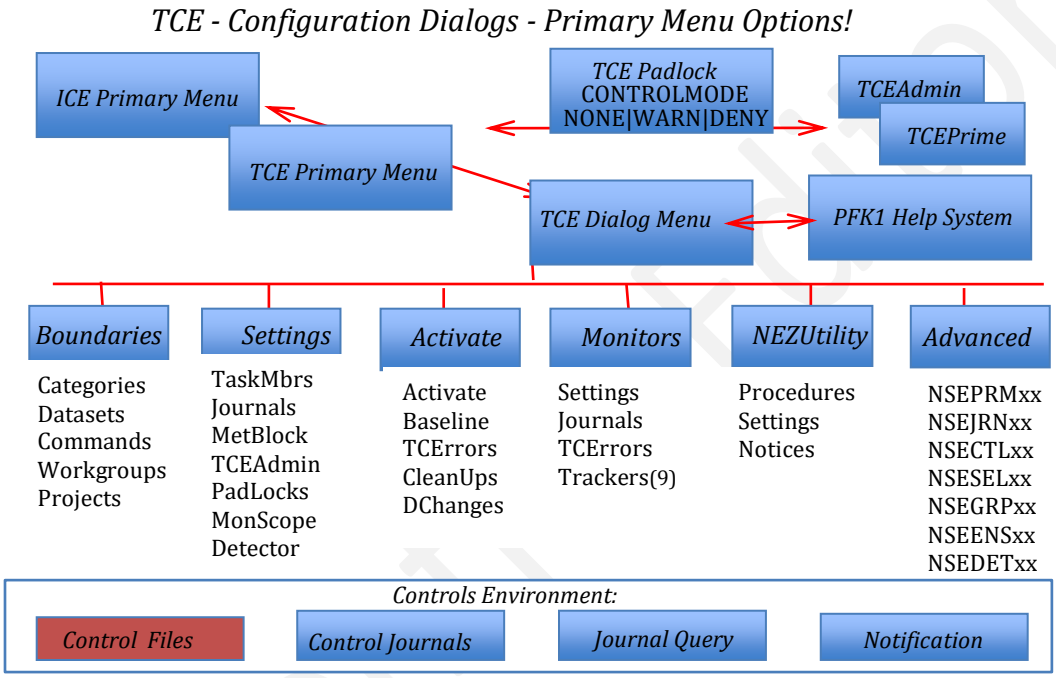
Members may be edited directly by entering 'EDITS' on the TSO/ISPF Command Line and pressing enter; this will change the member view described above from Browse to Edit. Returning will automatically return the view from Edit back to Browse.

Note that while members may be edited directly as described above, conflicts may arise between the member's content and content as *'Known'* by a Dialogs internal state. Direct Editing is, therefore, not considered a TCE Configuration *'Best Practice'*.

4 Granting TCE Administrator Access

TCE comes *'Ready-to-Use, Out-of-the-Box'* conformed to NewEra Software, Inc. recommended configuration defaults. As such, TCE will immediately extend basic default productivity and control services. In doing so, TCE establishes Control Boundaries over members in IPLPARM and PARMLIB Configuration Datasets and establishes certain access requirements for a TCE Administrator attempting to reach the TCE Configuration Dialogs.

See Appendix B – Configuration Dialog Access for a description of what the TCE Administrator should expect when attempting to reach the TCE Configuration Dialogs.



- A Warning: when the Padlock Control Mode Setting, by default set to WARN, has been updated to DENY and no specific action has been taken to define a TCE Administrator using either the TCEPRIME or TCEADMIN Control Statements (in NSEJRNxx), ALL users will be denied access to the TCE Configuration Dialogs.

- A Best Practice: by default the Control Mode Setting is set to WARN and even though no specific action has been taken to define a TCE Administrator using either the TCEPRIME or TCEADMIN Control Statements (in NSEJRNxx), ALL users will be allowed to reach the TCE Dialogs by entering the default TCE password 'TCEUSER'; continued use of this 'Default Password' is not considered a TCE Best Practice. For this reason, and to ensure the integrity of the TCE Control Configuration, it is recommended that one or more TCE Administrators be defined and ultimately assigned the task of maintaining the TCE Control Configuration *BEFORE* TCE is certified for production use.

4.1 Who is a TCE Administrator?

Anyone with a TSOuserID that is known to the External Security Manager (ESM) and carries with it the requisite TSO Segment may be named as a TCE Administrator on either the TCEPRIME or TCEADMIN Control Statement found in the NSEJRNxx Control Member.

A Sample set of NSEJRNxx Control Cards are shown below:

```
TCEPRIME TSOUserID
TCEADMIN TSOUserID
or
TCEADMIN (TSOUserID,TSOUserID,TSOUserID)
```

When either of these Control Statements are present in NSEJRNxx, the 'TCEUSER' password will automatically cease to function as a valid password.

4.1.1 TCEPRIME

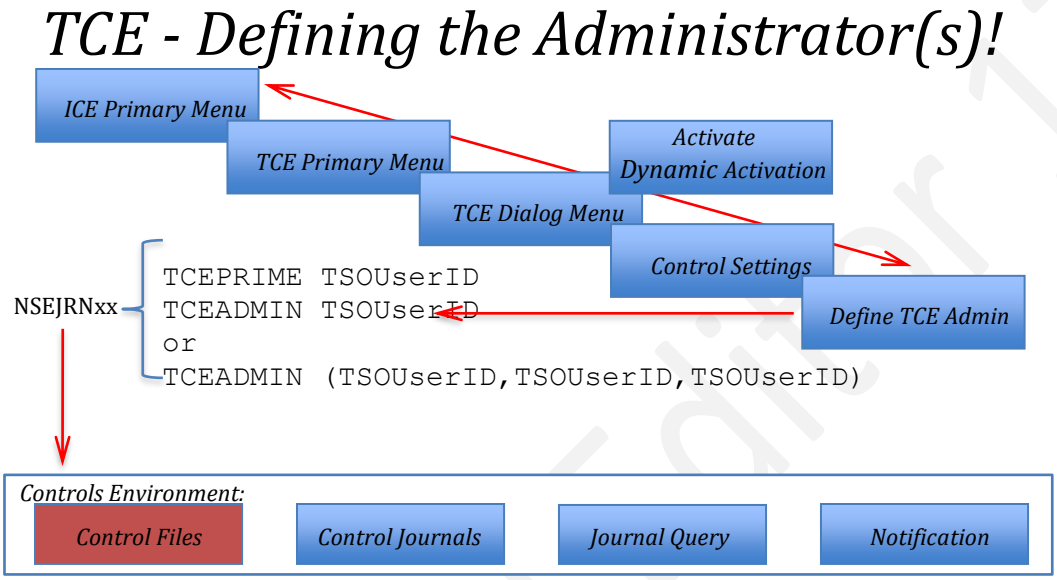
The single TSOUserId defined on this Control Statement is *"The TCE Administrator"*. The individual assigned this TSOUserId should be considered not only a TCE Administrator but also the TCE Super User. Care should be taken in making this assignment, as it is the intent to allow this Super User Unrestricted Access to certain TCE configuration actions, for example, Dynamic Configuration Activation.

4.1.2 TCEADMIN

Optionally up to six TSOUserIDs may be defined on this Control Statement to represent a supplemental set of *"TCE Administrators"*. These individuals would be allowed access to the TCE Configuration Dialogs but would be restricted from certain configuration actions, for example, Dynamic Configuration Activation.

4.2 Naming a TCE Administrator

To define the TCE Prime and/or Supplemental Administrators, use the TCE Configuration Panel titled *'TCE Administrator Assignment'*. To reach the panel, follow the path outlined in the diagram shown below:



When you complete the selection of panels and options, The Define TCE Administrator Assignments Panel will be displayed.

```
                    TCE 17.0 - TCE Administrator Assignments

--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB          00 00 Yes   34   PROBI1 19/10/17 11:39
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

   -------------------------TCE Administrators--------------------------
----Current Definition---- Cm --Primary User-- Cm ----Updated Definition----

                    PHARL2 .. TCE Primary Admn .. PHARL2

------------------------- -- --Supplemental-- -- -------------------------

                   GBAGS1 .. Assigns Admin 01 .. GBAGS1
                   GDANL1 .. Assigns Admin 02 .. GDANL1
                          .. Assigns Admin 03 ..
                          .. Assigns Admin 04 ..
                          .. Assigns Admin 05 ..
                          .. Assigns Admin 06 ..


         Note: Primary TCE Administrator Cannot Be Dynamically Updated.
```

Once the panel is displayed, study it thoroughly to gain a general understanding of it content. Use PFK1 to display a tutorial that will provide details on panel layout, fields and options.

4.2.1 The PRIME Administrator

To assign the PRIME Administrator, focus on the center of the panel and find this descriptive text, *'TCE Primary Admn'*. To the left, if not blank, is the current PRIME Administrator's TSOUserId. The current value is also shown to the right. To update the values, use the field to the right by entering a new or overtyping an old TSOUserId.

4.2.2 The Supplemental Administrators

To assign one or more Supplemental Administrators, focus on the center of the panel and find this descriptive text, *'Assigns Admin xx'*. To the left, if not blank, are the current Supplemental Administrator TSOUserIds. The current value is also shown to the right. To update a value, use the field to the right by entering a new or overtyping an old TSOUserID.

4.2.3 What TCE Considers to be a Valid UserId

For a TSOUserId to be valid to TCE, it must be known to the External Security Manager (ESM). Within the ESM definition it must also have a valid TSO Segment definition; a check for these required conditions is made automatically when you PFK3 back to the Settings Primary Menu. A message is displayed noting any nonconformity. It is considered, but not a required, *'Best Practice'* to correct all reported nonconformities as they are reported. If under some circumstance a user with a nonconforming UserId were to reach the TCE Primary Menu and attempt to access the TCE Configuration Dialogs, they would be refused access.

4.2.4 Automatic Update to NSEJRNxx

All updates to the TCE Administrator Assignment Panel are automatically saved to the NSEJRNxx configuration member when you PFK3 back to the Settings Primary Menu.

4.2.5 Effecting a Control Change

TCEPRIME cannot be dynamically activated. For any change in the assignment of the TCE Primary Administrator, the ICE Primary Address Space, IFOM must be stopped and restarted.

TCEADMIN can be dynamically activated. To activate changes, return to the Control Boundary and Settings Menu and select the Activate Option. This action will display the TCE Configuration Utilities Menu; now select Activate to immediately implement your changes.

5 Defining Levels of TCE Padlock Control

The TCE Padlock is used to reinforce preexisting Control Boundaries established and maintained by the External Security Manager (ESM). It can become operational at one or all of the following levels of Control:

- At the Global level, the Padlock defaults to a WARN Mode of operation, providing Warning Notification to all users attempting to gain access to Controlled Resources: Categories, Datasets, Commands, Workgroups and Projects. Using a Control Statement, CONTROLMODE found in the NSEJRNxx configuration member, this default setting may be changed to NONE|DENY.

  ```
  CONTROLMODE NONE|WARN|DENY
  ```

  When operated with a value of NONE, all Padlock control services become inactive, and all protection of Control Boundaries are totally dependent on the function of the ESM. This is not a recommended Best Practice.

  The highest level of control provided by the Padlock is achieved when it is operated in DENY Mode. When this Best Practice setting is active, ALL users (unless specifically authorized at another level of control) will be denied access to Controlled Resources: Categories, Datasets, Commands, Workgroups and Projects. This probation will apply even in circumstances when the ESM has specifically validated a user's access rights and would allow access to the Controlled Resource.

- At the Boundary Level (Category, Dataset, Command, Workgroup, Project) Padlock Controls may be, at any time, Active or Inactive. By default, Category Controls are set Active, and all others are set Inactive. The state of these Boundary Level Controls is defined in the NSEJRNxx Configuration using the Control Statements shown below:

  ```
  CONTROLCATS ON|OFF – Globally Controls Category Boundaries
  CONTROLDSNS ON|OFF – Globally Controls Datasets Boundaries
  CONTROLCMDS ON|OFF – Globally Controls Command Boundaries
  CONTROLWGPS ON|OFF – Globally Controls Workgroup Boundaries
  CONTROLPJTS ON|OFF – Globally Controls TCE Project Boundaries
  ```

  Setting the value of any of these Control Statements to 'OFF' has the effect of turning off, disabling Padlock Control over the Boundary.

- At the User Level, Padlock Control over a named TSO User or TCE Group can be fine tuned such that the Global Control enforced by CONTROLMODE may be overridden. Using the Control Statement USERMODE, found in the NSEJRNxx, member level control exercised over a specific user may be optionally set as NONE|WARN|DENY. If USERMODE is used, it will change the scope of Padlock control. For example, if CONTROLMODE is set to WARN but you do not want a specific user to gain access to Controlled Resources, set that user's USERMODE

setting to DENY, and that specific user will be denied access while all others will receive a warning.

USERMODE tsouser/tcegroup NONE|WARN|DENY

When control requirements dictate the need for creating 'Access Windows', sub-parms on the USERMODE Control Statement are used to Open/Close such windows based on Day, Date and Time parameters.

USERMODE tsouser/tcegroup NONE|WARN|DENY STD(yymmdd) STM(hhmm) ETD() ETM()

- At the Member Level, Padlock Control can be extended to ALL or DEFINED Members in a partitioned dataset, PDS or PDSE. Applying such control can be valuable for restricting access rights to specific members in, for example, a shared ParmLib Concatenation. In such cases it is not uncommon for users from various groups: VTAM, Network, CICS, Security to share identical ESM managed access rights. The resulting *Open Boundary* will often lead to control and organizational problems.

  Padlock Member Level Control is defined at the Category (a group of Controlled Datasets) or Dataset Level using control statements found in the NSESELxx Configuration Member.

  CATxxxx tsouser/tcegroup member_definition Category
  DSNxxxx tsouser/tcegroup member_definition Dataset(volume,system)

  Each Control Statement, CATxxxx and DSNxxxx, supports an array of specific statement syntax that can be used not only to control access rights - Include, Exclude - but also to define access to related functions - Browse, Edit, Submit and All. The controls exerted by either of these Control Statements are User and Group specific. Their scope extends to Members, as defined (see below), found within a specified Category or housed on a specified Dataset. The Padlock scope of control over a defined member, using the DSNxxx Control Statement, may be optionally qualified by Volume and System name.

  When used with either of these Control Statements, a member may be defined using its fully qualified name, a member prefix, for example PROG* or simply a member suffix, for example *00.

  - When a member is defined by its fully qualified name, access or denial is specific to that member in the defined Category or Dataset.

  - When a member is defined by its prefix, access or denial is specific to ALL members in the defined Category or Dataset, beginning with the defined prefix.

  - When a member is defined by its suffix, access or denial is specific to ALL members in the defined Category or Dataset, ending with the defined suffix.

```
CATALLI TSOUSR1 *           IPLPARM
CATALLE VTMUSR2 *           PARMLIB
```

Using the examples shown above will aid in understanding how Padlock Include and Exclude Control Statements differ one from the other in the control scope that each maintains.

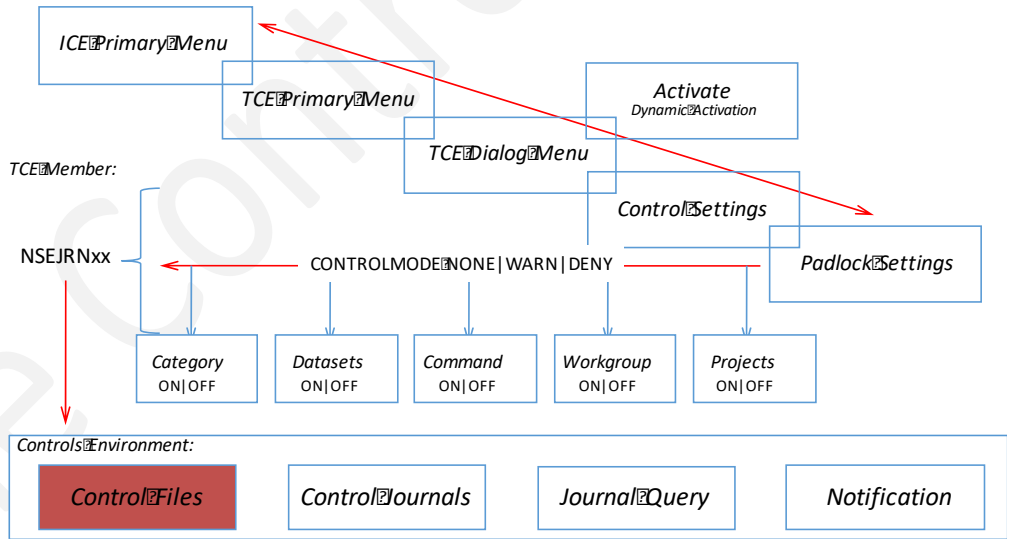
CATALLI can be read as allow TSOUSR1 access to all members in the TCE Controlled Category IPLPARM. It could be read disallow any TsoUser that is not TSOUSR1 access to TCE Controlled Category PARMLIB. In short, an Include Control Statement defines those to be granted access and denies access to all others.

CATALLE can only be read as disallow VTMUSR2 access to all members in the TCE Controlled Category PARMLIB. Exclude Control Statements deny access to specified users but DO NOT, in any way, limit the access right of all other users. And in this case, and in the absence of any other Controls Cards, VTMUSR2 would be the only user to be disallowed access to the TCE Controlled PARMLIB.

5.1 Defining CONTROLMODE

The default setting of CONTROLMODE is WARN; this meaning that any attempt to access a TCE Controlled Boundary by an unauthorized user will be given a visual Pop-Up Warning. If you want to change this default setting, follow a path from the ICE Primary Menu to the Control Settings Menu shown below and select the Padlock Option. This action will immediately display the *Padlock Access Control Features* specification panel.

TCE – Defining the CONTROLMODE Settings!



Padlock Access Control Features

```
                TCE 17.0 - Padlock Access Control Features

 --------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
 L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes   19   PROBI1 19/10/29 16:39
 P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

    ----------------------Padlock Access Controls----------------------

    TCE Padlock Mode of Controlling Access:   .. Deny   /. Warn   .. None

    Mode - WARN - Users without Padlock Access Rights Warned of Denials.

----Current Definition---- Cm ---Boundaries--- Cm ----Updated Definition----

                         ON .. Control Category .. ON
                        OFF .. Control Datasets .. OFF
                        OFF .. Control Commands .. OFF
                        OFF .. Control WrkGroup .. OFF
                        OFF .. Control Projects .. OFF


.. CatRules  .. DsnRules  .. CmdRules  .. WgpRules  .. PjtRules  .. AidRules
```

Once the panel is displayed, study it thoroughly to gain a general understanding of its content. Use PFK1 to display a panel tutorial that will explain panel layout, fields and options.

5.1.1 Changing the CONTROLMODE

Now focus your attention to the center of the panel and find the line headed TCE Padlock Mode. Take note of the three values shown to the right - Deny, Warn and None - and which one is checked using '/' and highlighted. The checked/highlighted value represents the current setting of CONTROLMODE. To change the setting, cursor under a desired choice or check a desired choice and press enter. This action will cause the panel to be redisplayed checking and highlighting your choice. Take note of the single line that appears below the selection line, as it will explain the scope of the current selection.

5.1.2 Changing Boundary Controls

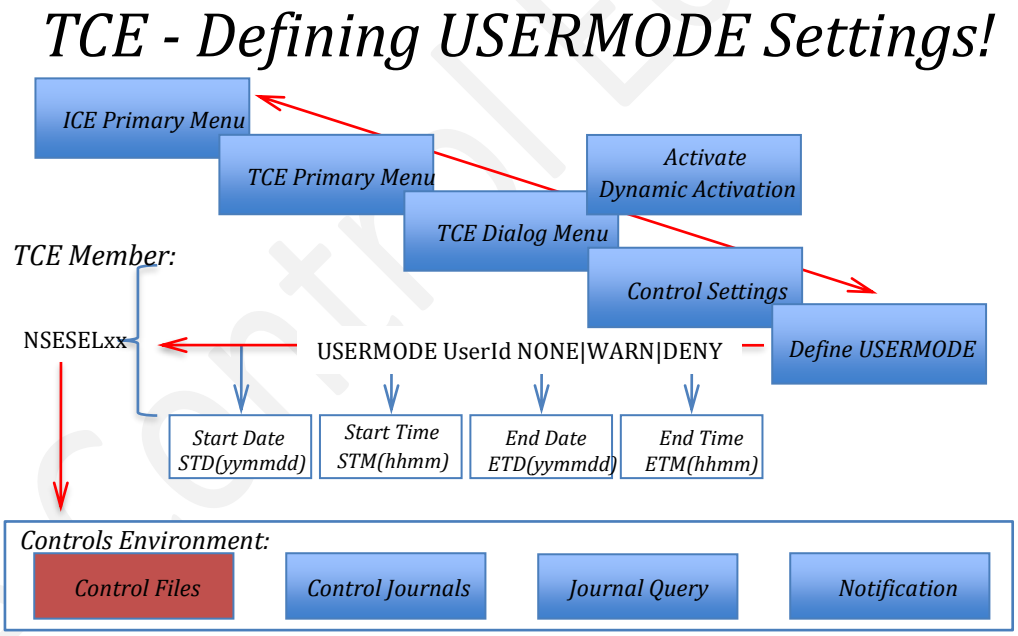
Now focus your attention to the lower center of the panel, find the column headed Boundaries. Note that each of the five TCE Control Boundaries are represented in the list that appears below the heading. A boundary's current setting is shown to the left and right of the center column. To change an existing setting, cursor under its value as shown in the right column or into the field that precedes it, place an 'S' and press enter. This action will toggle the setting ON|OFF in the right column; the left column showing the original value will remain unchanged.

5.1.3 Affecting a Control Change

To make any change to a setting of CONTROLMODE or to a related Control Boundary, you must first PFK3 out of the *Padlock Access Control Features* specification panel. When you do this the NSEJRNxx member that contains the configuration Control Statements will be automatically updated. Next, to have the changes take full effect, you will need to dynamically activate them. To do this, return to the Control Boundary and Settings Menu and select the Activate Option. This action will display the TCE Configuration Utilities Menu; now select Activate to immediately implement your changes.

5.2 Defining a User/Group USERMODE

Because USERMODE is User/Group specific there is no default setting except to the extent that when no USERMODE setting exists for a specific User/Group, that User/Group will inherit the current setting of CONTROLMODE. If you want to assign or change the USERMODE setting for a specific User/Group, follow a path from the ICE Primary Menu to the Control Settings Menu shown below and select the UserMode Option. This action will immediately display the *Padlock Access Rules Selection* Worksheet.



Padlock Access Rules Selection Worksheet

```
             TCE 17.0 - Padlock AccessId Rule Selection      Row 1 to 5 of 5
--NSIMSLX 1028--                                           -AccessId Rights-
------------------------ 5 Padlock Controlled AccessIds -----------------------
Row Selections: Show_Padlocks Delete_Padlocks Add_Mode Update_Mode Removes_Mode
--- Select Sub-Head to Sort, Query above Sub-Head, Enter Saves a Row Update ---
- Line ---------Counts--------- -Access- --Other-- User ---Start--- ---Stop---

_ ____ ____ ___ ___ ___ ___ ___ ________ _____ ___ ____ ______ ____ ______ ____
S Numb Ttls Cat Dsn Cmd Wkp Pjt ---Id--- Admin Grp Mode yymmdd hhmm yymmdd hhmm
_ 0001 0006 000 003 000 003 000 TCEUSER  ----- --- DFLT ------ ---- ------ ----
_ 0002 0007 002 002 003 000 000 PROBI3   Admin --- WARN ------ ---- ------ ----
_ 0003 0001 000 000 001 000 000 PROBI1   Prime Yes DENY 191130 0100 181030 0200
_ 0004 0001 000 001 000 000 000 GBAGS3   Admin --- WARN ------ ---- ------ ----
_ 0005 0000 000 000 000 000 000 +NEWGRP  ----- --- DENY ------ ---- ------ ----
******************************* Bottom of data ********************************









 Option ===>                                                Scroll ===> CSR
```

Once the worksheet is displayed, study it thoroughly to gain a general understanding of its content. Use PFK1 to display a worksheet tutorial that will explain worksheet layout, fields and selection options.

Note that the worksheet is an OVERVIEW of all User/Group access rights and is intended to satisfy multiple requirements. The User/Group identifier is shown in the middle of the panel. Immediately to the left are columns that represent the five Primary Padlock Control Boundaries: Categories, Datasets, Commands, Workgroups and Projects. The values in each column represent the number of Padlock Rules within a Boundary that apply to a given User/Group. To the right of center are columns headed 'Admin' and 'Grp'. If '-----' appears in the Admin column, the user (groups are not applicable) is not named as a TCE Administrator. A value of 'Prime' indicates the Primary TCE Administrator (the TCE Super User). A Value of 'Admin' is used to indicate a supplemental TCE Administrator. If '---' appears in the Grp column, the user (groups are not applicable) is not a member of a TCE Managed Group. 'Yes' is used to indicate that the User is, in fact a, group member. The five columns and related values shown to the far right show current Users/Groups USERMODE settings.

5.2.1 Changing a User/Group USERMODE

To override the CONTROLMODE default value or to update an existing USERMODE setting, you must enter 'U' on the Command Line of the row containing the ID of the targeted User/Group and press enter. This action will immediately display the Updating Old USERMODE Settings Pop-Up.

The Updating Old USERMODE Settings Pop-Up

```
◊──────────────────────────────────────────────────────────────────────────◊
◊               TCE 17.0 - Updating Old USERM   Command is not active     ◊
◊                    Padlock AccessId - GBAGS3                             ◊
◊ Usr/+Grp User ---Start--- ----End---- ------FreeForm Comment------       ◊
◊ ---Id--- Mode yymmdd hhmm yymmdd hhmm -----------Text-------------       ◊
◊ GBAGS3   WARN ------ ---- ------ ---- 2019/10/30_13:42_PROBI1             ◊
◊──────────────────────────────────────────────────────────────────────────◊
```

Once the Pop-Up is displayed, study it thoroughly to get a general idea of its content. Use PFK1 to display a Pop-Up tutorial that will explain its layout, fields and options.

Note that the data from the prior worksheet has been carried forward in the Pop-Up entry fields. The value shown under the column heading 'User Mode' represents the USERMODE setting. To change the setting, overtype the value; valid values are NONE|WARN|DENY and press enter. This action will return you to the prior worksheet. As you are returning to the prior worksheet the NSESELxx Configuration is being updated with your changes. Be certain to validate that the updated value of USERMODE now appears in the User Mode column of the worksheet as expected.

5.2.2 Creating a User/Group Access Window

One use of the USERMODE Control Statement, described above, is to simply override the value of CONTROLMODE, making the Control Scope of the Padlock *'User/Group Specific'*. A second optional use of the USERMODE Control Statement is to create '*Access Windows*' delineated by a Starting and Ending parameter that defines Day, Date and Time when the window opens and closes.

Note in *The Updating Old USERMODE Settings Pop-Up,* the column headings 'Start' and 'End' and sub-divisions below them headed 'yymmdd' and 'hhmm'. The values you specify in the sub-divisions fields will open and close the *'Access Window'*.

When the window is closed, Global CONTROLMODE settings are reapplied to the user/group. When the window is open, the user/group specific USERMODE settings apply to the user/group. Starting Day, Date and Time may be specified without a corresponding Ending Day, Date and Time; likewise, an Ending Day, Date and Time be specified without a corresponding Start Day, Date and Time.

Such flexibility in the creating of an '*Access Window*' can be useful in defining the start-date of a new employee, an employee's vacation or holiday period or the end-date of a consulting contract.

5.2.3 Effecting a Control Change

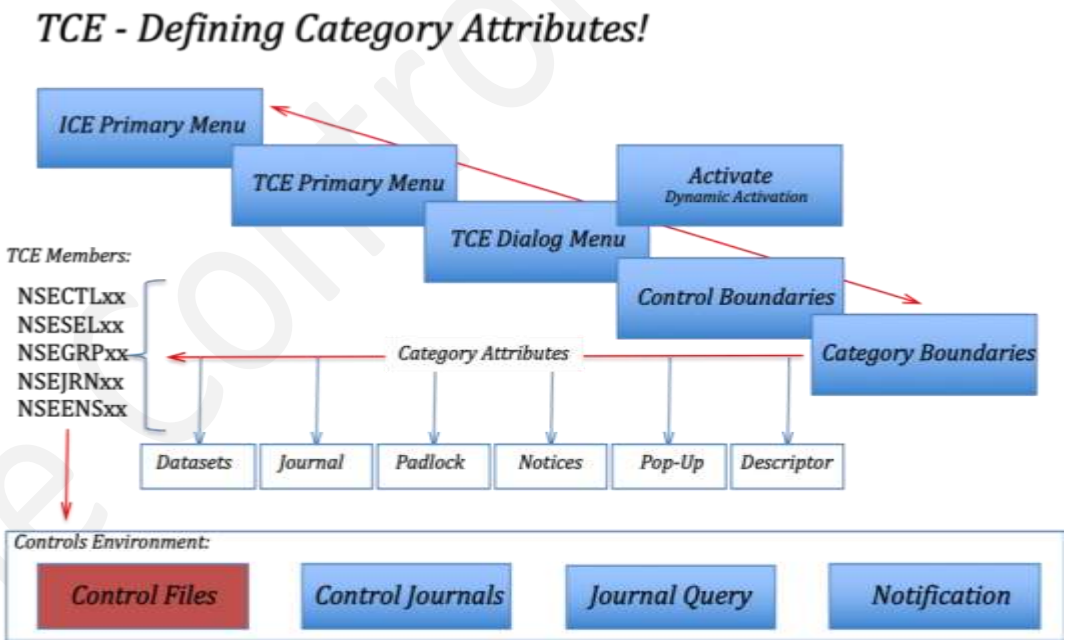
For any changes to USERMODE to take full effect, you will need to dynamically activate them. To do this, return to the Control Boundary and Settings Menu and select the Activate Option. This action will display the TCE Configuration Utilities Menu; now select Activate to immediately implement your changes.

5.3 Defining Member Level Control

Padlock Member Level Control may be implemented against any member contained within any TCE Category or Dataset Controlled Boundary. In this section controlling access to members in a Controlled Category is used as an example of Member Level Control.

If you want to apply Member Level Control to a Controlled Category, follow a path from the ICE Primary Menu to the Control Boundaries Menu shown below and select the Category Option. This action will immediately display the *Category Selection - Named Datasets* Selection Panel.

This Panel is designed to support a multiple of Category Attributes: Dataset, Journal, Padlock, Notices, Pop-Up and Descriptors. All of these will be discussed in detail in a later section of this User Guide. In this section the focus is specifically on applying Member Level Padlock Control to Controlled Datasets defined within a Controlled Category.



The Category Selection - Named Datasets Selection Panel

```
                TCE 17.0 - Category Selection - Named Datasets

--------TCE Controlled Target-------- ---CTLxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes   12   PROBI1 19/10/15 14:13
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

----------------------Controlled Dataset Categories--------------------
Cm ----Category---- Dsn Cm ----Category---- Dsn Cm ----Category---- Dsn
.. SYSTEN.IPLPARM     1 ..                     ..
.. SYSTEM.PARMLIB     4 ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..

.. Dataset  .. Journal  .. Padlock  .. Notices  .. Pop-Ups  .. DCriptor
```

By Default, the Category Selection - Named Datasets Selection Panel is displayed to provide access to the Category – Control Dataset Selection Worksheet.

5.3.1 Accessing the Padlock Attribute

To reach the Category Member Level Padlock Selection Worksheet you will need to change the 'Panel View' to Padlock-Rules. To change to this view, cursor under 'Padlock' or into the entry point before it; enter 'S' and press enter. These actions will immediately redisplay the panel with related Padlock Rule values shown in the Rul Column.

```
                TCE   - Category Selection - Padlock Rules

--------TCE Controlled Target-------- ---CTLxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes    4   PROBI1 19/10/29 13:48
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

----------------------Controlled Dataset Categories--------------------
Cm ----Category---- Rul Cm ----Category---- Rul Cm ----Category---- Rul
.. SYSTEM.IPLPARM   --- ..                     ..
.. SYSTEM.PARMLIB     2 ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..
..                      ..                     ..

.. Dataset  .. Journal  .. Padlock  .. Notices  .. Pop-Ups  .. DCriptor
```

5.3.2 Defining Member Level Control

Using the Category Selection Panel - Padlock Rules View, place an 'S' on the entry point before a target Category and press enter. This action will immediately display the Member Level Padlock – Category Worksheet for the selected Category.

When there are no Padlock Rules related to a selected Category the Worksheet is displayed with a 'Padlock Rule Model' to assist in the creation of an actual Padlock Rule. An example of this 'Model Rule' presentation is shown below:

```
            TCE 17.0 - Member Level Padlock - Category     Row 1 to 1 of 1
--NSIMCLX 1016--                                          --Member Control--
------------------- 1 Member Control Record - SYSTEM.IPLPARM ------------------
Row Selection: Add_Record Delete_Record Update_Record Copy_Record Member_Events
--- Select Sub-Head to Sort, Query above Sub-Head, Enter Saves a Row Update ---
- Line -----Control Element----- ------------------------------------------------
_ ____ _______ _______ _______ ________________________________________________
S Numb Keyword Usr/+Grp -Member- -----------Member Control Comments------------
_ 0001 CATXXXX USR/GRP  MEMBER   2019/10/30_15:00_PROBI1
****************************** Bottom of data ********************************


Option ===>                                                  Scroll ===> CSR
```

When, in fact, Padlock Rules exist for a selected Category those Rules are displayed in the Worksheet as shown below:

```
            TCE 17.0 - Member Level Padlock - Category     Row 1 to 2 of 2
--NSIMCLX 1016--                                           --Member Control--
------------------ 2 Member Control Records - SYSTEM.PARMLIB ------------------
Row Selection: Add_Record Delete_Record Update_Record Copy_Record Member_Events
--- Select Sub-Head to Sort, Query above Sub-Head, Enter Saves a Row Update ---
- Line -----Control Element----- ------------------------------------------------
_ ____ _______ _______ _______ ________________________________________________
S Numb Keyword Usr/+Grp -Member- -----------Member Control Comments------------
_ 0001 CATALLI GBAGS1   PROG*    2019/10/24_10:48_PROBI1
_ 0002 CATALLI PHARL3   *00      2019/10/24_11:51_PROBI1
****************************** Bottom of data ********************************


Option ===>                                                  Scroll ===> CSR
```

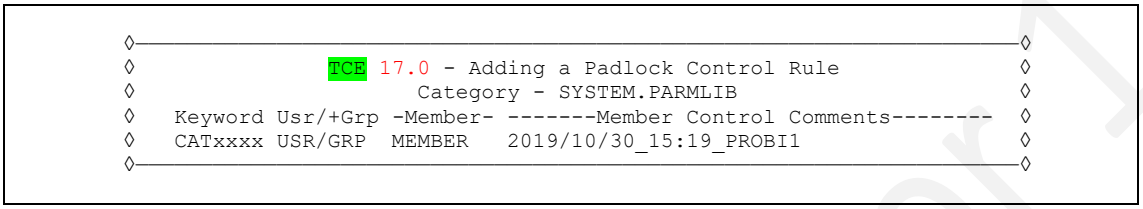
Once the worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a worksheet tutorial that explains worksheet layout, columns and selection options.

As shown in this example, the User GBAGS1 will be granted Browse, Edit and Submit access rights to all PROG members contained in ALL Controlled Datasets within the Controlled Category SYSTEM.PARMLIB. All other users will be denied access to PROG members. Correspondingly, User PHARL3 will be granted Browse, Edit and Submit privileges to members ending with the suffix 00; all others will be denied. Note that in this

example both GBAGS1 and PHARL3 will both be granted access to all PROG00 members in the selected category's dataset concatenation.

5.3.3 Adding a Member Level Boundary

To add a Member Level Boundary to the selected Category, place an 'A' on any Row Command Entry Point and press enter. This action will immediately display the *Adding a Padlock Control Rule* Pop-Up.



Once the Pop-Up is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Pop-Up tutorial that will explain its layout, columns, entry fields and selection options.

5.3.4 Context Sensitive Assistance

The Adding a Padlock Control Rule Pop-Up described above is supported by a variety of *Context Sensitive Assistants*. Placing the cursor in an entry field and pressing enter will activate the related Assistant: Category Keyword Selection, User/Group Selection, Member Selection and Auto Timestamping.

5.3.5 Category Keyword Selection

Placing the cursor in the Keyword field and pressing enter displays a Worksheet listing of valid Category Related Member Level Control Keywords.

```
                TCE 17.0 - Member Level Control Statements   Row 1 to 10 of 10
--NSIMSLX 1028--                                            -Keyword Control-
------------------- 10 Unique TCE Member Control Statements -------------------
Row Selection: Select_Keyword
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Rec ----Boundary Controls---- -------Access Privileges Granted|Denied--------

_ ___ _______ _______ _________ ______ ______ ___________________________________
S Num Keyword -Types- --Scope-- Access Grants -------Statement Descriptors-----
_ 002 CATEDIN Include Category  Allows Update Editing of Member(s) in Category
_ 004 CATBRIN Include Category  Allows Browse Reading of Member(s) in Category
_ 006 CATEBIN Include Category  Allows Ed|Br  Edit|Read Member(s) in Category
_ 008 CATSUBI Include Category  Allows Subimt Submission of Member(s) in CAT
_ 010 CATALLI Include Category  Allows E|B|S  Edit|Read|Submit of MBR(s) in CAT
_ 016 CATEDEX Exclude Category  Denies Update Editing of Member(s) in Category
_ 018 CATBREX Exclude Category  Denies Browse Reading of Member(s) in Category
_ 020 CATEBEX Exclude Category  Denies Ed|Br  Edit|Read Member(s) in Category
_ 022 CATSUBX Exclude Category  Denies Submit Submission of Member(s) in CAT
_ 024 CATALLX Exclude Category  Denies E|B|S  Edit|Read|Submit of MBR(s) in CAT
****************************** Bottom of data ******************************
```

Once the worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a worksheet tutorial that will explain its layout, columns and selection options.

To select a Keyword, place an 'S' on the entry point that precedes the desired Keyword and press enter; this action will return you to the prior Pop-Up Panel and automatically enter your selection in the Keyword Field.

5.3.6 User and/or Group Selection

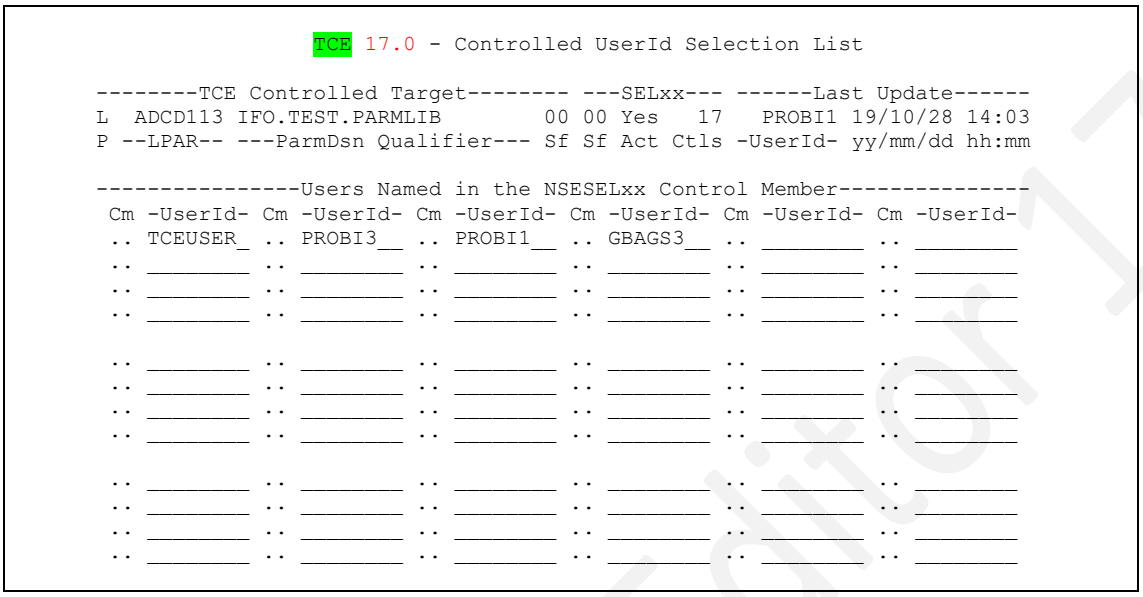
Placing the cursor in the Usr/+Grp field and pressing enter displays a User and/or Group List Selection Pop-Up. The options on this Pop-Up give access to User and Group Lists, as defined in the NSESELxx member, using either Keywords that begin with either 'CAT' or 'DSN'.

```
◊──────────────────────────────────────────────────────────────────────────◊
◊              TCE 17.0 - User and/or Group List Selection               ◊
◊                                                                        ◊
◊                                                                        ◊
◊                    .. UsersList          .. GroupList                  ◊
◊──────────────────────────────────────────────────────────────────────────◊
```

Once the Pop-Up is displayed, study it thoroughly to gain a general understanding of its content. Use PFK1 to display a Pop-Up tutorial that will explain Pop-Up layout and selection options.

- User Selection - UserList

Place an 'S' before the UserList Option to display a Listing of known Controlled Users.



Once the Listing is displayed, study it thoroughly to gain an understanding of its content. Use PFK1 to display a Listing tutorial that will explain the Listings layout and selection options.

- Group Selection - GroupList

Place an 'S' before the GroupList Option to display a Listing of defined Controlled Groups.

```
                    TCE 17.0 - 2 Controlled Groups Defined

 --------TCE Controlled Target-------- ---GRPxx--- ------Last Update------
 L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes    2 THIS_USE THIS_UPD THIS_
 P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

-- --------------------------Controlled Groups--------------------------- --
-- Cm -Name- Cm -Name- Cm -Name- Cm -Name- Cm -Name- Cm -Name- Cm -Name- --
01 .. NEWGRP .. SUPERS ..         ..         ..         ..         ..     01
02 ..         ..         ..         ..         ..         ..         ..     02
03 ..         ..         ..         ..         ..         ..         ..     03
04 ..         ..         ..         ..         ..         ..         ..     04

05 ..         ..         ..         ..         ..         ..         ..     05
06 ..         ..         ..         ..         ..         ..         ..     06
07 ..         ..         ..         ..         ..         ..         ..     07
08 ..         ..         ..         ..         ..         ..         ..     08

09 ..         ..         ..         ..         ..         ..         ..     09
10 ..         ..         ..         ..         ..         ..         ..     10
11 ..         ..         ..         ..         ..         ..         ..     11
12 ..         ..         ..         ..         ..         ..         ..     12
```

Once the Listing is displayed, study it thoroughly to gain an understanding of its content. Use PFK1 to display a Listing tutorial that will explain the Listings layout and selection options.

The selection of a User or a Group is accomplished in the same manner; place an 'S' before a desired User/Group and press enter. This action will immediately return you to the Adding a Padlock Control Rule Pop-Up, automatically entering your selection in the Usr/+Grp field. If you have selected a Group, the plus sign will be automatically added to the front of the name before it is entered into the panel. To TCE a plus sign is a *'Key Value'* used for the specific identification of TCE Managed Groups.

5.3.7 Category Member Selection

To display a concatenation of members in the Selected Category, place the cursor in the Member field and press enter. This action will immediately display the *Member Selection in – Category* Worksheet.

Member Selection in – Category Worksheet

```
                TCE 17.0 - Member Selection in - Category  Row 43 to 56 of 429
--NSIMCLX 1016--                                            --Member Records--
------------------ 429 Member Records Found - SYSTEM.PARMLIB ------------------
Row Selection: Full_Member Prefix_Only Suffix_Only
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Line -----Control Element----- ------------------------------------------------

_ ____ ________ _______ ___ _____________________________________ ______ ________
S Numb -Member- Prefix  Sfx ----------Control Dataset---------- Volume -System-
_ 0043 IXGCNF01 IXGCNF* *01 USER.PARMLIB                        ZDSYS1  ADCD113
_ 0044 LPALST01 LPALST* *01 USER.PARMLIB                        ZDSYS1  ADCD113
_ 0045 MSTJCL00 MSTJCL* *00 USER.PARMLIB                        ZDSYS1  ADCD113
_ 0046   PROG01   PROG* *01 USER.PARMLIB                        ZDSYS1  ADCD113
_ 0047 SMFPRM00 SMFPRM* *00 USER.PARMLIB                        ZDSYS1  ADCD113
_ 0048 VATLST00 VATLST* *00 USER.PARMLIB                        ZDSYS1  ADCD113
_ 0049 $$$COIBM $$$COI* *BM ADCD.Z113.PARMLIB                   ZDRES1  ADCD113
_ 0050 ADYSET00 ADYSET* *00 ADCD.Z113.PARMLIB                   ZDRES1  ADCD113
_ 0051 ADYSET01 ADYSET* *01 ADCD.Z113.PARMLIB                   ZDRES1  ADCD113
_ 0052 ADYSET02 ADYSET* *02 ADCD.Z113.PARMLIB                   ZDRES1  ADCD113
_ 0053   APFHLA   APFH* *LA ADCD.Z113.PARMLIB                   ZDRES1  ADCD113
_ 0054 APPCPM1A APPCPM* *1A ADCD.Z113.PARMLIB                   ZDRES1  ADCD113
_ 0055 ASAIPCSP ASAIPC* *SP ADCD.Z113.PARMLIB                   ZDRES1  ADCD113
_ 0056 ASBIPCSP ASBIPC* *SP ADCD.Z113.PARMLIB                   ZDRES1  ADCD113
```

Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that will explain the Worksheet layout, columns and selection options.

All members in each dataset named in the Category and Category Concatenation are shown in the worksheet within its Controlled Dataset. Care should be taken when making a member selection as three selection options are supported.

F – Returns the full member name.
P – Returns the member prefix, assumed to be the name sans the last two characters.
S – Returns the member suffix, assumed to be the last two characters of the name.

Once a choice of selection options has been made, enter the option (F, P or S) on the entry point preceding the full member name and press enter. This action will return you to the Adding a Padlock Control Rule Pop-Up, automatically entering your selection in the Member field.

5.3.8 Auto Timestamping

The Member Control Comments field provided can be used for freeform text documentation of your Padlock Member Level Control settings. When the entry you just updated was originally created, a Timestamp was placed in the Comments field, a Best Practice. If you would now like to update the Timestamp, place the cursor in the field and press enter. This action will immediately update the field with current Day, Date and Time and your TSOUserID.

5.4 Global View of Control Settings

The Control Boundary Selection Panel is a 'Hybrid Panel' that allows both for the selection of Control Boundaries, the setting of their related Padlock Controls and the setting of the global values CONTROLMODE, EXTERNALNOTICE and MONITOR SCOPE.

The Control Boundary Selection Panel

```
                    TCE 17.0 - Control Boundary Selection

C   Category  .. - Establish Boundaries  .. Padlock On_  Userid   - PROBI1
                                                        Time     - 07:29
D   Datasets  .. - Establish Boundaries  .. Padlock Off  Sysplex  - ADCDPL
                                                        System   - ADCD113
S   Cmds/Msg  .. - Establish Boundaries  .. Padlock Off  IFOhlq   - TEST
                                                        TCE 17.0
W   WrkGroup  .. - Establish Boundaries  .. Padlock Off   ICE17

T   TimeLock  .. - Establish Boundaries  .. Padlock Off


                    +----------Global Settings---------+
                    | .. Padlock Control Modes .. Warn |
                    | .. External Notification .. Send |
                    | .. SysMonitor Intercepts .. On__ |
                    +----------------------------------+

X   Exit         - Return to the TCE Primary Menu

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```

Study this panel thoroughly to get a general understanding of its content as it will be a frequently visited *'Way Point'* on the way to accessing and updating the details settings of TCE Control Boundaries and Boundary Padlocks. Use PFK1 to display a Worksheet tutorial that will explain the Worksheet layout, columns and selection options.

5.4.1 Field Sensitive Help

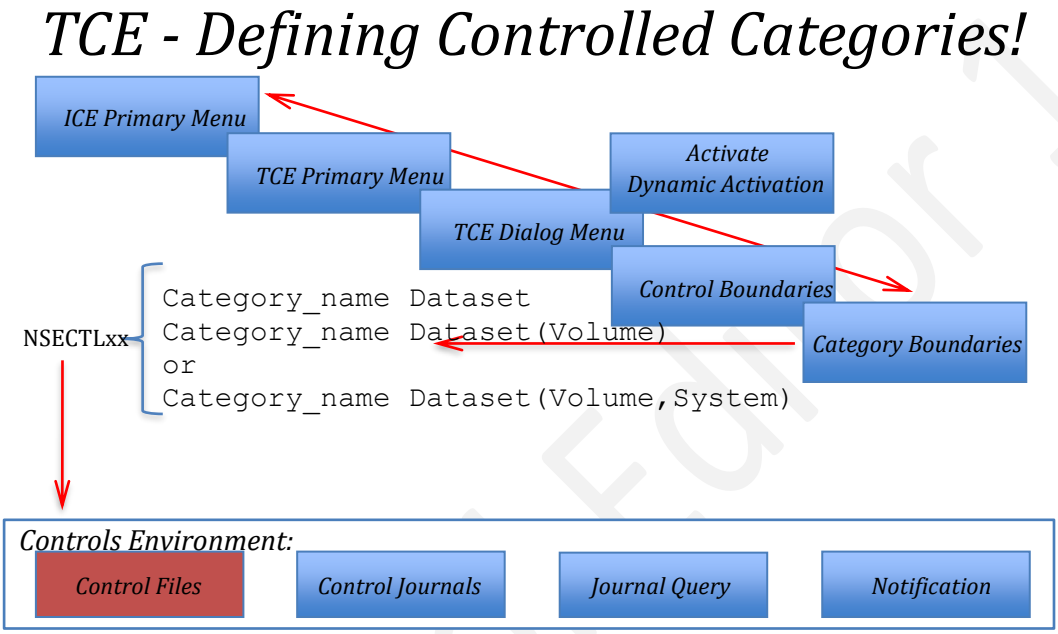
In addition to the full panel tutorial accessed by pressing PFK1, this panel provides *'Field Sensitive Help'*. To display this added help function, cursor into a selection field, enter a *'Check Mark'* (/) and press enter. This action will immediately display field specific help text. Use PFK3 or Enter to return to the panel.

5.4.2 Toggle Global Settings

The setting shown on the panel can be updated by placing the cursor under the setting value and pressing enter. This action will *'Toggle'* the value to the next valid setting: On|Off, Send|Stop or NONE|WARN|DENY. Updates are saved when you advance to the next panel or PFK3 back to a prior panel.

6 Establishing a Controlled Category Boundary

The Primary TCE Control Boundary is the Controlled Category and the Controlled Datasets named therein, as defined in the NSECTLxx Configuration member. Associated with each Category are a number of Category enhancements called Category Attributes that are described in the next section of this User Guide.



6.1 TCE Defaults

In the absence of any other Controlled Category specifications defined in the NSECTLxx Configuration Member, when the reserved Keyword *AUTO* is encountered in NSECTLxx during initialization, TCE will automatically build Control Category and Padlock Boundaries.

6.1.1 Default Categories

The Default Category Control Boundaries are built under the names SYSTEM.IPLPARM and SYSTEM.PARMLIB and include related Controlled Datasets discovered on TCE's running system.

6.1.2 Default Padlocks

TCE Padlock Defaults over Default Category Boundaries will be automatically set to CONTROLMODE *'WARN'*. The combination of these settings will immediately result in all

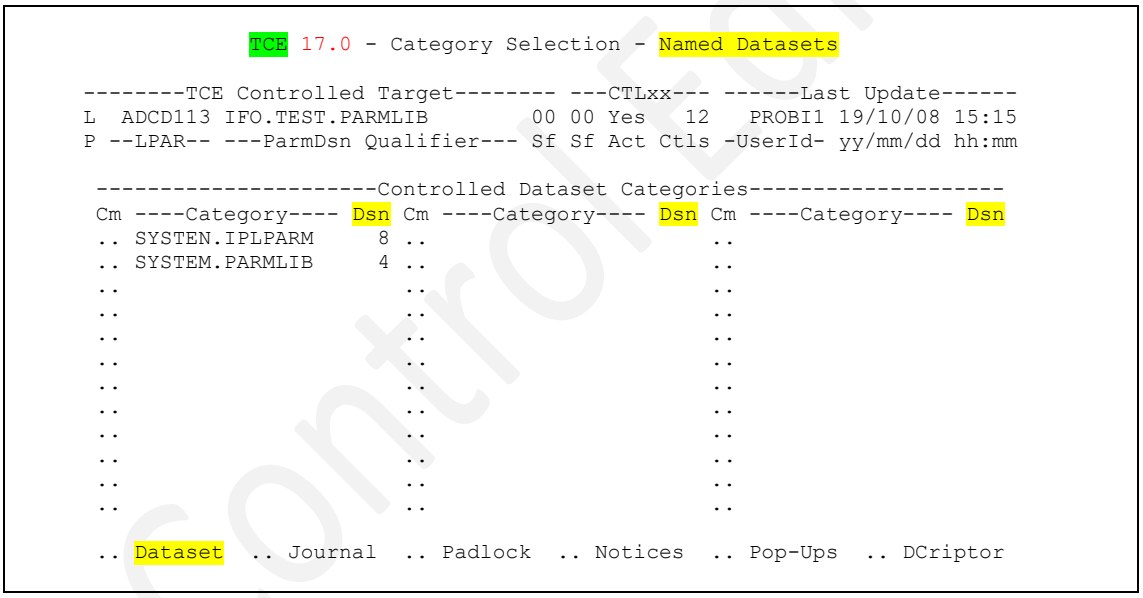
users, attempting to reach any Control Datasets within either SYSTEM.IPLPARM or SYSTEM.PARMLIB, receiving a *'Warning Notice'*.

6.2 Defined Categories

To change the Controlled Category default setting (and/or to add new or update existing *'Defined'* Controlled Categories) follow the path from the ICE Primary Menu to the Controls Boundary Selection Panel. Once the Panel is displayed, select the Category Boundaries Option by placing a 'B' on the TSO/ISPF Command Line or placing 'B/S' on the entry point immediately following the word 'Category' and pressing enter and/or by simply cursoring under the underlined word 'Category' and pressing enter. Any of these actions will immediately display the Category Selection – Named Datasets Panel.

6.2.1 Shift to Dataset Mode

Category Selection – Named Datasets Panel



Once the Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Panel tutorial that will explain Panel layout, columns and selection options.

Take note that this Panel serves multiple functions and is now displayed in '*Dataset Mode*'. Note that Dataset at the bottom of the panel is highlighted. The following available panel options - Padlock, Notices, Pop-Ups and DCriptor, collectively called *'Category Attributes'* - are described in the next section of this User Guide. In this section the focus is on Adding, Deleting and Updating the Datasets associated with a Controlled Category and accessing, and auditing events related to a Controlled Category that have occurred, been stored and are addressable in TCE Control Journals.

6.2.2 Adding a Category

To add a new Category, enter a unique Category name (up to 16 characters) in an available panel field and press enter. This action will check to determine if the Category may have existed at some previous time, if not, the panel is redisplayed with ‘Add’ shown in the ‘Dsn’ Column. Now select the entered Category using 'S'. This action will display the Controlled Dataset Selection Worksheet. Use the Worksheet to enter the names and optional related volume and system of datasets to be included within the Category. If no datasets are defined to a Category, the Category will not be considered valid and, therefore, will not be added as a Controlled Category to NSECTLxx.

6.2.3 Deleting a Category

To delete a Category from the Control List, enter 'D' before its name and press enter. No confirmation will be requested, and the Category will be excluded from NSECTLxx.

6.2.4 Updating a Category

To select a Category when in Dataset Mode and, in doing so, display the Controlled Dataset Selection Worksheet, place an 'S' before the Category name and press enter. Use the Worksheet to enter new and/or update the names of datasets, and optionally volume and related system name, to be include within the Category.

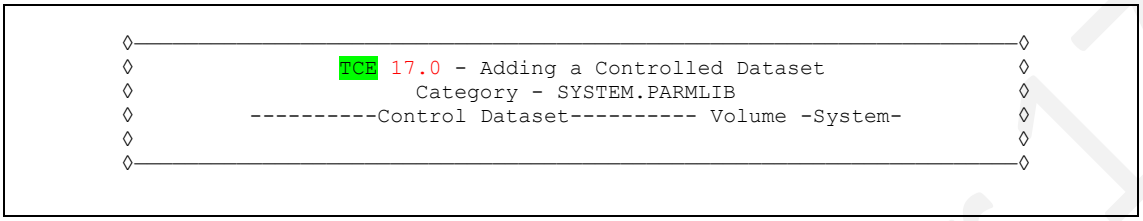
Controlled Dataset Selection

```
               TCE 17.0 - Controlled Dataset Selection        Row 1 to 3 of 3
--NSIMCLX 1016--                                            -Dataset Control-
---------------- 3 Control Datasets in Category:SYSTEM.PARMLIB ----------------
Row Selections: Add_New Delete Update Shows_Padlock Journal Notices Member_List
--- Select Sub-Head to Sort, Query above Sub-Head, Enter Saves a Row Update ---
- Row -----Counts----- -------------------Control Boundaries-------------------

_ ___ ___ ___ ___ ____ ____________________________________________ ______ ________
S Num Pad Jrl Not Mbrs -----------Controlled Datasets---------- Volume -System-
_ 001 001 100 000 0048 USER.PARMLIB                              ZDSYS1  ADCD113
_ 002 001 564 000 0282 ADCD.Z113.PARMLIB                         ZDRES1  ADCD113
_ 003 002 200 000 0099 SYS1.PARMLIB                              ZDRES1  ADCD113
****************************** Bottom of data ********************************




Option ===>                                                  Scroll ===> CSR
```

Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

6.2.5 Adding a Dataset

Datasets defined within a Controlled Category are called Controlled Datasets. To add a dataset to Category, place an 'A' on any Row entry point and press enter. This action will display the Adding a Controlled Dataset Pop-Up in a *'Null State'*.



The fields within the Pop-Up support Dataset Name and, optionally, Volume and System Name.

- When only Dataset Name is specified the scope of the Category Boundary extends to ALL Datasets, on ALL Volumes, accessed from ALL Systems whether or not the Dataset is cataloged.
- When the optional Volume (VOLSER) name is specified the scope of the Category Boundary extends to the named Dataset on the volume specified and accessable from ALL Systems.
- When the optional System (SYSNAME) name is specfied the scope of the Category Boundary extends to the named Dataset on the volume specified but only accessable from the named Systems.

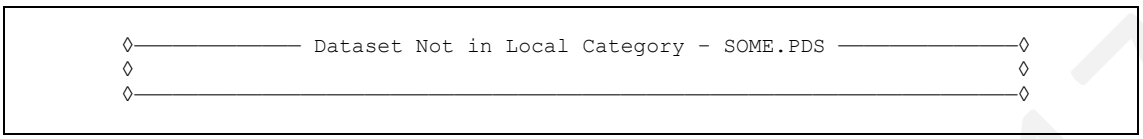
6.2.5.1 Context Sensitive Assistance

The Adding a Dataset Pop-Up described above supports two *Context Sensitive Assistants*. Placing the cursor in either entry field - Volume or System - and pressing enter will activate the related Assistant.

- Volume – Cursor into the Volume entry field and press enter to display the volume housing the Controlled Dataset on the running system. Press PFK3 to enter the volume name in the entry field. If a related volume is not found in the running system catalog, a message is displayed.
- System – Cursor into the System entry field and press enter to display the name of the running system. Press PFK3 to enter the name in the entry field.

6.2.5.2 Invalid Dataset Entries

Dataset existence and Dataset Volume relationship on the running system are validated. If a Dataset does not exist or is not housed on a volume specified, the following message is displayed as you PFK3 back to the Dataset Worksheet:



Since it is possible that the intent of the entry is to define a future Dataset or a future Dataset placement, the entry will be allowed and subsequently recorded in NSECTLxx. Such invalid entries have no effect on the operation of the TCE Controls Environment except that a message will be issued at IFOM startup and/or at the point of dynamic configuration activation that the dataset was not found and/or was not found on the volume specified. It is considered a *'Best Practice'* to review all such messages and to resolve them to site policy.

6.2.6 Deleting a Dataset

A Controlled Dataset may be deleted, and once deleted, restored at any time. To delete a dataset from a Controlled Category, place a 'D' on the Row entry point that precedes it and press enter; no confirmation is required. This action will immediately remove the dataset and redisplay the Worksheet.

6.2.7 Updating a Dataset

The Controlled Dataset Selection Worksheet offers selection options that support Dataset updating and refinement in three specific areas: Volume and/or System Names, Padlock Controls and Event Notifications. To access these, use the noted Row Selection Commands (U|S|N).

6.2.7.1 Volume and/or System

The 'U' Selection Command displays the Update Pop-Up. This is in the same format as the Add Dataset Pop-Up, the exception being that the current Volume and System Name settings are displayed in related input fields. To update these values overtype them. Use PFK3 to return to update the values and redisplay the worksheet. Notice messages may be displayed when a Dataset is not found on a specified volume. Context Sensitive Assistance works as noted when adding a new Dataset.

6.2.7.2 Padlock Controls

The ‘S’ Selection Command displays The Member Level Padlock – Dataset Worksheet showing the Padlock Controls defined for the selected Dataset.

The Member Level Padlock – Dataset Worksheet

```
              TCE 17.0 - Member Level Padlock - Dataset      Row 1 to 1 of 1
--NSIMCLX 1023--                                          --Member Control--
-------------------- 1 Member Control Record - USER.PARMLIB --------------------
Row Selection: Add_Record Delete_Record Update_Record Copy_Record Member_Events
--- Select Sub-Head to Sort, Query above Sub-Head, Enter Saves a Row Update ---
- Line -----Control Element----- ------------------------------------------------
_ ____ _______ _______ ________ ________________________________________________
S Numb Keyword Usr/+Grp -Member- -----------Member Control Comments------------
_ 0001 DSNALLI TCEUSER  *        OVERTYPE_'TCEUSER'_USERID_NOW!
****************************** Bottom of data ********************************
```

Padlock Member Level Control may be defined relative to a specific Controlled Category that, in turn, is extended to the Datasets defined within that Category and/or to an individual Stand Alone Dataset. See the Section of this User Guide titled ‘Defining Levels of TCE Padlock Control’ for a complete discussion on this topic.

6.2.7.3 Notifications

The ‘N’ Selection Command displays The Controlled Dataset Notification Settings Panel.

The Controlled Dataset Notification Settings Panel

```
                    TCE 17.0 - Controlled Dataset Notification

--------TCE Controlled Target-------- ---ENSxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes    4   PROBI1 19/11/01 12:38
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

--------------------Controlled Dataset Notification--------------------

          Event Notification Options - Dataset - SYS1.PARMLIB

       .. Event Type: All Actions_____ .. Report Type: Full Report_______

                    Subject: Enter_Email_Subject

1-To: Enter_Email_Address_____________________________________________
2-To: _____________________________________________________________
3-To: _____________________________________________________________
4-To: _____________________________________________________________
5-To: _____________________________________________________________
From: Enter_Email_Address_____________________________________________

                  .. Action Off    .. Method On     .. Notice On
```

Notification may be defined relative to a specific Controlled Category and/or to an individual Stand Alone Dataset. See the Section of this User Guide titled 'Defining Event Notifications' for a complete discussion on this topic.

6.2.8 Support Functions

The Controlled Dataset Selection Worksheet offers access to two Dataset support functions: a listing of Journal Events by Selected Dataset and a Current List of Members within a Selected Dataset.

6.2.8.1 Journal Events

The 'J' Selection Command displays the Journal Event Selection Worksheet. Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

6.2.8.2 Member List

The 'M' Selection Command displays the Controlled Member Selection Worksheet. Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

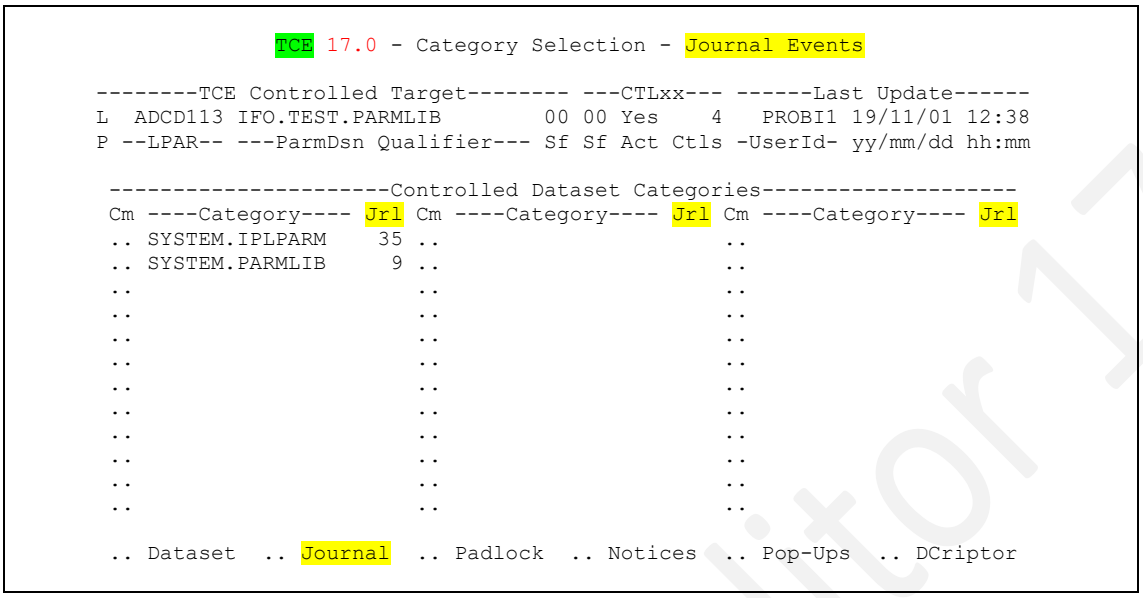
6.3 Category Events and Audits

As controlled events occur that impact a Dataset defined within a Controlled Category, they are detected by TCE and recorded in the TCE Control Journal.

6.3.1 Shift to Category Events

To access these events on a Category by Category basis, select the Journal option shown at the bottom of the panel. This action will immediately redisplay the Category Selection panel in Journal Events mode. Take note that the heading and column titles have changed; in 'Jrl' now appears the number of controlled events that have been recorded that directly impact the dataset defined within the *'Currently Named'* Control Categories.

Category Selection – Journal Events Panel



6.3.2 Call for Category Audit

It is possible that the *'Currently Named'* Controlled Categories may not represent ALL of the Controlled Categories *'Known'* within the accessable TCE Control Journal set. To disclose all those Controlled Categories NOT currently named, use the optional 'A' character to select the Journal Option shown at the bottom of the panel and press enter. This action will immediately begin an Audit in which it will, when completed, disclose ALL Control Categories within the TCE Control Journal Set and their related counts of controlled events.

Specific attention should be paid to Audit Findings noted with '??' in the selection entry point that proceeds the Category name as these categories are no longer active.

Category Selection – Journal Events Panel – Audit Mode

```
                TCE 17.0 - Category Selection - Journal Events

   --------TCE Controlled Target-------- ---CTLxx--- ------Last Update------
   L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes    4   PROBI1 19/10/16 13:01
   P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

    ----------------------Controlled Dataset Categories--------------------
    Cm ----Category---- Jrl Cm ----Category---- Jrl Cm ----Category---- Jrl
    .. SYSTEM.IPLPARM   --- ..                     ..
    .. SYSTEM.PARMLIB     6 ..                     ..
    ?? SYSTEM.PROCLIB   464 ..                     ..
    ..                      ..                     ..
    ..                      ..                     ..
    ..                      ..                     ..
    ..                      ..                     ..
    ..                      ..                     ..
    ..                      ..                     ..
    ..                      ..                     ..
    ..                      ..                     ..
    ..                      ..                     ..

    .. Dataset  A. Journal  .. Padlock  .. Notices  .. Pop-Ups  .. DCriptor
```

Reported orphaned Categories may be reactivated at any time by returning to Dataset Mode; reselect the Dataset option at the bottom of the panel. Enter the orphan name in an available category slot and press enter.

6.3.3 Showing Category Event Detail

When in Journal Mode, Audit or not, the events that have impacted a Controlled Category (currently named and/or an orphaned Category) are displayed in the Journaled Event Selection Worksheet when the 'S' selection command is used to select a target category.

Journaled Event Selection – Shifted Left

```
                TCE 17.0 - Journaled Event Selection       Row 1 to 6 of 6
--NSIMCLX 1016--                                          --Journal Events--
----------------- 6 Category Specific Events - SYSTEM.PARMLIB -----------------
Row Selection: Show_Event_Change_Detail
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Line -------Detected Events-------- -----------Controlled Dataset---------- >
_ ____ ________ _____ _____ ________ ________ ____________________________________
S Numb yy/mm/dd hh:mm Class --User-- -Member- -------Controlled Datasets-------
_ 0001 19/09/13 18:00 DTCNG   PHARL3 COMMNDP1 USER.PARMLIB
_ 0002 19/10/03 16:00 DTCNG   PROBI1 $$$COIBM SYS1.PARMLIB
_ 0003 19/09/11 13:00 DTCNG   PHARL3 COMMNDP1 USER.PARMLIB
_ 0004 19/09/11 12:43 FAILS   PHARL3 COMMNDP1 .PARMLIB
_ 0005 19/09/10 11:49 DTCNG   PHARL2 COMMNDPH USER.PARMLIB
_ 0006 19/09/26 08:00 DTCNG   PHARL3 COMMNDPH USER.PARMLIB
****************************** Bottom of data ********************************

Option ===>                                                Scroll ===> CSR
```

Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

6.3.4 Shift Right, Shift Left

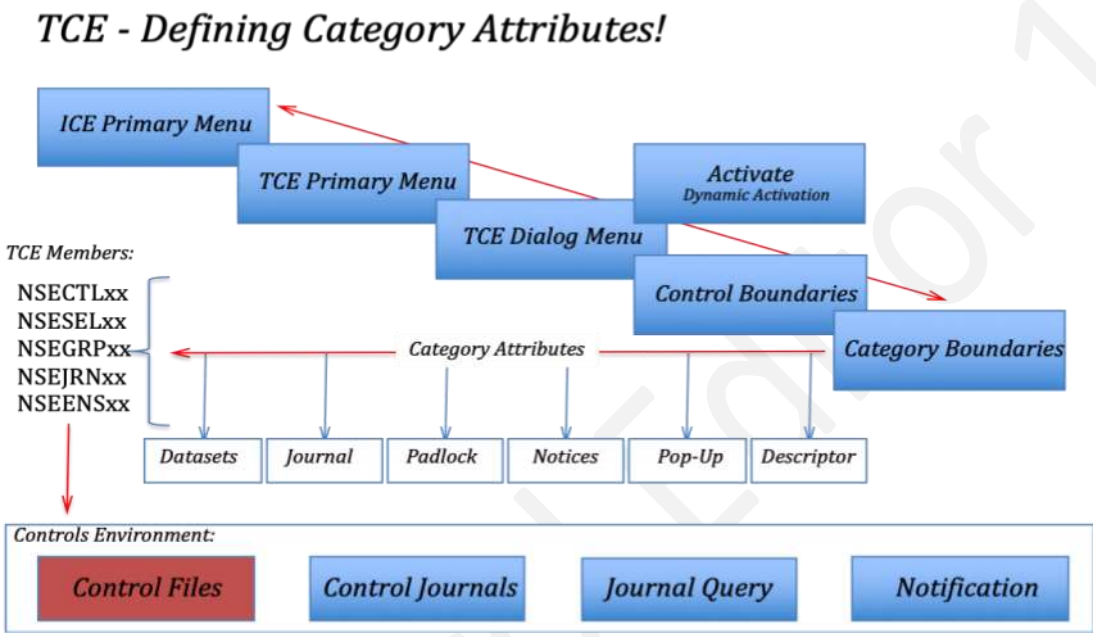
Pay special attention to the '≥' and '≤' selection highlights that appear in the upper right of the Worksheet Column Heading. When '≥' is displayed, cursor under it and press enter to *'Shift'* the Worksheet to the right. This action will replace the Controlled Dataset column with columns containing Volume, Sysplex, System and Image Names. Note that '≥' has been replaced with '≤'. Place the cursor under '≤' to 'Shift the Worksheet to the left redisplaying the Controlled Dataset Column.

Journalled Event Selection – Shifted Right

```
                TCE 17.0 - Journalled Event Selection        Row 1 to 6 of 6
--NSIMCLX 1016--                                          --Journal Events--
----------------- 6 Category Specific Events - SYSTEM.PARMLIB -----------------
Row Selection: Show_Event_Change_Details
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- -Row- -------Detected Events------- -----------Controlled Elements--------- ≤
_ _____ ________ _____ _____ ________ ________ ______ _______ ________ _______
S Index yy/mm/dd hh:mm Types --User-- -Member- Volume PlxNames SysNames ImaName
_ 0001  19/09/13 18:00 DTCNG PHARL3   COMMNDP1 ZDSYS1 ADCDPL   ADCD113  N/A
_ 0002  19/10/03 16:00 DTCNG PROBI1   $$$COIBM ZDRES1 ADCDPL   ADCD113  N/A
_ 0003  19/09/11 13:00 DTCNG PHARL3   COMMNDP1 ZDSYS1 ADCDPL   ADCD113  N/A
_ 0004  19/09/11 12:43 FAILS PHARL3   COMMNDP1 ZDSYS1 ADCDPL   ADCD113  N/A
_ 0005  19/09/10 11:49 DTCNG PHARL2   COMMNDPH ZDSYS1 ADCDPL   ADCD113  N/A
_ 0006  19/09/26 08:00 DTCNG PHARL3   COMMNDPH ZDSYS1 ADCDPL   ADCD113  N/A
****************************** Bottom of data ********************************


Option ===>                                                 Scroll ===> CSR
```

7 Defining Controlled Category Attributes

Options at the bottom of the Category Selection Panel are used to alter the Panel Summary View and provide access to Category configuration enhancements called Category Attributes. Note that as these Attribute Options are selected, the panel will change dynamically to reflect the selection, highlighting selections and changing the column and panel headings.



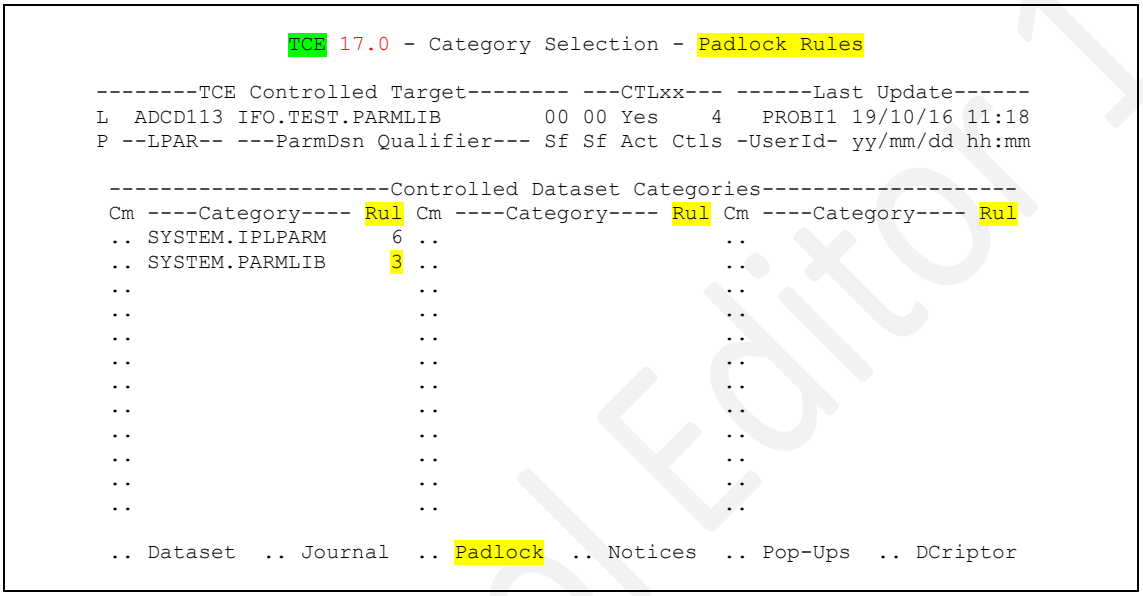
Category Attributes Include:

- Padlock – Padlock Related Category Dataset Access Privileges
- Notices – Category Notifications upon Change Events
- Pop-Up – Detected Member Change Pop-Up Notifier
- Descriptor – ISPF Panel or Pop-Up Change Descriptor

7.1 Padlock Controls

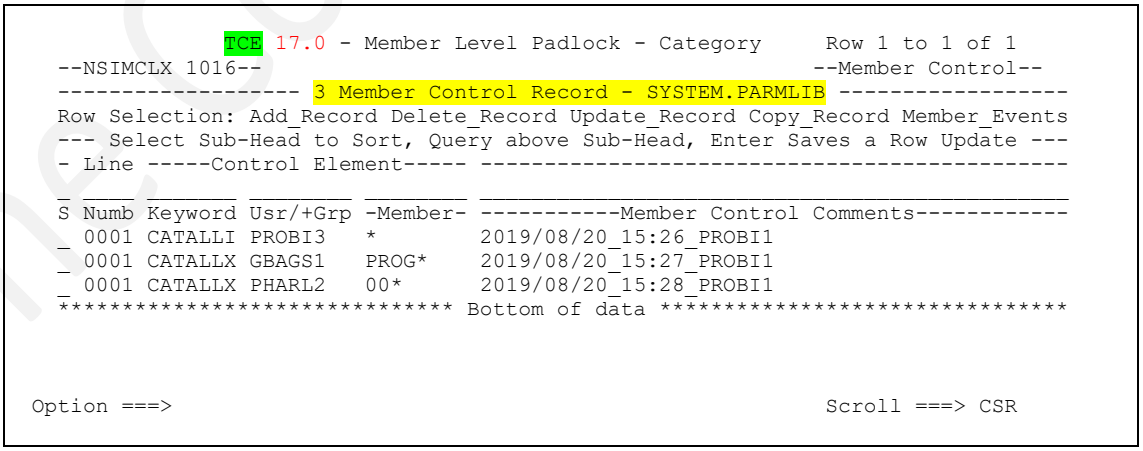
To set the Padlock Attribute of a Category, select the Padlock option shown at the bottom of the Category Selection Panel. This action will dynamically alter the format and content of the panel redisplaying it as Category Selection – Padlock Rules.

7.1.1 Shift to Padlock Mode



Note the count values shown in the column titled 'Rul'. This represents the number of Padlock Access Rules associated with a Category. To display the Access Rules, enter an 'S' before a Category Name and press enter. This action will immediately display the Member Level Padlock – Category Worksheet.

7.1.2 Member Level Worksheet



Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that will explain Worksheet layout, columns and selection options.

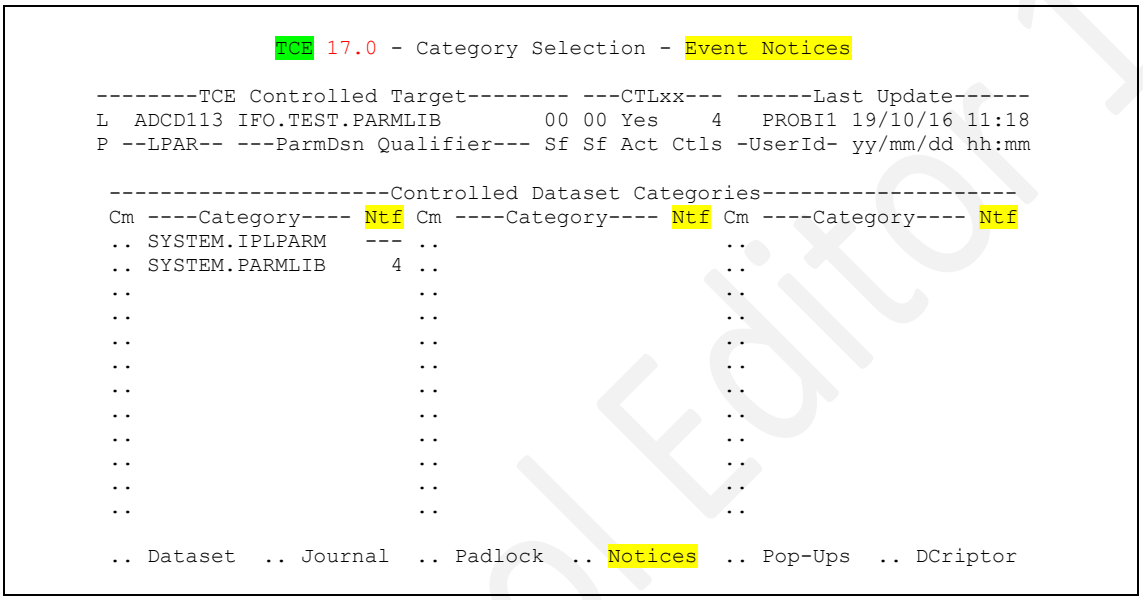
7.1.3 Setting Member Level Controls

For a complete explanation of how to set Member Level Controls, see Defining Member Level Control in Section 5 of this User Guide.

7.2 Event Notification

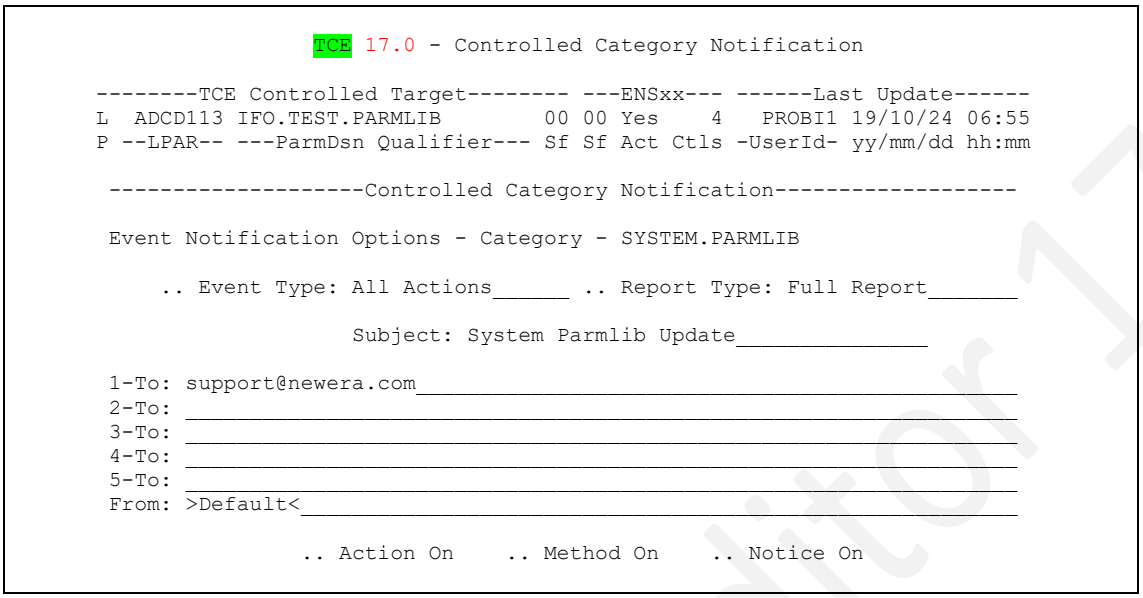
To set the Notice Attribute, select the Notices option shown at the bottom of the Category Selection Panel. This action will dynamically alter the format and content of the panel redisplaying it as Category Selection – Event Notices.

7.2.1 Shifting to Notice Mode



Note the count values shown in the column titled 'Ntf'. This represents the number of Email Recipients associated with a Category. To display the Recipients or to set up a new notification cycle, enter 'S' before a Category Name and press enter. This action will immediately display the Controlled Category Notification Panel.

7.2.2 Category Notification Panel



7.2.3 Setting Notification Controls

The panel example, Controlled Category Notification, is one of several panel styles used to support Controlled Event Notification. For a complete explanation of how to use these Notification Panels and set Notification Controls, see Defining Event Notifications in Section 15 of this User Guide.

7.3 Pop-Ups

To set the Pop-Up Attribute, select the Pop-Up option shown at the bottom of the Category Selection Panel. This action will dynamically alter the format and content of the panel redisplaying it as Category Selection – Detect Pop-Ups.

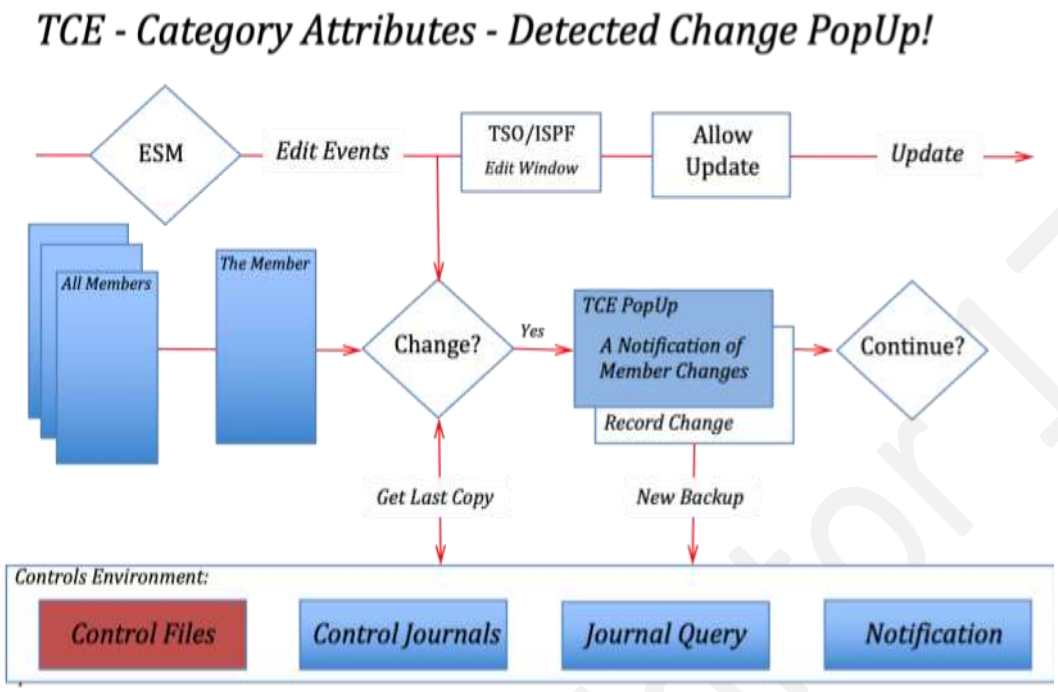
7.3.1 Shifting to Pop-Up Mode

```
                TCE 17.0 - Category Selection - Detect Pop-Ups

--------TCE Controlled Target-------- ---CTLxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes    4   PROBI1 19/10/16 11:18
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

 ----------------------Controlled Dataset Categories--------------------
 Cm ----Category---- Pop Cm ----Category---- Pop Cm ----Category---- Pop
 .. SYSTEM.IPLPARM    On ..                     ..
 .. SYSTEM.PARMLIB   Off ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..

 .. Dataset  .. Journal  .. Padlock  .. Notices  .. Pop-Ups  .. DCriptor
```

Note the value shown in the column titled 'Pop' (On|Off). This is intended to denote if the Pop-Up on Detected Change function is On or Off. To Toggle the function On|Off, enter 'S' before a Category Name and press enter. This action will immediately redisplay the panel showing the '*Next in Line*' value for the Category's Pop-Up setting.

7.3.2 Why a Pop-Up?

Upon selection of a member in a Controlled Dataset, one of the first actions taken by TCE will be to compare the content of that member, as it currently exists, with the last copy of its content as stored in the TCE Control Journals. If TCE discovers that, in fact, the two differ in content it will immediately record, in the TCE Control Journals, the identity of the member, the detected change discovered and store a new backup of the member. In addition, under these circumstances, an optional Detected Change PopUp can be displayed to the user.



7.3.3 User Real-Time Options

In real-time a user would then make a decision to continue or abort the edit process. If the user elects to continue, it is a '*Best Practice*' to immediately review the history of the member in question to determine the extent of the detected change. To do this the user would enter HISTORY on the TSO/ISPF command line and press enter once the Member is fully displayed.

The History command will display a full history of all changes to the selected member, the last of which will be the change just detected and recorded. Following a determination of the validity of the detected change, the user might elect to restore back to a prior member version. To do this they would enter RESTORE on the command line when back in full member display. RESTORE will display a listing of all of the member's Restore Points from which a specific member may be selected and the version to be restored. The Restore and differences that exist between it and the last version of the member as jounaled will be detected and recorded.

7.4 Descriptor

To set the Descriptor Attribute of a Category, select the DCriptor option shown at the bottom of the Category Selection Panel. This action will dynamically alter the format and content of the panel, redisplaying it as Category Selection – Edit Descriptors.

7.4.1 Shifting to Descriptor Mode

Category Selection – Edit Descriptors

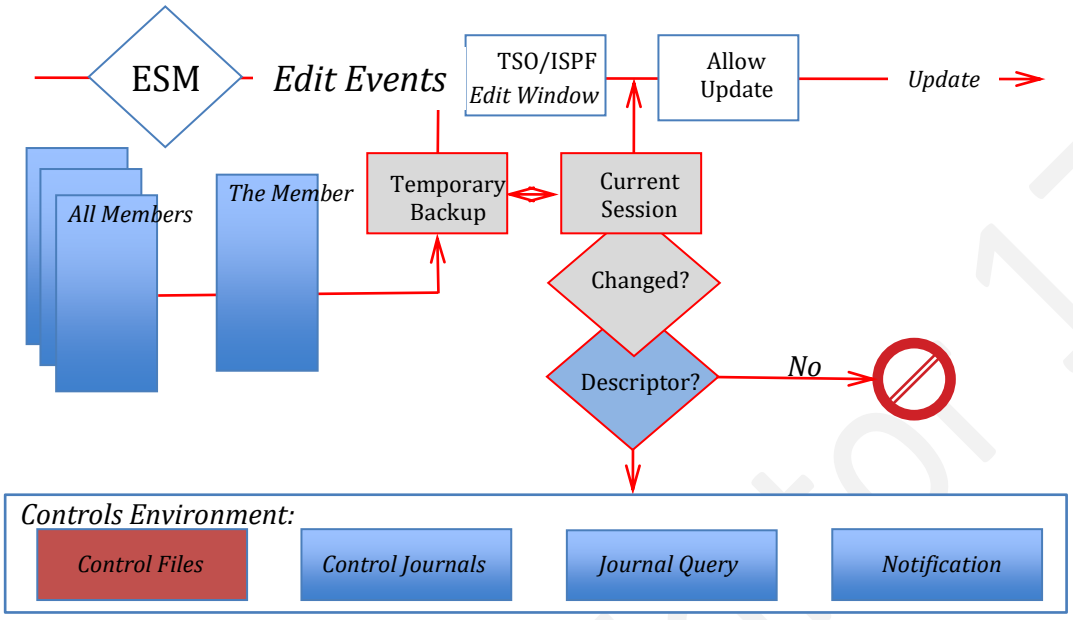
```
                TCE 17.0 - Category Selection - Edit Descriptors

--------TCE Controlled Target-------- ---CTLxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes    4   PROBI1 19/10/16 11:18
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

 ----------------------Controlled Dataset Categories--------------------
 Cm ----Category---- Dcr Cm ------Name------ Dcr Cm ----Category---- Dcr
 .. SYSTEM.IPLPARM   Dfl ..                     ..
 .. SYSTEM.PARMLIB   Pop ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..
 ..                      ..                     ..

 .. Dataset  .. Journal  .. Padlock  .. Notices  .. Pop-Ups  .. DCriptor
```

Note the value shown in the column titled 'Dcr' (Dfl|Pop|Pnl|Nop). These are used to describe the type of descriptor associated with a category. To display Descriptor Selection and/or The Descriptor Workshop, enter an 'S' before a Category Name and press enter. This action will immediately generate a listing of Categories and the Member names of their respective Panel Members.

7.4.2 Why a Descriptor?

The intent of the Descriptor is to provide a method of collecting information from the user at the point at which a change to a Controlled Member is actually made. Successful completion of the Descriptor, in accordance with site specified change documentation requirements, will result in *'Point of Change Documentation'* being captured and recorded in the TCE Control Journals. If a user were to fail to complete the descriptor, any update to a controlled member would be denied. The user may retry as often as needed or may "Can-Out" of the update. In either case the event, update or not, is recorded by TCE in the Control Journals; in the latter case, the event is classified as a "Policy Voliation"

TCE - Category Attributes - The Change Descriptor!



Each Category (except the NEZAUTO Category) is automatically assigned the TCE Default Descriptor. This Descriptor is acceptable for short-term use. It is considered a *'Best Practice'* to upgrade to an ISPF Panel or Pop-Up Descriptor, reflective of site standards, for long-term production use.

When 'Dcriptor' is selected, the Category Selection Panel is dynamically updated to reflect the current status of each Category's Descriptor configuration.

In the Column headed 'Dcr' one of the following possible status values is displayed for each category:

- Dfl - Indicates that the TCE Default Text Descriptor is being used.
- Pnl - Indicates that a defined ISPF Full Screen Panel has been defined.
- Pop - Indicates that an ISPF Pop-Up has been defined to support the Category.
- Nop - Indicates NEZAUTO Category, Stealth Mode of operation without Descriptor.

To work with an existing or to define a new Descriptor, place the 'S' character before the Category Name and press enter. This will display the Descriptor Selection Panel.

7.4.3 Descriptor Selection and Settings

TCE Change Descriptors come in two formats: Default and Full ISPF Panel or ISPF Pop-Up. If a Controlled Category has no specific Descriptor association, it will inherit the TCE Default 'TEXT' Descriptor.

This panel is designed to support the selection or de-selection and/or Addition or Deletion of Category Descriptor relationships that are bound to specific ISPF panels in either Full or Pop-Up Format. Only one ISPF Descriptor Panel or Pop-Up can be linked to a Controlled Category.

The attribute settings associated with the Panel or Pop-Up configuration determine the operational characteristics of the Descriptor. The Controlled Category determines which Category Dataset events will invoke the Descriptor.

The Panel or Pop-Up Member embodies the Data Fields and APIs necessary to transfer information available to the Descriptor, at the *'Point-of-Change'*, to other TCE or Non-TCE Applications.

Categories and Edit Descriptors - Panel

```
                TCE 17.0 - Categories and Edit Descriptors

--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L ADCD113  IFO.TEST.PARMLIB        00 00 Yes    2 PROBI1   19/10/23 11:29
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

---------------Edit Event Descriptor Setup and/or Selection--------------
-- /* --Category Names-- Cm -Panels- -- /* --Category Names-- Cm -Panels-
01 /. SYSTEM.IPLPARM     .. DDE@PNL9 15 ..                    ..
02 /. SYSTEM.PARMLIB     .. DDE@PNL5 16 ..                    ..
03 ..                    ..          17 ..                    ..
04 ..                    ..          18 ..                    ..
05 ..                    ..          19 ..                    ..
06 ..                    ..          20 ..                    ..
07 ..                    ..          21 ..                    ..
08 ..                    ..          22 ..                    ..
09 ..                    ..          23 ..                    ..
10 ..                    ..          24 ..                    ..
11 ..                    ..          25 ..                    ..
12 ..                    ..          26 ..                    ..
13 ..                    ..          27 ..                    ..
14 ..                    ..          28 ..                    ..
```

7.4.3.1 Activation Function and Values

The Activation Values (/ or /* or Blank) displayed before a Category Name in the Column header indicate status within the TCE Configuration. '/' Indicates the Descriptor Panel named in the Panels Column is active, '/*' denotes that the Descriptor for the named Category has been 'Commented Out' and is inactive.

You may toggle entries, active or inactive, and add entries by providing the required Category and Panel Member Name and setting the Command Value of '/ | /*'. Values of /* or Blank will result in the automatic assignment of the Default Descriptor.

When the Category Name begins with the reserved Category Prefix 'NEZAUTO', no Descriptor may be assigned to the Category.

7.4.3.2 Command Functions and Values

A list of Available Descriptors and selected Descriptor Settings are displayed using commands entered in the column headed 'Cm'. Use the 'L' to display a listing of all available descriptor Panels and PopUps found in TCE Panel Configuration Dataset HLQ.SISPPENU. Use the 'S' command to display the selected Descriptor current settings and processing attributes.

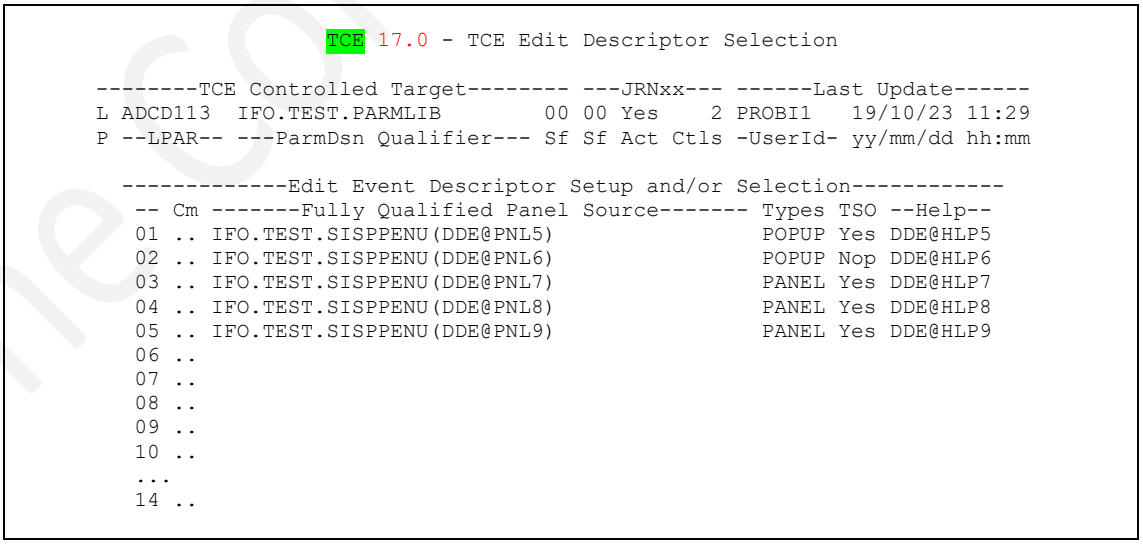
7.4.3.3 Selecting from Available Descriptors

The panel displays a list of all available descriptor Panels and PopUps found in TCE Panel Configuration Dataset HLQ. SISPPENU. Place an 'S' in the column headed 'Cm' and press enter to select a descriptor, returning to the prior menu where the selection will automatically update the Panel Name field.

To display a panel or popup shown in the list, place a 'V' in the column headed 'Cm' and press enter. This action will display the selected Descriptor, as the end user would ordinarily see it.

To display the supporting Help Panel associated with a panel or Pop-Up, place an 'H' in the column headed 'Cm' and press enter. This action will display the selected Descriptor Help Panel, as the end user would ordinarily see it.

TCE Edit Descriptor Selection

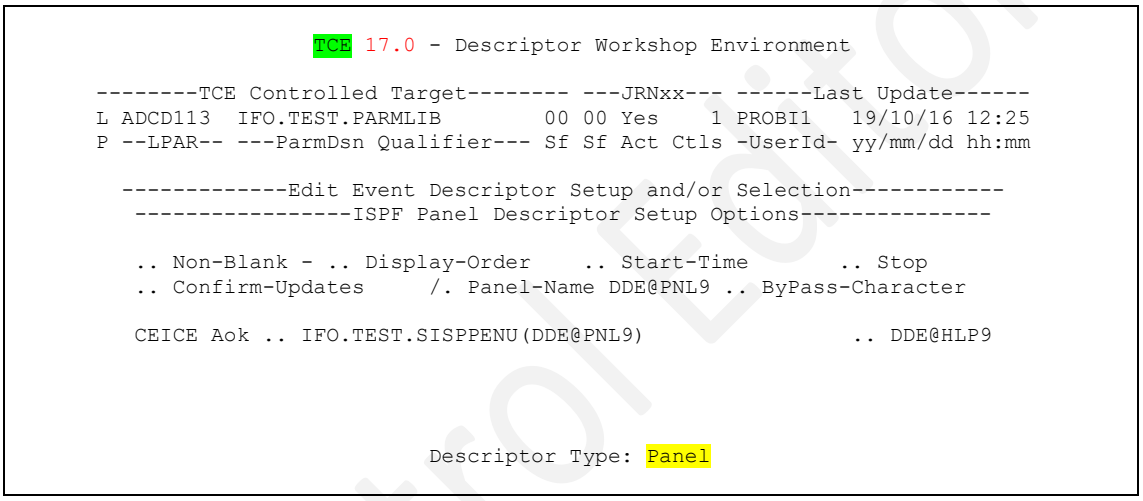


7.4.4 Setting Descriptor Attributes

The TSO/ISPF Edit Descriptor is used to collect change documentation at the point of the actual change. You may use functions of this panel to define its attributes. For an attribute to become active, two things are necessary: first, the attribute must be defined and second, the attribute must be activated. To activate an attribute, place '/' on the entry point before its name. If the entry point is blank, the attribute and its specifications are ignored.

To view a list of possible attribute values (Panel-Name is filled in automatically), place the cursor under an attribute value field and press enter.

Descriptor Workshop Environment



7.4.4.1 Display-Order

Specifies order of display of Edit Descriptor: 'MF' for Member First, 'ML' for Member Last.

7.4.4.2 Start/Stop-Time

Specifies the 24h Time interval when an Edit Descriptor will be active and displayed.

7.4.4.3 Confirm-Updates

Specifies if a Pop-Up Confirmation will be displayed. 'Y' will display, 'N' will not display.

7.4.4.4 Bypass-Character

Specifies a single character that will be used in the panel to denote to TCE the suppression of related line during the capture of panel content.

7.4.4.5 Selection Options

- V - View: Place before Descriptor or Help Panel, press enter to display as if a TSO/ISPF active Dialog.
- E - Edit: Place before Descriptor or Help Panel, press enter to display in ISPF Edit. Make changes as needed.

7.4.5 Panel and PopUp Support

In addition to defining Panel Attributes, a number ISPF Panel and ISPF PopUp support functions are provided and accessed from this panel. These functions allow you to edit/modify Descriptor panels/popups and display them interactively and iteratively without having to exit your current session. Available selection commands include:

7.4.5.1 When entered Left of the Dataset Name

Enter the following Selection Commands on the entry point shown to the left of the fully qualified panel/popup dataset name:

V – Displays panel/popup as the TSO/ISPF user would see it.
E – Displays panel/popup source in ISPF Edit; updates automatically saved.

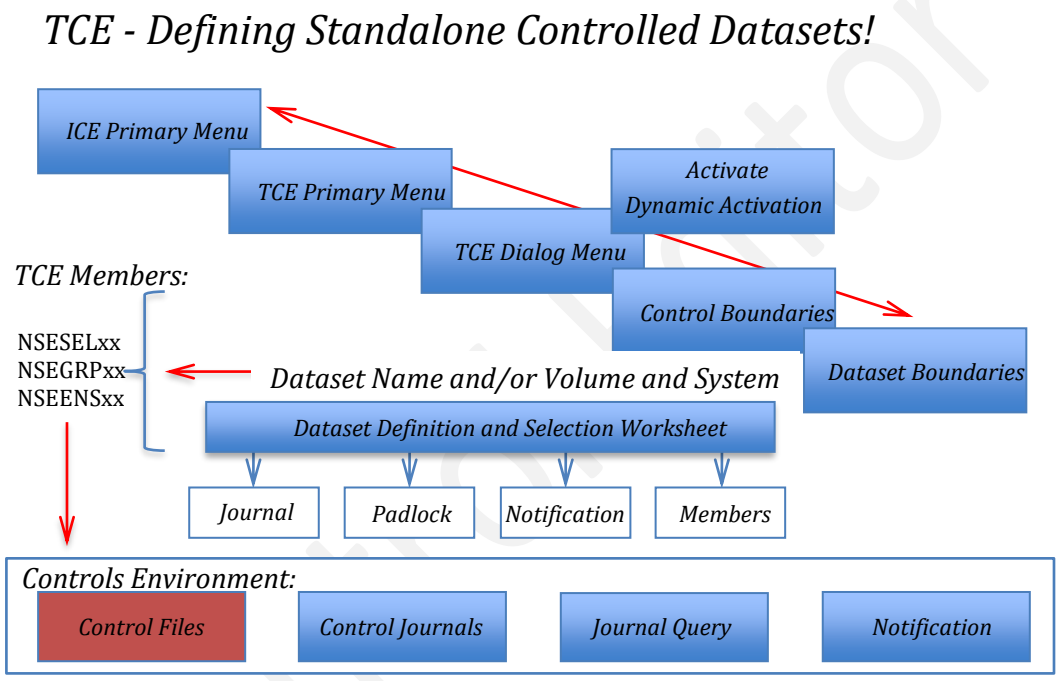
7.4.5.2 When entered Left of the Help Member Name

Enter the following Selection Commands on the entry point shown to the left of the associated Help Panel Member name:

V – Will displays Help Panel as the TSO/ISPF user would see it.
E – Displays Help Panel source in ISPF Edit. Updates automaticall saved.

8 Defining a Standalone Dataset Boundary

A Secondary set of TCE Control Boundaries can be established over Standalone Datasets. Such control definitions are made in the NSESELxx Configuration member using the Padlock function to define user access rights to specific members within a dataset. To update and/or establish Standalone Dataset Boundaries follow the path shown below to the Control Boundary Panel and select the Dataset Option. Care should be taken when making this selection to also activate the Global Padlock Dataset Setting shown in the panel. Only when this setting's value is shown as 'Yes' will Standalone Dataset Boundaries be actively enforced. The Global Padlock Dataset Setting, like all Padlock Global settings, is automatically updated when you advance to a desired Boundary Panel or PFK3 back to the prior menu.



8.1 The Dataset Boundary Worksheet

Selecting the Dataset Boundary option will immediately display the Controlled Dataset Selection Worksheet.

Controlled Dataset Selection -Worksheet

```
               TCE 17.0 - Controlled Dataset Selection        Row 1 to 5 of 5
--NSIMSLX 0923--                                            -Dataset Control-
------------------------- 5 Padlock Control Datasets ------------------------
Row Selections: Add_New Delete Update Show_Padlock Journal Notices Members_List
--- Select Sub-Head to Sort, Query above Sub-Head, Enter Saves a Row Update ---
- Row -----Counts----- -------------------Control Boundaries-------------------

_ ___ ___ ___ ___ ____ _____________________________________________ ______ ________
S Num Pad Jrl Not Mbrs -----------Controlled Datasets---------- Volume -System-
_ 001 001 000 000 0099 SYS1.PARMLIB                                 ------ --------
_ 002 002 000 000 0099 SYS1.PARMLIB                                 ZDRES1  ADCD113
_ 003 001 000 000 0035 SYS1.IPLPARM                                 ZDSYS1  ADCD113
_ 004 001 000 000 0048 USER.PARMLIB                                 ZDSYS1  ADCD113
_ 005 001 000 000 0282 ADCD.Z113.PARMLIB                            ZDRES1  ADCD113
****************************** Bottom of data ********************************




Option ===>                                                 Scroll ===> CSR
```

Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

8.1.1 Adding a Dataset

Datasets defined within a Controlled Category are called Controlled Datasets. To add a dataset to a Category, place an 'A' on any Row entry point and press enter. This action will display the Adding a Controlled Dataset Pop-Up in a *'Null State'*.

```
◊──────────────────────────────────────────────────────────────────────────◊
◊               TCE 17.0 - Adding a Controlled Dataset                     ◊
◊                    Category - SYSTEM.PARMLIB                             ◊
◊         ----------Control Dataset---------- Volume -System-              ◊
◊                                                                          ◊
◊──────────────────────────────────────────────────────────────────────────◊
```

The fields within the Pop-Up support Dataset Name and optionally Volume and System Name.

- When only Dataset Name is specified, the scope of the Category Boundary extends to ALL Datasets, on ALL Volumes, accessed from ALL Systems whether or not the Dataset is cataloged.
- When the optional Volume (VOLSER) name is specified the scope of the Category Boundary extends to the named Dataset on the volume specified and accessible from ALL Systems.
- When the optional System (SYSNAME) name is specified, the scope of the Category Boundary extends to the named Dataset on the volume specified but only accessible from the named System.

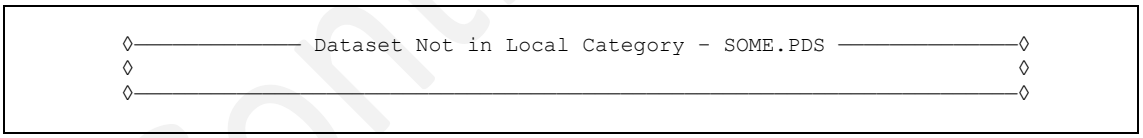
8.1.1.1 Context Sensitive Assistance

The Adding a Dataset Pop-Up described above supports two *Context Sensitive Assistants*. Placing the cursor in either entry field: Volume and System and pressing enter will activate the related Assistant.

- Volume – Cursor into the Volume entry field and press enter to display the volume housing the Controlled Dataset on the running system. Press PFK3 to enter the volume name in the entry field. If a related volume is not found in the running system catalog, a message is displayed.
- System – Cursor into the System entry field and press enter to display the name of the running system. Press PFK3 to enter the name in the entry field.

8.1.1.2 Invalid Dataset Entries

Dataset existence and Dataset Volume relationship on the running system are validated. If a Dataset does not exist or is not housed on a volume specified, the following message is displayed as you PFK3 back to the Dataset Worksheet:



Since it is possible that the intent of the entry is to define a future Dataset or a future Dataset placement, the entry will be allowed and subsequently recorded in NSECTLxx. Such invalid entries have no effect on the operation of the TCE Controls Environment except that a message will be issued at IFOM startup and/or at the point dynamic configuration activation that the dataset was not found and/or was not found on the volume specified. It is considered a *'Best Practice'* to review all such messages and to resolve them to site policy.

8.1.2 Deleting a Dataset

A Controlled Dataset may be deleted, and once deleted, restored at any time. To Delete a Dataset from a Controlled Category, place a 'D' on the Row entry point that precedes it and press enter; no confirmation is required. This action will immediately remove the dataset and redisplay the Worksheet.

8.1.3 Updating a Dataset

The Controlled Dataset Selection Worksheet offers selection options that support Dataset updating and refinement in three specific areas: Volume and/or System Names, Padlock Controls and Event Notifications. To access these, use the noted Row Selection Commands (U|S|N).

8.1.3.1 Volume and/or System

The 'U' Selection Command displays the Update Pop-Up. This is in the same format as the Add Dataset Pop-Up, the exception being that the current Volume and System Name settings are displayed in related input fields. To update these values overtype them. Use PFK3 to return to update the values and redisplay the worksheet. Notice messages may be displayed when a Dataset is not found on a specified volume. Context Sensitive Assistance works as noted when adding a new Dataset.

8.1.3.2 Padlock Controls

The 'S' Selection Command displays The Member Level Padlock – Dataset Worksheet showing the Padlock Controls defined for the selected Dataset.

The Member Level Padlock – Dataset Worksheet

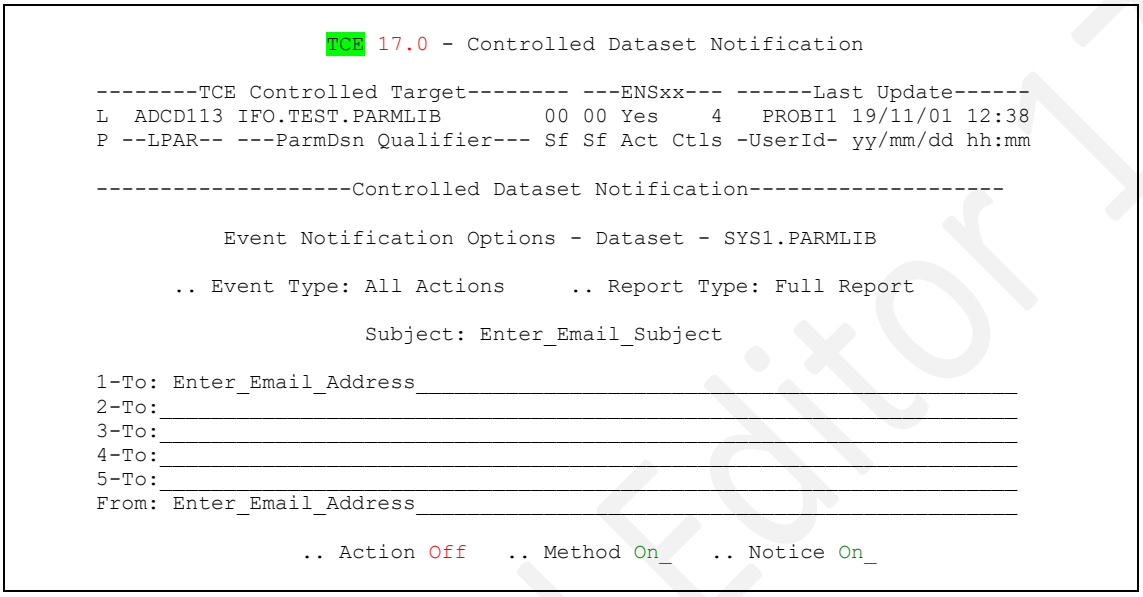
```
          TCE 17.0 - Member Level Padlock - Dataset      Row 1 to 1 of 1
--NSIMCLX 1023--                                       --Member Control--
------------------- 1 Member Control Record - USER.PARMLIB ------------------
Row Selection: Add_Record Delete_Record Update_Record Copy_Record Member_Events
--- Select Sub-Head to Sort, Query above Sub-Head, Enter Saves a Row Update ---
- Line -----Control Element----- ---------------------------------------------
_ ____ _______ ________ ________ _____________________________________________
S Numb Keyword Usr/+Grp -Member- -----------Member Control Comments------------
_ 0001 DSNALLI TCEUSER  *        OVERTYPE_'TCEUSER'_USERID_NOW!
****************************** Bottom of data ********************************
```

Padlock, Member Level Control may be defined relative to a specific Controlled Category that in turn is extended to the Datasets defined within that Category and/or to an individual Stand Alone Dataset. See the Section of this User Guide titled 'Defining Levels of TCE Padlock Control' for a complete discussion on this topic.

8.1.3.3 Notifications

The 'N' Selection Command displays The Controlled Dataset Notification Settings Panel.

The Controlled Dataset Notification Settings Panel



Notification may be defined relative to a specific Controlled Category and/or to an individual Stand Alone Dataset. See the Section of this User Guide titled 'Defining Event Notifications' for a complete discussion on this topic.

8.1.4 Support Functions

The Controlled Dataset Selection Worksheet offers access to two Dataset support functions: a listing of Journal Events by Selected Dataset and a Current List of Members within a Selected Dataset.

8.1.4.1 Journal Events

The 'J' Selection Command displays the Journal Event Selection Worksheet. Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

8.1.4.2 Member List

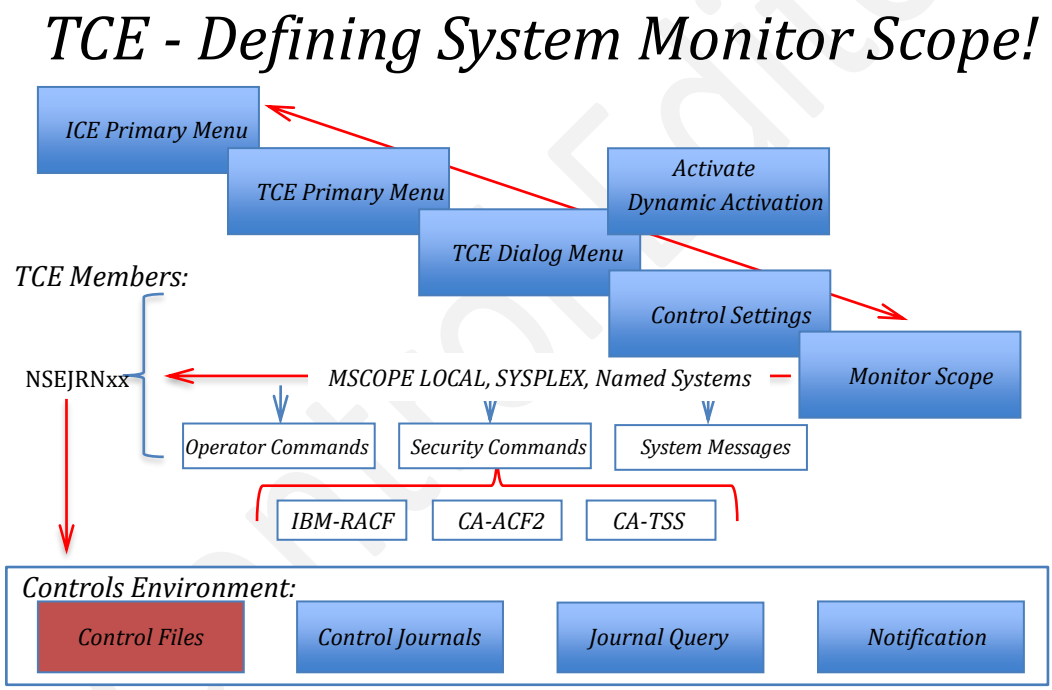
The 'M' Selection Command displays the Controlled Member Selection Worksheet. Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

9 Defining the Scope of System Monitoring

Before TCE can enforce a Control Boundary over Operator Commands and Security Commands or begin to intercept System Messsages, the scope of the TCE System Monitor, MSCOPE as found in NSEJRNxx, must be defined and activated. Such a definition may include the Local *('Running System')* system, all Systems in a Sysplex or a list of Named Systems. By default, the scope of the TCE System Monitor is set to 'NONE'.

```
MSCOPE LOCAL
MSCOPE SYSPLEX
MSCOPE (system_name_1,system_name_2,system_name_n)
```

When you are ready to override or reset the Scope Setting, follow a path from the ICE Primary Menu to the Control Settings Menu shown below and select the MonScope Option. This action will immediately display the '*System Monitor Scope and Elements'* Panel.



9.1 Monitoring System Elements

In addition to setting Monitor Scope the individually monitored elements - Operator Commands, Security Commands and System Messages - each have their own unique *'Intercept Controls'*. These controls allow the Control Boundary enforced by TCE over each element to be independently turned 'On|Off'.

- When Operator Commands are the target of system monitoring, individual operator commands must be identified by type as SET, MODIFY or Miscellaneous commands along

with the fully qualified Command Name. When all commands in a command set are desired use ALLSET, ALLMOD or ALLMISC to specify that all commands in a command set are valid monitoring targets.

```
OPERCMDINTERCEPT ON|OFF

SETCMD command_name
MODCMD command_name
MISCCMD command_name
```

- When Security Commands are the target of system monitoring, the External Security Manager (ESM) *'Intercept Control'* must be set *'On'*. One or more *'Intercept Controls'* may be set 'On|Off' thus allowing for *'Mixed ESM'* environment monitoring. Within each security system (IBM-RACF, CA-ACF2 and CA-Top Secret), individual commands must be defined unless ALLxxxx is specified; all commands associated with the ESM become valid monitoring targets.

```
ESMINTERCEPT ON|OFF

RACFCMDINTERCEPT ON|OFF
RACFCMD command_name

ACF2CMDINTERCEPT ON|OFF
ACF2CMD command_name

TSSCMDINTERCEPT ON|OFF
TSSCMD ON|OFF
```

- When System Messages are the target of system monitoring, the fully qualified MessageID must be specified. Further qualification of a System Message Intercept may include specific message text.

```
MSGIDINTERCEPT ON|OFF
MSGID system_message_identifier message_text
```

9.1 Monitor Control Points

System Monitor Scope and Command Intercepts can be set from three Dialog Panels:

- System Monitor Scope and Elements Panel
- The Control Boundary Selection Panel
- Command and Message Boundaries Panel

Each panel fully articulates with all others such that changes made in one will automatically update and appear in all others when they are accessed.

9.1.1 System Monitor Scope and Elements

This panel should be considered the primary Configuration Dialog for setting the Scope of System Monitoring and the various Control Boundary Intercept Points.

For System Monitoring to occur the value of *'State'* must be set 'On' and the value of *'Scope'* must be set as Local, Sysplex or Systems. If Systems is specified, the name of the individual systems must be entered.

For a Control Boundary to be actively monitored, its state must be set to 'On'. Cursor under a value field on the right side of a specific Boundary or Security Manager and press enter to toggle the value in the field 'On|Off.

The options shown at the bottom of the panel provide access to the Command Selection List for Operator and Security Commands and Message Definition List for System Messages. To select an option enter an 'S' before or cursor under it and press enter. This action will immediately display the desired List.

System Monitor Scope and Elements - Panel

```
                    TCE 17.0 - System Monitor Scope and Elements

  --------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
  L  ADCD113 IFO.TEST.PARMLIB          00 00 Yes   29    PROBI1 19/11/06 10:47
  P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

    ------------------- State .. ON_ Scope .. Local___ ------------------

   -----------------Enter System Names, if Desired Below------------------
    LOCAL___ ________ ________ ________ ________ ________ ________ ________

----Current Definition---- Cm ---Boundaries--- Cm ----Updated Definition----
_________________________OFF .. Operator Command .. OFF_____________________
_________________________ON  .. Security Command .. ON______________________
_________________________OFF .. Operator Message .. OFF_____________________

----Current Definition---- Cm Security Manager Cm ----Updated Definition----
_________________________ON  .. IBM-RACF         .. ON______________________
_________________________OFF .. CA-ACF2          .. OFF_____________________
_________________________OFF .. CA-Top Secret    .. OFF_____________________

.. SETCmd  .. MODCmd  .. MISCmd  .. RCFCmd  .. ACFCmd  .. TSSCmd  .. SYSMsId
```

Once the Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a tutorial that explains layout, fields and selection options.

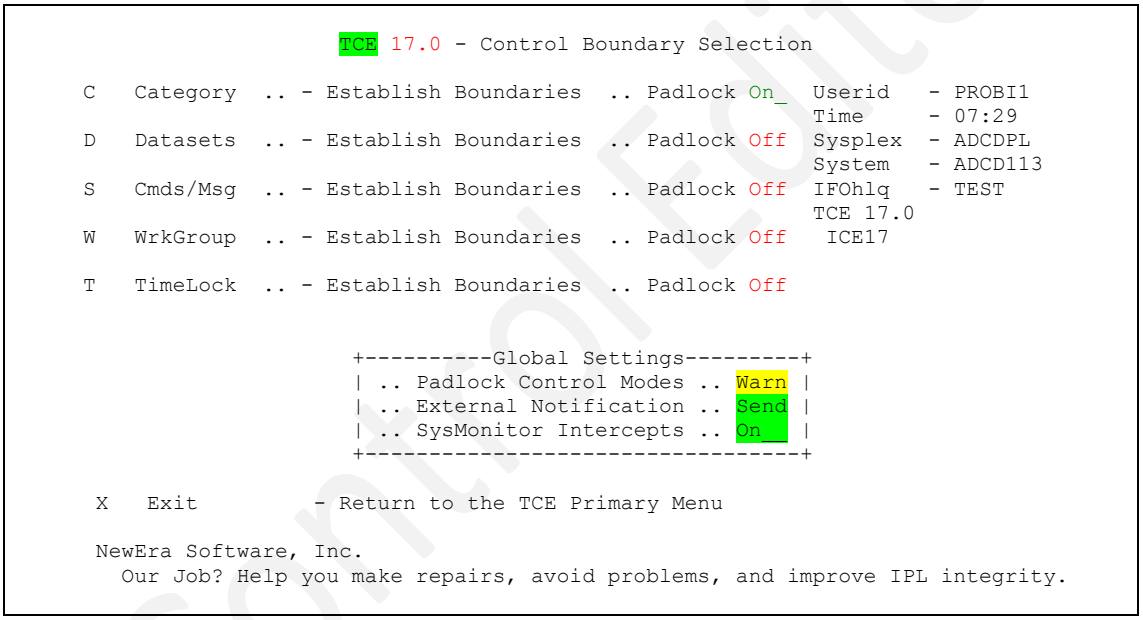
9.1.2 Control Boundary Selection

This Panel is displayed when *'Boundary'* is selected from the Dialog Primary Menu. Take note of the Global Settings and the value shown in each individual Padlock Value Field.

For System Monitoring to be active, the value of *'SysMonitor Intercept'* must be set to *'Yes'*. To toggle an Intercept 'On|Off' enter 'S' before the value or cursor into the Value Field and press enter. Placing 'S' before *'SysMonitor Intcept'* and pressing enter will display the '*System Monitor Scope and Elements'* Panel described above.

For Padlock Control to be active, the Padlock Value Field associated with a Control Boundary must be set to *'On'*. To toggle the Padlock Value, place an 'S' before the targeted Padlock or cursor into its Value Field and press enter.

The Control Boundary Selection Panel



Study this panel thoroughly to get a general understanding of its content as it will be a frequently visited *'Way Point'* on the way to accessing and updating the detailed settings of TCE Control Boundaries and Boundary Padlocks. Use PFK1 to display a Worksheet tutorial that will explain the Worksheet layout, columns and selection options.

9.1.3 Command and Message Boundaries

This Panel is displayed when *'Command and/or Message Control'* Boundaries are being created or updated. Take note of the Intercept Value Field. For a Command or Message Boundary to be actively monitored, its related Intercept must be turned *'On'*. To toggle an Intercept 'On|Off', enter 'S' before it or cursor into the Value Field and press enter.

Command and Message Boundaries - Panel

```
                    TCE 17.0 - Command and Message Boundaries

  O   Operator     - Operator Commands  .. Intercept On_   Userid   - PROBI1
                                                          Time     - 14:34
  S   SETS  .. - SETS        Mix                          Sysplex  - ADCDPL
  O   MODS  .. - MODIFY      All                          System   - ADCD113
  I   MISC  .. - Other       All                          IFOhlq   - TEST
                                                          TCE 17.0
  E   Security     - Security Commands  .. Intercept On_     ICE17

  R   RACF  .. - IBM/RACF    All    .. Intercept On_
  A   ACF2  .. - CA/ACF2     ---    .. Intercept Off
  C   CATS  .. - CA/TSS      ---    .. Intercept Off

  M   Messages  .. - Operator Messages  .. Intercept On_




  X   Exit         - Return to the TCE Primary Menu

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    Our Job? Help you make repairs, avoid problems, and improve IPL integrity.
```

Once the Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a tutorial that explains layout, fields and selection options.

9.1.4 Affecting a Control Change

To make any change to a setting of Monitor Scope or to a related Sub-Element Control Boundary, you must first make the change then PFK3 out of any of the three panels described above. When you do this the NSEJRNxx member that contains the configuration Control Statements will be automatically updated. Next, to have the changes take full effect, dynamically activate them. To do this, return to the Control Boundary and Settings Menu, select the Activate Option. This action will display the TCE Configuration Utilities Menu; now select Activate to immediately implement your changes.

10 Defining Operator Command Boundary

Control Boundaries may be established around System Operator Commands. But before they will become active certain Global Control Statements found in NSEJRNxx must be activated. See the section of this User Guide titled *'Defining the Scope of System Monitoring'* for a description of the following:

```
OPERCMDINTERCEPT ON|OFF

SETCMD command_name
MODCMD command_name
MISCCMD command_name
```

Once these Global Control Statements are in place, the usage of command(s) named to TCE is recorded, and as desired, notification of command usage is sent via email to a selected set of recipients. The origin of a command may be considered when creating a boundary such as to 'Exclude' command usage that originates from a Console, TSO user, a Batch Job and/or Stated Task.

Command and Message Boundaries - Panel

```
                TCE 17.0 - Command and Message Boundaries

O   Operator     - Operator Commands  .. Intercept On_   Userid   - PROBI1
                                                        Time     - 14:34
S   SETS  .. - SETS        Mix                          Sysplex  - ADCDPL
O   MODS  .. - MODIFY      All                          System   - ADCD113
I   MISC  .. - Other       All                          IFOhlq   - TEST
                                                        TCE 17.0
E   Security     - Security Commands  .. Intercept On_      ICE17

R   RACF  .. - IBM/RACF    All    .. Intercept On_
A   ACF2  .. - CA/ACF2     ---    .. Intercept Off
C   CATS  .. - CA/TSS      ---    .. Intercept Off

M   Messages  .. - Operator Messages  .. Intercept On_




X   Exit         - Return to the TCE Primary Menu

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```
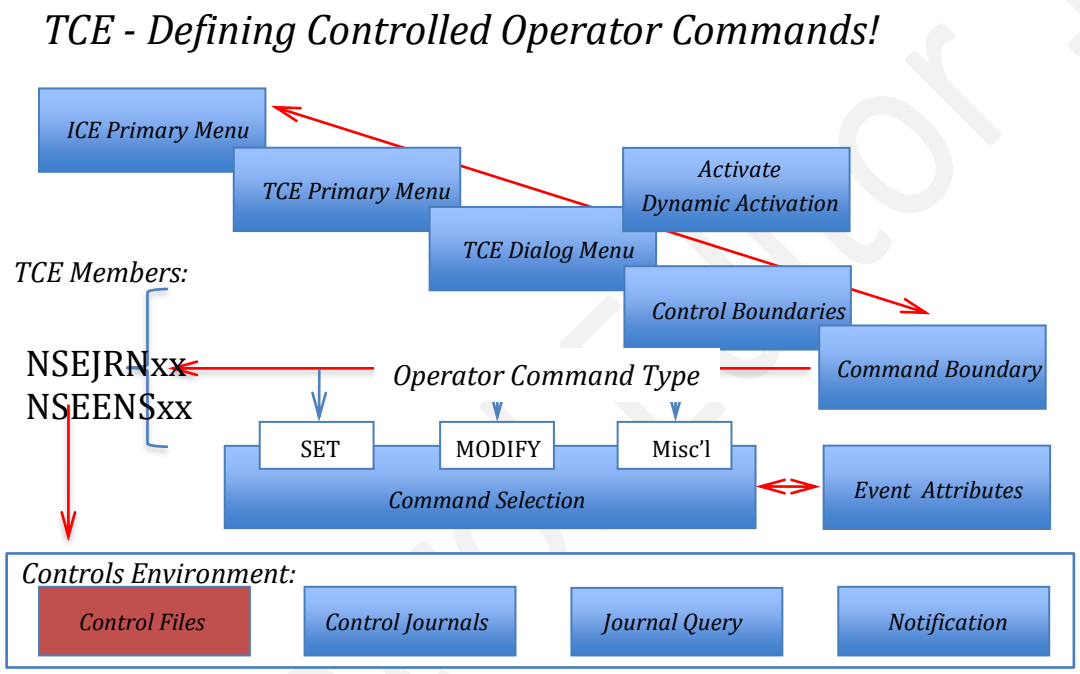

10.1 Operator Command Intercept

Before TCE can begin monitoring, the occurance of Operator Commands System Monitoring, MSCOPE, must be set 'On', the OPERCDMINTERCEPT must be set 'On' and individual Operator Commands within a specific command set; SET, MODIFY, Miscellaneous must be defined.

10.2 Operator Commands

TCE supports the full set of z/OS Operator Commands. The Selection List detailed in the various panels shown in the following sub-sections is specific to SET, MODIFY and Miscellaneous Commands. Each panel supports a common method of command selection. Place the '/' character on the command entry point before a command to activate its monitoring. Place the '*' character on the command entry before a command to 'comment it out' and deactivate its monitoring. Finally, insert a blank on the command entry point to stop monitoring a previously actively monitored command. Selections will be saved when you press Enter or PFK3 to return to the prior menu. To make updates active, return to the Primary Control Menu select Activate Option, then Activate All.



Each command, depending on its type, may be supported by a variety of additional options – Operational Enhancements: Source Exclusion, Notification, Application Calling and Padlock Controls. To view the Options List for a specific command, place the cursor under the command name and press enter. This action will display an Options Panel specific to the selected Command Type. Following the instructions, press PFK1, supporting the Options Panel displayed, setting the configuration as desired. When finished, press PFK3 to save the setting, if any, and return to the prior Command Selection List. Note that when a command or message is supported by options that the Plus Sign will appear adjacent to the '/' and '*' on the command entry point that precedes a command supported by Common Service Options.

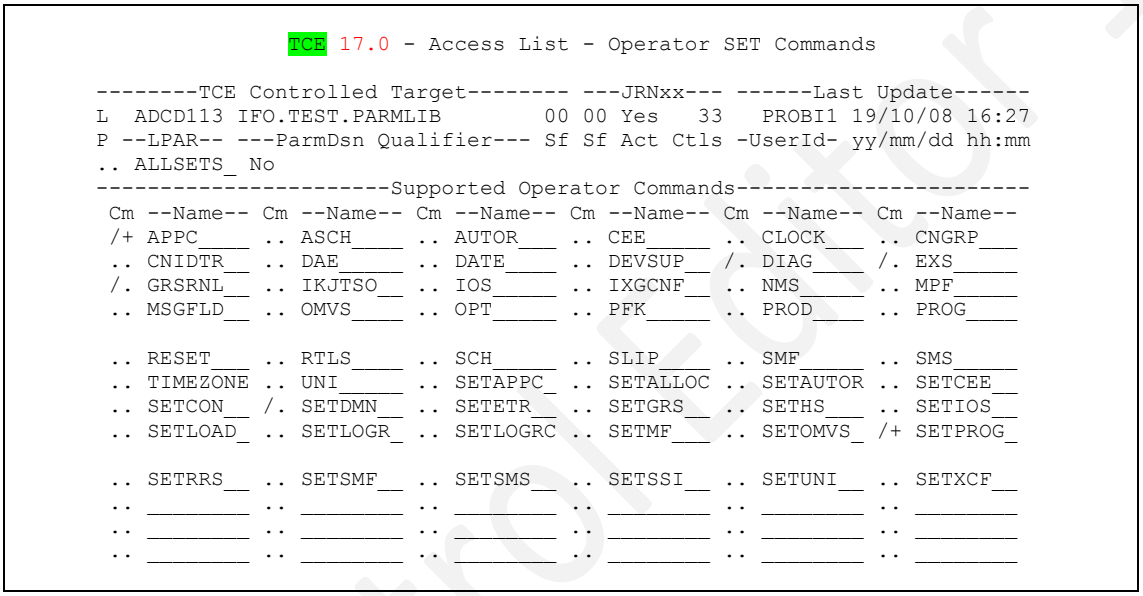
10.3 Affecting a Control Change

To make any change to a setting of Monitor Scope or to a related Sub-Element Control Boundary, you must first make the change then PFK3 out of any of the three panels described above. When you do this the NSEJRNxx member that contains the configuration Control Statements will be automatically updated. Next, to have the changes take full-effect, dynamically activate them. To do this, return to the Control Boundary and Settings Menu, select the Activate Option. This action will display the TCE Configuration Utilities Menu; now select Activate to immediately implement your changes.

10.3.1 SET Commands

TCE can intercept all forms of SET Commands, SETxxxx and SET xxxx, current through release V2R1 of the z/OS Operating System. When the *'SETS'* option is selected from the *'Commands and Messages Boundary'* Panel, the Set Command Selection List is displayed. The content of the Command List is predetermined; commands cannot be added or deleted, they may only be selected by marking all or individual commands as monitor targets.

Access List - Operator SET Commands



Once the SET Command Selection List is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a tutorial that explains layout, columns and selection options.

10.3.2 Command Marking

There are two *'Selection Characters'* used for *'Marking'* commands as being selected from the List. All markings are placed in the entry point that precedes the command name. Using the '/' indicates that the command is selected and is actively being monitored. Use the '*' to indicate that the command is selected but is not being actively being monitored. Blank the entry point to remove a previous selection.

Once Commands has been selected from the List, they may be operationally enhanced using an available set of Common Services. To display the Common Services Interface, *'Exclusions and Notices',* cursor under a selected command and press enter.

When the monitoring of a selected command has been operationally enhanced, a '+' will appear next to the *'Selection Characters',* for example, '/+ or /*'. When operational enhancements include Padlock Command Level Control, the Command will be shown reverse highlighted.

10.3.3 Marking All Commands

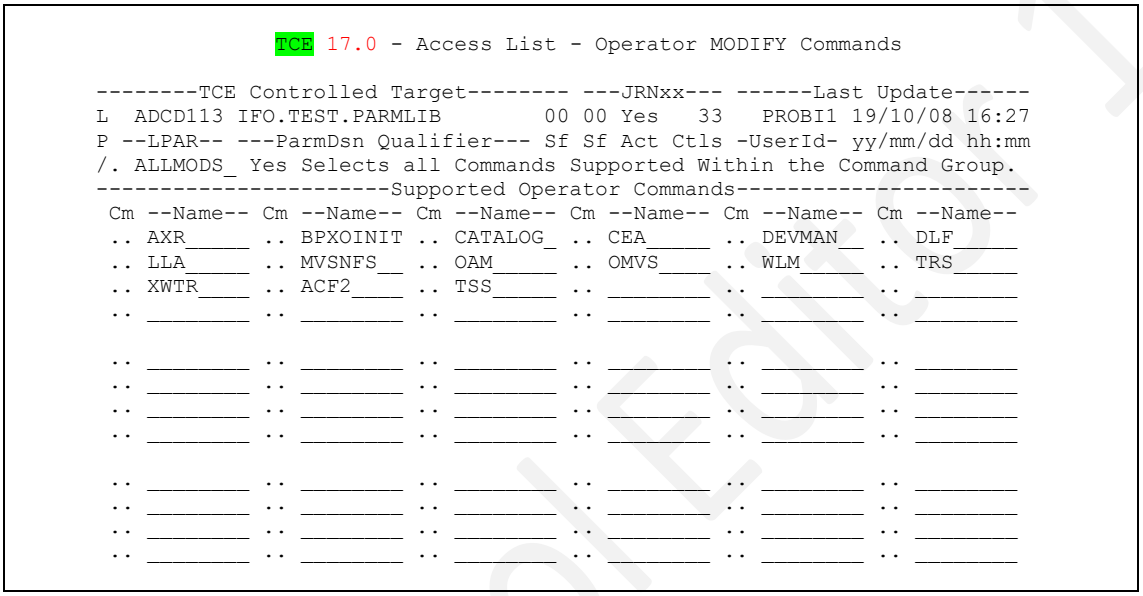
The panel also supports a 'Select All' option 'ALLSETS' shown right below the '—LPAR—' column header. If all SET Commands are to be monitored, place '/' on the entry point before 'ALLSETS' and press enter. The panel will be redisplayed showing the message, *'Select all Commands Supported Within the Command Group'*.

```
                TCE 17.0 - Access List - Operator SET Commands

--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes   29   PROBI1 19/11/06 10:47
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm
/. ALLSETS_ Yes Selects all Commands Supported Within the Command Group.
-----------------------Supported Operator Commands----------------------
```

10.3.4 Modify Commands

When the MODS option is selected from the *'Commands and Messages Boundary'* Panel the MODIFY Command Selection List is displayed. The content of the Command List is predetermined; commands cannot be added or deleted, they may only be selected by marking all or individual commands as monitor targets.

Access List - Operator MODIFY Commands



Once the MODIFY Command Selection List is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a tutorial that explains the layout, columns and selection options.

10.3.5 Command Selection

There are two *'Selection Characters'* used for *'Marking'* commands as being selected from the List. All markings are placed in the entry point that precedes the command name. Using the '/' indicates that the command is selected and is actively being monitored. Use the '*' to indicate that the command is selected but is not being actively being monitored. Blank the entry point to remove a previous selection.

Once Commands has been selected from the List, they may be operationally enhanced using an available set of Common Services. To display the Common Services Interface, *'Exclusions and Notices',* cursor under a selected command and press enter.

When the monitoring of a selected command has been operationally enhanced, a '+' will appear next to the *'Selection Characters',* for example, '/+ or /*'. When operational

enhancements include Padlock Command Level Control the Command will be shown reverse highlighted.

10.3.6 Marking All Commands

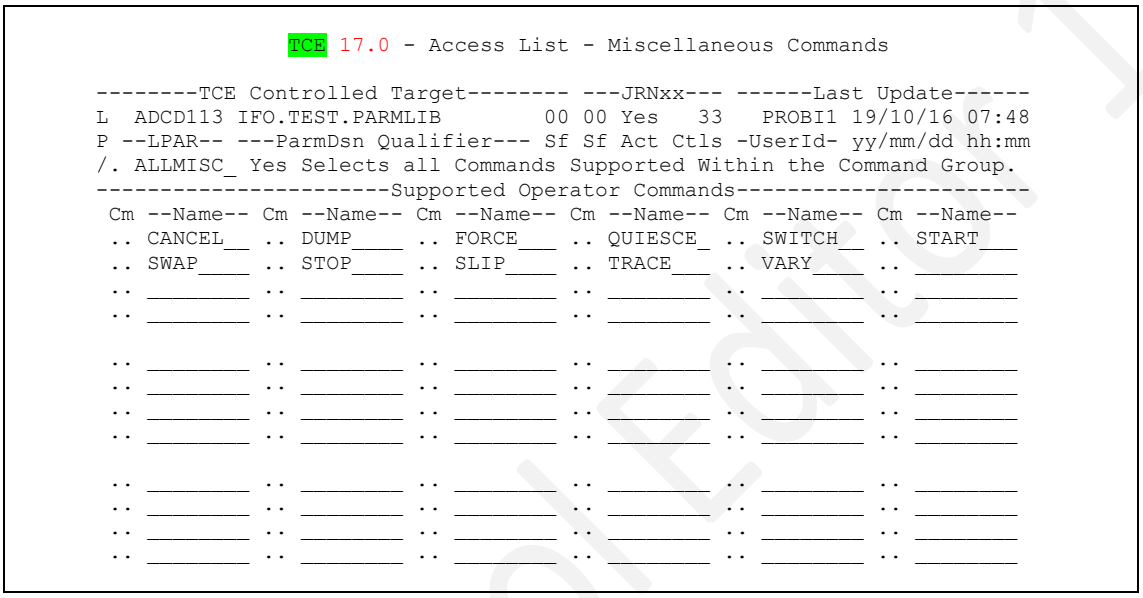
The panel also supports a 'Select All' option 'ALLMODS' shown right below the '—LPAR— ' column header. If all MODIFY Commands are to be monitored, place '/' on the entry point before 'ALLMODS' and press enter. The panel will be redisplayed showing the message, *'Select all Commands Supported Within the Command Group'*.

```
               TCE 17.0 - Access List - Operator MODIFY Commands
--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes   24   PROBI1 19/11/06 15:59
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm
/. ALLMODS_ Yes Selects all Commands Supported Within the Command Group.
-----------------------Supported Operator Commands-----------------------
```

10.3.7 Miscellaneous Commands

When the MISC option is selected from the *'Commands and Messages Boundary'* Panel the Miscellaneous Command Selection List is displayed. The content of the Command List is predetermined; commands cannot be added or deleted, they may only be selected by marking all or individual commands as monitor targets.

Access List - Miscellaneous Commands



Once the Miscellaneous Command Selection List is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a tutorial that explains the layout, columns and selection options.

10.3.8 Command Selection

There are two *'Selection Characters'* used for *'Marking'* commands as being selected from the List. All markings are placed in the entry point that precedes the command name. Using the '/' indicates that the command is selected and is actively being monitored. Use the '*' to indicate that the command is selected but is not actively being monitored. Blank the entry point to remove a previous selection.

Once Commands has been selected from the List, they may be operationally enhanced using an available set of Common Services. To display the Common Services Interface, *'Exclusions and Notices',* cursor under a selected command and press enter.

When the monitoring of a selected command has been operationally enhanced, a '+' will appear next to the *'Selection Characters'* for example, '/+ or /*'. When operational

enhancements include Padlock Command Level Control, the Command will be shown reverse highlighted.

10.3.9 Marking All Commands

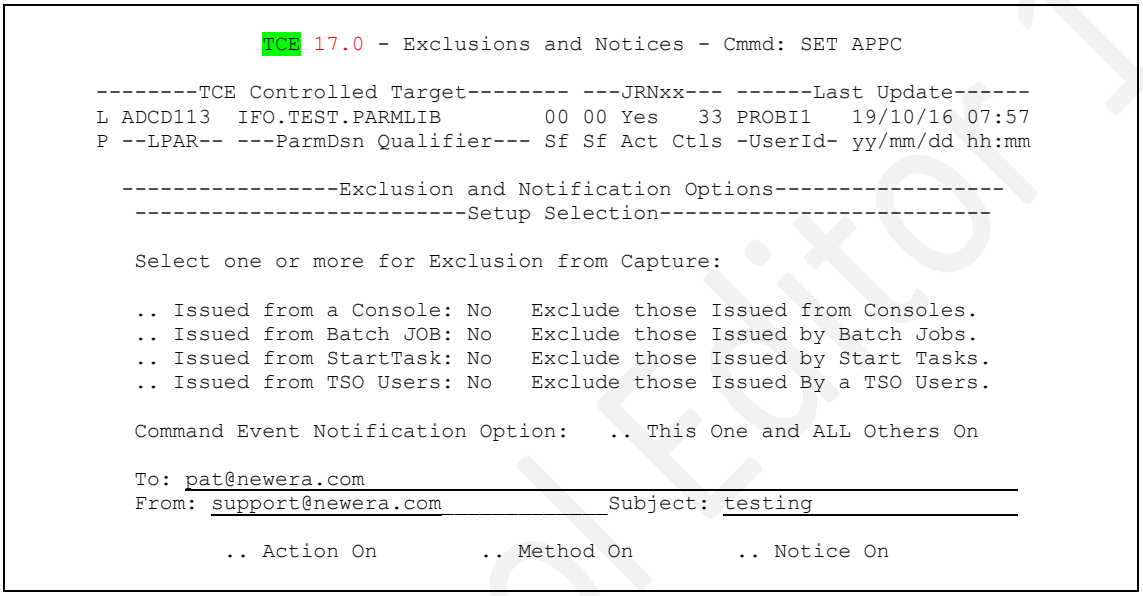
The panel also supports a 'Select All' option 'ALLMISC' shown right below the '—LPAR—' column header. If all Miscellaneous Commands are to be monitored, place '/' on the entry point before 'ALLMISC' and press enter. The panel will be redisplayed showing the message, *'Select all Commands Supported Within the Command Group'*.

```
                TCE 17.0 - Access List - Miscellaneous Commands

--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes   25   PROBI1 19/11/06 16:02
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm
/. ALLMISC_ Yes Selects all Commands Supported Within the Command Group.
-----------------------Supported Operator Commands-----------------------
```

10.4 Operational Enhancements

Operator Commands are supported by a number of common services, the selection and setting of which are made available on a panel specific to the selected Command Type. This sub-section discusses all available Common Services, some of which may not apply directly to a selected Command Type.

Exclusions and Notices - Cmmd: command_name - Panel



Once the Exclusion and Notices Panel is displayed, study it thoroughly to gain a general understanding of its content. Use PFK1 to display a Panel List tutorial that explains the Panel layout, columns and selection options.

10.4.1 Exclusion

Operator Commands may originate from Console, Batch Job, Started Task and TSO Users. Use the 'S' to toggle On/Off one or more of these Operator Command points of origin.

10.4.2 Notices

Notices may be sent when ALL or a specific Command and/or Message is intercepted. Recipient(s) and Sender Address and Subject are required. See Action, Method and Notice Status at bottom of panel; all must be 'On' for Email Notification.

Valid To, From Email Addresses and Subject are required. Separate Multi-To Addresses with a comma ',' as needed.

10.4.2.1 Notice to All Others

By default, Notification is limited to the detection of the selected Message ID. To extend notification to all named message events, toggle 'All Others' to 'On'.

10.4.3 Email Address Book

There are likely to be many different Email Addresses in the TCE Environment. This Worksheet displays a Selection List of all known addresses. Review the list for a desired address. To select an address place the Row Command 'S' before the row in which the address appears, press enter. This will immediately return you to your prior panel where the address will automatically be inserted in your selection field of origin. Multiple selections of addresses are not allowed; you must return to select additional addresses if the panel of origin supports multiple addresses.

Notification - Address Selection - Panel

```
           TCE 17.0 - Notification - Address Selection    Row 1 to 7 of 7
--NSIMELX 0831--                                           ---Address List---
------------------------- 7 Configured Email Addresses -----------------------
Row Selection: Select_Address_and_Return
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Row --- ---------------------Controlled Event Notification------------------
_ ___ ___ ____________________________________________________________________
S Num Use ----------------------------Email Address---------------------------
_ 001 003 pat@newera.com
_ 002 007 support@newera.com
_ 003 007 GHB@NEWERA.COM
_ 004 003 prr@newera.com
_ 005 004 ghb@newera.com
_ 006 001 PLAYTWO@NEWERA.COM
_ 007 001 No_Recipient
****************************** Bottom of data ********************************




Option ===>                                                Scroll ===> CSR
```

Once the Address Selection Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

10.4.3.1 Selecting and Address

Use the 'S' Row Command to select an address and return to your panel of origin. Only one selection can be made at a time. In the event you wish to select more than one Email Address, you will have to return. Be sure to select a new field in your panel of origin if you intend to return and make an additional selection. This caution is needed to avoid overwriting any prior selections.

10.4.4 Global Notification Controls

The Global Notification Controls that appear at the bottom of the panel MUST all be 'On' for Email Notification to occur as expected. If turning 'Off' a specific notification is desired, toggle the value of Action to 'Off'. This action will mark the specific notification as 'Disable' so that it can be reenabled at any time by resetting Action to 'On'.

10.4.4.1 Action

ACTION refers to Notification of events detected that relate to the selected Operator Command. When the value is set to 'On', Notification may be sent to the specified recipient if both Method and Notice are both 'On'. Place the 'S' character on the command entry point and press enter to toggle only this specific action 'On/Off'.

10.4.4.2 Method

Method refers to the Email Configuration METHOD BLOCK. For notification to be sent via Email the METHOD BLOCK must be fully configured and active. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set or configure the METHOD BLOCK as desired.

10.4.4.3 Notice

Notice refers to the Global Email Activation Parameter. In order for notification to be sent, this value must be set to 'On'. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set 'Global Control' as desired.

11 Defining a Security Command Boundary

Control Boundaries may be established around External System Manager (ESM) Commands but before they will become active, certain Global Control Statements found in NSEJRNxx must be activated. See the section of this User Guide titled *'Defining the Scope of System Monitoring'* for a description of the following:

```
ESMINTERCEPT ON|OFF

RACFCMDINTERCEPT ON|OFF
RACFCMD command_name

ACF2CMDINTERCEPT ON|OFF
ACF2CMD command_name

TSSCMDINTERCEPT ON|OFF
TSSCMD ON|OFF
```

Once these Global Control Statements are in place the usage of named commands is recorded and, as desired, notification of command usage sent via email to a selected set of recipients.

The origin of a command may be considered when creating a boundary such as to 'Exclude' command usage that originates from a Console, TSO user, a Batch Job and/or Started Task. Padlock Controls may be used to limit user access to IBM-RACF Commands.

Command and Message Boundaries – Security Commands

```
                    TCE 17.0 - Command and Message Boundaries

   O   Operator     - Operator Commands  .. Intercept On_   Userid   - PROBI1
                                                          Time     - 14:34
   S   SETS  .. - SETS        Mix                         Sysplex  - ADCDPL
   O   MODS  .. - MODIFY      All                         System   - ADCD113
   I   MISC  .. - Other       All                         IFOhlq   - TEST
                                                        TCE 17.0
   E   Security     - Security Commands  .. Intercept On_      ICE17

   R   RACF  .. - IBM/RACF    All    .. Intercept On_
   A   ACF2  .. - CA/ACF2     ---    .. Intercept Off
   C   CATS  .. - CA/TSS      ---    .. Intercept Off

   M   Messages  .. - Operator Messages  .. Intercept On_




   X   Exit         - Return to the TCE Primary Menu

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```
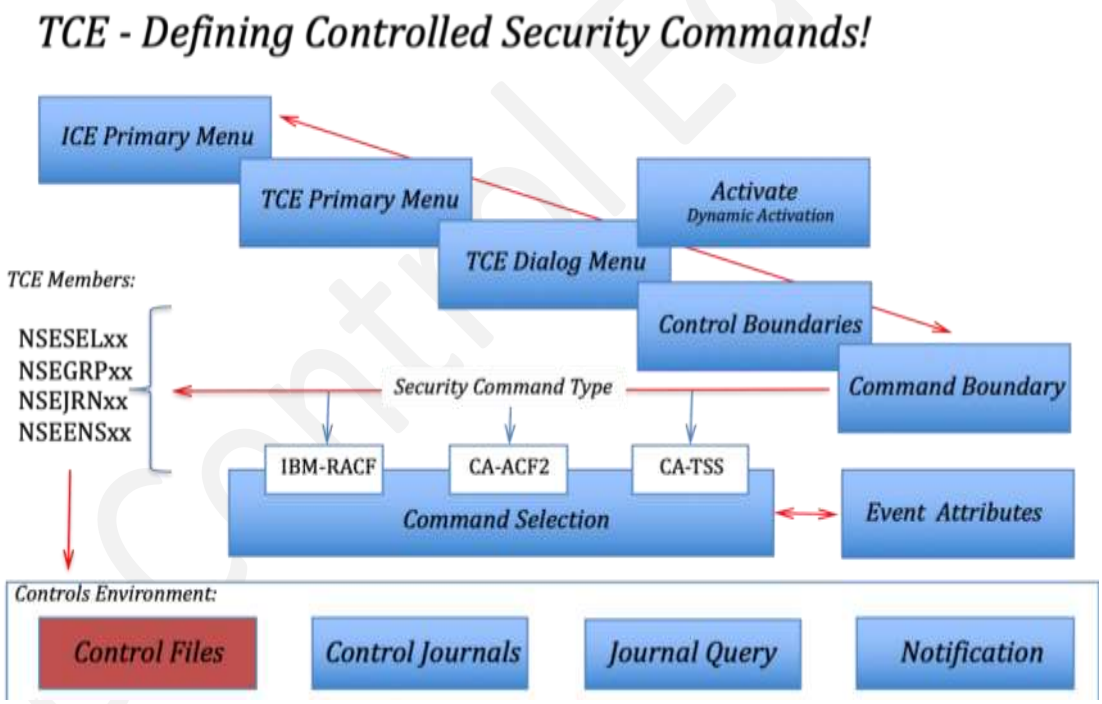

11.1 Security Command Intercept

Security System Command Monitoring will begin only when MSCOPE is correctly defined, ESMINTERCEPT is set 'On' and individual Security Commands within a specific command set: IBM-RACF, CA-ACF2, CA-Top Secret have been defined.

11.2 Selecting a Command Set

TCE supports all commercially available External Security Managers (ESM). The Selection List detailed in the various panels shown in the following sub-sections is specific to IBM-RACF, CA-ACF2 and CA-Top Secret Commands. Each panel supports a common method of command selection. Place the '/' character on the command entry point before a command to activate its monitoring. Place the '*' character on the command entry before a command to 'comment it out' and deactivate its monitoring. Finally, insert a blank on the command entry point to stop monitoring a previously actively monitored command. Selections will be saved when you press Enter or PFK3 to return to the prior menu. To make updates active, return to the Primary Control Menu, select Activate Option, then Activate All.



Each command, depending on its type, may be supported by a variety of additional options – Operational Enhancements: Source Exclusion, Notification, Application Calling and Padlock Controls. To view the Options List for a specific command, place the cursor under the command name and press enter. This action will display an Options Panel specific to the selected Command Type. Following the instructions, press PFK1, supporting the Options Panel displayed, setting the configuration as desired. When finished, press PKF3 to save the setting, if any, and return to the prior Command Selection List. Note that when a command or

message is supported by options that the Plus Sign, ‘+’, will appear adjacent to the '/' and '*' on the command entry point that precedes a command supported.

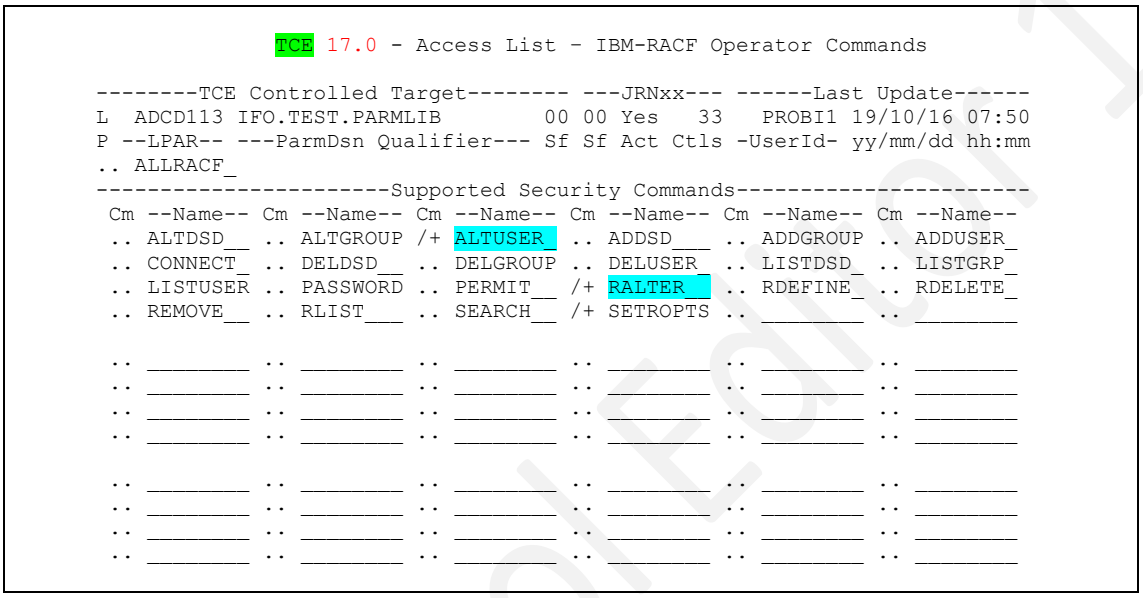
11.3 Affecting a Control Change

To make any change to a setting of Monitor Scope or to a related Sub-Element Control Boundary, you must first make the change then PFK3 out of any of the three panels described above. When you do this the NSEJRNxx member that contains the configuration Control Statements will be automatically updated. Next, to have the changes take full effect, dynamically activate them. To do this, return to the Control Boundary and Settings Menu, select the Activate Option. This action will display the TCE Configuration Utilities Menu; now select Activate to immediately implement your changes.

11.3.1 IBM-RACF Commands

When the RACF option is selected from the *'Commands and Messages Boundary'* Panel the IBM-RACF Command Selection List is displayed. The content of the Command List is predetermined; commands cannot be added or deleted, they may only be selected by marking all or individual commands as monitor targets.

Access List – IBM-RACF Operator Commands



Once the IBM-RACF Operator Command Selection Panel is displayed, study it thoroughly to gain a general understanding of its content. Use PFK1 to display a Selection List tutorial that explains the Panel layout, columns and selection options.

11.3.2 Command Selection

There are two *'Selection Characters'* used for *'Marking'* commands as being selected from the List. All markings are placed in the entry point that precedes the command name. Using the '/' indicates that the command is selected and is actively being monitored. Use the '*' to indicate that the command is selected but is not being actively being monitored. Blank the entry point to remove a previous selection.

Once Commands has been selected from the List, they may be operationally enhanced using an available set of Common Services. To display the Common Services Interface, *'Exclusions and Notices',* cursor under a selected command and press enter.

When the monitoring of a selected command has been operationally enhanced, a '+' will appear next to the *'Selection Characters'* for example, '/+ or /*'. When operational

enhancements include Padlock Command Level Control, the Command will be shown reverse highlighted.

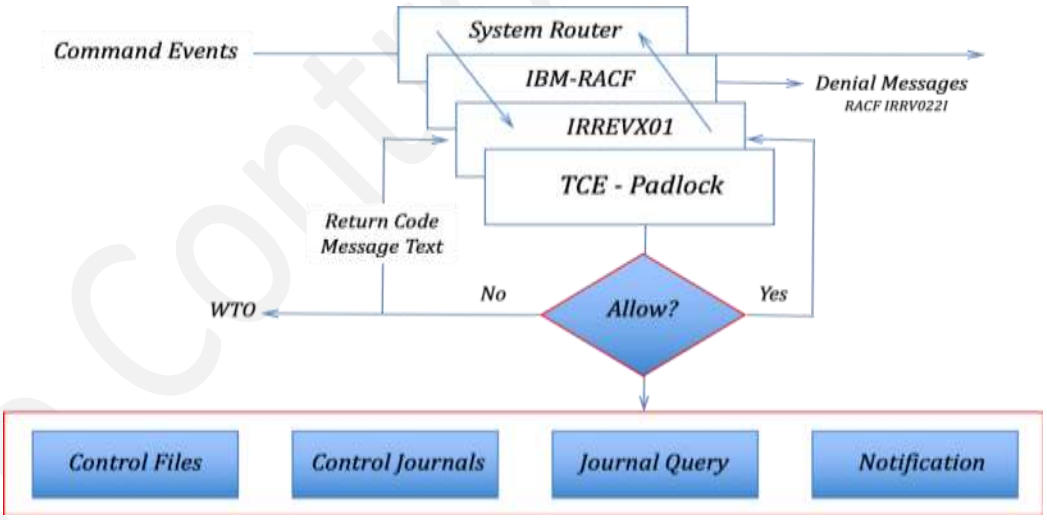
11.3.3 Marking All Commands

The panel also supports a 'Select All' option 'ALLRACF' shown right below the '—LPAR—' column header. If all IBM-RACF Commands are to be monitored, place '/' on the entry point before 'ALLRACF' and press enter. The panel will be redisplayed showing the message, *'Select all Commands Supported Within the Command Group'*.

```
                TCE 17.0 - Access List - RACF Operator Commands

--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes   26    PROBI1 19/11/06 16:05
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm
/. ALLRACF_ Yes Selects all Commands Supported Within the Command Group.
-----------------------Supported Security Commands-----------------------
```

11.3.4 Padlock Control over IBM-RACF Commands

In addition to the Operator Command detection and logging functions for SET, MODIFY and Miscellaneous and IBM-RACF, CA-ACF2 and CA-Top Secret provided by The Control Editor, the Padlock could be used to deny Operator Command usage. In this release this level of control applies only to IBM-RACF Operator Commands.



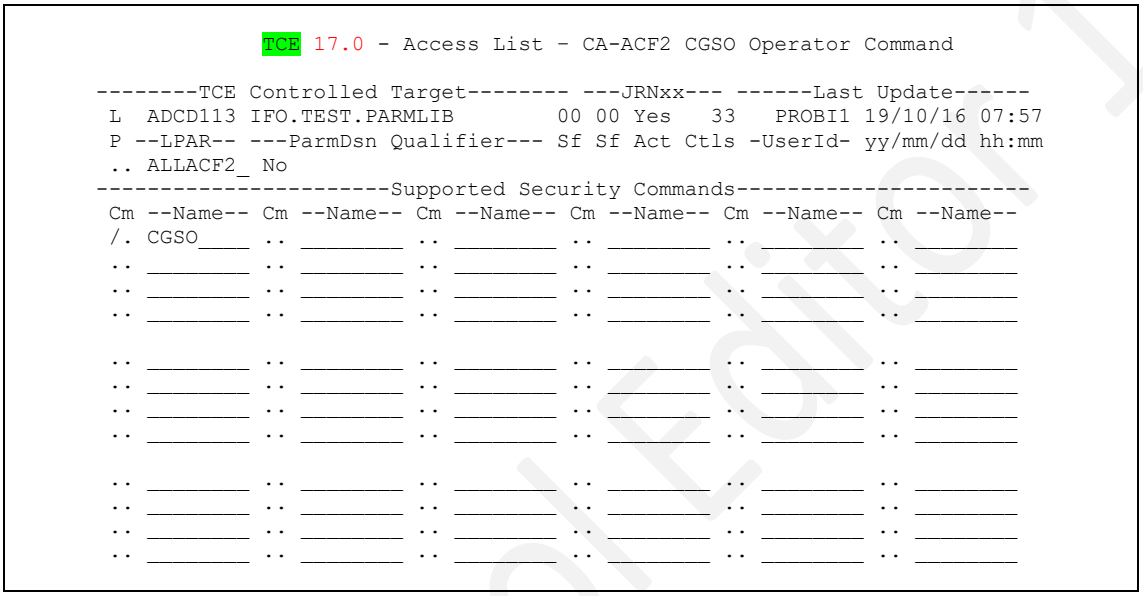
When the IBM-RACF Padlock is active, the ESM and TCE work together to determine if the user is authorized to issue a command. TCE takes its part by 'Sitting' in the standard IBM-RACF EXIT, IRREVX01, intercepting commands before IBM-RACF actually 'Sees' them. If a command is defined to TCE and denied, TCE issues a non-zero return code and predetermined message back to IRREVX01. Based on the return code, IBM-RACF (and

not TCE) will deny use of the command. IBM-RACF will ultimately display the passed message and its own IRRV022I message stating that the command was failed by EXIT. Both messages are displayed at the same time. The displayed message will show a reason code helpful to the TCE Administrator if a denial is called into question. A WTO announcing the denial is also issued by TCE and the event is logged in the Control Journal as a Command Exception.

11.3.5 CA-ACF2 Commands

When the ACF2 option is selected from the *'Commands and Messages Boundary'* Panel the CA-ACF2 Command Selection List is displayed. The content of the Command List is predetermined; commands cannot be added or deleted; they may only be selected. In this release only one CA-ACF2 Command, the CGSO Command, is supported.

Access List – CA-ACF2 CGSO Operator Command



Once the CA-ACF2 Operator Command Selection Panel is displayed, study it thoroughly to gain a general understanding of its content. Use PFK1 to display a Selection List tutorial that explains the Panel layout, columns and selection options.

11.3.6 Command Selection

There are two *'Selection Characters'* used for *'Marking'* commands as being selected from the List. All markings are placed in the entry point that precedes the command name. Using the '/' indicates that the command is selected and is actively being monitored. Use the '*' to indicate that the command is selected but is not being actively being monitored; blank the entry point to remove a previous selection.

Once Commands has been selected from the List, they may be operationally enhanced using an available set of Common Services. To display the Common Services Interface, *'Exclusions and Notices',* cursor under a selected command and press enter.

When the monitoring of a selected command has been operationally enhanced, a '+' will appear next to the *'Selection Characters'* for example, '/+ or /*'. When operational

enhancements include Padlock Command Level Control, the Command will be shown reverse highlighted.

11.3.7 Marking All Commands

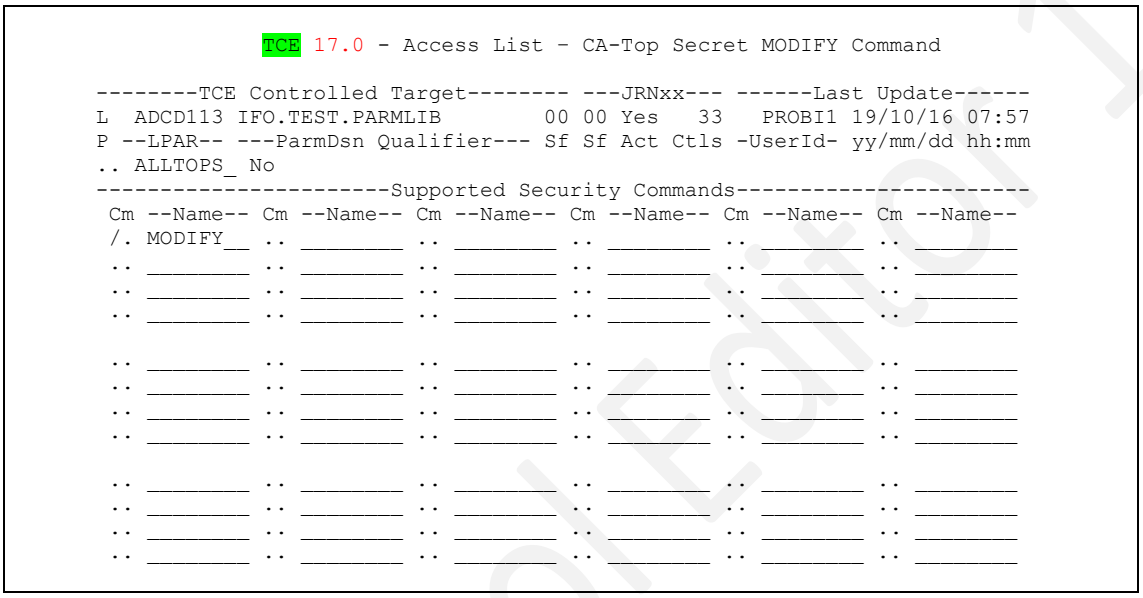
The panel also supports a 'Select All' option 'ALLACF2' shown right below the '—LPAR—' column header. If all CA-ACF2 Commands are to be monitored place '/' on the entry point before 'ALLACF2' and press enter. The panel will be redisplayed showing the message, *'Select all Commands Supported Within the Command Group'*.

```
              TCE 17.0 - Access List - ACF2 CGSO Operator Command

--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes   20   PROBI1 19/11/06 16:08
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm
/. ALLACF2_ Yes Selects all Commands Supported Within the Command Group.
-----------------------Supported Security Commands-----------------------
```

11.3.8 CA-Top Secret Commands

When the CATS option is selected from the *'Commands and Messages Boundary'* Panel the CA-Top Secret Command Selection List is displayed. The content of the Command List is predetermined; commands cannot be added or deleted; they may only be selected. In this release only one CA-Top Secret Command, the MODIFY Command, is supported.

Access List - Top Secret MODIFY Command



Once the CA-Top Secret Operator Command Selection Panel is displayed, study it thoroughly to gain a general understanding of its content. Use PFK1 to display a Selection List tutorial that explains the Panel layout, columns and selection options.

11.3.9 Command Selection

There are two *'Selection Characters'* used for *'Marking'* commands as being selected from the List. All markings are placed in the entry point that precedes the command name. Using the '/' indicates that the command is selected and is actively being monitored. Use the '*' to indicate that the command is selected but is not being actively being monitored. Blank the entry point to remove a previous selection.

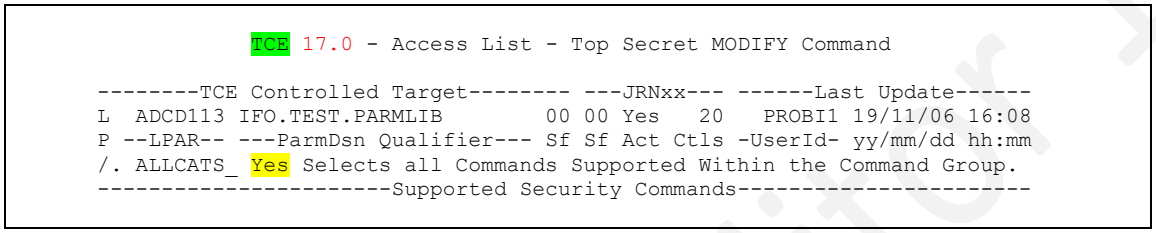
Once Commands has been selected from the List, they may be operationally enhanced using available set of Common Services. To display the Common Services Interface, *'Exclusions and Notices',* cursor under a selected command and press enter.

When the monitoring of a selected command has been operationally enhanced, a '+' will appear next to the *'Selection Characters'* for example, '/+ or /*'. When operational

enhancements include Padlock Command Level Control, the Command will be shown reverse highlighted.

11.3.10 Marking All Commands

The panel also supports a 'Select All' option 'ALLCATS' shown right below the '—LPAR—' column header. If all CA-CATS Commands are to be monitored, place '/' on the entry point before 'ALLCATS' and press enter. The panel will be redisplayed showing the message, *'Select all Commands Supported Within the Command Group'*.



11.4 Operational Enhancements

Operator Commands are supported by a number of Operational Enhancements, the selection and setting of which are made available on a panel specific to the selected Command Type. This sub-section discusses all available Common Services, some of which may not apply directly to a selected Command Type.

Exclusions and Notices - Cmmd: command_name - Panel

```
                TCE 17.0 - Exclusions and Notices - Cmmd: ADDSD

--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L ADCD113  IFO.TEST.PARMLIB        00 00 Yes   29 PROBI1   19/11/05 16:39
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

  -----------------Exclusion and Notification Options-----------------
   -------------------------Setup Selection--------------------------

   Select one/more for Exclusion from Capture:  .. Command Padlock On_

   .. Issued from a Console: No   Exclude those Issued from Consoles.
   .. Issued from Batch JOB: No   Exclude those Issued by Batch Jobs.
   .. Issued from StartTask: No   Exclude those Issued by Start Tasks.
   .. Issued from TSO Users: No   Exclude those Issued By a TSO Users.

   Command Event Notification Option:   .. This One and ALL Others On

   To: pat@newera.com_____________________________________________________
   From: support@newera.com_____________Subject: racf commands__________

        .. Action On_       .. Method On_       .. Notice On_
```

Once the Exclusion and Notices Panel is displayed, study it thoroughly to gain a general understanding of its content. Use PFK1 to display a Panel List tutorial that explains the Panel layout, columns and selection options.

11.4.1 Exclusion

Operator Commands may originate from Console, Batch Job, Started Task and TSO Users. Use the 'S' to toggle On/Off one or more of these Operator Command points of origin.

11.4.2 Notices

Notices may be sent when ALL or a specific Command and/or Message is intercepted. Recipient(s) and Sender Address and Subject are required. See Action, Method and Notice Status at bottom of panel; all must be 'On' for Email Notification.

Valid To, From Email Addresses and Subject are required. Separate Multi-To Addresses with a comma ',' as needed.

11.4.2.1 Notice to All Others

By default, Notification is limited to the detection of the selected Message ID. To extend notification to all named message events, toggle 'All Others' to 'On'.

11.4.3 Padlock

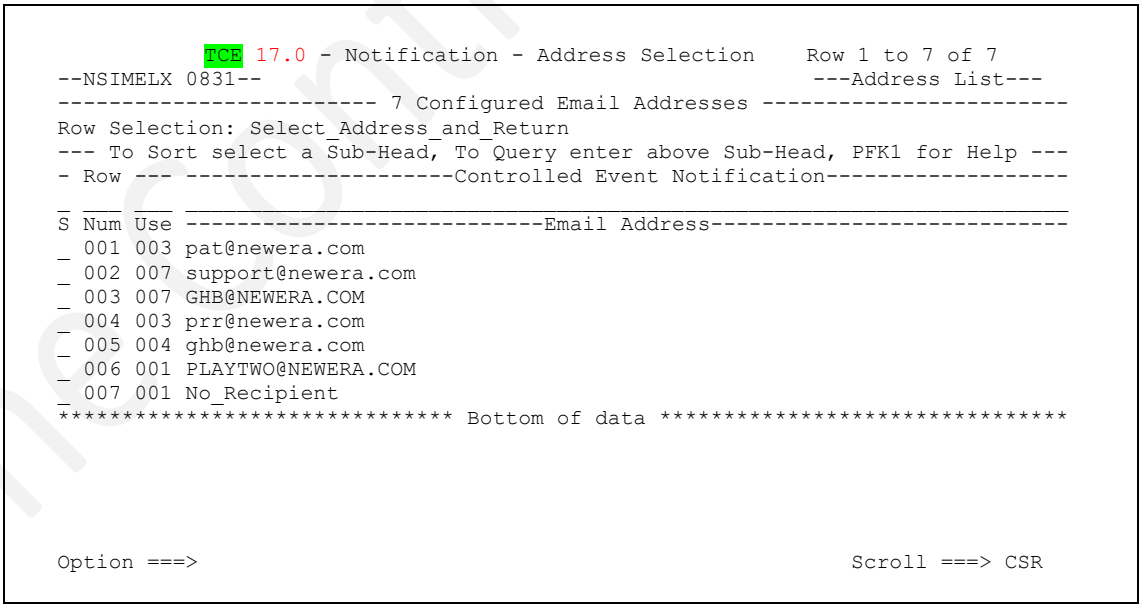
Use the 'S' to display an available Worksheet showing Padlock Protection of IBM-RACF Commands. Cursor under Padlock Control or the related 'On|Off' and press enter to toggle Padlock Protection of IBM-RACF Commands 'On|Off' for the selected command.

Note that when Padlock Control is first established over an IBM-RACF Command, it will deny use of the command to ALL. To modify this default setting, display the Padlock Protection Worksheet and use the 'U' Row Command to update the setting as needed.

11.4.4 Email Address Book

There are likely to be many different Email Addresses in the TCE Environment. This Worksheet displays a Selection List of all known addresses. Review the list for a desired address. To select an address, place the Row Command 'S' before the row in which the address appears, press enter. This will immediately return you to your prior panel where the address will automatically be inserted in your selection field of origin. Multiple selections of addresses are not allowed; you must return to select additional addresses if the panel of origin supports multiple addresses.

Notification - Address Selection - Panel



Once the Address Selection Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

11.4.4.1 Selecting and Address

Use the 'S' Row Command to select an address and return to your panel of origin. Only one selection can be made at a time. In the event you wish to select more than one Email Address, you will have to return. Be certain if you return to select a new field in your panel of origin, this is needed to avoid overwriting a prior selection.

11.4.5 Global Notification Controls

The Global Notification Controls that appear at the bottom of the panel MUST all be 'On' for Email Notification to occur as expected. If turning 'Off' a specific notification is desired, toggle the value of Action to 'Off'. This action will mark the specific notification as 'Disable' so that it can be reenabled at any time by resetting Action to 'On'.

11.4.5.1 Action

Action refers to Notification of events detected that relate to the selected Operator Command. When the value is set to 'On', Notification may be sent to the specified recipient if both Method and Notice are both 'On'. Place the 'S' character on the command entry point and press enter to toggle only this specific action 'On/Off'.

11.4.5.2 Method

Method refers to the Email Configuration METHOD BLOCK. For notification to be sent via Email the METHOD BLOCK must be fully configured and active. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set or configure the METHOD BLOCK as desired.

11.4.5.3 Notice

Notice refers to the Global Email Activation Parameter. In order for notification to be sent this value must be set to 'On'. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set 'Global Control' as desired.

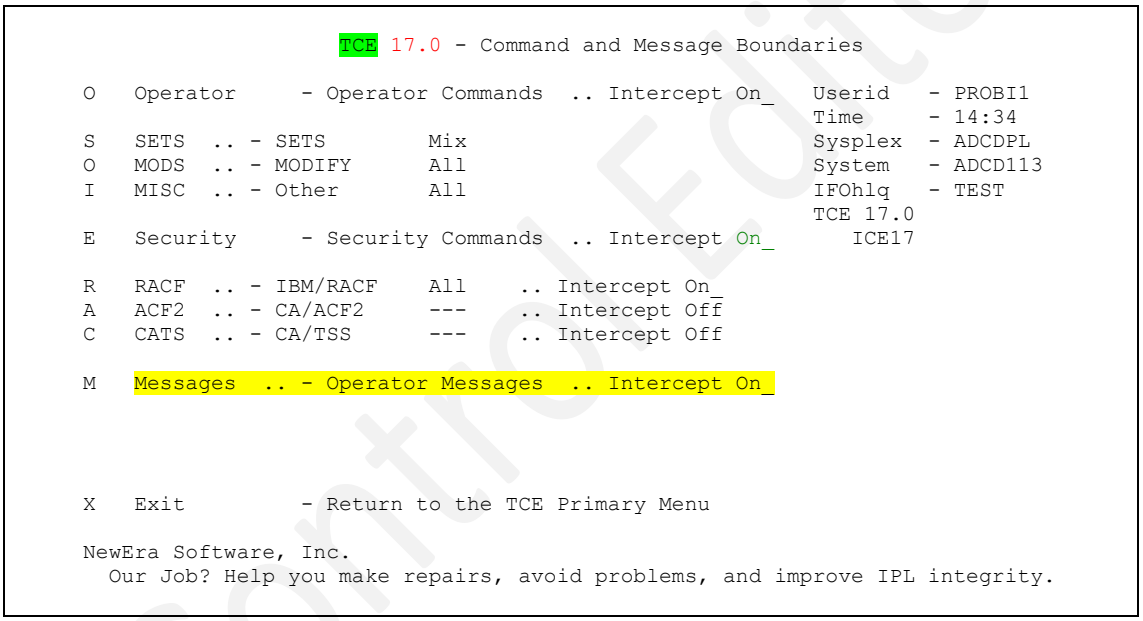
12 Defining a System Message Intercept

Control Boundaries may be established around named System Operator Console Messages, but before they will become active certain Global Control Statements found in NSEJRNxx must be activated. See the section of this User Guide titled *'Defining the Scope of System Monitoring'* for a description of the following:

```
MSGIDINTERCEPT ON|OFF
MSGID system_message_identifier message_text
```

Once in place the occurance of a defined message is recorded and, as desired, notification of the occurance is sent via email to a selected set of recipients and posted to the Control Journals and an optional Rexx Clist may be called to perform supplemental processing.

Command and Message Boundaries – System Messages



12.1 System Message Intercept

Before TCE can begin monitoring of the occurance of System Messages the System Monitoring Setting, MSCOPE, must be set 'On', the MSGIDINTERCEPT must be set 'On' and individual MessageIDs and possibly including optional Message Text must be defined.

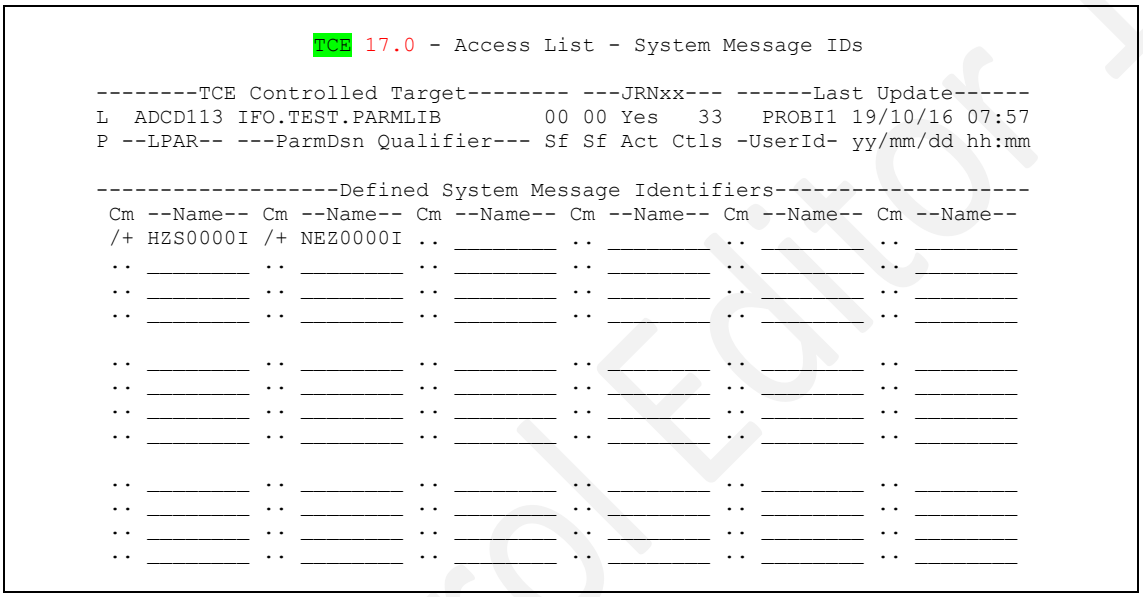
12.1 Effecting a Control Change

To make any change to a setting of Monitor Scope or to a related Sub-Element Control Boundary, you must first make the change then PFK3 out of any of the three panels described above. When you do this the NSEJRNxx member that contains the configuration Control Statements will be automatically updated. Next, to have the changes take full-effect, dynamically activate them. To do this, return to the Control Boundary and Settings Menu, select the Activate Option. This action will display the TCE Configuration Utilities Menu; now select Activate to immediately implement your changes.

12.2 Message Identification and Selection

When the Messages option is selected from the *'Commands and Messages Boundary'* Panel the Messages Identification and Selection List is displayed. Unlike other System Monitor Panels, this panel does not contain a predetermined list of items to select from. It requires specific Message Identification (MessageID). To identify a message for monitoring, enter a valid z/OS System Operator Message identifier in an available/open field and select it.

Access List - System Message IDs

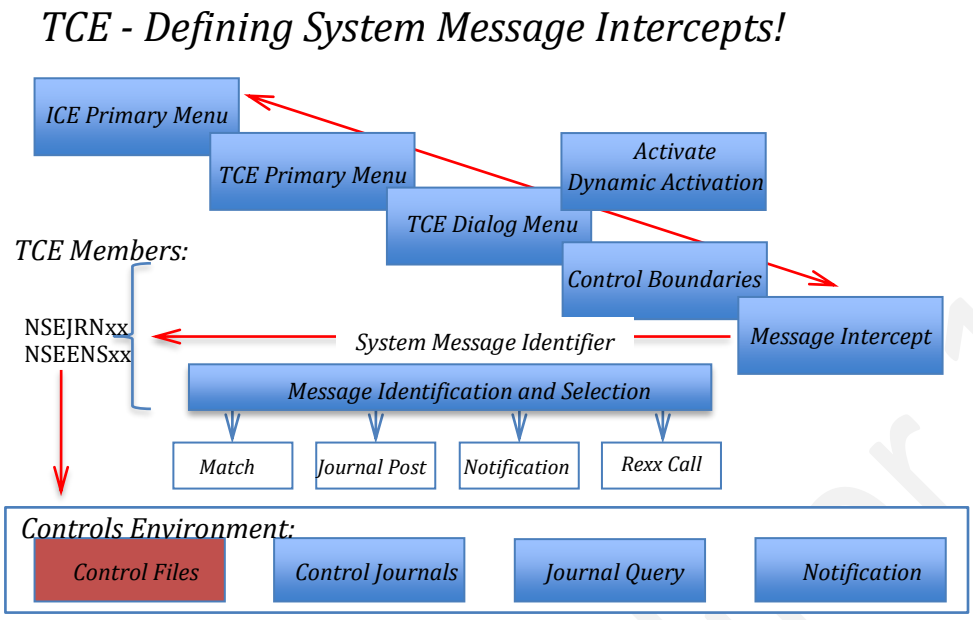


12.2.1 Message Selection

There are two *'Selection Characters'* that can be used for *'Marking'* a message that has been entered into the panel. All markings are placed in the entry point that precedes the MessageID. Using the '/' indicates that the MessageID is selected and is actively being monitored. Use the '*' to indicate that the MessageID is selected but is not being actively being monitored. Blank the entry point to remove the MessageID from the panel.

Once a Message has been selected from the List, it may be operationally enhanced using an available set of Common Services. To display the Common Services Interface, *'MsgText and Notices',* cursor under a selected command and press enter.

When the monitoring of a selected MessageID has been operationally enhanced, a '+' will appear next to the *'Selection Characters'* for example, '/+ or /*'.



12.3 Common Services

System MessageID Intercept is supported by a number of common services, the selection and setting of which are made available on a panel specific to the selected Command Type. This sub-section discusses all available Common Services, some of which may not apply directly to a selected Command Type.

MsgText and Notices - MsgId: message_Id - Panel

```
              TCE 17.0 - MsgText and Notices - MsgId: IFO0001I

--------TCE Controlled Target-------- ---JRNxx--- ------Last Update------
L ADCD113  IFO.TEST.PARMLIB        00 00 Yes   28 PROBI1   19/11/06 10:14
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

  ------------System Message ID, Text, Posting and Options-------------
   --------------------------Setup Selection--------------------------

   System Message ID, Text and Posting Option for MSGID: IFO0001I

   .. Post to Journal Yes Match String NONE_____________________________

   System Message ID and/or Text Monitor Options:

   .. Off Call Named Rexx Application:          From hlq.hlq.SISPCLIB
   Command Event Notification Options: .. For MsgId and ALL Others Off

To:_____________________________________________________________________
From:_____________________________Subject:_____________________________

            .. Action Off       .. Method On_       .. Notice On_
```

Once the MsgText and Notices Panel is displayed, study it thoroughly to gain a general understanding of its content. Use PFK1 to display a Panel List tutorial that explains the Panel layout, columns and selection options.

12.3.1 Post to Journal

Intercepted System Message Events may be posted to the TCE Control Journals. To post a message to the Journal, toggle 'Post to Journal' to 'Yes'.

12.3.2 Match String

The identification of a System Message can be optionally extended to its related *'Message Text'* for example: HZS000E IBMRACF(SENSITIVE_RESOURCES. In this case the message ID HZS000E would match only if the accompanying message text began with 'IBMRACF(SENSITIVE_RESOURCES'.

12.3.3 Rexx Clist

When a MessageID and when defined Match String is detected TCE can launch a Rexx Clist to perform supplemental processing tasks. If the intent is to call a Rexx Clist, toggle the value preceding 'Call Named Rexx Application' to 'Yes'. Next, specify the name of a Rexx Clist that resides in the ICE HLQ.SISPCLIB. Finally, specify the fully qualified name of the Rexx Clist Source Library.

12.3.4 Notices

Notices may be sent when ALL or a specific Command and/or Message is intercepted. Recipient(s) and Sender Address and Subject are required. See Action, Method and Notice Status at bottom of panel; all must be 'On' for Email Notification.

Valid To, From Email Addresses and Subject are required. Separate Multi-To Addresses with a comma ',' as needed.

12.3.4.1 Notice to All Others

By default, Notification is limited to the detection of the selected Message ID. To extend notification to all named message events, toggle 'All Others' to 'On'.

12.3.5 Email Address Book

There are likely to be many different Email Addresses in the TCE Environment. This Worksheet displays a Selection List of all known addresses. Review the list for a desired address. To select an address place the Row Command 'S' before the row in which the address appears, press enter. This will immediately return you to your prior panel where the address will automatically be inserted in your selection field of origin. Multiple selections of addresses are not allowed, you must return to select additional addresses if the panel of origin supports multiple addresses.

12.3.6 Notification - Address Selection - Panel

```
            TCE 17.0 - Notification - Address Selection    Row 1 to 7 of 7
--NSIMELX 0831--                                            ---Address List---
------------------------- 7 Configured Email Addresses ------------------------
Row Selection: Select_Address_and_Return
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Row --- ---------------------Controlled Event Notification-------------------

_ ___ ___ _____________________________________________________________________
S Num Use ----------------------------Email Address----------------------------
_ 001 003 pat@newera.com
_ 002 007 support@newera.com
_ 003 007 GHB@NEWERA.COM
_ 004 003 prr@newera.com
_ 005 004 ghb@newera.com
_ 006 001 PLAYTWO@NEWERA.COM
_ 007 001 No_Recipient
****************************** Bottom of data ******************************




Option ===>                                                Scroll ===> CSR
```

Once the Address Selection Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

12.3.6.1 Selecting and Address

Use the 'S' Row Command to select an address and return to your panel of origin. Only one selection can be made at a time. In the event you wish to select more than one Email Address you will have to return. Be certain if you return to select a new field in your panel of origin; this is needed to avoid overwriting a prior selection.

12.3.7 Global Notification Controls

The Global Notification Controls that appear at the bottom of the panel MUST all be 'On' for Email Notification to occur as expected. If turning 'Off' a specific notification is desired, toggle the value of Action to 'Off'. This action will mark the specific notification as 'Disable' so that it can be reenabled at any time by resetting Action to 'On'.

12.3.7.1 Action

Action refers to Notification of events detected that relate to the selected Operator Command. When the value is set to 'On', Notification may be sent to the specified recipient if both Method and Notice are both 'On'. Place the 'S' character on the command entry point and press enter to toggle only this specific action 'On/Off'.

12.3.7.2 Method

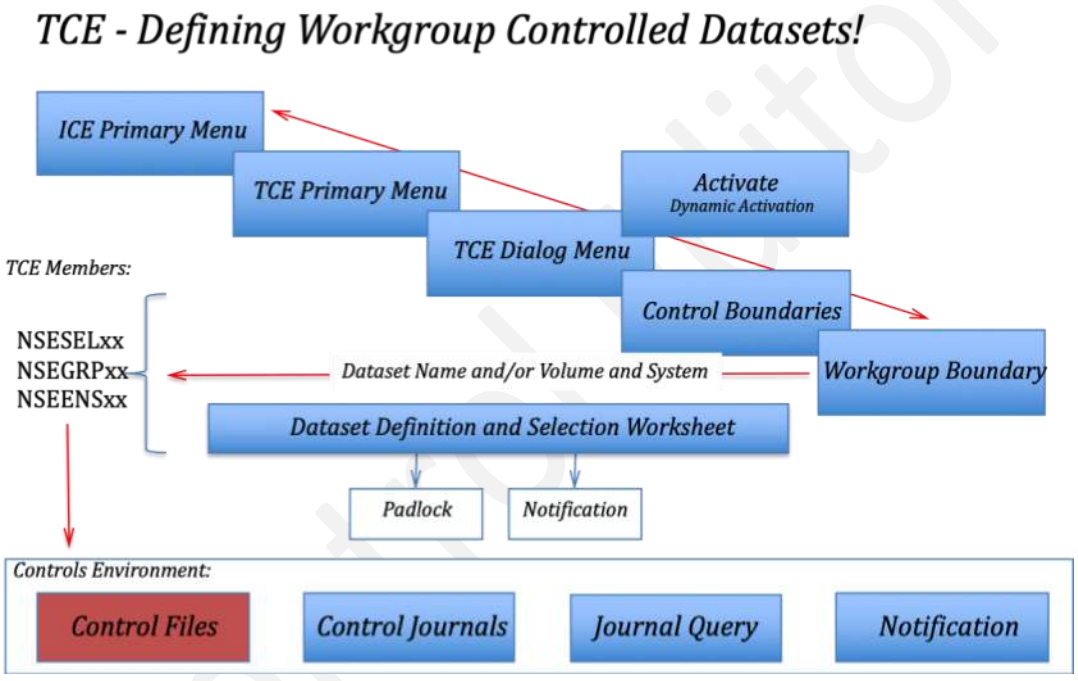
Method refers to the Email Configuration METHOD BLOCK. For notification to be sent via Email the METHOD BLOCK must be fully configured and active. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set or configure the METHOD BLOCK as desired.

12.3.7.3 Notice

Notice refers to the Global Email Activation Parameter. In order for notification to be sent this value must be set to 'On'. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set 'Global Control' as desired.

13 Defining a Workgroup Boundary

A Secondary set of TCE Control Boundaries can be established over Standalone Datasets designated as Workgroup Datasets. Such control definitions are made in the NSESELxx Configuration member using the Padlock function to define user access rights to specific members within a dataset. To update and/or establish Workgroup Dataset Boundaries, follow the path shown below to the Control Boundary Panel and select the Workgroup Option. Care should be taken when making this selection to also activate the Global Padlock Workgroup Setting shown in the panel. Only when this setting's value is shown as 'Yes' will Workgroup Dataset Boundaries be actively enforced. The Global Padlock Dataset Setting, like all Padlock Global settings, is automatically updated when you advance to a desired Boundary Panel or PFK3 back to the prior menu.



13.1 Workgroup Boundary Worksheet

```
               TCE 17.0 - WorkGroup Dataset Selection         Row 1 to 2 of 2
--NSIMSLX 0923--                                            -Dataset Control-
-------------- 2 WorkGroup Datasets in IFO.TEST.PARMLIB(NSESEL00) -------------
Row Selections: Add_Entry Delete_Entry Update_Entry Shows_Padlock Notifications
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Line Count ------------------------Control Boundaries------------------------

_ ____ ___ ___ ____________________________________________ ______ ________
S Numb Pad Not ----------WorkGroup Controlled Datasets--------- Volume -System-
_ 0001 001 000 SYS1.PARMLIB                                  ------ --------
_ 0002 002 000 WORKGROUP.DATASET                             VOL001 --------
****************************** Bottom of data ********************************









Option ===>                                                 Scroll ===> CSR
```

Once the Workgroup Dataset Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

13.1.1 Adding a Dataset

Datasets defined within a Controlled Category are called Controlled Datasets. To add a dataset to a Category, place an 'A' on any Row entry point and press enter. This action will display the Adding a Controlled Dataset Pop-Up in a *'Null State'*.

```
◊──────────────────────────────────────────────────────────────────◊
◊            TCE 17.0 - Adding a Controlled Dataset                ◊
◊                  Category - SYSTEM.PARMLIB                       ◊
◊       ----------Control Dataset---------- Volume -System-        ◊
◊                                                                  ◊
◊──────────────────────────────────────────────────────────────────◊
```

The fields within the Pop-Up support Dataset Name and optionally Volume and System Name.

- When only Dataset Name is specified, the scope of the Category Boundary extends to ALL Datasets, on ALL Volumes, accessed from ALL Systems whether or not the Dataset is cataloged.

- When the optional Volume (VOLSER) name is specified, the scope of the Category Boundary extends to the named Dataset on the volume specified and accessible from ALL Systems.
- When the optional System (SYSNAME) name is specified, the scope of the Category Boundary extends to the named Dataset on the volume specified but only accessible from the named System.

13.1.1.1 Context Sensitive Assistance

The Adding a Dataset Pop-Up described above supports two *Context Sensitive Assistants*. Placing the cursor in either entry field, Volume or System, and pressing enter will activate the related Assistant.

- Volume – Cursor into the Volume entry field and press enter to display the volume housing the Controlled Dataset on the running system. Press PFK3 to enter the volume name in the entry field. If a related volume is not found in the running system catalog, a message is displayed.
- System – Cursor into the System entry field and press enter to display the name of the running system. Press PFK3 to enter the name in the entry field.

13.1.1.2 Invalid Dataset Entries

Dataset existence and Dataset Volume relationship on the running system are validated. If a Dataset does not exist or is not housed on a volume specified, the following message is displayed as you PFK3 back to the Dataset Worksheet.

Since it is possible that the intent of the entry is to define a future Dataset or a future Dataset placement, the entry will be allowed and subsequently recorded in NSECTLxx. Such invalid entries have no effect on the operation of the TCE Controls Environment except that a message will be issued at IFOM startup and/or at the point of dynamic configuration activation that the dataset was not found and/or was not found on the volume specified. It is considered a *'Best Practice'* to review all such messages and to resolve them to site policy.

13.1.2 Deleting a Dataset

A Controlled Dataset may be deleted, and once deleted, restored at any time. To Delete a Dataset from a Controlled Category, place a 'D' on the Row entry point that precedes it and press enter; no confirmation is required. This action will immediately remove the dataset and redisplay the Worksheet.

13.1.3 Updating a Dataset

The Controlled Dataset Selection Worksheet offers selection options that support Dataset updating and refinement in three specific areas: Volume and/or System Names, Padlock Controls and Event Notifications. To access these, use the noted Row Selection Commands (U|S|N).

13.1.3.1 Volume and/or System

The 'U' Selection Command displays the Update Pop-Up. This is in the same format as the Add Dataset Pop-Up, the exception being that the current Volume and System Name settings are displayed in related input fields. To update these values overtype them. Use PFK3 to return to update the values and redisplay the worksheet. Notice messages may be displayed when a Dataset is not found on a specified volume. Context Sensitive Assistance works, as noted, when adding a new Dataset.

13.1.3.2 Padlock Controls

The 'S' Selection Command displays The Member Level Padlock – Dataset Worksheet showing the Padlock Controls defined for the selected Dataset.

The Member Level Padlock – Dataset Worksheet

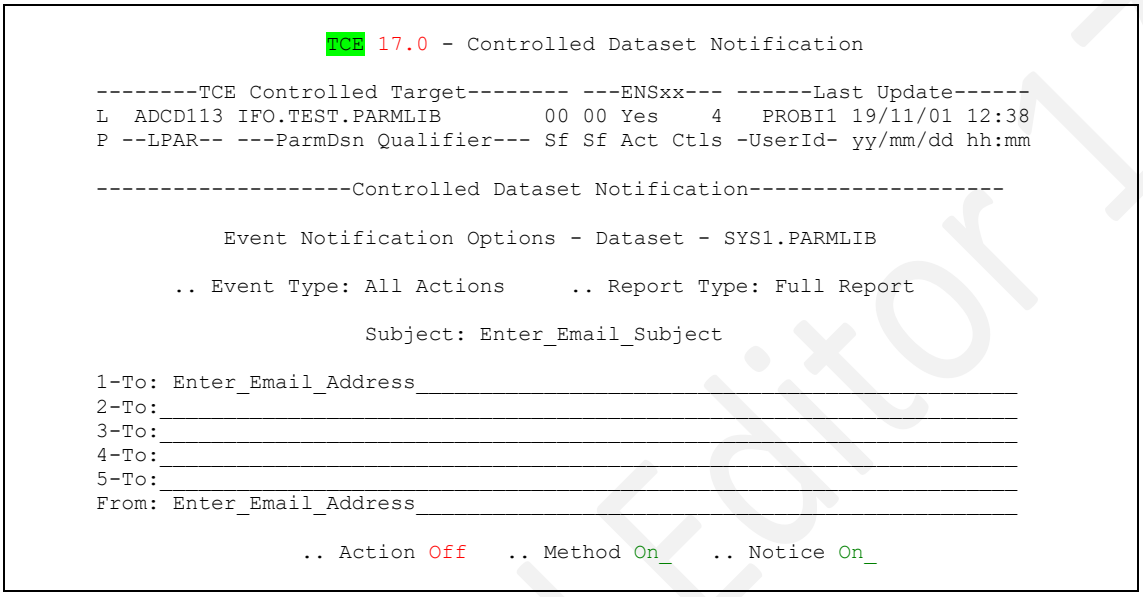
```
          TCE 17.0 - Member Level Padlock - Dataset      Row 1 to 1 of 1
--NSIMCLX 1023--                                       --Member Control--
------------------- 1 Member Control Record - USER.PARMLIB ------------------
Row Selection: Add_Record Delete_Record Update_Record Copy_Record Member_Events
--- Select Sub-Head to Sort, Query above Sub-Head, Enter Saves a Row Update ---
- Line -----Control Element----- ---------------------------------------------
_ ____ _______ ________ ________ _____________________________________________
S Numb Keyword Usr/+Grp -Member- -----------Member Control Comments------------
_ 0001 DSNALLI TCEUSER  *        OVERTYPE_'TCEUSER'_USERID_NOW!
****************************** Bottom of data ********************************
```

Padlock, Member Level Control may be defined relative to a specific Controlled Category that, in turn, is extended to the Datasets defined within that Category and/or to an individual Stand Alone Dataset. See the Section of this User Guide titled 'Defining Levels of TCE Padlock Control' for a complete discussion on this topic.

13.1.3.3 Notifications

The 'N' Selection Command displays The Controlled Dataset Notification Settings Panel.

The Controlled Dataset Notification Settings Panel



Notification may be defined relative to a specific Controlled Category and/or to an individual Stand Alone Dataset. See the Section of this User Guide titled 'Defining Event Notifications' for a complete discussion on this topic.

13.1.4 Support Functions

The Controlled Dataset Selection Worksheet offers access to two Dataset support functions: A listing of Journal Events by Selected Dataset and a Current List of Members within a Selected Dataset.

13.1.4.1 Journal Events

The 'J' Selection Command displays the Journal Event Selection Worksheet. Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

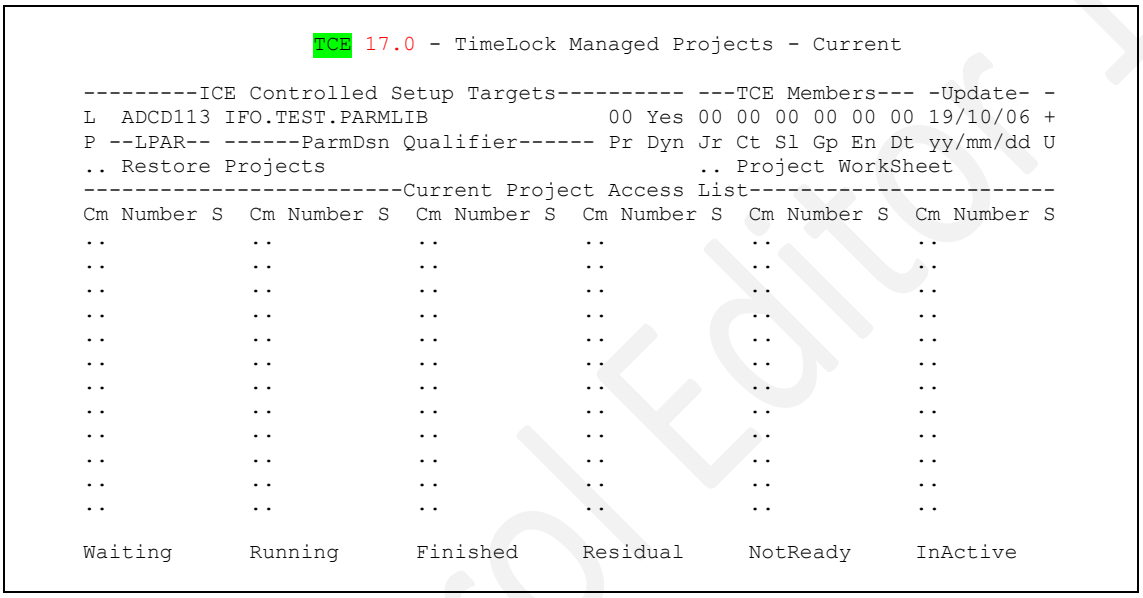
13.1.4.2 Member List

The 'M' Selection Command displays the Controlled Member Selection Worksheet. Once the Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns and selection options.

14 Defining a TimeLock Project Boundary

Note that the functions described in this section are planned for an unspecified future release.

TimeLock is an extension of the Access Controls provided by the Padlock. Use it to define 'Windows-of-Time' in which access will be Allowed/Denied. Each 'Window' may be refined to require a project ID and Key in order to gain access to defined Project Resources: Datasets, Commands and Members by authorized Project Staff Members.



Once the Manage Project Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Panel tutorial that explains the Panel layout, columns and selection options.

14.1 TimeLock Panel Options

14.1.1 Select a Project

To select a New or Old project, enter 'S' before it and Press Enter. These actions will display the Project Definition Summary.

14.1.2 Start a New Project

To start a New Project, enter a six character Project ID in any available slot on the panel.

14.1.3 Delete an Existing Project

To 'Delete' a project, place a 'D' before it, press enter.

14.1.4 Restore Deleted

Projects may be Restored to Active Status at any time by placing an 'S' before Restore Project and pressing enter, then an 'R' before the project to be restored.

14.1.5 Project Worksheet

The Project Worksheet lists all Active/Deleted Projects in an ISPF Worksheet that displays summary information.

14.1.6 Project Status Legend

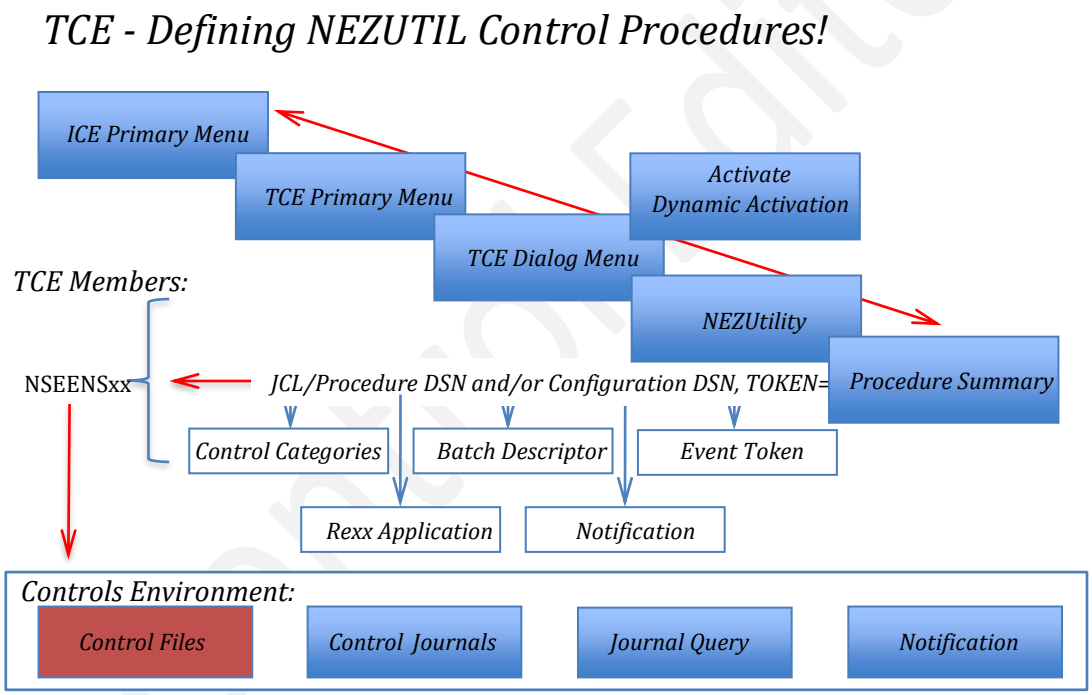
The highlighted legends at the bottom of panel match Project Status. Cursor under, then Enter for Status Description.

15 Defining a NEZUTIL Batch Update Boundary

NEZUTIL is a TCE 'JCL-Wrapper' Application that can be used to front-end all common Batch Update Utilities like IEBGENR or IEBCOPY. Its primary purpose is to capture and document changes that occur during a batch update, recording detected changes and related descriptive information in the TCE Conrol Journals and sending optional Notification and/or calling a Rexx Application to perform supplemental change management reporting tasks.

15.1 NEZUTIL Configurations

Like all TCE Configuration elements those that control the operation of NEZUTIL – a named JCL/Procedure and its associated NEZUTIL Configuration - may be set up and maintained directly using the TSO/ISPF Editor. Alternately, a best practice would be to maintain these configuration elements using functions found within these TCE Configuration Dialogs.

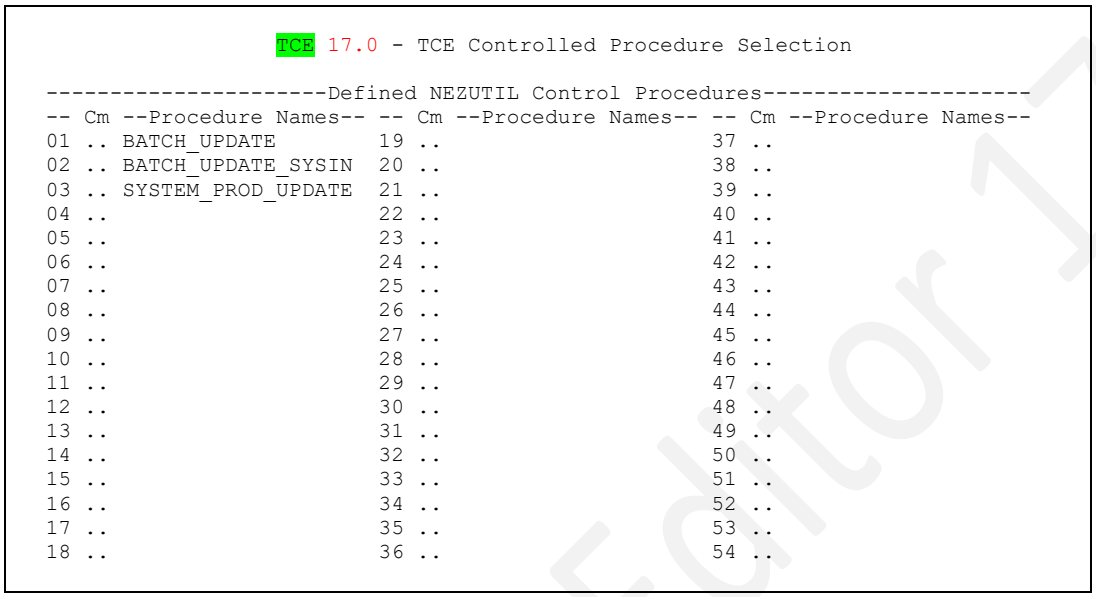


15.2 Naming a Procedure

Each NEZUTIL Configuration is a collection, a package, of processing elements – JCL/Procedure Dataset, assigned Controlled Categories and Descriptive Text, User assigned Event Token and Optional Notification and/or Rexx Application. For the TCE Configuration Dialogs to properly manage these elements as a collection, each NEZUTIL Configuration set must be assigned a unique identifying Procedure Name.

To name a new and/or select a defined Procedure, navigate from the ICE Logon Panel to the TCE Controlled Procedure Selection Panel.

Controlled Procedure Selection



Once the Selection Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Panel tutorial that explains the layout, columns and selection options.

15.2.1 Controlled Categories are Defined First

Before NEZUTIL can be used to capture batch changes, Controlled Categories and their related Controlled Datasets must be defined. If you have not already defined Controlled Categories, return to the Primary Dialog Menu; Select Boundaries, then select Category. Using the panel and services that follow add, as needed, new or additional Categories supporting specific site practices.

Take note that a list of Controlled Categories is provided from within the panel described below, but this path will not allow for Category additions. This restriction notwithstanding, Controlled Datasets may be added to existing Categories.

Once Controlled Categories are defined, updates to the Controlled Dataset defined to them can be detected when they occur either, interactively under TSO/ISPF and/or during a Batch Update managed by named NEZUTIL Procedures.

15.2.2 Modifying Existing JCL/Procedures

NEZUTIL is a 'Wrapper Application' that, when called, examines the JCL PARM string for certain application specific keywords (JCL Parameters), specifically 'CDSTART' and 'CDSTOP' and TOKEN=. These critical keywords are used to signal the Start and Stop of the NEZUTIL and specifically identify the NEZUTIL process that is responsible for detecting changes, if any, in defined Controlled Categories.

To activate NEZUTIL 'CDSTART' and 'CDSTOP', Control Statments MUST be added to existing JCL Procedures.

15.2.2.1 CDSTART

```
//NEZUTIL  EXEC PGM=NEZUTIL,PARM='CDSTART,TOKEN=ABCDEFGH'
```

15.2.2.2 CDSTOP

```
//NEZUTIL2 EXEC PGM=NEZUTIL,PARM='CDSTOP,TOKEN=ABCDEFGH'
```

or in a multi-step batch update procedure the following:

```
//NEZUTIL2 EXEC PGM=NEZUTIL,PARM='CDSTART,TOKEN=ABCD1234'
```

15.2.3 Assigning a NEZUTIL Process Token

Both 'CDSTART' and, when intended to denote the beginning of a new batch update step, 'CDSTOP' must be accompanied (followed on the PARM String) by a unique eight byte token. This token value, defined as the value of TOKEN=, is critical to NEZUTIL application processing, as it will be carried forward to specifically identify each change event and identify optional notification actions and/or Rexx Application Calls.

15.2.4 NEZUTIL Process Configuration

In addition to the Token, inline Control Cards (or alternately a SYSIN DD Dataset) must be defined within the Update Procedure that directs NEZUTIL to the following:

- A list of Control Categories to be evaluated for changes following the Batch Update.
- Followed by a brief description, The Batch Descriptor, of the Update Event.

15.2.5 Defining Controlled Categories

Whether defined inline within a PROC or in a Configuration Dataset named in a PROC, NEZUTIL Controlled Categories are preceded by the keyword:

CATEGORY

Sample shown below:

```
CATEGORY SYSTEM.IPLPARM
CATEGORY SYSTEM.PARMLIB
CATEGORY SYSTEM.VTAMLIB
```

15.2.6 Defining Batch Descriptor

Whether defined inline within a PROC or in a Configuration Dataset named in a PROC, NEZUTIL Descriptor must fall within keywords:

DESCRIPTOR .START and DESCRIPTOR . END

Sample shown below:

```
DESCRIPTOR .START
These detected changes are the result
of updates to SYSTEM 'X' authorized by
z/OS support best practice 'Y'.
DESCRIPTOR .END
```

The Descriptor MUST follow the statement of Categories.

15.3 Adding a New Procedure Configuration

To add a new Procedure to the to the Controlled Procedure Selection List, enter a unique Procedure Name in an available slot and enter an 'S' before it or cursor under it and press enter. These actions will immediately display the NEZUTIL Configuration Panel shown on the next page.

15.3.1 Using the NEZUTIL Configuration Model

Take note of the *'Model Values'* shown in the panel. These values are based on values extracted from Default Sample Procedure and Configuration Members found in the TCE HOQ.SAMPLIB Dataset. These *'Model Values'* will be displayed each time you attempt to add a new NEZUTIL Procedure. The model may be updated using functions available from

the panel, BUT any update would be overwritten with the next TCE release update unless specific actions are taken to retain the changes.

NEZUtility Configuration – named_procedure

```
              TCE 17.0 - NEZUtility Configuration - BATCH_UPDATE_SYSIN

   JCL/Procedure .. Dsn: PROBI1.NEZUTIL.PROCS.SYSIN_____________Mbr:________
   Configuration .. Dsn: <SYSIN>_____________________________Mbr:________

-----------------------NEZUTIL Configuration Parameters---------------------
-- Cm --Category Name--   -- ----------------Descriptor Text----------------
01 .. SYSTEM.IPLPARM___ | 01 TEST LINE ONE_____________________________________
02 .. SYSTEM.PARMLIB___ | 02 TEST LINE TWO_____________________________________
03 .. GREATERT.PARM____ | 03 TEST LINE THREE___________________________________
04 .. _________________ | 04 NEW DESCRIPTOR TEXT_______________________________
05 .. _________________ | 05 _____________________________________________________
06 .. _________________ | 06 _____________________________________________________
07 .. _________________ | -- ------------Configuration Comments-------------
08 .. _________________ | 01 _____________________________________________________
09 .. _________________ | 02 _____________________________________________________
10 .. _________________ | 03 _____________________________________________________
11 .. _________________ | 04 _____________________________________________________
12 .. _________________ | -- -----------Last Configuration Upate------------
13 .. _________________ | 01 _____________________________________________________
14 .. _________________ | -- --------------Event Notification---------------
15 .. _________________ | 01 .. Notice No_ .. Procedure Event Token ABCD1234
```

Once the Selection Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Panel tutorial that explains the layout, columns and selection options.

15.3.2 The JCL/Procedure Dataset

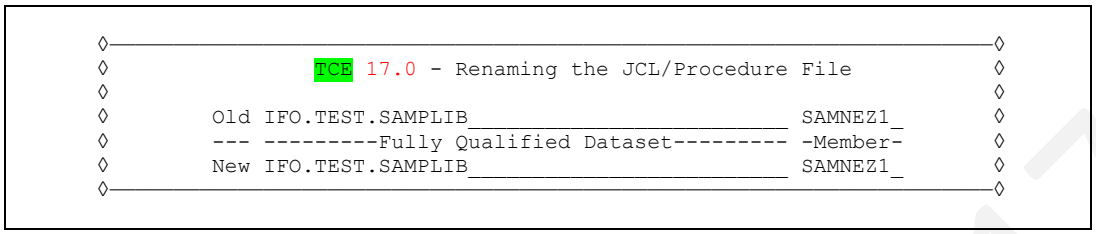
The fully qualified name of the JCL/Procedure Dataset and, if defined as a partitioned dataset, the name of a specific JCL/Procedure member is shown at the top of the panel.

Sample JCL/Procedure Dataset

```
//NEZUTIL  JOB (PROBII),'PAULR',NOTIFY=PROBI1,
//          MSGLEVEL=(1,1),MSGCLASS=O,CLASS=A
/*JOBPARM  L=9999
//NEZUTIL  EXEC PGM=NEZUTIL,PARM='CDSTART,TOKEN=ABCDYYYY'
//STEPLIB  DD   DSN=IFO.TEST.LOAD,DISP=SHR
//SYSPRINT DD   SYSOUT=*
//SYSIN    DD   DSN=PROBI1.NEZUTIL.SETUP.LAST,DISP=SHR
//NEZUTIL2 EXEC PGM=NEZUTIL,PARM='CDSTOP,TOKEN=ABCDXXXX'
//STEPLIB  DD   DSN=IFO.TEST.LOAD,DISP=SHR
//SYSPRINT DD   SYSOUT=*
//SYSIN    DD   DSN=PROBI1.NEZUTIL.SETUP.TEST,DISP=SHR
```

If working with the SAMPLIB Model, it is considered a Best Practice to immediately rename the JCL/Procedure Dataset and Member to a specific site dataset and member standard.

To rename the dataset and member, place an 'R' on the entry point shown before the JCL/Procedure Dataset and press enter. This action will display the Rename Pop-Up dialog.



Once the Pop-Up is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a tutorial that explains the layout, columns and options.

To rename the Dataset and/or Member, overtype them and PFK3 to return to the NEZUTIL Configuration Panel. Note the Panel now shows the Dataset and/or Member as renamed.

If a Dataset Rename is required and the New Dataset exists, the member is added using the name specified. If the Dataset does not exist, it is allocated as a PDSE with Partitioned Organization, Fixed Block 80, CYL SPACE(1,1). When a new Dataset Allocation is attempted but fails, a message is displayed.

15.3.3 Configuration – Specified by Dataset

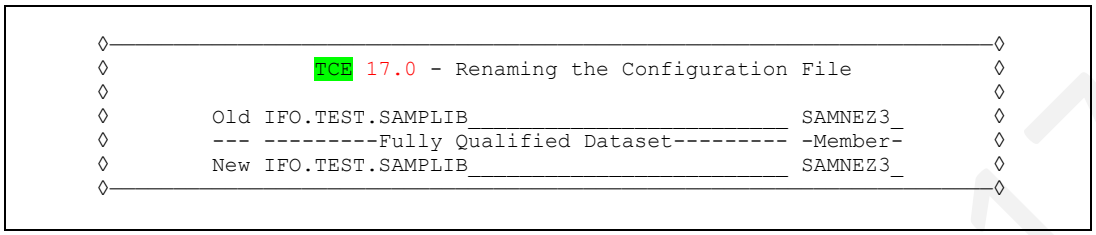
The fully qualified name of the Configuration Dataset and, if defined as a partitioned dataset, the name of a specific Configuration member is shown at the top of the panel.

Sample Configuration Dataset

```
* MEMBER UPDATED BY TCE/NSIMCLX - USER:PROBI1 DATE:2019/11/16 TIME:12:25:00
* THIS IS THE REASON FOR THE CHANGE
CATEGORY SYSTEM.IPLPARM
CATEGORY SYSTEM.PARMLIB
CATEGORY GREATERT.PARM
CATEGORY LESSTHAN.PARM
DESCRIPTOR .START
THIS IS THE ORIGIN OF THE CHANGE
DESCRIPTOR .END
```

If working with the SAMPLIB Model, it is considered a Best Practice to immediately rename the Configuration Dataset and Member to a specific site dataset and member standard.

To rename the dataset and member, place an 'R' on the entry point shown before the JCL/Procedure Dataset and press enter. This action will display the Rename Pop-Up dialog.



Once the Pop-Up is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a tutorial that explains the layout, columns and options.

To rename the Dataset and/or Member overtype them and PFK3 to return to the NEZUTIL Configuration Panel. Note the Panel now shows the Dataset and/or Member as renamed.

If a Dataset Rename is required and the New Dataset exists, the member is added using the name specified. If the Dataset does not exist, it is allocated as a PDSE with Partitioned Organization, Fixed Block 80, CYL SPACE(1,1). When a new Dataset Allocation is attempted but fails, a message is displayed.

15.3.4 JCL/Procedure and Configuration – Single Dataset

The JCL/Procedure and NEZUTIL Configuration may be combined into a single JCL/Procedure Dataset eliminating the need for a Configuration Dataset. While this is an acceptable practice, it does not allow for configuration comments or the Time Stamping of configuration activities and is therefore not recommended.

```
//NEZUTIL  EXEC PGM=NEZUTIL,PARM='SUBS=IF01,CDSTART,TOKEN=ABCD1234'
//STEPLIB  DD   DSN=ESSJDL1.IFO101.B3.LOAD,DISP=SHR
//SYSPRINT DD   SYSOUT=*
//SYSIN    DD   *
CATEGORY SYSTEM.IPLPARM
CATEGORY SYSTEM.PARMLIB
CATEGORY GREATERT.PARM
DESCRIPTOR .START
TEST LINE ONE
TEST LINE TWO
TEST LINE THREE
NEW DESCRIPTOR TEXT
DESCRIPTOR .END
```

15.3.5 Category Name List

As the panel is displayed, the list of active Controlled Categories is shown under the 'Category Name' Column on the left. If an entry is a valid Category Name, it is shown in green, if not, it is shown in red.

15.3.5.1 Adding a Category

New Categories can be added in two ways:

- First, by entering the name in an open List field and pressing enter.
- Second, by selecting from a List of ALL defined Controlled Categories that is displayed when the cursor is placed into any List field and enter is pressed.

When the second method is used, the displayed Category Selection – NEZUTIL Panel is fully functional with the exception that Categories may not be added.

15.3.5.2 Removing a Category

Entries in the Category Name Column may be Removed/Deleted from the list by 'Blanking' the name or place 'R' before the name and press enter.

15.3.5.3 Listing Controlled Datasets

To display a list of Controlled Datasets within a Category, place a 'D' before the Category Name and press enter. This action will display the Controlled Dataset Selection Worksheet. The Worksheet is fully functional so that Datasets may be Added, Deteted and Updated.

15.3.5.4 Showing NEZUTIL Detected Events

To display a list of NEZUTIL Detected Change Events that have impacted a Category, place an 'E before the Category Name and press enter. This action will display the Journaled Event Selection Worksheet. Selecting a specific event will display the Event Change Report.

15.3.6 Descriptor Text

Up to six lines of text describing the Batch Update may be entered under the *'Descriptive Text'* heading. If a descriptor is provided, it will be recorded within the TCE Journal Entries that mark the Start and Stop of the NEZUTIL Change Detection process.

15.3.7 Configuration Comments

Up to four lines of text describing NEZUTIL Configuration may be entered under the *'Configuration Comments'* heading. It is considered a Best Practice to document each NEZUTIL Configuration.

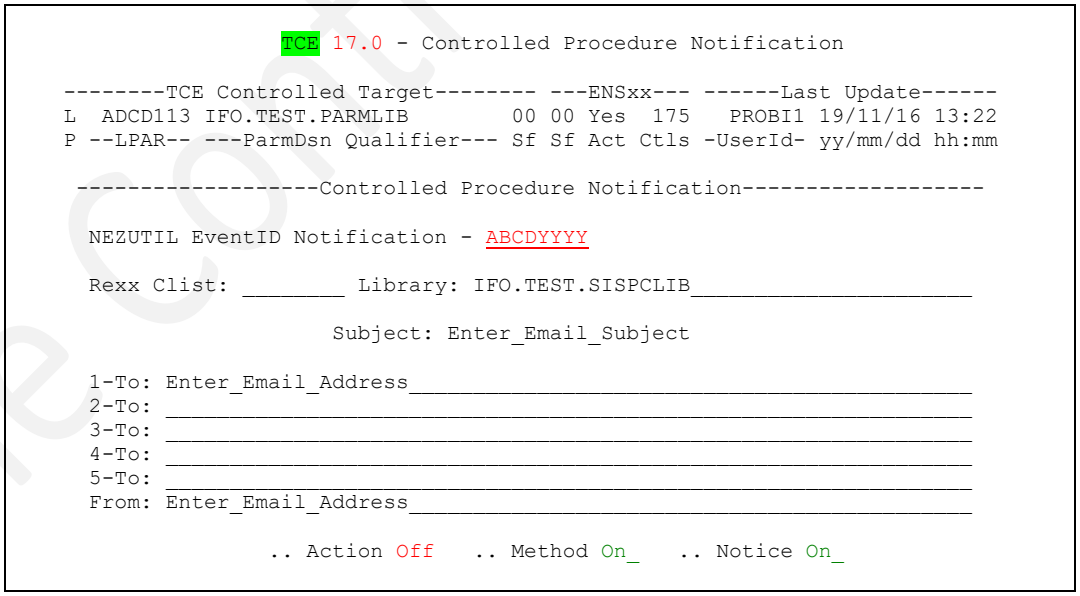
15.3.8 Procedure Event Token

As noted above, each NEZUTIL 'CDSTART and CDSTOP' must be followed by a unique eight character Token. The token value is specified on the TOKEN= Keyword found on the JCL/Procedure Parm Line. The Token Value associated with the displayed NEZUTIL configuration is shown at the bottom right of the panel. The Token may be updated at any time by overtyping the displayed value, placing 'U' on the entry point preceding it and pressing enter.

15.4 NEZUTIL Controlled Procedure Notification

Batch Updates controlled by NEZUTIL may, optionally, send notification of event activities upon completion of the batch update. If such Notification is active, the Notice Value shown at the bottom on the panel will read 'On'. If Notification is not active, the value reads 'Off' and will be shown in Red. To set up and/or activate Notification, place an 'S' on the entry point before Notice and press enter. This action will display the Controlled Procedure Notification Panel.

Controlled Procedure Notification



Once the Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a tutorial that explains the layout, columns and options.

15.4.1 Email Address Selection Panel

To send Notification, at least one To Email Address must be provided. To select an address from the Email Address Book, cursor into any To Field and press enter.

Email Address Book - Selection

```
                TCE 17.0 - Email Address Book - Selection    Row 1 to 7 of 7
 --NSIMELX 0831--                                          ---Address List---
------------------------- 7 Configured Email Addresses -----------------------
Row Selection: Select_Address_and_Return
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Row --- ---------------------Controlled Event Notification-------------------
_ ___ ___ ____________________________________________________________________
S Num Use --------------------------Email Address---------------------------
_ 001 003 pat@newera.com
_ 002 007 support@newera.com
_ 003 007 GHB@NEWERA.COM
_ 004 003 prr@newera.com
_ 005 004 ghb@newera.com
_ 006 001 PLAYTWO@NEWERA.COM
_ 007 002 No_Recipient
****************************** Bottom of data ********************************



Option ===>                                                Scroll ===> CSR
```

Once the Email Address Book Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns, headings and selection options.

15.4.2 Rexx Clist

Upon completion of a NEZUTIL Batch Update, an optional Rexx Clist may be called for execution from HLQ.SISPCLIB.

15.4.3 Notification Settings MUST be 'On'

```
                .. Action Off    .. Method On_    .. Notice On_
```

15.4.3.1 Action

Action refers to Notification of events detected that relate to the selected Operator Command. When the value is set to 'On', Notification may be sent to the specified recipient if both Method and Notice are both 'On'. Place the 'S' character on the command entry point and press enter to toggle only this specific action 'On/Off'.

15.4.3.2 Method

Method refers to the Email Configuration METHOD BLOCK. For notification to be sent via Email, the METHOD BLOCK must be fully configured and active. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set or configure the METHOD BLOCK as desired.

15.4.3.3 Notice

Notice refers to the Global Email Activation Parameter. In order for notification to be sent, this value must be set to 'On'. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set 'Global Control' as desired.

15.5 NEZUTIL Journal Entries and Display

To Display the results of NEZUTIL Executions return to the TCE Primary Menu and Select the Journal Option. This asction will display the Control Journal Event Selection Interface.

Individual NEZUTIL Executions are shown in the TCE Journal Display, by period, under the Class Heading 'CDSTART'. To display the summary and details information gathered during an exaction or series of executions cursor under the period numeric and press enter.

```
                TCE 17.0 - Control Journal - Event Selection Row 1 to 15 of 15
--NSIMJRL 1127--                                                ---CtlJournals---
--------------- Environment is IFO.TEST - 13 Controlled Classes ---------------
Row Selections: Setup_Background_Reporting_Interval Display_New_Event_Worksheet
.. Controlled Datasets .. Event Timeline .. Journal Queries .. Restore Datasets
- Row ---------Event Target---------- Bkg Your ---------Period to Date---------
S Num -Class-- ---------Name--------- Set News Days Week Mths Qtrs Years Totals
_ 001 BackUps  Named_Dataset_Backups  ---    0    0    0  491  491   491    491
_ 002 Staged   User_Session_Changes   ---    0    0    0    6    6     6      6
_ 003 CDStart  NEZUTIL_Update_Events  ---    1    2    7   35   35    35     35
_ 004 Submit   Submitted_JCL_Events   ---    0    0    0    0    0     0      0
_ 005 Dynamic  Operator_Comnd_Events  ---    0    0    0    0    0     0      0
_ 006 Change   Supplemental_Changes   ---    0   10  199  491  491   491    491
_ 007 Message  Named_System_Messages  ---    0    0    0    0    0     0      0
_ 008 Policy   ESM_Security_Changes   ---    0    0    0    0    0     0      0
_ 009 TCEPrms  TCE_Parameter_Changes  ---    0    0   10   18   18    18     18
_ 010 Except   Processed_Exceptions   ---    0    0    3    3    3     3      3
_ 011 Detects  Auto_Detection_Events  ---    0    9   92   92   92    92     92
_ 012 Notice   Notification_Details   ---    0    2   30   58   58    58     58
_ 013 Reports  TCE_Background_Events  ---    0    0    0    0    0     0      0
_ 014 -------- ---------------------- --- ---- ---- ---- ---- ---- ----- ------
_ 015 Totals   All_Classified_Events    0    1   23  341  703  703   703    703
```

15.5.1 NEZUTIL Detection Process Worksheet

```
              TCE 17.0 - Named Period Selection Worksheet     Row 1 to 7 of 7
--NSIMJRL 1127--                                            --CDStart Events--
------------- IFO.TEST - NEZUTIL Detection Events - Week Worksheet ------------
Row Selection: Show_the_NEZUTIL_Configuration List_Detected_Changes_for_Event
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- -Row- ----Batch Update Event---- ----------NEZUTIL Control Elements----------
_ _____ ________ _____ _____ _____ ________ ____________________________________
S Index yy/mm/dd hh:mm Types Total -Tokens- --------JOBName_ID_Sysplex---------
_ 00001 19/11/30 08:24 CDSTR     1 ABCDEFGH SAMNEZ1
_ 00002 19/11/30 08:19 CDSTR     0 ABCDEFGH SAMNEZ1
_ 00003 19/11/29 08:40 CDSTR     0 ABCDYYYY NEZUTIL
_ 00004 19/11/27 10:41 CDSTR     2 ABCDEFGH SAMNEZ1
_ 00005 19/11/27 10:22 CDSTR     0 ABCDEFGH SAMNEZ1
_ 00006 19/11/27 10:13 CDSTR     0 ABCDEFGH SAMNEZ1
_ 00007 19/11/27 07:42 CDSTR     0 ABCDEFGH SAMNEZ1
****************************** Bottom of data ********************************
```

15.5.2 NEZUTIL Process and Configuration Report

```
/*****************************************************************************/
/*                                                                           */
/*      The Control Editor - NEZUTIL Detection Process and Configuration     */
/*                                                                           */
/*               Date:2019/11/30 - Time:08:47:59 - User:USER1                */
/*                                                                           */
/*****************************************************************************/
|
TCE0000I +-------------------------------------------------------------------+
TCE0000I |                                                                   |
TCE0000I |          NEZUTIL CONTROLLED PROCESS - EVENT TYPE:CDSTR            |
TCE0000I |                                                                   |
TCE0000I +-------------------------------------------------------------------+
TCE0000I |                                                                   |
TCE0000I | -------------------------EVENT IDENTITY------------------------- |
TCE0000I |                                                                   |
TCE0000I | NEZUTIL-------------THE CONTROL EDITOR----------------- CDSTART - |
TCE0000I | ADCDPL   SYSNM:ADCD113  USRID:PROBI1  TIME:08:24:15 DATE:11/30/13 |
TCE0000I | SAMNEZ1   JOBID: JOB01324  TOKEN: ABCDEFGH----------------------- |
TCE0000I |                                                                   |
TCE0000I | ----------------------CONTROLLED CATEGORIES---------------------- |
TCE0000I |                                                                   |
TCE0000I | CATEGORY SYSTEM.PARMLIB                                           |
TCE0000I |      DSN USER.PARMLIB(ZDSYS1,ADCD113)                             |
TCE0000I |      DSN ADCD.Z113.PARMLIB(ZDRES1,ADCD113)                        |
TCE0000I |      DSN SYS1.PARMLIB(ZDRES1,ADCD113)                             |
TCE0000I |                                                                   |
TCE0000I | ------------------------EVENT DESCRIPTORS------------------------ |
TCE0000I |                                                                   |
TCE0000I | NEZUTIL IS DESIGNED TO                                            |
TCE0000I | FUNCTION IN CONJUNCTION WITH                                      |
TCE0000I | BATCH UPDATE UTILITIES                                            |
TCE0000I |                                                                   |
TCE0000I +-------------------------------------------------------------------+
```

15.5.3 NEZUTIL Change Events Worksheet

```
               TCE 17.0 - NEZUTIL Detected Changes Wksheet     Row 1 to 2 of 2
--NSIMJRL 1127--                                              --Dataset/Member--
------------------ IFO.TEST - Detected Change Event Worksheet -----------------
Row Selection: Show_the_Change_Details Browse_All_Journalled_Member_Events
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- -Row- -------Detected Events------- -----------Controlled Dataset---------- >
_ _____ ________ _____ _____ ________ ________ ________________________________
S Index yy/mm/dd hh:mm Types --User-- -Member- -------Controlled Dataset-------
_ 00001 19/11/27 10:41 CDCNG ABCDEFG  COMMNDPR USER.PARMLIB
_ 00002 19/11/27 10:41 CDCNG ABCDEFG  COMMNDPH USER.PARMLIB
****************************** Bottom of data ********************************
```

15.5.4 NEZUTIL Detected Member Change Detail

```
/*****************************************************************************/
/*                                                                           */
/*          The Control Editor - Control Members - Event Log Detail          */
/*                                                                           */
/*                Date:2019/11/30 - Time:08:54:56 - User:PROBI1              */
/*                                                                           */
/*****************************************************************************/
|
TCE0000I +-------------------------------------------------------------------+
TCE0000I |                                                                   |
TCE0000I |             CONTROLLED MEMBER DETAIL - EVENT TYPE:CDCNG           |
TCE0000I |                                                                   |
TCE0000I +-------------------------------------------------------------------+
TCE0000I |                                                                   |
TCE0000I | -------------------------EVENT IDENTITY------------------------- |
TCE0000I |                                                                   |
TCE0000I | -Member- --User-- --Date-- Times -------Controlled Dataset-------- |
TCE0000I | -------- -------- yy/mm/dd hh:mm -------------------------------- |
TCE0000I | COMMNDPR ABCDEFG  19/11/27 10:41 USER.PARMLIB                     |
TCE0000I | ======== ======== ======== ===== ================================ |
TCE0000I | ------------Record Length:80-----Record Format=F B---------------- |
TCE0000I |                                                                   |
TCE0000I | -------------------------MEMBER CHANGES------------------------- |
TCE0000I |                                                                   |
TCE0000I |                    SUPERC LINE COMPARE CHANGE DETAILS
TCE0000I |     ----+----1----+----2----+----3----+----4----+----5----+----6----+
TCE0000I | I - COM='S TN327X'
TCE0000I |     ----+----1----+----2----+----3----+----4----+----5----+----6----+
TCE0000I |                    I = LINE INSERTED D = LINE DELETED              |
TCE0000I |                                                                   |
TCE0000I | -------------------------UPDATED MEMBER------------------------- |
TCE0000I |                                                                   |
TCE0000I | COM='S TCPIP'
TCE0000I | COM='S TN3270'
TCE0000I | COM='S TN327X'
TCE0000I |                                                                   |
TCE0000I +-------------------------------------------------------------------+
```

15.5.5 Related Member Changes

```
                TCE 17.0  Journal Entry Selection          Row 1 to 4 of 4

Line Commands: S - Select (View the contents of the Entry)
               C - Compare (Two required)  R - Restore Member

LINE --- Category ---    -- Entry --     ---------------- Stored -----------------
CMD                     TYPE  NAME       USERID      DATE       TIME     RESULT
..    SYSTEM.PARMLIB     DFZ COMMNDPR    ABCDYYY  11/30/2016 08:22:59  SUCCESS
..    SYSTEM.PARMLIB     AE  COMMNDPR    PROBI1   11/27/2016 10:45:28  SUCCESS
..    SYSTEM.PARMLIB     DFZ COMMNDPR    ABCDEFG  11/27/2016 10:38:26  SUCCESS
..    SYSTEM.PARMLIB     BB  COMMNDPR    PHARL2   11/12/2016 15:44:19  SUCCESS
****************************** Bottom of data ********************************
```

16 Configuring the Email Notification Server

In order for Email Notification to be sent, four things are necessary:

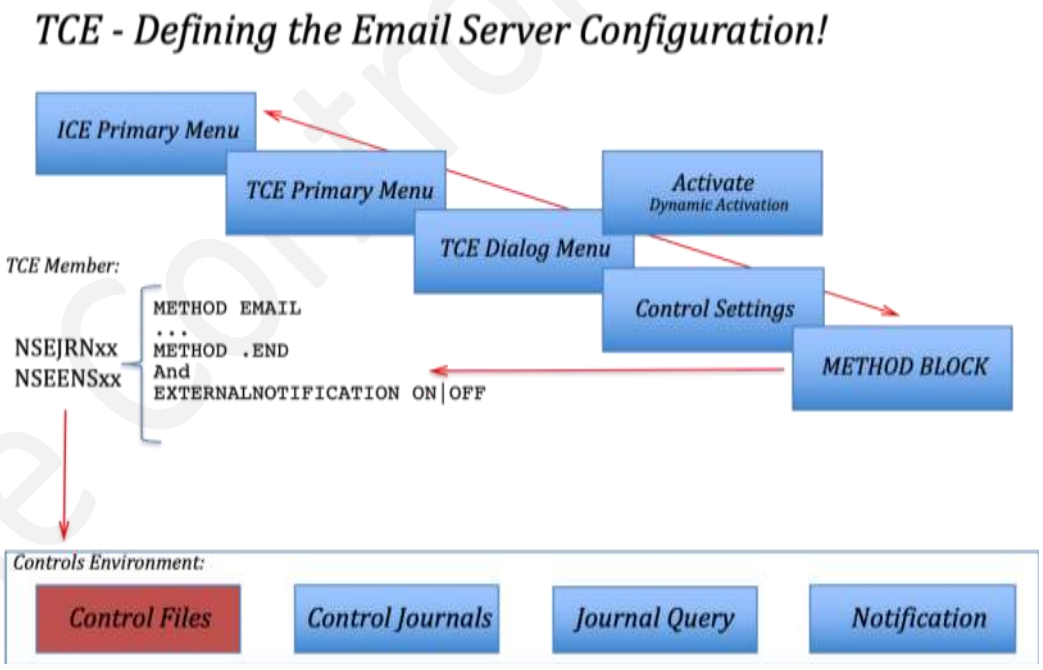
- First, the value of EXTERNALNOTIFICATION, as found in NSEJRNxx, must be set to ON.
- Second, a Valid Email METHOD BLOCK must be present in the NSEENSxx Configuration Member.
- Third, a Valid Email ACTION BLOCK relating to the Notice Event must be present in the NSEENSxx Configuration Member.
- Fourth, the specific Notice Event must be defined as a Controlled Category, Dataset, Command, Workgroup or Project Event.

16.1 Defining a METHOD BLOCK

A METHOD BLOCK, as defined in NSEENSxx, may be defined for various methods of delivering notification upon the occurance of a corresponding Controlled Event. In this release only the Email method of notice delivery is valid.

An Email METHOD BLOCK need be defined only once, as it will be used to define the single Email Server that will be used for sending all Event Notice emails.

To define or update the METHOD BLOCK follow the path outlined in the diagram below:



When you complete the selection of panels and options The Event Notification Method – Email Panel will be displayed.

```
                    TCE 17.0 - Event Notification Method - Email

 --------TCE Controlled Target-------- ---ENSxx--- ------Last Update------
 L ADCD113  IFO.TEST.PARMLIB        00 00 Yes   13 PROBI1   19/10/02 08:36
 P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

 Send Mail To /. support@newera.com_____________________________________
 Mailing From /. support@newera.com_____________________________________

    --------------Notification "METHOD" Element Definitions--------------
-----Current Definition----- Cm --Elements-- Cm -----Updated Definition-----

changes_____________________/. Mail Subject /. Changes_____________________
173.1.13.243________________/. Server Name  /. 173.1.13.243________________
25__________________________/. Port Number  /. 25__________________________
TCPIP_______________________/. Mail JobName /. TCPIP_______________________
45__________________________/. Nop Time Out /. 45__________________________
IFO.COMTST.JL_______________/. Temp Dsn HLQ /. IFO.COMTST.JL_______________
YES_________________________/. Journal Post /. YES_________________________
OFF_________________________/. DeBug Server /. OFF_________________________
IFO.COMTST.DEBUG____________/. DeBug Ds HLQ /. IFO.COMTST.DEBUG____________

                          .. Method On_  .. Notice On_
```

Panel field values shown to the left are the server's current settings and are duplicated to the right. To change the settings, overtype values shown to the right. Values shown in the columns headed 'Cm' indicate if the setting is active within the METHOD BLOCK. '/' is used to indicate that the field value is active; '/*' Indicates that the field value is not active. The following field values must be specified and active for the Method indicator shown at the bottom of the panel to be turned 'On'. Updates to the field values are automatically saved when you PFK3, returning to the prior panel.

16.1.1 Email Server Specifications

The Event Notification Method – Email Panel displays a set of control fields that correspond to required Email Server Settings. They Include:

- Send Mail To – The default address of the email Recipient
- Mailing From – The default address of the email Sender
- Mail Subject – The default email Subject
- Server Name – The fully qualified Name of the SMTP mail server
- Port Number – The port number used by the server for sending mail
- Mail JobName – The TCP/IP stack Job Name, generally TCPIP
- Nop Time Out – The time in Seconds when the server will timeout
- Temp Dsn HLQ – The HLQ of the Temp Dataset used to contain email text
- Journal Post – Control the Posting of Notifications to the TCE Journal Events
- DeBug Server – Controls the activation of Email Debug Processes
- DeBug Ds HLQ -– The HLQ of the Temp Dataset used to contain debug text

For additional assistance with any of these values, cursor under the field name and press enter. This action will display field specific help and recommended default settings.

16.1.2 METHOD BLOCK Activation

Mail will only be sent when the Email Server is configured with required METHOD BLOCK settings and the Method indicator shown at the bottom of the panel shows 'On'. When the required settings are in place the Method value will automatically change to 'On' unless you elect to turn it 'Off'. To toggle the METHOD BLOCK ON|OFF place an 'S' on the command line preceding 'Method' and press enter. The NSEENSxx syntactical form of METHOD BLOCK is shown below:

```
METHOD EMAIL
...
METHOD .END
```

16.1.3 Notice Activation

Global External Notification Functions are controlled, turned ON|OFF, using the EXTERNALNOTIFICATION Control Card found in the NSEJRNxx configuration Member. If the Value associated with the Notice indicator shown at the bottom of the panel is 'Off', mail will not be sent. To toggle the External Notification ON|OFF place an 'S' on the command line preceding 'Notice' and press enter. The NSEJRNxx syntactical form of EXTERNALNOTIFICATION is shown below:

```
EXTERNALNOTIFICATION ON|OFF
```

16.2 ACTION BLOCK is Required

For Email Notification to be sent an ACTION BLOCK defining the specific Controlled Event that must occur in order to trigger notification must be defined. There are several types of Controlled Events that trigger notification, each is explained in the next section of this User Guide.

17 Defining Event Notifications

Event Notification is sent when EXTERNALNOTIFICATION is set to 'ON', a valid Email Server Configuration METHOD BLOCK is defined and the defined Email Server is responding, a specific Control Event has been defined in NSECTLxx or NSEJRNxx and a matching ACTION BLOCK has been defined in NSEENSxx. In this section of this User Guide, Configuration Dialog functions that address all of these configuration elements will be addressed.

17.1 Controlled Event Notification Types

Email Notification supports the following Controlled Event Types:

<> Category – Controlled Categories, as defined in NSECTLxx, may carry within them a Notification Attribute.
<> Dataset – Controlled Standalone Datasets, as defined in NSESELxx, are supported.
<> Member – Members in either a Controlled Category Concatenation or a Controlled Standalone Dataset are supported
<> Workgroup – Controlled Workgroups Datasets, as defined in NSESELxx, are supported.
<> Command – Controlled Commands, as defined in NSEJRNxx, are supported.
<> Message – Controlled Commands, as defined in NSEJRNxx, are supported.
<> Interval – Interval Reports, as defined in NSEENSxx, are supported.
<> User – Any TSOUser initiating a Controlled Event may trigger Notification.

17.2 Dataset/Member Related Events

In this section notifications based on Category, Dataset, Member and Workgroup Events are described. Each is basically the same with variations that identify the specific event type and create specific event ACTiON BLOCKs.

17.2.1 Category Event Notification

Controlled Category Notification Panel

```
                TCE 17.0 - Controlled Category Notification

--------TCE Controlled Target-------- ---ENSxx--- ------Last Update------
L  ADCD113 IFO.TEST.PARMLIB        00 00 Yes    4   PROBI1 19/10/24 06:55
P --LPAR-- ---ParmDsn Qualifier--- Sf Sf Act Ctls -UserId- yy/mm/dd hh:mm

 --------------------Controlled Category Notification------------------

 Event Notification Options - Category - SYSTEM.PARMLIB

     .. Event Type: All Actions_______.. Report Type: Full Report____

                    Subject: System Parmlib Update_____________________

 1-To: support@newera.com_____________________________________________
 2-To:________________________________________________________________
 3-To:________________________________________________________________
 4-To:________________________________________________________________
 5-To:________________________________________________________________
 From: >Default<______________________________________________________

           .   . Action On    .. Method On    .. Notice On
```

Once the Notifiation Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Notification tutorial that explains the Panel layout, columns, headings and selection options.

As defined in NSECTLxx:

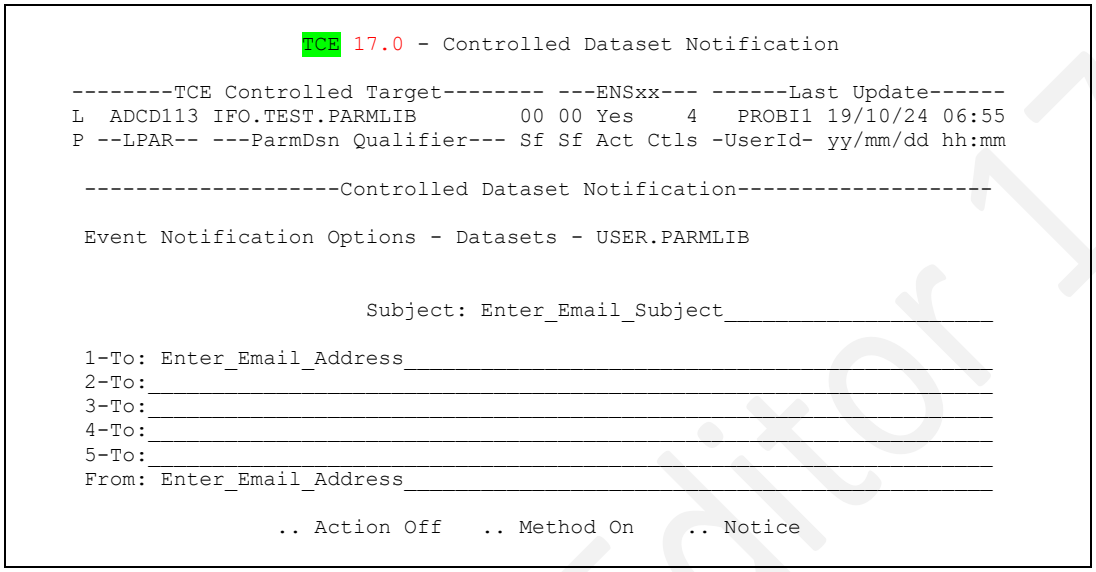
```
Category_name dataset_name(optional_volume,optional_system)
```

As defined in NSEENSxx:

```
ACTION CAT(category_name)
...
ACTION .END
```

17.2.2 Dataset Event Notification

Controlled Dataset Notification - Panel



Once the Notification Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Notification tutorial that explains the Panel layout, columns, headings and selection options.

As defined in NSESELx:

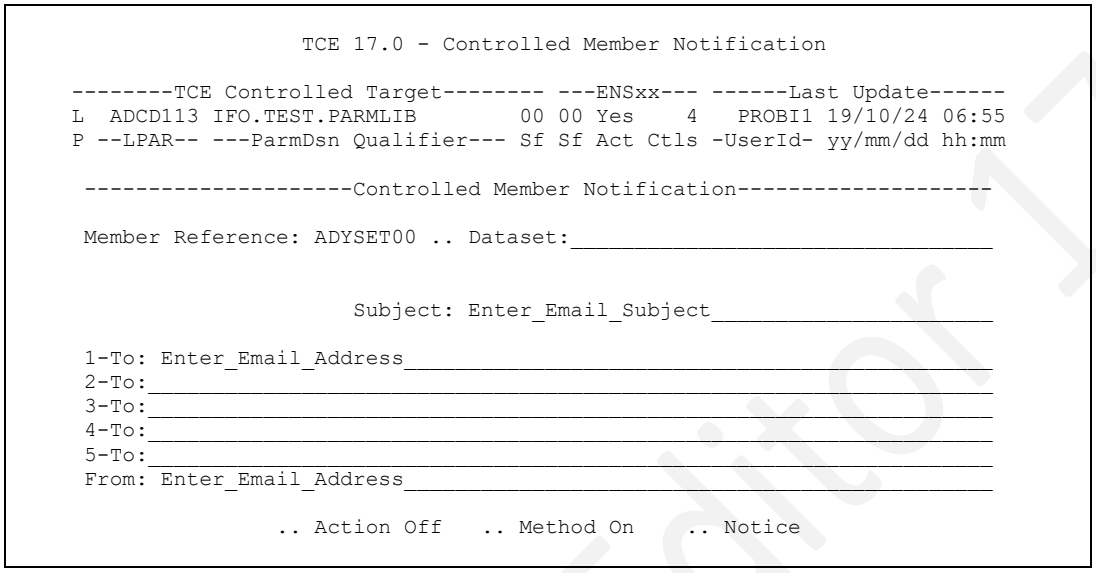
DSNxxxx tsouserid *all/partial_member* dataset_name(volume_namesystem_name)

As defined in NSEENSxx:

```
ACTION DSN(dataset_name)
...
ACTION .END
```

17.2.3 Member Event Notification

Controlled Member Notification



Once the Notification Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Notification tutorial that explains the Panel layout, columns, headings and selection options.

As defined in NSESELxx:

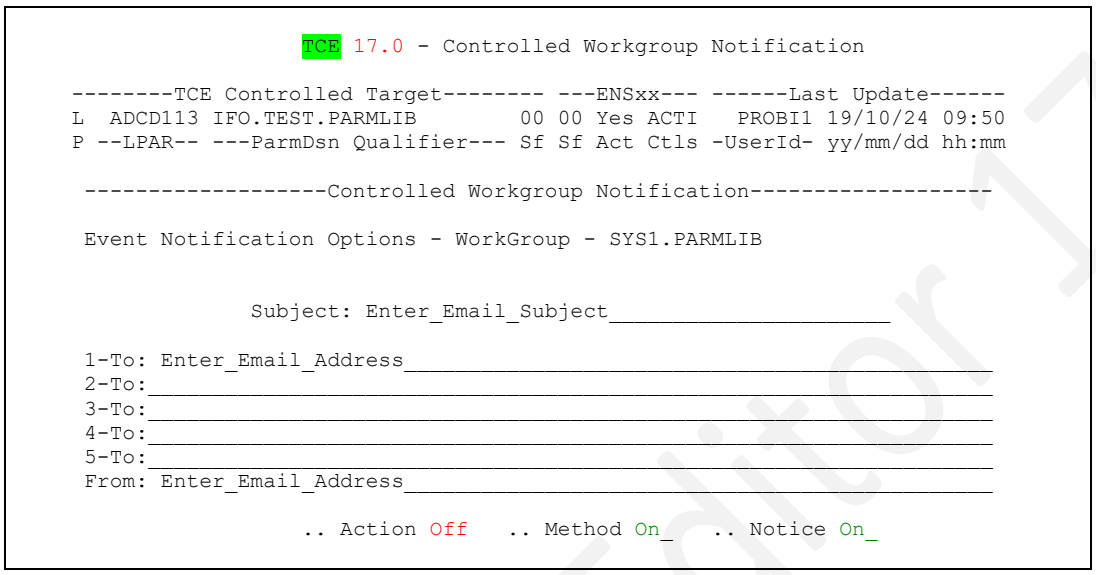
DSNxxxx tsouserid *all/partial_member* dataset_name(volume_namesystem_name)

As defined in NSEENSxx:

```
ACTION MBR(member_name)
CTLDSN control_dataset_name
...
ACTION .END
```

17.2.4 Workgroup Event Notification

Controlled Workgroup Notification



Once the Notification Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Notification tutorial that explains the Panel layout, columns, headings and selection options.

As defined in NSESELxx:

WGPxxxx tsouserid *all/partial_member* dataset_name(volume_namesystem_name)

As defined in NSEENSxx:

```
ACTION WGP(workgroup_dataset_name)
...
ACTION .END
```

17.2.5 Email Address Selection Panel

Email Address Book - Selection

```
                TCE 17.0 - Email Address Book - Selection    Row 1 to 7 of 7
 --NSIMELX 0831--                                           ---Address List---
------------------------- 7 Configured Email Addresses -----------------------
Row Selection: Select_Address_and_Return
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Row --- ---------------------Controlled Event Notification-------------------
_ ___ ___ ____________________________________________________________________
S Num Use ----------------------------Email Address---------------------------
_ 001 003 pat@newera.com
_ 002 007 support@newera.com
_ 003 007 GHB@NEWERA.COM
_ 004 003 prr@newera.com
_ 005 004 ghb@newera.com
_ 006 001 PLAYTWO@NEWERA.COM
_ 007 002 No_Recipient
****************************** Bottom of data ********************************



Option ===>                                                 Scroll ===> CSR
```

Once the Email Address Book Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns, headings and selection options.

17.2.6 Notification Settings MUST be 'On'

```
                    .. Action Off    .. Method On_    .. Notice On_
```

17.2.6.1 Action

Action refers to Notification of events detected that relate to the selected Operator Command. When the value is set to 'On', Notification may be sent to the specified recipient if both Method and Notice are both 'On'. Place the 'S' character on the command entry point and press enter to toggle only this specific action 'On/Off'.

17.2.6.2 Method

Method refers to the Email Configuration METHOD BLOCK. For notification to be sent via Email, the METHOD BLOCK must be fully configured and active. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set or configure the METHOD BLOCK as desired.

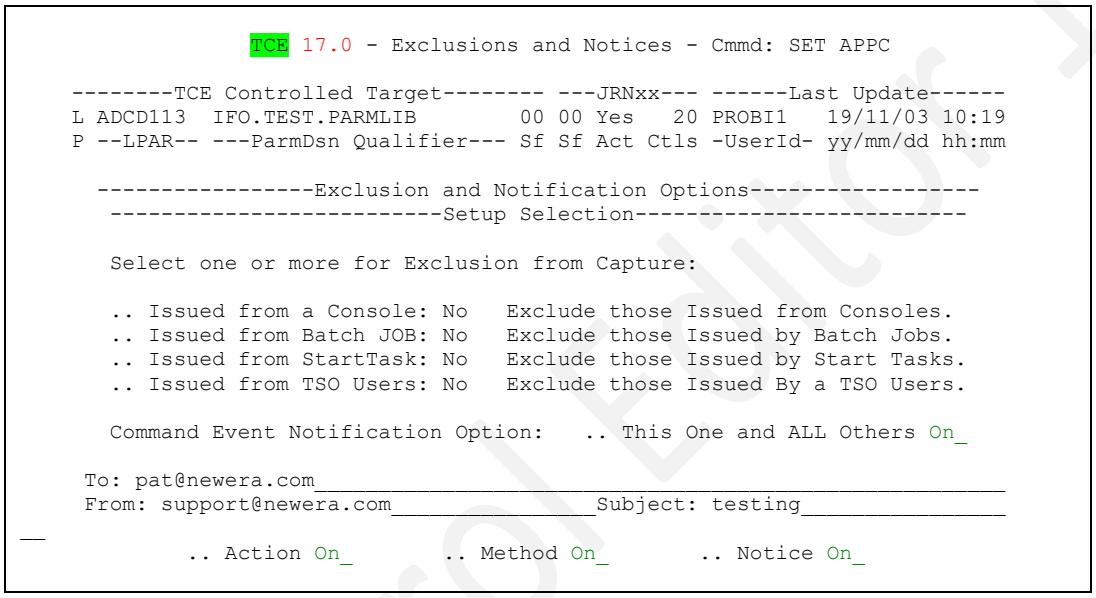
17.2.6.3 Notice

Notice refers to the Global Email Activation Parameter. In order for notification to be sent, this value must be set to 'On'. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set 'Global Control' as desired.

17.3 Operator and Security Command Events

In this section notifications are based on Operator Commands (SET, MODIFY, Miscellaneous) and External Security Mangaer Commands (IBM-RACF, CA-ACF2, CA-Top Secret). Each are basically the same with variations that identify specific event type and create specific event ACTiON BLOCKs.

17.3.1 Operator Commands



Once the Notification Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Notification tutorial that explains the Panel layout, columns, headings and selection options.

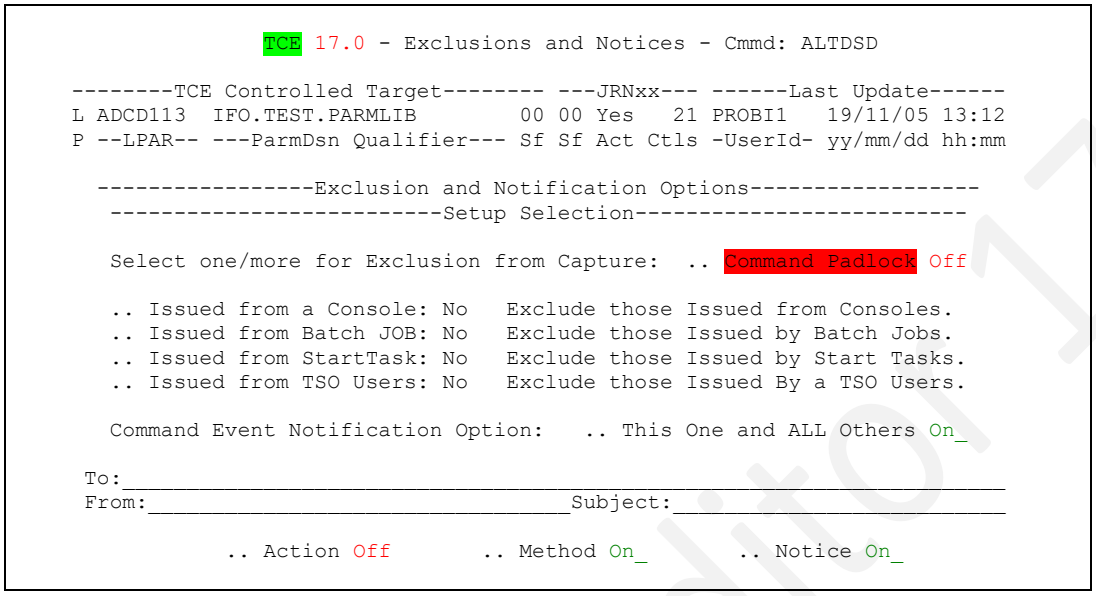
As defined in NSEJRNxx:

```
OPERCMDINTERCEPT ON|OFF

SETCMD command_name
MODCMD command_name
MISCCMD command_name
```

As defined in NSEENSxx:

```
ACTION CMD(command_name)
...
ACTION .END
```

17.3.2 Security Commands



Once the Notifiation Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Notification tutorial that explains the Panel layout, columns, headings and selection options.

Note that at the command level Padlock Controls are, in this release, limited to IBM-RACF Commands.

As defined in NSEJRNxx:

```
ESMINTERCEPT ON|OFF

RACFCMDINTERCEPT ON|OFF
RACFCMD command_name

ACF2CMDINTERCEPT ON|OFF
ACF2CMD command_name

TSSCMDINTERCEPT ON|OFF
TSSCMD ON|OFF
```

As defined in NSEENSxx:

```
ACTION CMD(command_name)
...
ACTION .END
```

17.3.3 Email Address Selection Panel

Email Address Book - Selection

```
                TCE 17.0 - Email Address Book - Selection    Row 1 to 7 of 7
 --NSIMELX 0831--                                           ---Address List---
------------------------- 7 Configured Email Addresses -----------------------
Row Selection: Select_Address_and_Return
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Row --- ---------------------Controlled Event Notification-------------------
_ ___ ___ ____________________________________________________________________
S Num Use ----------------------------Email Address---------------------------
_ 001 003 pat@newera.com
_ 002 007 support@newera.com
_ 003 007 GHB@NEWERA.COM
_ 004 003 prr@newera.com
_ 005 004 ghb@newera.com
_ 006 001 PLAYTWO@NEWERA.COM
_ 007 002 No_Recipient
****************************** Bottom of data ********************************



Option ===>                                                 Scroll ===> CSR
```

Once the Email Address Book Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns, headings and selection options.

17.3.4 This One and All Others

```
      Command Event Notification Option:   .. This One and ALL Others On_
```

17.3.5 Notification Settings MUST be 'On'

```
                    .. Action Off   .. Method On_   .. Notice On_
```

17.3.5.1 Action

Action refers to Notification of events detected that relate to the selected Operator Command. When the value is set to 'On', Notification may be sent to the specified recipient if both Method and Notice are both 'On'. Place the 'S' character on the command entry point and press enter to toggle only this specific action 'On/Off'.

17.3.5.2 Method

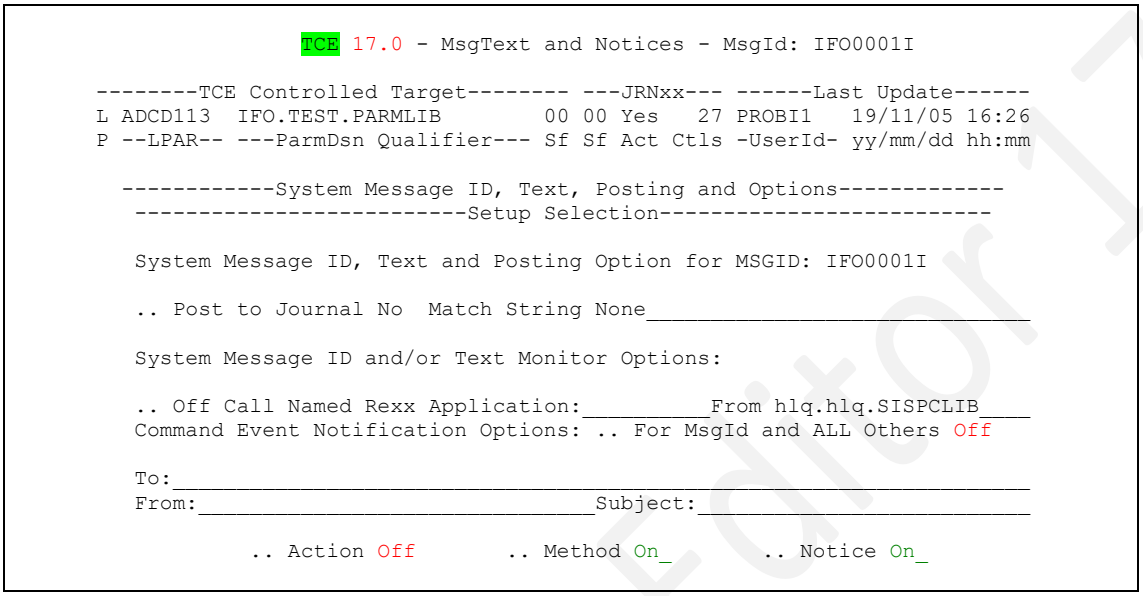
Method refers to the Email Configuration METHOD BLOCK. For notification to be sent via Email the METHOD BLOCK must be fully configured and active. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set or configure the METHOD BLOCK as desired.

17.3.5.3 Notice

Notice refers to the Global Email Activation Parameter. In order for notification to be sent this value must be set to 'On'. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set 'Global Control' as desired.

17.4 System Message Related Events

In this section notifications based on Message Identifiers resulting in the creation of specific event ACTiON BLOCKs is described.



Once the Notification Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Notification tutorial that explains the Panel layout, columns, headings and selection options.

17.4.1 By Message Identifiers

17.4.2 By Message Event

As defined in NSEJRNxx:

```
MSGIDINTERCEPT ON|OFF
MSGID system_message_identifier message_text
```

As defined in NSEENSxx:

```
ACTION MSGID(message_identifier)
```
or
```
ACTION EVENTMSGID(message_identifier)
```

17.4.3 Email Address Selection Panel

Email Address Book - Selection

```
                TCE 17.0 - Email Address Book - Selection    Row 1 to 7 of 7
 --NSIMELX 0831--                                           ---Address List---
------------------------- 7 Configured Email Addresses -----------------------
Row Selection: Select_Address_and_Return
--- To Sort select a Sub-Head, To Query enter above Sub-Head, PFK1 for Help ---
- Row --- ---------------------Controlled Event Notification-------------------
_ ___ ___ ____________________________________________________________________
S Num Use ----------------------------Email Address---------------------------
_ 001 003 pat@newera.com
_ 002 007 support@newera.com
_ 003 007 GHB@NEWERA.COM
_ 004 003 prr@newera.com
_ 005 004 ghb@newera.com
_ 006 001 PLAYTWO@NEWERA.COM
_ 007 002 No_Recipient
****************************** Bottom of data ********************************



Option ===>                                                 Scroll ===> CSR
```

Once the Email Address Book Worksheet is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Worksheet tutorial that explains the Worksheet layout, columns, headings and selection options.

17.4.4 This One and All Others

```
      Command Event Notification Option:   .. This One and ALL Others On_
```

17.4.5 Notification Settings MUST be 'On'

```
                  .. Action Off   .. Method On_   .. Notice On_
```

17.4.5.1 Action

Action refers to Notification of events detected that relate to the selected Operator Command. When the value is set to 'On', Notification may be sent to the specified recipient if both Method and Notice are both 'On'. Place the 'S' character on the command entry point and press enter to toggle only this specific action 'On/Off'.

17.4.5.2 Method

Method refers to the Email Configuration METHOD BLOCK. For notification to be sent via Email the METHOD BLOCK must be fully configured and active. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set or configure the METHOD BLOCK as desired.

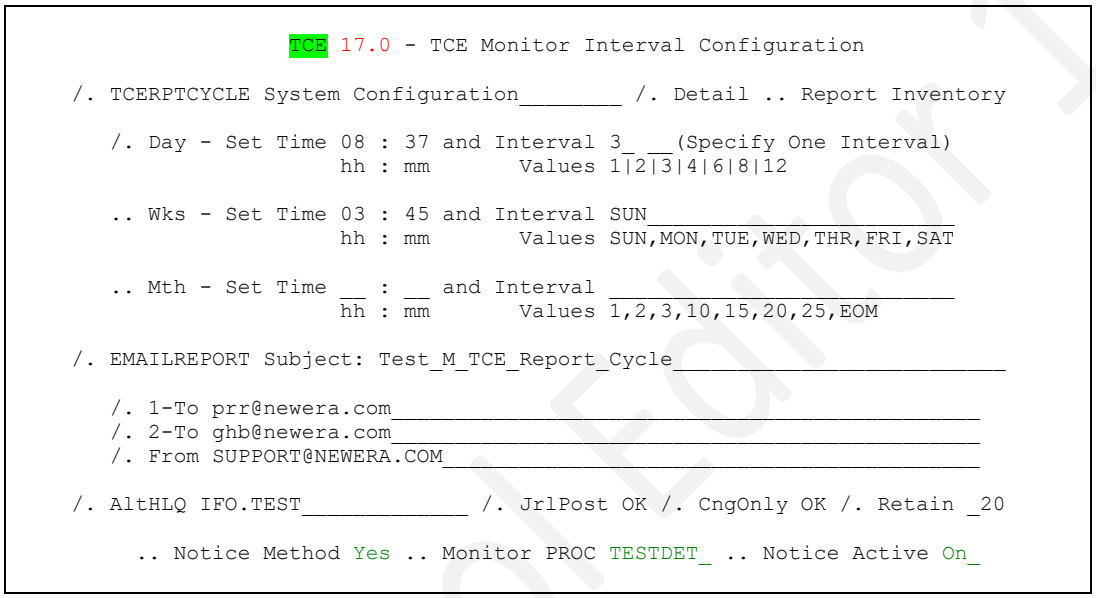
17.4.5.3 Notice

Notice refers to the Global Email Activation Parameter. In order for notification to be sent this value must be set to 'On'. If the value shown is 'Off', return to the Settings Menu, select the 'MetBlock' options and set 'Global Control' as desired.

17.5 TCE Interval Monitor Events

In this section notifications based on the TCE Interval Monitor Events - Settings, Changes and Errors - are described. Each is basically the same with variations that identify the specific monitor event and create specific monitor event ACTiON BLOCKs.

17.5.1 Interval Monitors



Once the Monitor Configuration Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Configuration tutorial that explains the Panel layout, columns, headings and selection options.

As defined in NSEDETxx:

```
LAUNCHPROC TESTDET

TCEWEBCYCLE ON|OFF

TCEWEBCYCLE CYCLE(DAY) TIME(01:15) INTERVAL(1|2|3|4|6|8|12)
TCEWEBCYCLE CYCLE(WEEKLY(MON,TUE,WED,SUN)) TIME(14:32)
TCEWEBCYCLE CYCLE(MONTHLY(EOM)) TIME(01:01)
TCEWEBCYCLE CYCLE(MONTHLY(DOM(10,15,20),EOM)) TIME(12:46)
```

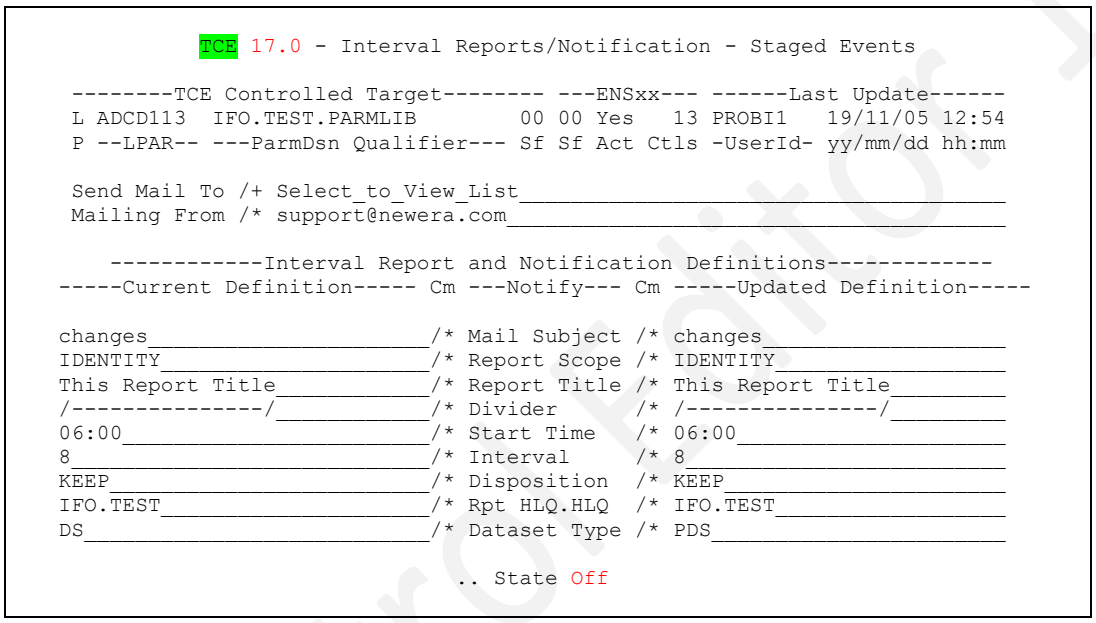
As defined in NSEENSxx:

```
ACTION DET(monitor_name)
...
ACTION .END
```

17.6 TCE Interval Monitor Reports

In this section notifications based on the TCE Interval Monitor Reports - Staged, OPRCmd, ESMCmd, IFPost, HZSIds, MSGIds, UserId, CtlJob and WrkGrp - are described. Each is basically the same with variations that identify the specific monitor report type and create specific monitor type ACTiON BLOCKs.

17.6.1 Interval Reports



Once the Interval Configuration Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Configuration tutorial that explains the Panel layout, columns, headings and selection options.

As defined in NSEENSxx:

```
ACTION DSRPT(report_name)
...
ACTION .END
```

17.7 TCE Project Events

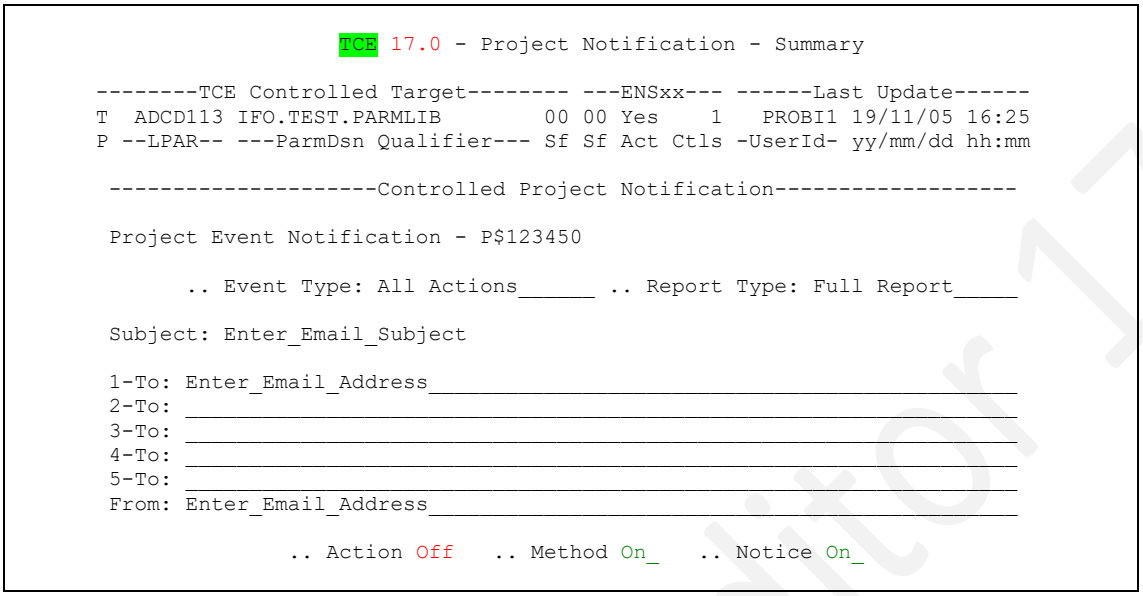
Note that the functions described in this section are planned for an unspecified future release.

17.7.1 Access Notices

```
                TCE 17.0 - Project Definition Summary - P$123450

Project Name NEW PROJECT NAME_____________________ Key: NEWPROJECTKEY___
Text ____________________________________________________________________


Project Duration - Start Date 16 11 07  Start Time 12 48   Current Status
     .. Activate Off     Stop 16 12 07        Stop 12 48    InActive
     .. Priority Off          yy/mm/dd             hh:mm .. Residual Off

Project Day Window
     .. 24hr Interval Off  Opening Hour 00  Closing Hour 00  Span: 00_Hrs

Project Originator ___________________ UserId ________ Phone ___________
     .. Notice Off ______________________________________________________

Project Leadership ___________________ UserId ________ Phone ___________
     .. Notice Off ______________________________________________________

Project Resources
     .. Commands _0    .. Datasets _0    .. Members __0    .. Staffing _0
     .. Project Events __    .. Project Reports __   .. Project Notice _0
```

Once the Project Summary Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Project tutorial that explains the Panel layout, columns, headings and selection options.

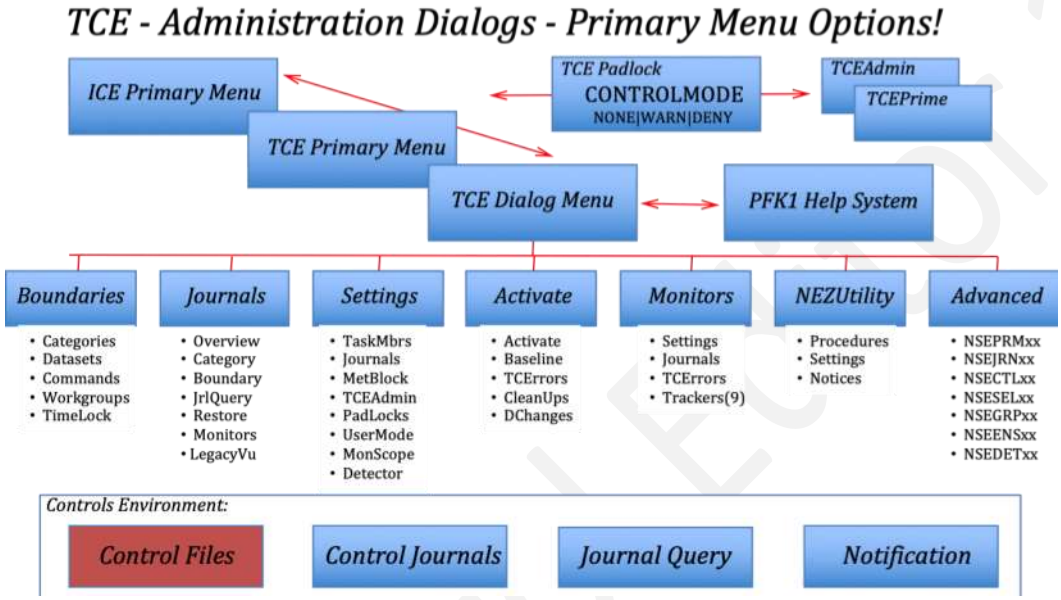
17.7.2 Project Notices



Once the Project Notifiation Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Project Notification tutorial that explains the Panel layout, columns, headings and selection options.

18 Appendix A - Configuration Dialog Navigation

The Control Editor is configured using various ParmLib Members that reside in the IFO ParmLib Dataset that was defined during installation. A full set of Sample Members containing specific configuration examples is available in the ICE SampLib Dataset. All TCE Configuration Members may be updated directly using TSO/ISPF. This notwithstanding the configuration options accessed from TCE Configuration Dialogs are designed to help direct you to specific TCE functions and assist in common configuration tasks/actions.



18.1 Logging On

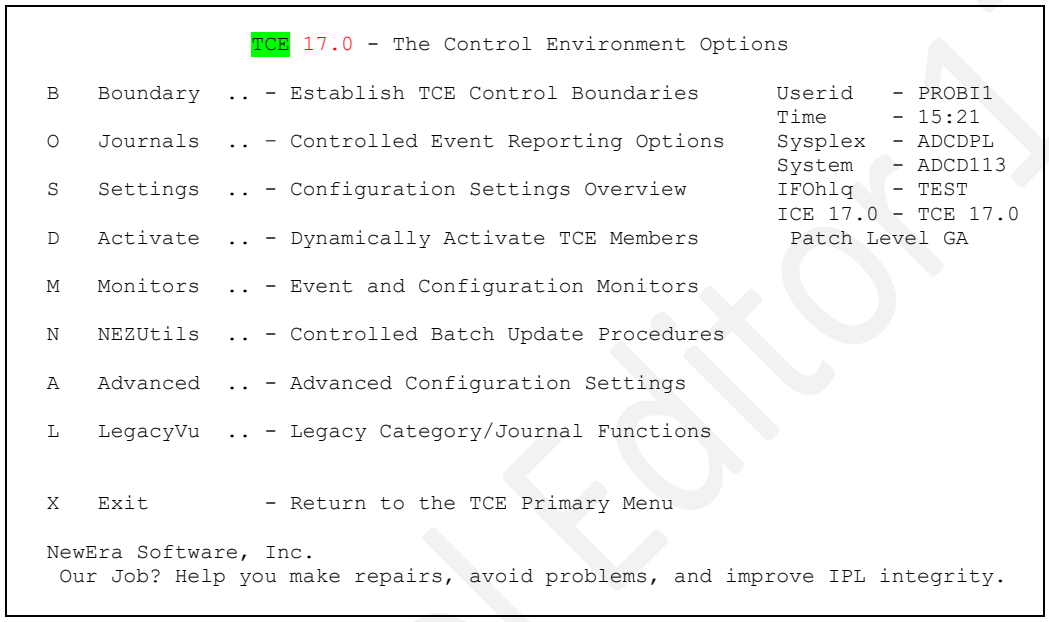
This *Appendix A* of this User Guide provides a detailed description of the Logon procedures and/or steps required for accessing the TCE Configuration Dialog Primary Menu titled, *'Control Boundaries and Settings'*.

18.2 Help System

All TCE Dialog Menus, Panels and Worksheets, including this Primary Menu, are supported by Topical Help Panels. To display Help Panels, press PFK1. To redisplay the supported source Menu, Panel or Worksheet press PFK3.

18.3 Menu Options

The TCE Dialog Menu is the control point for all TCE configuration activity, meaning that no matter the configuration function you select from the menu as you PFK3 your way back out from whatever level you reach, you will always return to this panel where you can make additional selections. If you wish to EXIT, press PFK3 to return to the TCE Primary Menu.



Selectable options from *'Control Boundaries and Settings'* panel include:

18.3.1 Boundary

TCE uses Defined Boundaries as the basis for its Event Monitoring and Control; four types are supported – Categories, Datasets, Commands and Workgroups.

18.3.2 Journals

Detected Controlled Events are captured and recorded in Control Journals; this option shows reporting functions – Dashboard, Timeline and Event Detail.

18.3.3 Settings

Settings in the NSEPRMxx ParmLib Member determine the state of Service Task and name Configuration Members.

18.3.4 Activate

TCE Configurations may be dynamically activated or will be automatically activated when IFOM is next restarted.

18.3.5 Monitors

Various Interval Reports may be optionally set up and initialized to 'Notice' Event & Configuration changes.

18.3.6 NEZUtils

Control Boundaries may be extended to the Batch Update of Datasets associated with Controlled Categories.

18.3.7 Advanced

Below the functional level interface described above Specific Member Access is provided for advanced users.

18.3.8 LegacyVu

Below the functional level interface described above Specific Member Access is provided for advanced users; see Appendix G – LegacyVu.

18.4 Option Selection

Configuration Dialog Selection Menus support three types of Option Selection.

18.4.1 Line Command

To select using the TSO/ISPF Option Line shown, as difined by preference in a user TSO/ISPF login profile, at the top or bottom of the panel, enter the Command Character shown to the left of the panel option and press enter.

```
B   Boundary  .. - Establish TCE Control Boundaries

Option ===> B_________________
```

18.4.2 Direct Selection

To select using *Direct Selection* method, place an 'S' on the Command Entry Point shown to the right of the panel option and press enter.

```
B   Boundary  B. - Establish TCE Control Boundaries
```

18.4.3 Cursor Under

To select using *Cursor Under* method, place the cursor beneath the underlined Option Name (generally shown in white text) and press enter.

```
B   Boundary  .. - Establish TCE Control Boundaries
```

18.5 Control Boundaries

The Control Boundary forms the basis for TCE Event Monitoring and Access Control. The level and rigor of each is determined by specific configuration settings accessible from this panel. In addition, the panel provides a view of the status of Padlock, Monitor Scope and Global Command and Message Intercept configuration settings. Any action to alter a Dataset or Member or use a Command or the occurance of a defined message will be 'Noticed', Journaled and possibly Prevented when Padlock is active.

```
                    TCE 17.0 - Control Boundary Selection

C   Category  .. - Establish Boundaries  .. Padlock On    Userid    - PROBI1
                                                         Time      - 12:37
D   Datasets  .. - Establish Boundaries  .. Padlock On    Sysplex   - ADCDPL
                                                         System    - ADCD113
S   Cmds/Msg  .. - Establish Boundaries  .. Padlock Off   IFOhlq    - TEST
                                                         TCE 17.0
W   WrkGroup  .. - Establish Boundaries  .. Padlock Off    ICE17

T   TimeLock  .. - Establish Boundaries  .. Padlock Off


                +----------Global Settings----------+
                | .. Padlock Control Modes .. Warn  |
                | .. External Notification .. Send  |
                | .. SysMonitor Intercepts .. On__  |
                +-----------------------------------+

X   Exit        - Return to the TCE Primary Menu

NewEra Software, Inc.
 Our Job? Help you make repairs, avoid problems, and improve IPL integrity.
```

18.5.1 Establish Category Boundaries

A Controlled Category Boundary is composed of one or more specifically named Datasets and related Settings.

18.5.2 Establish Dataset Boundaries

Any Dataset may be a stand alone Controlled Dataset representing a Control Boundary for its members.

18.5.3 Establish Commands/Message Boundaries

Cmds/Msg Access to RACF Operator Commands may be restricted and define System Messages Captured and Acted Upon.

18.5.4 Establish Workgroup Boundaries

WrkGroup Controlled Workgroups may be defined to include/exclude Individual Access to one or more named Working Datasets.

18.5.5 Establish Project Boundaries

TimeLock is available to extend Padlock functions to a Day, Date and Time and Named Project Control Boundary.

18.6 Journals

When TCE is active (operating under either ICE and/or TSO) defined events are captured and a record of them stored in the TCE Control Journals. The HLQ names of these Control Journals, their dataset allocation and operational parameters are defined in the NSEJRNxx configuration member.

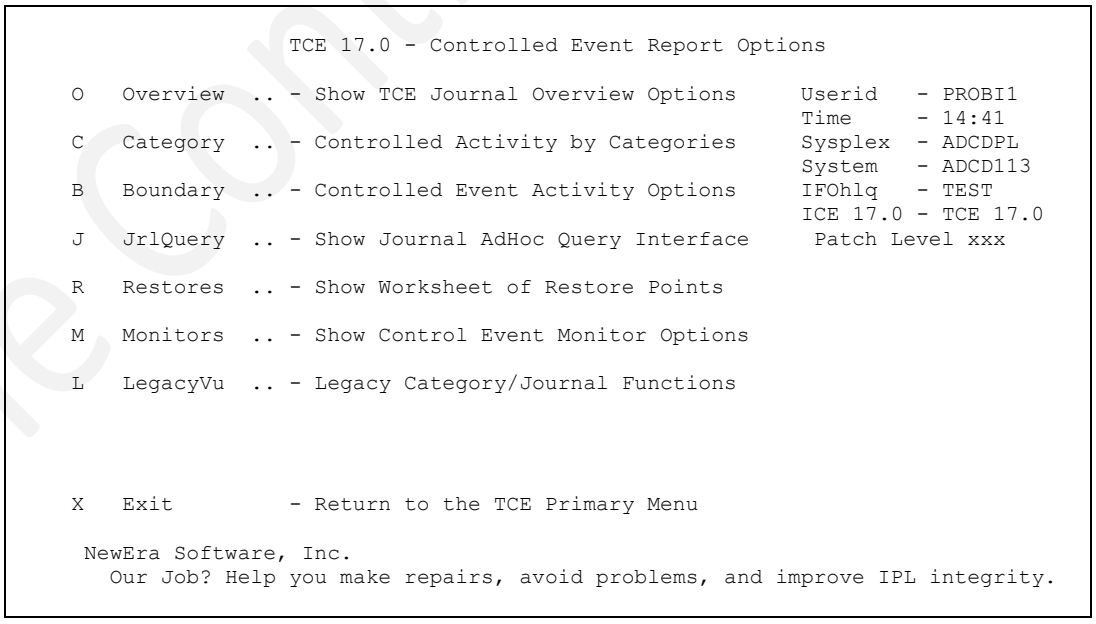
The specific events to be captured are defined in either NSEJRNxx or within the Controlled Category List(s) found in NSECTLxx. Once these Change Event Policies are correctly defined, the Control Journals will begin to record events. Each event will fall into one, and only one, Event Class, each of which is selectable from the Journal Interface Worksheet.

The first events recorded following a start/restart are a full backup and/or refresh of the content of the Sequential Datasets and the members in the Partitioned Dataset named in the Dataset Control List. Subsequently, events that impact their content (Adds, Deletes and Changes) or their use are detected and recorded.

In addition to the Controlled Dataset List defined in NSECTLxx, events defined in NSEJRNxx: Operator Commands, System Messages, Supplemental Changes, Exceptional Events, Image FOCUS Audit Logs, Event Notifications and Background Reports-are also detected and are recorded.

TCE offers a number of Event Reporting, Restore and Monitoring options. The Reporting options begin with the highlevel of summarization and descents offering greater levels of detail and full query. Restore Points may be accessed as can the background settings and their related reports.

TCE Controlled Event Reporting Options



18.6.1 Overview

Displays high-level Journal summary options: Dashboard for Mgmt. Reporting and Timeline for Forensic Analysis.

18.6.1.1 Dashboard

The Journal Dashboard is intended to dispaly the highest level of Journal Event Summarization. It should be viewed as the dynamic/interactive portal to Journal content, one suitable for management reviews. The "News" is specific to a TCE Administrator and shows summary of events that have ocurred since the last time the Dashboard was displayed for that individual. All underlined white text is selectable and "Hot-Linked" to additional detail.

```
                TCE 17.0 - Control Journal - Event Selection Row 1 to 15 of 15
--NSIMJRL 0214--                                                 ---CtlJournals---
--------------- Environment is IFO.TEST - 13 Controlled Classes ---------------
Row Selections: Setup_Background_Reporting_Interval Display_New_Event_Worksheet
.. Controlled Datasets .. Event Timeline .. Journal Queries .. Restore Datasets
- Row ---------Event Target---------- Bkg Your ---------Period to Date---------
S Num -Class-- ---------Name--------- Set News Days Week Mths Qtrs Years Totals
_ 001 BackUps  Named_Dataset_Backups  ---    0    0    0  491  491   491    491
_ 002 Staged   User_Session_Changes   ---    0    0    0    6    6     6      6
_ 003 CDStart  NEZUTIL_Update_Events  ---    1    2    7   35   35    35     35
_ 004 Submit   Submitted_JCL_Events   ---    0    0    0    0    0     0      0
_ 005 Dynamic  Operator_Comnd_Events  ---    0    0    0    0    0     0      0
_ 006 Change   Supplemental_Changes   ---    0   10  199  491  491   491    491
_ 007 Message  Named_System_Messages  ---    0    0    0    0    0     0      0
_ 008 Policy   ESM_Security_Changes   ---    0    0    0    0    0     0      0
_ 009 TCEPrms  TCE_Parameter_Changes  ---    0    0   10   18   18    18     18
_ 010 Except   Processed_Exceptions   ---    0    0    3    3    3     3      3
_ 011 Detects  Auto_Detection_Events  ---    0    9   92   92   92    92     92
_ 012 Notice   Notification_Details   ---    0    2   30   58   58    58     58
_ 013 Reports  TCE_Background_Events  ---    0    0    0    0    0     0      0
_ 014 -------- --------------------- --- ---- ---- ---- ---- ---- ----- ------
_ 015 Totals   All_Classified_Events    0    1   23  341  703  703   703    703
```

18.6.1.2 Event Timeline

The Journal Timeline is intended to be a next step down into Journal Events. It is useful in tracking events for forensic purposes to a specific day/date/time interval. Options allow for the default "Daily View" to be summarized into weeks, months, quarters and yearly views. Each presentation is by Major Event Class with "Hot-Links" to all underlying journaled event detail.

```
             TCE 17.0 - Daily Event Timeline Worksheet       Row 1 to 8 of 8
--NSIMJRL 0214--                                           ----Day-By-Day----
-------------- IFO.TEST - The Day-By-Day Event Worksheet Interface ------------
Row Selection: Browse_a_Day
---------Alternate Views--------- - ---------Default Period Selection----------
Sysplex  System  CauseId  Periods - Daily  Weeks  Month  Quarter  Annual  Total
------ To Reorder the Columns select a related Event Class, PFK1 for Help -----
 Line ---Date--- Total Stage NEZu Xmit Oper Supp Mess ESMp TCEp Excp Dtec Note
_ 0001 2019/02/13    36     2    0    0    5    0    0    0    0    2   19    8
_ 0002 2019/02/12    54     0    0    0    1    0    0    0    8    0   39    6
_ 0003 2019/02/11    43     1    0    0    2    0    0    2    0    6   24    8
_ 0004 2019/02/10    77     1    0    0    3    0    0    0   40    5   24    4
_ 0005 2019/02/09    43     8    0    0    0    0    0    0    0    0   21   14
_ 0006 2019/02/08    26     0    0    0    0    0    0    0    0    0   24    2
_ 0007 2019/02/07  2065  1821    0    0    0    6    0    0   30  110   13   85
_ 0008 2019/02/06    42     2    0    0    0    7    0    0    8    0   13   12
****************************** Bottom of data ********************************
```

18.6.2 Category

Shows a Worksheet listing of Controlled Categories Automatically created by TCE and those defined in NSECTLxx.

18.6.3 Boundary

Additional Reporting Options specific to: Datasets, USSFiles, Commands, Access Failures and Detected Changes.

18.6.4 JrlQuery

Displays a general purpose Journal Query Interface that is used for detailed examination of all recorded events.

18.6.5 Restores

Shows a Worksheet listing all Restore Points by Member; restores may be applied to specific member or groups.

18.6.6 Monitors

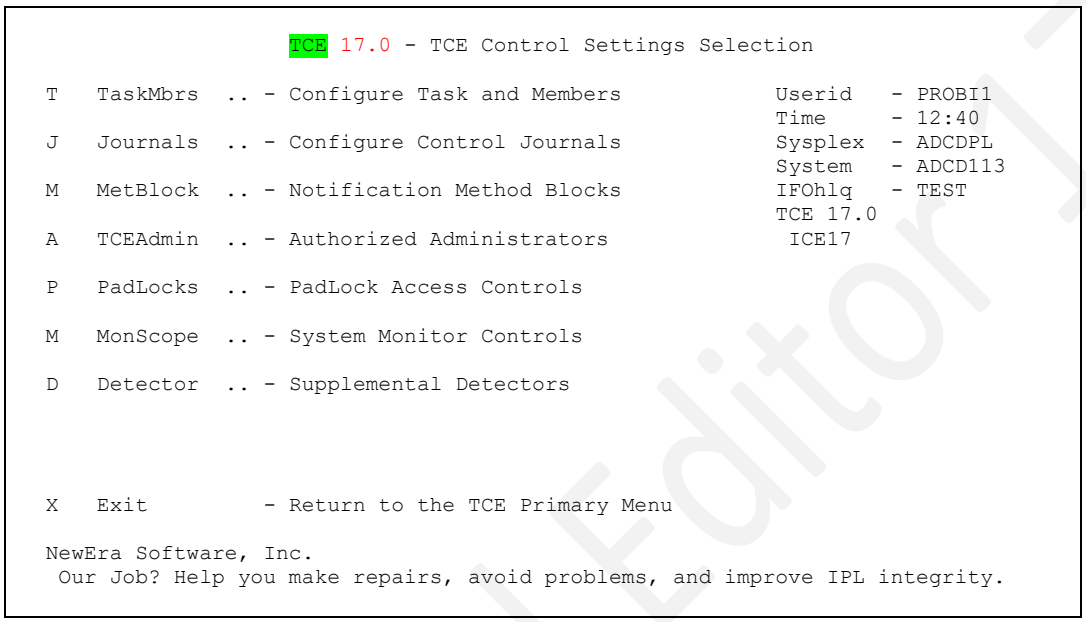
Displays Background Reporting Options from which you access interval settings and available reports.

18.6.7 LegacyVu

The original TCE Administrator Interface offered functions - Dataset and Journal - are retained here; see Appendix G – LegacyVu.

18.7 Control Settings

The Settings accessed from this panel are fundamental to the base operation of TCE its Controls Environment, its Control Journals and its Methods of operation.



18.7.1 Configure Tasks and Members

The NSEPRMxx ParmLib Member defines which TCE Services will be started and the Suffixes of the individual TCE Configuration Members will be activated at startup.

18.7.2 Configure Control Journals

The format and specifications Control Journals is defined in the NSEJRNxx ParmLib Member. An option to SHARE a Journal across Multiple System is supported

18.7.3 Notification Method Block

Notifice via Email is defined in the NSEENSxx ParmLib Member. The METHOD Block settings define Email Server.

18.7.4 Authorized Administrators

TCE supports both a Primary and up to six secondary Administrators that may access TCE Configuration Settings.

18.7.5 Padlock Access Controls

The rights of users to access Controlled Datasets and Operator Commands can be controlled with the Padlock.

18.7.6 System Monitor Controls

The Scope of Environmental monitoring may be set to the Running System, The Sysplex or a named system set.

18.7.7 Supplemental Detectors

The Optional Supplemental Detectors can be used to monitor and report on changes to specific z/OS settings.

18.8 Activation and Utilities

These Configuration Utilities are designed to aid you in common administration tasks - Dynamic Activation, Baselining the configuration, Report Configuration Errors - and the Cleaning Up of orphan Email Addresses and Access IDs.

```
                    TCE 17.0 - TCE Configuration Utilities

A   Activate  .. - Dynamically Activate all Members      Userid    - PROBI1
                                                        Time      - 12:43
B   Baseline  .. - View TCE Configuration Baselines      Sysplex   - ADCDPL
                                                        System    - ADCD113
E   TCErrors  .. - Check for TCE Configuration Errors    IFOhlq    - TEST
                                                        TCE 17.0
C   CleanUps  .. - User Email Addresses and Padlocks      ICE17




X   Exit         - Return to the TCE Primary Menu

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```

18.8.1 Dynamically Activate All Members

Once a TCE configuration update is complete, select this option to reinitialize the full TCE configuration. Note the NSEPRMxx Member cannot be dynamically updated.

18.8.2 View TCE Configuration Baselines

It is a Best Practice to build a Baseline of the full TCE Configuration, save it by date and then compare a selected baseline against current settings for changes.

18.8.3 Check for TCE Configuration Errors

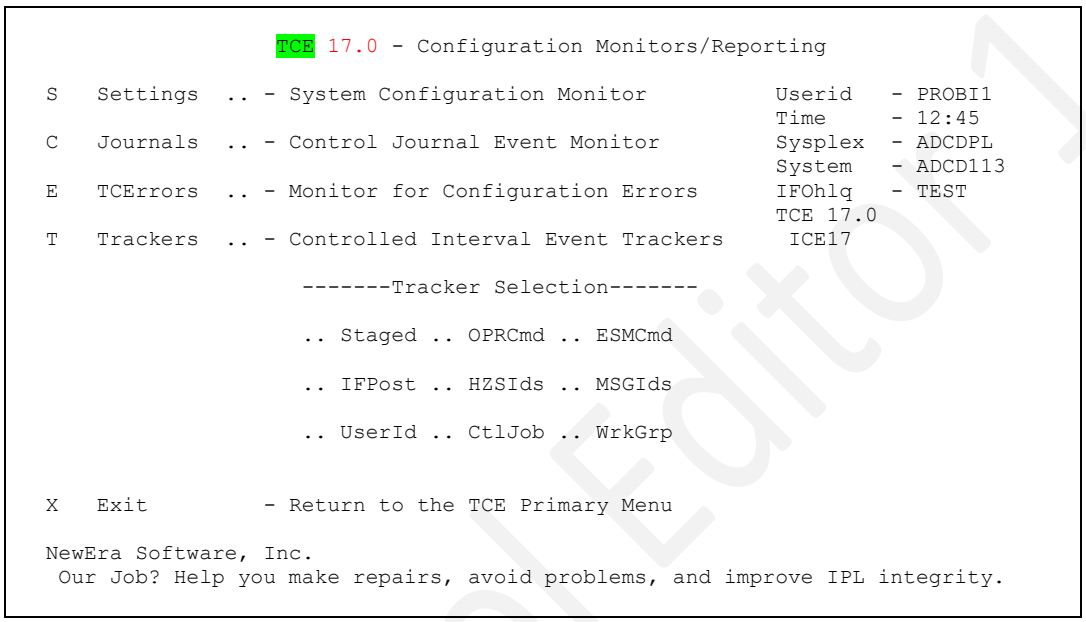
Problems can arise in the TCE Configuration, for example, when a dataset is moved to a new volume and its control boundary definition, if it contains a volume specification, is not updated to match the new placement.

18.8.4 Cleanup Email Addresses and Padlocks

From time to time it may be necessary to remove users from the TCE Configuration. These utilities provide access to a system-wide view of both Email Addresses and UserIDs and the tools for updating/deleting them.

18.9 Monitors and Reports

TCE provides a number of unique Management Reports designed as Controlled Event and Configuration Monitors. Each tracks changes and, at specific intervals, reports findings as directed. Each operates independently of the others and may be configured to inform at a summary or detail level. Findings may be sent via Email.



18.9.1 System Configuration Monitor

Understanding of the TCE Configuration is fundamental to the integrity of the Controls Environment. This Monitor tracks/reports changes in Configuration Members.

18.9.2 Control Journal Event Monitor

Controlled Events are recorded in the TCE Control Journal as they occur. This Monitor tracks and reports changes at intervals across all Control Event Categories.

18.9.3 Monitor for Configuration Errors

Potential configuration problems may arise resulting in a loss of control over Configuration Boundaries. This monitor discovers/reports these possible conditions.

18.9.4 Control Interval Event Trackers

These Monitors operate over a 24-hour period reporting only on their specific topical area of interest at defined intervals during the period. Findings during the 24-hour period are automatically stored for later used.

18.9.4.1 Staged Events

18.9.4.2 Operator Command Events

18.9.4.3 ESM Command Events

18.9.4.4 Image Inspection Events

18.9.4.5 Health Checker Messages Events

18.9.4.6 System Messge Events

18.9.4.7 TSOUserId Events

18.9.4.8 Batch Jobs Events

18.9.4.9 WorkGroup Events

18.10 NEZUtility Functions

Once Controlled Categories are defined updates to the Controlled Dataset defined to them can be detected when they occur either interactively under TSO/ISPF and/or during a Batch Update managed by NEZUTIL.

NEZUTIL is a 'JCL-Wrapper' Application that is used to front-end all common Batch Update Utilities like IEBGENR or IEBCOPY. To activate NEZUTIL 'CDSTART' and 'CDSTOP' Control Statments MUST be added to existing JCL Procedures. In addition, inline Control Cards or alternately a SYSIN DD Dataset must be defined within the Update Procedure to direct NEZUTIL to the list of Control Categories that will be evaluated for changes following Batch Execution. A brief description, descriptor, of the Batch Event, if provided, will be associated with each discovered change.

18.10.1 Naming a Batch Procedure

A Procedure Name is arbitrary text that is or will be assigned to a specific JCL Procedure. To define a new Procedure Name, enter the name in an open panel slot.

TCE Controlled Procedure Selection - Panel

```
                TCE 17.0 - TCE Controlled Procedure Selection

----------------------Defined NEZUTIL Control Procedures----------------------
-- Cm --Procedure Names-- -- Cm --Procedure Names-- -- Cm --Procedure Names--
01 .. BATCH_UPDATE        19 ..                     37 ..
02 .. SYSTEM_A_UPDATES    20 ..                     38 ..
03 .. SYSTEM_B_UPDATES    21 ..                     39 ..
04 ..                     22 ..                     40 ..
05 ..                     23 ..                     41 ..
06 ..                     24 ..                     42 ..
07 ..                     25 ..                     43 ..
08 ..                     26 ..                     44 ..
09 ..                     27 ..                     45 ..
10 ..                     28 ..                     46 ..
11 ..                     29 ..                     47 ..
12 ..                     30 ..                     48 ..
13 ..                     31 ..                     49 ..
14 ..                     32 ..                     50 ..
15 ..                     33 ..                     51 ..
16 ..                     34 ..                     52 ..
17 ..                     35 ..                     53 ..
18 ..                     36 ..                     54 ..
```

The Procedure Names that are defined and appear in the panel are arbitrary text that is or will be assigned to a specific JCL Procedure.

18.10.2 Defining a Batch Procedure

Selecting a Named Procedure will immediately display the NEZUtility Configuration Panel. Once the Panel is displayed, study it thoroughly to get a general understanding of its content. Use PFK1 to display a Setup tutorial that explains the Panel layout, columns, headings and selection options.

NEZUTIL Configuration – procedure_name - Panel

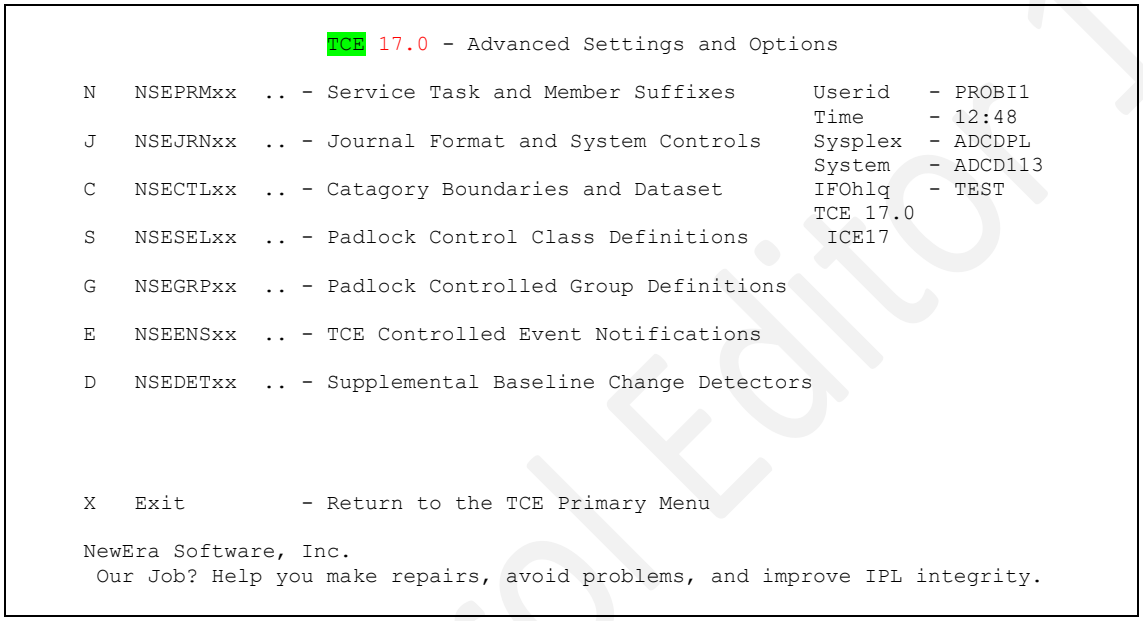
```
                TCE 17.0 - NEZUtility Configuration - BATCH_UPDATE

  JCL/Procedure .. Dsn: PROBI1.NEZUTIL.PROCS_____________________ Mbr:________
  Configuration .. Dsn: PROBI1.NEZUTIL.SETUP_____________________ Mbr:________

------------------NEZUTIL Configuration Dataset Parameters-----------------
-- Cm --Category Name--   -- ----------------Descriptor Text----------------
01 .. CATEGORY.ONE_____ | 01 THIS IS THE JUSTIFICATION FOR THE UPDATE_______
02 .. _________________ | 02 ____________________________________________
03 .. _________________ | 03 ____________________________________________
04 .. _________________ | 04 ____________________________________________
05 .. _________________ | 05 ____________________________________________
06 .. _________________ | 06 ____________________________________________
07 .. _________________ | -- ------------Configuration Comments-------------
08 .. _________________ | 01 THIS IS THE REASON FOR THE UPDATE_____________
09 .. _________________ | 02 ____________________________________________
10 .. _________________ | 03 ____________________________________________
11 .. _________________ | 04 ____________________________________________
12 .. _________________ | -- -----------Last Configuration Upate------------
13 .. _________________ | 01 USER:PROBI1 DATE:2019/11/11 TIME:17:58:00
14 .. _________________ | -- --------------Event Notification---------------
15 .. _________________ | 01 .. Notice Yes .. Notice EventId Token _________
```

18.11 Advanced Functions

The Options available from this panel link to various TCE Configuration Access Points. The local Setup is automatically discovered. Each remote entry will require an LPAR Name, the Fully-Qualified IFO ParmLib Dataset and Suffix of the Controlling NSEPRMxx Member. Once defined, related specific TCE Configuration Control Information for both the Local and Remote sysems is updated each time you reselect an entry.



18.11.1 Service Task and Member Suffixes

NSEPRMxx is the Primary TCE Configuration used to control the activation of TCE Task and define TCE Member Suffixes.

18.11.2 Journal Format and System Controls

NSEJRNxx Is used to define the TCE Control Journals, Panel Descriptor and activation of various TCE Options.

18.11.3 Category Boundaries and Datasets

NSECTLxx Is used to define the Control Boundaries monitored by TCE. It consists of Named Category and their Datasets.

18.11.4 Padlock Control Class Definitions

NSESELxx Is used to define the Access Privileges that will be granted and/or denied to individual users or groups.

18.11.5 Padlock Controlled Group Definitions

NSEGRPxx Is used to define TCE Control Groups and their Members. It is used in conjunction with NSESELxx Member Level Control.

18.11.6 TCE Controlled Event Notifications

NSEENSxx Is used to control the definitions of Notification Methods - Email, Text - and Action Triggering Notices.

18.11.7 Supplemental Baseline Change Detectors

NSEDETxx defines the set up of the Supplemental Detectors.

19 Appendix B – Configuration Dialog Access

Once installed and activated TCE Controlled Categories, Control Journals and Configuration Dialogs are accessed from the TCE Primary Menu. To reach these Administration Functions logon to the ICE VTAM application named during the installation process. During this logon process, a user's TSOUserId is validated by the External Security Manager, a specific user address space is created (a separate IFOS will be created for each individual user) and the ICE Primary Menu will be displayed for authorized users. When the user terminates a session the IFOS address space is quiesced.

19.1 ICE Primary Menu

As authorized users logon to the ICE environment, a separate Started Task (IFOS) is launched to manage the user's session and display The ICE Primary Menu providing access to all ICE Applications. When individual ICE Applications are licensed the Application Option Names will appear in white text. Those that appear in yellow text are not licensed and cannot be accessed until they are. All ICE Applications are included in the ICE Download so that they can be turned on at any time, without additional download or installation steps, by requesting a License Key from NewEra Technical Support via email, support@newera.com.

```
                    ICE 17.0 - The Integrity Control Environment


    P   Production   - Image Focus Production              Userid   - USER1
                                                           Time     - 17:24
    W   Workbench    - Image Focus Workbench               Terminal - 3278
                                                           System   - S0W1
    R   Recovery     - Image Focus Recovery                Applid   - IFOP
                                                             ICE 17.0
    C   Control      - TCE Administration/Selections         Patch Level00

    V   Viewer       - IPLCheck Results Focal Point

    D   Definitions  - Definitions & Settings

                      *************************
                      * Control Task: DOWN     *
                      * Recovery    : DOWN     *
                      *************************

    X   Exit         - Terminate

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```

19.1.1 Production

The Production View supports functions that are used to enable the interval monitoring of an Image FOCUS-managed Sysplex or Image. Once active, this critical monitoring function will call the Image FOCUS Inspection Server as scheduled to perform a Sysplex-wide validation of the current configuration components that

define a running production environment. As directed by optional settings, Packages are updated and "Need to Know" notices sent.

19.1.2 Workbench

The Workbench View will assist in the analysis of each Image Component by providing Operating System and Subsystem Inspection, New Release and Configuration Change Management Tools. Each of these tools will generate Inspection Logs or Change Reports that focus attention on changes to critical configuration components and/or their integrity.

19.1.3 Recovery

The Recovery View gives you access to critical system resources when JES, VTAM, RACF, and/or TSO are not available. In addition, the proven NoTSO Environment and IFOR (IFO Recovery) ensure that you retain access to Image FOCUS for problem analysis, repair and recovery under these adverse conditions. The Recovery View also houses the entry point for the Fast DASD Erase for z/OS application.

19.1.4 Control

The Control Editor is an optionally licensed application of the Image FOCUS Control Environment. Its intended purpose is to extend the Control Environment and, in doing so, provide to Image FOCUS users an ISPF editing platform from which they can both control and manage access and changes to critical system datasets. In Image FOCUS 17.0, the DELETE, RESTORE and RENAME capabilities in Control Editor are all available. Image FOCUS 17.0 also allows the user to run The Control Editor under TSO.

19.1.5 Viewer

The Viewer provides direct access to the IPLCheck Family of applications. IPLCheck applications are Predictive Failure Analysis (PFA) “Health Checks”. The analytic processes that they use are based on NewEra’s proven z/OS Inspection Server Technology.

19.1.6 Definitions

Definitions and Settings give you access to Import/Export Migration Tools that assist you in moving to new and/or enhanced releases of Image FOCUS. In addition, you will find options that allow you to build Custom Inspectors and Custom Reports.

19.1.7 ICE Functional Notices

In addition to the options provided on the Primary Menu, you will also find the following Functional Notices:

```
*************************
* Control Task: RUNNING  *
* Recovery    : RUNNING  *
*************************
```

19.1.7.1 Control Task

The started task BACKGROUND (IFOBG) is the platform from which all Inspection and Monitoring activity is run. Knowing that it is functional and running is critical. To ensure that you are informed of its status, this notice is updated each time you enter the Primary Menu. If the Background is "DOWN", you should go directly to the Production View. Select the Status Monitor Option to determine the reason why; it is recommended that IFOBG be run continuously.

19.1.7.2 Recovery

The started task, IFOR, provides access to Image FOCUS and other vital system resources and tools for System Recovery; it is recommended that IFOR run continuously. To keep you informed of its status, this notice is updated each time you enter the Primary Menu. If IFOR is "DOWN", you must restart it in order to gain access to the NoTSO Recovery View via the IFOR Address Space.

19.2 TCE Primary Menu

The Control option provides authorized users access to the TCE Configuration Dialogs and Enviornmental Options. These functions are intended for the exclusive use of the TCE Administrator(s).

19.2.1 Access Control

Control statements in the NSEJRNxx member define both Primary and Backup Administrators. When TCE is first used, before administrator assignment, those accessing these functions will be prompted for an access password. Under this circumstance only the password 'TCEUSER' is valid. Once Administrators are assigned individual TSOUserIds will be checked against the assignment list. Those users with matching IDs will be allowed access; all others will be denied or warned of a possible future denial. All of these actions and notices will depend on Padlock Control Mode settings.

Once access is granted the TCE Primary Menu provides access to the Control Enviornment Options that are used by the TCE Administrator to define Control Boundaries, configure and activate the TCE Control Settings and for setting up and reviewing Event Reports.

```
                TCE 17.0 - The Control Environment Options

B   Boundary  .. - Establish TCE Control Boundaries      Userid   - PROBI1
                                                        Time     - 15:21
O   Overview  .. - Show Controlled Events Dashboard     Sysplex  - ADCDPL
                                                        System   - ADCD113
S   Settings  .. - Configuration Settings Overview      IFOhlq   - TEST
                                                        TCE 17.0
D   Activate  .. - Dynamically Activate TCE Members      ICE17

M   Monitors  .. - Event and Configuration Monitors

N   NEZUtils  .. - Controlled Batch Update Procedures

A   Advanced  .. - Advanced Configuration Settings

L   LegacyVu  .. - Legacy Category/Journal Functions


X   Exit         - Return to the TCE Primary Menu

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```

19.2.2 Boundary

TCE uses Defined Boundaries as the basis for its Event Monitoring and Control. Three types are supported.

19.2.3 Overview

Detected Controlled Events are captured and recorded in Control Journals. This option shows an aged overview.

19.2.4 Settings

Settings in the NSEPRMxx ParmLib Member determine the state of Service Task and name Configuration Members.

19.2.5 Activate

TCE Configurations may be dynamically activated or will be automatically activated when IFOM is next restarted.

19.2.6 Monitors

Various Interval Reports may be optionally set up and initialized to 'Notice' Event & Configuration changes.

19.2.7 NEZUtils

Control Boundaries may be extended to the Batch Update of Datasets associated with Controlled Categories.

19.2.8 Advanced

Below the functional level interface described above Specific Member Access is provided for advanced users.

19.2.9 LegacyVu

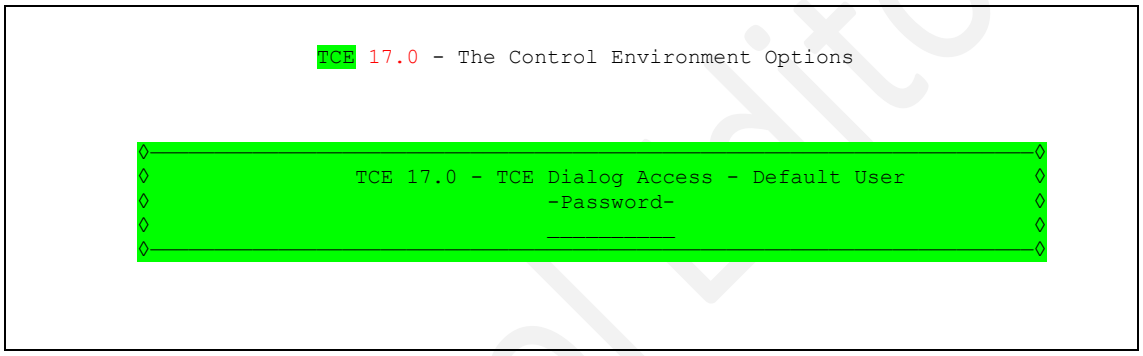
Below the functional level interface described above Specific Member Access is provided for advanced users.

19.3 Control – Accessing Configuration Dialogs

The TCE Administration function Control provides *'Padlock Protected Access'* to the TCE Configuration Dialog Interface Primary Menu. Depending on the configuration of TCEPRIME, TCEADMIN and CONTROLMODE, Control Statements defined in NSEJRXxx, one of the following Pop-Ups and/or displays will be presented.

19.3.1 In Default Mode

The initial attempt, before TCEPRIME or TCEADMIN is defined, to access the Configuration Dialogs will result in the following Pop-Up display highlighted in green below:

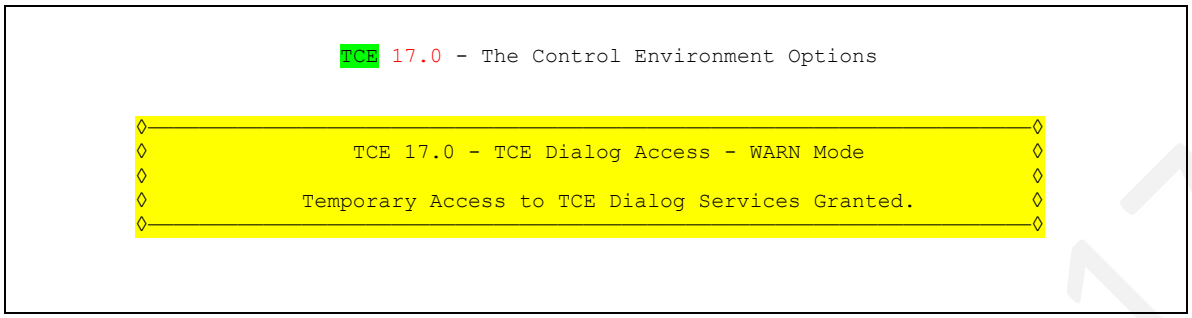


This Pop-Up is displayed when the TCE Padlock, operating in its default mode, WARN, determines that a user is not specifically authorized to access TCE Configuration Dialog Services. The Pop-Up requests that the user enter a Password to reach the Primary Configuration Dialog Menu. In its WARN Mode of operation the the Padlock will accept as valid the Password 'TCEUSER'. To proceed, enter 'TCEUSER' and press enter. These actions will immediately display the Configuration Dialog Primary Menu.

Take note that in the future the TCE Administrator (maybe that's you) may change the Padlock Mode of operation or exclude you from the TCEPRIME of TCEADMIN List of TSOUserIds defined in NSEJRNxx. If the Mode was changed to DENY and you were not included from the list of TCEPRIME or TCEADMIN Users, you would be denied access to these TCE Configuration Dialog Services.

19.3.2 In WARN Mode

When TCEPRIME and/or TCEADMIN have been defined in NSEJRNxx and the Padlock is also defined to be operating in WARN mode the following Pop-Up, (highlighted in yellow), is displayed when an unauthorized use attempts to access the Configuration Dialogs.



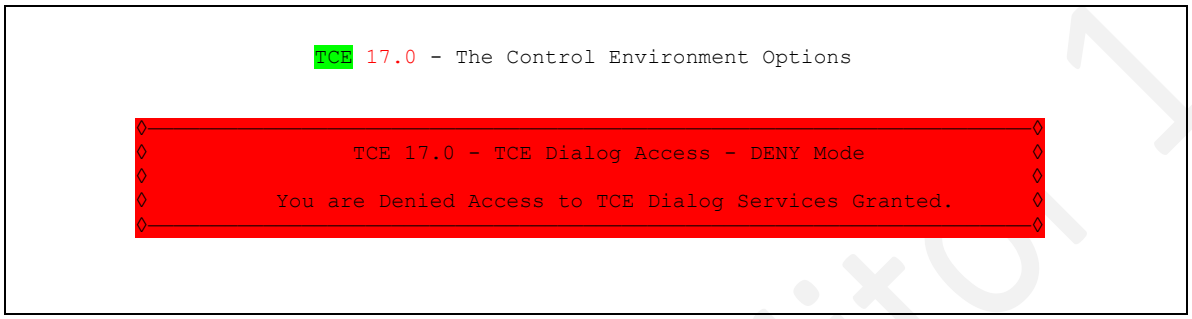
This Pop-Up is displayed when the TCE Padlock, operating in WARN Mode, determines that a user is not authorized to use TCE Configuration Dialog Services. Specific user authorization is determined by TSOUserIds defined in the NSEJRNxx Configuration Member using either the TCEPRIME and/or TCEADMIN control statements.

If you are a TCE Administrator and wish to establish a set of authorized users, select the Settings Option available from the Control Boundaries and Settings Menu.

Please take note of the fact that the TCE Administrator may, at any time in the future, change the Padlock Mode of operation. If the Mode were changed to DENY, access to the TCE Configuration Dialog Services would be denied.

19.3.3 In DENY Mode

When TCEPRIME and/or TCEADMIN have been defined in NSEJRNxx and the Padlock is also defined to be operating in DENY mode the following Pop-Up, (highlighted in red), is displayed when an unauthorized use attempts to access the Configuration Dialogs.



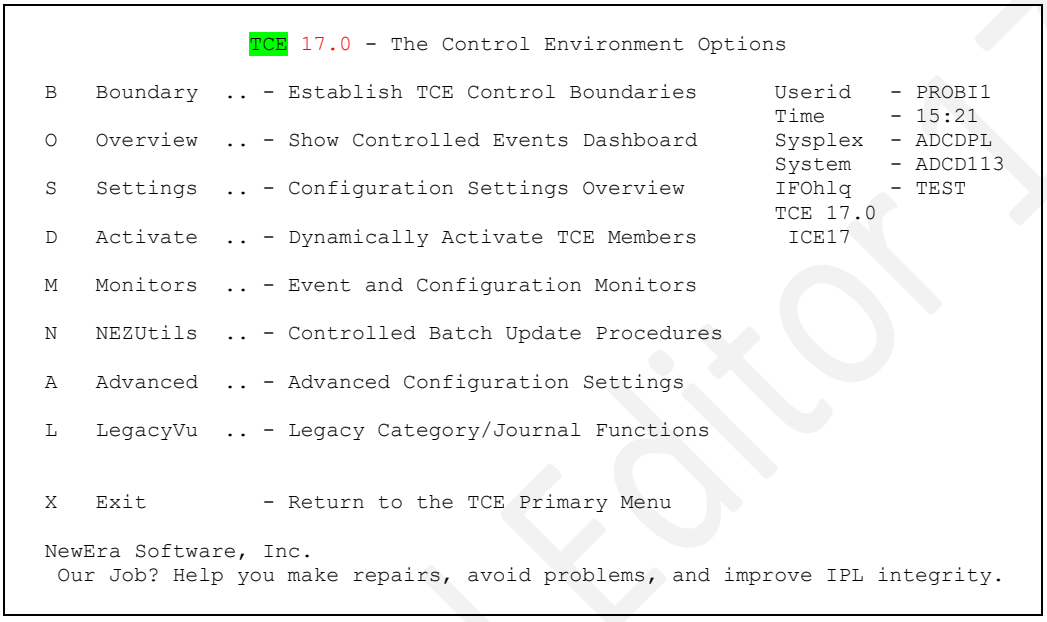
Based on your Logon UserId you have been denied access to the TCE Configuration Dialog Services Primary Menu. This action was taken by TCE Padlock a component of The Integrity Controls Environment (ICE). If you believe that this denial is an error, please contact your TCE Adminstrator to obtain the necessary access rights.

Since access to the TCE Configuration Dialog Services Primary menu is based on your Logon UserId it is possible, if you have more than one valid Logon UserId, that you might gain access with an alternate. If this is a possibility back out to the ICE Primary Menu, Exit this session and logon to ICE again using the alternate. If this second attempt fails, your only alternative is to contact the TCE administrator for access rights.

The Integrity Controls Environment (ICE) maintains a record of all attempted but denied attempts to access the TCE Configuration Dialog Services Primary Menu. Such records are sent to the TCE administrator and your Management.

19.3.4 Access Granted

When access is granted to the TCE Configuration Dialogs its primary menu, Control Boundaries and Setting Panel, is displayed.



TCE is configured using various ParmLib Members that reside in the ICE ParmLib Dataset defined during installation. A full set of Sample Members containing specific configuration examples is available in the SAMPLIB Dataset. All of these Members may be updated directly using TSO/ISPF.

19.3.5 Configuration Dialog Options

The possibility of direct update notwithstanding the configuration options accessed from the Configuration Dialogs are designed to help direct you and to enable you to control specific TCE functions and assist in common configuration tasks/actions. Configuration options include:

19.3.5.1 Boundary

TCE uses Defined Boundaries as the basis for its Event Monitoring and Control. Three types are supported.

19.3.5.2 Overview

Detected Controlled Events are captured and recorded in Control Journals. This option shows an aged overview.

19.3.5.3 Settings

Settings in the NSEPRMxx ParmLib Member determine the state of Service Task and name Configuration Members.

19.3.5.4 Activate

TCE Configurations may be dynamically activated or will be automatically activated when IFOM is next restarted.

19.3.5.5 Monitors

Various Interval Reports may be optionally set up and initialized to 'Notice' Event & Configuration changes.

19.3.5.6 NEZUtils

Control Boundaries may be extended to the Batch Update of Datasets associated with Controlled Categories.

19.3.5.7 Advanced

Below the functional level interface described above Specific Member Access is provided for advanced users.

19.3.5.8 LegacyVu

Below the functional level interface described above Specific Member Access is provided for advanced users.

20 Appendix C – Configuring ICE Applications

ICE Applications are activated when the primary, controlling ICE Started Task (IFOM) is executed (IFOM PROC). The resulting configuration of the Integrity Controls Environment (ICE) that emerges from this process is determined by configuration definitions: Task Activation, TCE Member Suffixes, License Keys and ICE Address Space characteristics found in the ICE NSEPRMxx Parmlib Member.

20.1 Starting IFOM

To start the ICE Application Environment, issue the following operator Command:

```
S IFOM (START IFOM)
```

Note that before the IFOM PROC can be started correctly that the referenced NSEPRMxx Parmlib member must be correctly configured.

20.1.1 Sample PROC

```
*-------------------------------------------------------------------*
//*                    NEWERA IMAGE FOCUS ENVIRONMENT                 *
//*                       STARTED TASK PROCEDURE                      *
//*                                                                   *
//*             MULTIUSER IMAGE FOCUS PRIMARY ADDRESS SPACE           *
//*                                                                   *
//*              NSSPRFX - PREFIX FOR IMAGE FOCUS DATASETS            *
//*                                                                   *
//*-------------------------------------------------------------------*
//*
//IFOM    PROC NSSPRFX='IFO.TEST',
//             PRM='00'
//*
//* NOTE: MAKE SURE A KEYWORD ENDING COMMA REMAINS IN COLUMN 71
//*       OF THE PARM FIELD OTHERWISE CONTINUATION ERRORS MAY OCCUR
//*
//IEFPROC EXEC PGM=NSEINIT,
//             REGION=20M,
//             DYNAMNBR=350,
//       PARM='APPL=IFO,ULOG=Y,SUBS=IF01,UMAX=0,ICMD=PX PROFM,SP=IFOS,
//             PRM=&PRM,VTSB=N'
//*
//* THE FOLLOWING DATASETS MAY BE SHARED WITH IFOMS ON OTHER SYSTEMS
//*
//STEPLIB   DD DISP=SHR,DSN=&NSSPRFX..LOAD
//NSEPARM   DD DISP=SHR,DSN=&NSSPRFX..PARMLIB
//NSECTLNP  DD DISP=SHR,DSN=&NSSPRFX..CTL.NPAD
//NSECTLDS  DD DISP=SHR,DSN=&NSSPRFX..CTL.GLOBAL
//NSEJRNNP  DD DISP=SHR,DSN=&NSSPRFX..JRN.NPAD
//*
//* THE FOLLOWING DATASETS MUST BE UNIQUE FOR EACH IFOM
//*
//ICEWORK   DD DISP=SHR,DSN=&NSSPRFX..ICEWORK
//NSETABB   DD DISP=SHR,DSN=&NSSPRFX..SISPTABB
//*
//SYSUDUMP DD SYSOUT=A,HOLD=YES
//NSEDUMP  DD SYSOUT=A,HOLD=YES
//NSWJLOG  DD SYSOUT=A,HOLD=YES
//*
```

20.2 ICE Task Activation

The NSEPRMxx Parmlib Member is the single point of control for all ICE Applications and specifically the operational characteristics of The Control Editor and its configuration members.

The Service Tasks (Addresses Spaces) that are created when the ICE Address Space is started with the intention of activating The Control Editor include:

Extract From Sample NSEPRM00 found in ICE SAMPLIB

```
*-------------------------------------------------------------------*
*  THE FOLLOWING NSW TASKS ARE USED TO ACTIVATE TCE                  *
*-------------------------------------------------------------------*
TASK=NSWJSSI                                 /*  JOURNAL SUBSYSTEM   */
TASK=NSWJSTI CTL(00) JRN(00) ENS(00) DET(00) SEL(00) GRP(00)
TASK=NSWSCTL INTERVAL(360)                   /*  SHARE CONTROL LIST  */
TASK=NSWJCTL INTERVAL(120)                   /*  SHARE CNTL JOURNALS */
TASK=NSWJSCI LOG(ERRORS)                     /*  CHANGE DETECTION    */
TASK=NSWJCDT                                 /*  CHANGE AUTOMATION   */
TASK=NSWOMST                                 /*  OPER MSG MANAGER    */
TASK=NSWCEFM                                 /*  FUNCTION SCHEDULER  */
*-------------------------------------------------------------------*
```

20.2.1 NSWJSSI

Journal Sub-System (NSWJSSI)

The Journal Sub-System (JSS) manages the interaction of individual Control Editor users (logged on to individual IFOS Address Spaces) and the IFOM Address Space with The Control Journal(s). The primary configurable components that define this interaction are contained in the ICE Configuration Members NSEJRN00 and NSECTL00. Typical interactions would be backups controlled by IFOM and transactions controlled by cooperative processing between the JSS and the Journal Sub-Task (JST).

20.2.2 NSWJSTI

Journal Sub-Task (NSWJSTI)

The Control Editor invokes the Journal Sub-Task (NSWJSTI) when a user is actually editing a Control Member. It provides the isolation between individual users and edit sessions necessary to assure the integrity of the edit processes - retrieve, update, restore and store functions.

20.2.3 NSWSCTL

Control List Sharing (NSWSCTL)

The Control Editor invokes the Journal Sub-Task (NSWSCTL), if active, to determine the frequency with which it should poll members of the TCE Managed Group for their updates to their NSECTLxx Parmlib member. Updates discovered in one or more Group Members will trigger an update to the Shared Control List and, if necessary, a Backup of new Group Member defined Datasets or Dataset additions from prior Group Members and new Dataset volume placement for previously Controlled Datasets.

20.2.4 NSWJCTL

Control Journal Sharing (NSWJCTL)

The Control Editor invokes the Journal Sub-Task (NSWJCTL), if active, to determine the frequency with which it should poll members of the TCE Managed Group to determine which are active, which are still sharing and any new systems that desire to be added to a TCE Added Group. Should the 'Controlling System' fail to poll the Group at the defined time, possibly because it has become inoperable, the first system in the Group to identify its absence will inherit the 'Controlling System' responsibility.

20.2.5 NSWJSCI

Change Detection (NSWJSCI)

The Control Editor invokes the Change Detection Sub-Task (NSWJSC) when a user selects the "Detect" option from The Control Editor Action Menu.

20.2.6 NSWJCDT

Automatic Change Detection (NSWJCDT)

This Control Editor Change Detection Sub-Task (NSWJSDT) is called hourly when optionally specified in NSEPRM00.

20.2.7 NSWOMST

Event Capture (NSWOMST)

The Control Editor invokes the Sub-Task (NSWOMST) to perform operational and system management functions such as event capture, as those events are defined by control card settings found in the TCE configuration members NSEJRNxx and NSEENSxx.

20.2.8 NSWCEFM

Interval Scheduler (NSWCEFM)

The ICE Interval Scheduler controls all TCE Background Processes and must be active if Background Reports are to be scheduled, created, stored and distributed.

20.3 TCE Member Suffixes

The TCE configuration settings are defined in a set of TCE specific Configuration Members. They, their prevailing suffixes, are named on the TASK=NSWJSTI statement found in the controlling NSEPRMxx member.

Extract From Sample NSEPRM00 found in ICE SAMPLIB

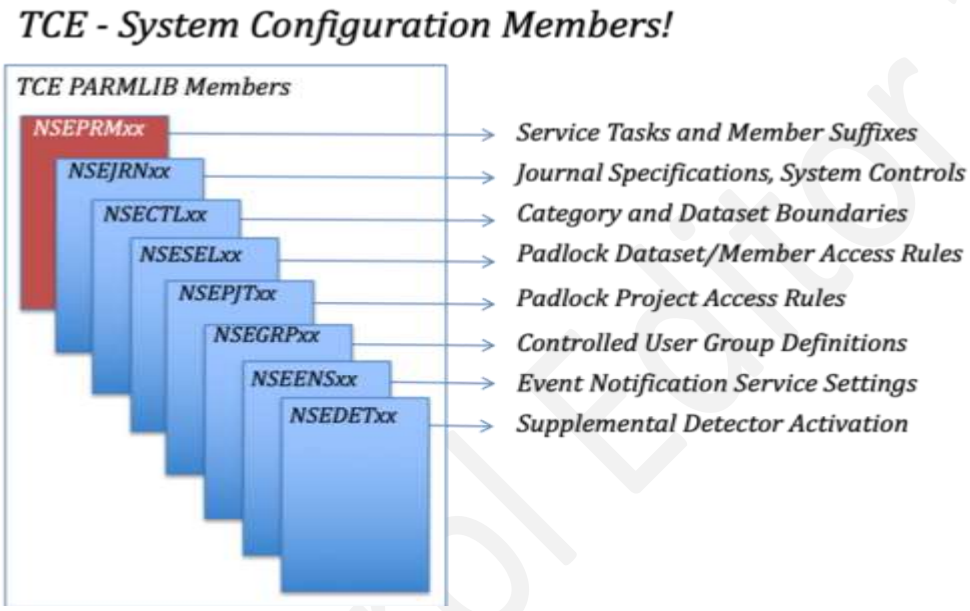
```
TASK=NSWJSTI CTL(00) JRN(00) ENS(00) DET(00) SEL(00) GRP(00)
```

21 Appendix D - TCE Configuration Members Detailed

The TCE configuration settings are defined in a set of TCE specific Configuration Members. Their prevailing suffixes are named on the TASK=NSWJSTI statement found in the controlling NSEPRMxx member.

Extract From Sample NSEPRM00 found in ICE SAMPLIB

```
TASK=NSWJSTI CTL(00) JRN(00) ENS(00) DET(00) SEL(00) GRP(00)
```



Each TCE Configuration Member, its syntax and keywords, is explained in the remainder of this Appendix. Note that while each may be accessed directly in ICE Parmlib and updated using TSO/ISPF it is considered a *'Best Practice'* to employ the TCE Configuration Dialogs for this purpose. The TCE Configuration Dialogs are accessed from the TCE AdminIstration Primary Menu and explained in detail in the TCE Configuration Dialogs User Guide.

- NSECTLxx - NSECTLxx is used to define the Control Boundaries monitored by TCE. It consists of Named Category and their Datasets.
- NSEJRNxx - NSEJRNxx is used to define the TCE Control Journals, Panel Descriptors and activation of various TCE Options.
- NSESELxx - NSESELxx is used to define the Access Privileges that will be granted and/or denied to individual users or groups.
- NSEGRPxx - NSEGRPxx is used to define TCE Control Groups and their Members. Used in conjunction with the NSESELxx Member.

- NSEENSxx - NSEENSxx is used to control the definitions of Notification Methods - Email, Text - and Action Triggering Notices.

- NSEDETxx - NSEDETxx is used to define the set up of the Supplemental Detectors.

21.1 NSEJRNxx Configuration Statements

The syntax of each NSEJRN00 Control Card is as follows:

|-----statement_Name keyword_name and/or keyword_value------|

Each Statement Name is separated from its Keyword Name and/or Keyword Value by at least one blank.

The value(s) associated with each Statement Name may be changed at any time but to become operational, the ICE Started Task, IFOM must be cycled. The NSEJRNxx member may be updated dynamically without having to cycle IFOM. This can be accomplished using the TCE Administrator Interface accessed from the ICE primary menu.

21.1.1 >>Journal Controls Follow

21.1.2 ALLOC

ALLOC is used to define the space allocation values that will be used in allocating new Control Journals. The ALLOC keyword can be split across multiple lines if needed BUT each new line must begin with a restatement of the ALLOC keyword. Changes to these values become effective with the next Control Journal Dataset allocation.

21.1.3 BMAXMEMS

Determines the maximum number of members that can be stored in a single Backup Dataset. By default, the value is set to 10000 but can range from 1 to 32738.

21.1.4 BMAXRECS

Determines the maximum number of records in a member that can be stored in a Control Journal. By default, the value is set to 15000 but can range from 1 to 65536.

21.1.5 BSPANMX

Specifies the maximum number of Journals that may be used to backup a specific dataset. A value of zero disables the Backup Function.

Default value = 4 Value range is 0 – 65535

21.1.6 DLINES

DLINES are the number of descriptor comment lines or change detail records that will be provided at the top of each Control Member and subsequently recorded in the Control Journal for each edit event. The recommended value range for descriptor and comment information 'M' is 3-96, for change detail 'N' 0-99. Changes to DLINES become effective immediately following the cycling of IFOM or a dynamic update to NSEJRN00 from the Administrator Interface.

The optional DLINES parameters include:

COUNT(M,N)

- M - Where M is the number of descriptor lines to create in each descriptor member. Range is 3-96, the default is 3.

- N – Where N is the number of change detail records to be captured when a member change is detected. Range is 8-99, the default is 8.

NONBLANK|NBLANK(N)
Where N is the minimum number of descriptor lines, that must be non-blank. Range is 1-99. If 0 (ZERO) is used, the descriptor panel will be presented but will not require user entries.

EDITORDR|EORDR(option)
Where option is MEMFRST (display the member first) or DESCFRST (display the descriptor before the member). If not specified, the default MEMFRST is used.

ACTIVE(Starting:hhmm-Ending:hhmm)
Where Starting:hhmm represents the time of day when the descriptor, as defined for the named category, will become active. Ending:hhmm represents the time of day when the descriptor will cease to be active. If not specified, the descriptor remains active throughout the entire 24 hour day.

21.1.7 ENTRIES

ENTRIES are the number of entries allowed in a Control Journal, EXCEPT Control Journals that are used for member backups, for which it has no effect. The recommended value range for BSAM format is 16-116; the default is 116. The recommended value range for zFS/HFS is 16-16,382 the default is 1092. Changes to ENTRIES become effective immediately following the cycling of IFOM and closing of the current journal.

21.1.8 HLQ

HLQ is the High Level Qualifier(s) (up to three are allowed) that will be used as the name prefix for each Control Journal. An example of the resulting dataset name is shown below. Note that the automatically determined '.D and .T' HLQ values are expressed in Greenwich Mean Time (GMT). '.D' is expressed using the notation YYYYJJJ. '.T' is expressed using the notation HHMMSSS.

IFO.COMMON.JOURNAL.D2006052.T2326523

If you are running multiple copies of Image FOCUS each enabled with The Control Editor it is recommended, due to current system limitations, that you name each system's Control Journal with unique High Level Qualifiers (HLQ's).

As a general rule, Control Journals should not be deleted, renamed, copied nor their content changed. Doing so will result in a loss of system integrity.

21.1.9 PATH

The PATH Statement, used to define the HFS/zFS Journal Format was dropped as a journal format option in TCE 8.0.

21.1.10 SHARE

SHARE as a stand alone NSEJRNxx Statement was removed in TCE 8.0

21.1.11 SHARE MULTIO(RB4K)

RB4K is the Default and recommended Journal Format. It is compatible with existing BSAM Journals BUT NOT COMPATIBLE with existing HFS/zFS Journals. If the content of HFS/zFS Journals is to be retained and merged with newer RB4K Journals, the older HFS/zFS Jounals will need to be converted to RB4K format. Contact NewEra Technical Support for assistance with a conversion application and instructions.

21.1.12 SHARE CONTROL(8)

Control List as defined in NSECTLxx may be shared among multiple LPARs. The maximum number of LPARs to share Control Lists is specificed as the value of SHARE CONTROL. The default value is 8. If Control List sharing is not desired, set the value to zero, '0'.

21.1.13 SHARE JOURNAL(8)

Control Journals may be shared among multiple LPARs. The maximum number of LPARs to shared Journals is specified as the value of SHARE JOURNAL. The default value is 8. If Journal sharing is not desired, set the value to zero, '0'.

21.1.14 SWITCH

SWITCH determines when an existing Control Journal will be automatically closed and a new Control Journal dataset allocated and opened for use by The Control Editor. Values may be either "NO" or "MONTH". The effect of SWITCH is often referred to as the TERM of a Journal. Note that regardless of the value set, Control Journals will automatically close when they reach the number of entries specified using the ENTRIES keyword or when they run out of space.

21.1.15 >> Descriptor Controls Follow:

21.1.16 TEMPLATE / TEMPLATE .END

The control statements used to define Template Style Descriptor, as a definable entity, were dropped in TCE 8.0. A Template Style Descriptor Default when a DESCPNL(style descriptor is not defined is replaced with a default TSO/ISPF Panel.

21.1.17 DESCPNL(

The various DESCPNL Statement supported Keywords and Keyword Values are presented below in order to provide a more complete understanding of configuration possibilities.

- CATEGORY|CAT(category-name) - where 'category-name' is the Dataset Category name that is being included in this DESCPNL definition.
- PANEL|PNL(panelnam) - where 'panelnam' is the name of a full-size ISPF Panel member in the ISPPLIB dataset containing the full panel definition.
- POPUP|POP(panelnam) - where 'panelnam' is the name of a Popup-size Panel member in the ISPPLIB dataset containing the pop-up panel definition.
- BYPASSCHAR|BPC(char) - specified on the DESCPNL statement where the 'char' represents the panel TYPE character that, if located in column 1 of a panel)BODY line, will cause that line to be eliminated from the journal entry descriptor data.

- CONF - YES|NO is used to confirm or not the information entered by the user in the descriptor. The Default is 'YES' meaning that the confirmation pop-up is displayed. A setting of 'NO' will suppress the descriptor Pop-Up.

- EDITORDR|EORDR|EO(option) - specified on the DESCPNL statement where valid values for 'option' are:

    - MF (display the member data first)
    - DF (display the descriptor data entry edit window prior to the member)

- If not specified, the default will be MF.

- ACTIVE(Starting:hhmm-Ending:hhmm) - specified on the DESCPNL statement where

    - 'Starting:hhmm' represents the start time that this descriptor panel will be active (in 'hhmm' format)
    - 'Ending:hhmm' represents the end time that this descriptor panel will cease to be active.

- If not specified, the descriptor remains active throughout the entire 24 hour day.

- ACTIVE start and end times can span midnight. For example, ACTIVE(2200-0500) would indicate that this descriptor panel is active between 10:00 p.m. and 5:00 a.m.

21.1.18 >> Notification Controls Follow:

21.1.19 EXTERNALNOTIFICATION ON|OFF

EXTERNALNOTIFICATION is used to toggle ON|OFF the Notification METHODS and ACTIONS found in the NSEENSxx Configuration Member.

21.1.20 >> Process Controls Follow:

21.1.21 CEDEF

Default TSO Client for Control Editor.

Default Value = YES Values are YES|NO

YES – Causes the Control Journals defined with the HLQ keywords to be assigned as the default Journals used by the Control Editor when used under TSO. If more than one IFOM is defined, the NSEJRNxx member of the first started specifying a value of "YES" will prevail.

NO - The Control Editor session under TSO must specify the name of the IFOM Address Space. The Address Space name is the same as the IFOM Subsystem name.

21.1.22 CONTROLMODE NONE|WARN|DENY

The value of CONTROLMODE determines the operational control that the Padlock will exert over various control resources, datasets, commands and projects.

21.1.22.1 NONE

When CONTROLMODE is set to NONE, Padlock Controls are not operational.

21.1.22.2 WARN

When CONTROLMODE is set to WARN, Padlock Controls are operational and users that would otherwise be denied access will be allowed access following the display of a *'Warning Message'* indicating that they may be denied access at some time in the future.

21.1.22.3 DENY

When CONTROLMODE is set to DENY, Padlock Controls are operational and users then will be denied access to control resources, datasets, commands and projects.

21.1.23 CONTROLCATS ON|OFF

For Padlock Controls over Category Boundaries to be active CONTROLCATS must specify a value of YES.

21.1.24 CONTROLDSNS ON|OFF

For Padlock Controls over Dataset Boundaries to be active CONTROLDSNS must specify a value of YES.

21.1.25 CONTROLCMDS ON|OFF

For Padlock Controls over Command Boundaries to be active CONTROLCMDS must specify a value of YES.

21.1.26 CONTROLWGPS ON|OFF

For Padlock Controls over Workgroup Boundaries to be active CONTROLWGPS must specify a value of YES.

21.1.27 CONTROLPJTS ON|OFF

For Padlock Controls over TCE Project Boundaries to be active CONTROLPJTS must specify a value of YES.

21.1.28 IPLCHECKHLQ

The high level qualifier used to define the Inspection Log written by IPLCheck Core or Plus. This value is used to link TSO/ISPF users to the MBRUSED Line Command available to them when working with a Controlled Dataset.

21.1.29 IFOINDEXHLQ

The high-level qualifier that defines the Image FOCUS Inspection Log Index created during background image inspections. This value is used to link TSO/ISPF users to the MBRUSED Line Command available to them when working with a Controlled Dataset.

21.1.30 TSO

TSO Client Support: DEFAULT is YES

- YES - ALLOWS CONTROL EDITOR TO BE USED FROM A TSO ADDRESS SPACE

- NO - CONTROL EDITOR CAN ONLY BE USED BY AN IFOS ADDRESS SPACE

21.1.31 TCEPRIME

The value of TCEPRIME should be the TSOUserId of the Primary TCE Administrator.

TCEPRIME tsouser_id

21.1.32 TCEADMIN

The value of TCEADMIN may be a single TSOUserId or a list of up to six TSOUserIds separated by commas and enclosed in parentheses.

TCEADMIN tsouser-id or (tsouser_id, tsouser_id,tsouser_id,tsouser_id)

21.1.33 DETCHNGNOTIFY

Upon entry into Controlled Datasets TCE Compares the current content of the selected member with the last copy stored. By default, when a change is detected a Pop-Up noting the finding is displayed. Use DETCHNGNOTIFY to turn the Pop-Up off, Category by Category by specifying the following:

DETCHNGNOTIFY CAT(category_name) OFF

21.1.34 LOGEDIT NO|YES

This keyword is used to turn ON|OFF Edit Class event logging. Default = NO.

In addition, to activate/deactivate this function the following control card must be present in the IFOM Proc.

```
//NSWJLOG  DD SYSOUT=*
```

LOGEDIT intended for exclusive use by NewEra Technical Support.

21.1.35 LOGCMDS NO|YES

This keyword is used to turn ON|OFF Command Class event logging. Default = NO.

In addition, to activate/deactivate this function the following control card must be present in the IFOM Proc.

```
//NSWJLOG   DD SYSOUT=*
```

LOGCMDS intended for exclusive use by NewEra Technical Support.

21.1.36 IFO PROC Update

In addition to activate/deactivate LOGEDIT and/or LOGCMDS, the following control card must be present in the IFOM Proc.

```
//NSWJLOG   DD SYSOUT=*
```

To prevent logging from being turned ON/OFF using the options available in NSEJRN00, comment out or remove the control card from the IFOM Proc.

21.1.36.1 Sample Event Log

A sample and field description of a collection of typical log records is shown below:

```
JDate ---Time---- --User-- Type: ----Command/Suboperator----
10042 13:40:52.35 ESSJDL1   Cmd: SETROPTS  LIST
10042 13:47:42.08 ESSJDL1  Edit: ESSJDL1.IFO80DR.ASM(NSWOMST)
10042 13:54:51.88 ESSJDL1  Edit: ESSJDL1.IFO80DR.ASM(#ASMNERA)
10042 13:56:05.17 ESSJDL1   Cmd: SETXCF 12345
10042 14:01:49.59 ESSJDL1   Cmd: SETXCF 98765
10042 14:03:48.88 ESSJDL1   Cmd: SET PROG=XX,SMF=KK
10042 14:05:45.51 ESSJDL1   Cmd: SET SMF=KK,CMD=HH
10042 14:06:25.60 ESSJDL1  Edit: ESSJDL1.IFO80DR.ASM(NSEPRM5)
10042 14:07:10.03 ESSJDL1   Cmd: SET SMF=KK,CLOCK=RR
10042 14:07:42.88 ESSJDL1   Cmd: SET DIAG=VV,SMF=KK
10042 14:13:39.93 ESSJDL1  Edit: ESSJDL1.IFO80DR.ASM(NSWOMST)
10042 14:18:51.82 ESSJDL1  Edit: ESSJDL1.IFO80DR.ASM(#ASMNERA)
```

21.1.37 >> Monitor Controls Follow:

21.1.38 MSGMONITOR MSCOPE(*)

MSGMONITOR is used to define the scope of messages being monitored by the Operational Management Service Task (NSWOMST). By default, only the local system's messages will be monitored for capture and reported. The default is equivalent to specifying:

If IFOM is active in a SYSPLEX environment, messages from systems other than the local system can also be monitored and captured. If messages from all systems in the SYSPLEX are to be monitored for capture and reporting, specify MSGMONITOR as follows:

MSGMONITOR MSCOPE(*ALL)

If messages from only select systems in a SYSPLEX are to be monitored and captured, specify MSGMONITOR as follows:

MSGMONITOR MSCOPE(sysnm1,sysnm2, ... ,sysnmx)

where 'sysnm1', 'sysnm2', etc. represent the system names of the specific systems that are to have their messages monitored.

21.1.39 MSGIDINTERCEPT ON|OFF

For TCE to intercept a System Message the MSGIDINTERCEPT Statement must be turned ON.

```
MSGIDINTERCEPT ON
```

21.1.40 MSGID

For a System Message to be intercepted by TCE the MSGIDINTERCEPT Statement must be ON and the targeted Message Identifier must be defined on the MSGID Statement.

```
MSGID message_id
```

When messages fall into a broad catagories varying only by severity, generally the last bit in the message ID, i.e. I,W,E and you would like to match on all severity levels use an “*” as the last character of the Message ID. Doing this will result in the identification of all matching message IDs regardless of severity.

21.1.41 MSGID MATCHSTR(‘ ‘)

Message intercept may be optionally defined by specifying as a sub-parm on the MSGID Statement a Match String which TCE wil use to match with the text that accompanies the target message.

```
MSGID message_id MATCHSTR('match_string')
```

21.1.42 OPERCMDINTERCEPT ON|OFF

For TCE to intercept SET, MODIFY or Miscellaneous Operator Commands the OPERCMDINTERCEPT Statement must be turned ON. If the OPERCMDINTERCEPT Statement is turned OFF, Operator Commands will not be intercepted. The default value is OFF.

```
OPERCMDINTERCEPT ON
```

21.1.43 SETCMD – COMMAND NAME

When the OPERCMDINTERCEPT Statement is turned ON, SET Operator Commands specifically named using the SETCMD Statement are captured. Specify ‘ALL’ as the value of SETCMD to capture all SET Commands.

SETCMD SET_operator_command

Valid SET_operator_command values include:

```
APPC       ASCH      AUTOR     CEE       CLOCK     CNGRP
CNIDTR     DAE       DATE      DEVSUP    DIAG      EXS
GRSRNL     IKJTSO    IOS       IXGCNF    NMS       MPF
MSGFLD     OMVS      OPT       PFK       PROD      PROG
RESET      RTLS      SCH       SLIP      SMF       SMS
TIMEZONE   UNI       SETAPPC   SETALLOC  SETAUTOR  SETCEE
SETCON     SETDMN    SETETR    SETGRS    SETHS     SETIOS
SETLOAD    SETLOGR   SETLOGRC  SETMF     SETOMVS   SETPROG
SETRRS     SETSMF    SETSMS    SETSSI    SETUNI    SETXCF
```

21.1.44 MODCMD – COMMAND NAME

When the OPERCMDINTERCEPT Statement is turned ON, MODIFY Operator Commands specifically named using the MODCMD Statement are captured. Specify ‘ALL’ as the value of MODCMD to capture all MODIFY Commands.

MODCMD MODIFY_operator_command

Valid MODIFY_operator_command values include:

```
AXR       BPXOINIT    CATALOG   CEA       DEVMAN    DLF
LLA       MVSNFS      OAM       OMVS      WLM       TRS
XWTR      ACF2        TSS
```

21.1.45 MISCCMD – COMMAND NAME

When the OPERCMDINTERCEPT Statement is turned ON, Miscellaneous Operator Commands specifically named using the MODCMD Statement are captured. Specify 'ALL" as the value of MISCCMD to capture the defined set of Miscellaneous Commands shown below.

MISCCMD Miscellaneous_operator_command

Valid Miscellaneous _operator_command values include:

```
CANCEL    DUMP      FORCE     QUIESCE   SWITCH    START
SWAP      STOP      SLIP      TRACE     VARY
```

21.1.46 ESMINTERCEPT ON|OFF

For TCE to intercept External Security Manager (ESM) Commands from IBM-RACF, CA-ACF2 or CA-Top Secret, the ESMINTERCEPT Statement must be turned ON. Turning the ESMINTERCEPT Statement OFF will turn off the intercept of all ESM Commands. The Default value is OFF.

21.1.47 RACFCMDINTERCEPT ON|OFF

For TCE to intercept External Security Manager (ESM) Commands from IBM-RACF, both the ESMINTERCEPT and RACFCMDINTERCEPT Statement must be turned ON. Turning the RACFCMDINTERCEPT Statement OFF will turn off the intercept of all IBM-RACF Commands. The Default value is OFF

21.1.48 RACFCMD – COMMAND NAME

When the RACFCMDINTERCEPT Statement is turned ON, IBM-RACF Operator Commands specifically named using the RACFCMD Statement are captured. Specify 'ALL' as the value of RACFCMD to capture all IBM-RACF Commands.

```
ALTDSD    ALTGROUP   ALTUSER   ADDSD     ADDGROUP  ADDUSER
CONNECT   DELDSD     DELGROUP  DELUSER   LISTDSD   LISTGRP
LISTUSER  PASSWORD   PERMIT    RALTER    RDEFINE   RDELETE
REMOVE    RLIST      SEARCH    SETROPTS
```

21.1.49 ACF2CMDINTERCEPT ON|OFF

For TCE to intercept External Security Manager (ESM) Commands from CA-ACF2 both the ESMINTERCEPT and ACF2CMDINTERCEPT Statement must be turned ON. Turning the ACF2CMDINTERCEPT Statement OFF will turn off the intercept of all CA-ACF2 Commands. The Default value is OFF.

21.1.50 ACF2CMD – COMMAND NAME

When the ACF2CMDINTERCEPT Statement is turned ON, CA-ACF2 Operator Commands specifically named using the ACF2CMD Statement are captured. Specify 'CGSO' as the value of ACF2CMD to capture this, the only valid command.

21.1.51 TSSCMDINTERCEPT ON|OFF

For TCE to intercept External Security Manager (ESM) Commands from CA-Top Secret both the ESMINTERCEPT and TSSCMDINTERCEPT Statement must be turned ON. Turning the TSSCMDINTERCEPT Statement OFF will turn off the intercept of all CA-Top Secret Commands. The Default value is OFF.

21.1.52 TSSCMD – COMMAND NAME

When the TSSCMDINTERCEPT Statement is turned ON, CA-Top Secret Operator Commands specifically named using the TSSCMD Statement are captured. Specify 'MODIFY' as the value of TSSCMD to capture this, the only valid command.

21.1.53 Command Origin Excludes

Any Operator Command can be issued from Started Tasks, Batch Jobs, Operator Consoles and TSO Sessions. Use the EXCLUDE(STC,JOB,CON,TSO) keyword to delimit the capture of command events where:

CON = Issued from an OPERATOR CONSOLE
JOB = Issued from a JOB, BATCH PROCESS
STC = Issued from a STARTED TASK
TSO = Issued from a TSO SESSION

The following examples show the use of the EXCLUDES sub-parm:

```
SETCMD  PROG EXCLUDE(STC,JOB) EXCLUDES STARTED TASK AND BATCH JOBS
MODCMD  ACF2 EXCLUDE(JOB)     EXCLUDES BATCH JOBS
MISCCMD VARY EXCLUDE(JOB,CON) EXCLUDES BATCH JOBS & OPERATOR CONSOLE
```

21.1.54 NSEJRNxx Model Member

```
*******************************
*    JOURNAL CONTROL OPTIONS    *
*******************************
HLQ       IFO.JOURNAL
SHARE     MULTIO(RB4K)
SHARE     CONTROL(8)  /* 0=Not Sharing */
SHARE     JOURNAL(8)  /* 0=Not Sharing */
ALLOC     SPACE(4)
ALLOC     CYL
BMAXMEMS 10000
BMAXRECS 15000
BSPANMX   4
ENTRIES   120
SWITCH    MONTH
***************************
* EDITOR CONTROL OPTIONS  *
***************************
CEDEF     YES
DLINES    COUNT(3)
DLINES    NONBLANK
TSO       YES
DETCHNGNOTIFY CAT(SYSTEN.IPLPARM) OFF
***************************
* DESCRIPTOR              *
***************************
DESCPNL CAT(SYSTEM.PARMLIB) PNL(DDE@PNL1) BYPASSCHAR(!)
DESCPNL CAT(SYSTEM.PARMLIB) POP(DDE@POP1) BYPASSCHAR(!)
***************************
* TCE CONTROL OPTIONS     *
***************************
LOGCMDS   NO
LOGEDIT   NO
MSGMONITOR MSCOPE(*)
LOGEDIT   NO
LOGCMDS   NO
OPERCMDINTERCEPT ON
MODCMD    LLA
MODCMD    ALL
SETCMD    ACTIVATE
SETCMD    ALL
MISCCMD   ALL
MISCCMD   VARY
MISCCMD   VARY EXCLUDE(JOB,STC)
ESMINTERCEPT ON
RACFCMDINTERCEPT ON
RACFCMD   SETROPTS
ACF2CMDINTERCEPT ON
ACF2CMD   CGSO EXCLUDE(STC,TSO)
TSSCMDINTERCEPT ON
TSSCMD    MODIFY
MSGIDINTERCEPT ON
MSGID     HZS0003E MATCHSTR('NEWERA,NEZ_OPSYS') JRNLPOST(YES)
MSGID     CSV410I  JRNLPOST(YES)
```

21.2 NSECTLxx Configuration Statements VERS(1)

Version One of the NSECTLxx Control Card Syntax is maintained to support existing configurations. Users that wish to extend the TCE Control Environment to include UNIX Files will need to upgrade to Version Two. Version Two supports both MVS Datasets and UNIX Files.

The syntax of each NSECTLxx VERS(1) Control Card set must begin as follows:

FORMAT VERS(1)

Followed by the individual Category Control Card containing the control statements described below:

|-----Category_Name Dataset(volume_name,system_name)------|

Control Card values are positional: Category_Name must begin in Column one, Dataset must begin in column eighteen.

21.2.1 *AUTO* The System Default

To facilitate a rapid and agile TCE startup for new users, two default Category definitions are specified in the default NSECTLxx Parmlib member: SYSTEM.IPLPARM and SYSTEM.PARMLIB. Both may use the Dataset value of *AUTO* to denote that TCE is to determine the IPLParm and Parmlib datasets used to IPL the system upon which the IFOM Procedure (which starts the IFOM Started Task) is executed.

21.2.2 DATASET

To associate one or more datasets with a specific Control Category, enter the fully-qualified dataset name, following the Category Name on the same line beginning in column eighteen as shown below.

```
SYSTEM.DATASETS SYS1.PARMLIB
```

Only one dataset is allowed per line as each line is processed by TCE as a separate Control Card. To add additional Datasets to a Control Category, repeat the line changing the dataset name as needed.

By default, when a Dataset is defined using just its fully qualified name, all datasets with matching names, regardless of Volume placement or System, are considered Controlled Datasets within a Controlled Category.

21.2.3 DATASET(VOLUME)

The scope of TCE control over a dataset may be limited to a specific Volume. When this is desired, indicate the Volume name within a set of parentheses immediately following the Dataset name as shown below.

```
SYSTEM.DATASETS SYS1.PARMLIB(VOLABC)
```

21.2.4 DATASET(VOLUME,SYSTEM)

The scope of TCE control over a dataset may be limited to a specific Volume when an action is taken from a specific Named system. When this is necessary, indicate the Volume name and System name, separated by a single comma, within parentheses immediately following the Dataset name as shown below.

```
SYSTEM.DATASETS SYS1.PARMLIB(VOLABC,GREEN)
```

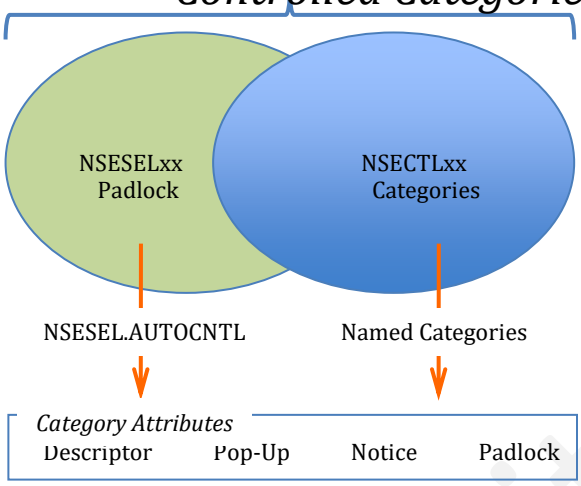
21.2.5 Critical Relationships

There should be a valid/direct relationship between a Category and the Valid Datasets assigned/associated to that Category. This is considered a “Critical Relationship” to the integrity of the information captured in the Control Journals and displayed in the various Control Editor panels and reports.

21.2.6 Controlled Datasets Derived From NSESELxx

Control Datasets appear in both the NSECTLxx and NSESELxx Configuration Members. Those in NSECTLxx are defined as elements of a Controlled Category. Control Datasets defined in NSESELxx may be defined independently and controlled by TCE Padlock functions. As a result, it is possible datasets defined for Padlock Control will not be defined in NSECTLxx. When such a mismatch is detected, TCE will automatically create the NSESEL.AUTOCNTL Category and include these discovered Padlock Dataset entries. With each start of IFOM or dynamic activation of NSECTLxx or NSESELxx, TCE performs a new cross-member discovery and updates the dataset grouping defined to NSESEL.AUTOCNTL. Any Dataset included in the NSESEL.AUTOCNTL inherits the control features afforded any Controlled Dataset.

NSESEL.AUTOCNTL Vs. Named Categories



21.2.7 Control Category Attributes

Associated with each Category, in addition to its Dataset Group, are a number of attributes: Padlock Control, Event Descriptor, Event Notification and Detected Change Notification. These are defined in NSESELxx, NSEENSxx and NSEJRNxx and best configured using the Configuration Dialogs available to the TCE Administrator.

21.2.8 Stealth Mode

The Descriptor Window, a Category Attribute, is normally displayed immediately before or immediately after an event, i.e., update, rename, restore. To proceed or to successfully complete, the requirements of the Descriptor definition must be satisfied. If this descriptor enforcement is not required, name the Category/Class using the reserved Category name “NEZAUTO.something” where “something” is a user-defined, one to eight character, qualifier.

21.3 NSECTLxx Configuration Statements VERS(2)

Version Two of the NSECTLxx Control Card Syntax is available to support both MVS Datasets and UNIX Files.

NSECTLxx Control Cards are constructed as “Sets” of MVS Datasets or UNIX Files bracketed by CATEGORY Statements to form a Category Control BLOCK. The opening CATEGORY Statement defines the Category Name and optionally the ROOT Directory of a set of UNIX Directories named within the BLOCK. The required closing CATEGORY Statement, CATEGORY .END, is required to terminate the Control Block.

The syntax of each NSECTLxx VERS(2) Control Card set must begin as follows:

FORMAT VERS(2)

Followed by Category Control Card "Sets" containing the control statements described below:

- For Categories containing MVS Datasets:

```
CATEGORY category_name
DSN *AUTO*
DSN fully_qualified_dsn(volume,system)
CATEGORY .END
```

- For Categories containing UNIX Files:

```
CATEGORY category_name (unix_root_directory)
DSN  fully_qualified_dsn(volume,system)
DIRS '/unix_directory/unix_sub_directory'
SUBD '/unix_sub_directory/unix_sub_directory'
PATH '/unix_directory_path/unix_sub_directory'
FILE 'fully_qualified_unix_file_name'
CATEGORY .END
```

Note that each NSECTLxx Control Card, MVS or UNIX, must begin in Column One.

21.3.1 For Categories containing MVS Datasets

A Controlled Category may contain only one Dataset or File Type; MVS Dataset or UNIX File. Types may not be mixed within a Category.

21.3.1.1 CATEGORY_NAME

Each Category Name must be a unique string composed of two values separated by a single period. Each value may be upto eight characters.

xxxxxxxx.xxxxxxxx

21.3.1.2 *AUTO* The System Default

To facilitate a rapid and agile TCE startup for new users, two default Category definitions are specified in the default NSECTLxx Parmlib member: SYSTEM.IPLPARM and SYSTEM.PARMLIB. Both may use the Dataset value of *AUTO* to denote that TCE is to determine the IPLParm and Parmlib datasets used to IPL the system upon which the IFOM Procedure (which starts the IFOM Started Task) is executed.

```
CATEGORY SYSTEM.IPLPARM
DSN *AUTO*
CATEGORY .END

CATEGORY SYSTEM.PARMLIB
DSN *AUTO*
CATEGORY .END
```

21.3.1.3 DATASET

To associate one or more datasets with a specific Control Category, enter the DSN Statement followed by the fully qualified dataset name.

```
DSN SYS1.PARMLIB
```

Only one dataset is allowed per line as each line is processed by TCE as a separate Control Card. To add additional Datasets to a Control Category, repeat the line changing the dataset name as needed.

By default, when a Dataset is defined using just its fully qualified name, all datasets with matching names, regardless of Volume placement or System, are considered Controlled Datasets within a Controlled Category.

21.3.1.4 DATASET(VOLUME)

The scope of TCE control over a dataset may be limited to a specific Volume. When this is desired, indicate the Volume name within a set of parentheses immediately following the Dataset name as shown below.

```
DSN SYS1.PARMLIB(VOLABC)
```

21.3.1.5 DATASET(VOLUME,SYSTEM)

The scope of TCE control over a dataset may be limited to a specific Volume when an action is taken from a specific Named system. When this is necessary, indicate the Volume name and System name, separated by a single comma, within parentheses immediately following the Dataset name as shown below.

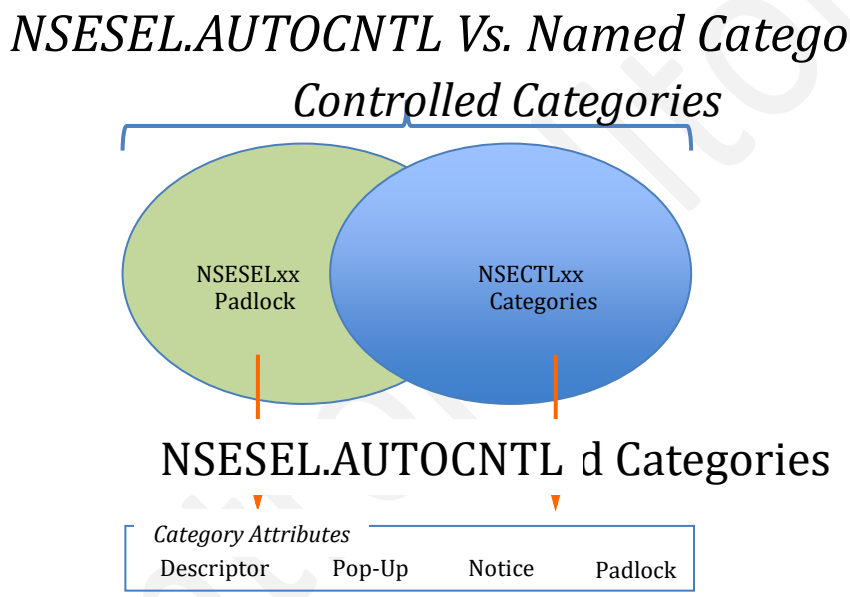
```
DSN SYS1.PARMLIB(VOLABC,GREEN)
```

21.3.1.6 Critical Relationships

There should be a valid/direct relationship between a Category and the Valid Datasets assigned/associated to that Category. This is considered a “Critical Relationship” to the integrity of the information captured in the Control Journals and displayed in the various Control Editor panels and reports.

21.3.1.7 Controlled Datasets Derived From NSESELxx

Control Datasets appear in both the NSECTLxx and NSESELxx Configuration Members. Those in NSECTLxx are defined as elements of a Controlled Category. Control Datasets defined in NSESELxx may be defined independently and controlled by TCE Padlock functions. As a result, it is possible datasets defined for Padlock Control will not be defined in NSECTLxx. When such a mismatch is detected, TCE will automatically create the NSESEL.AUTOCNTL Category and include these discovered Padlock Dataset entries. With each start of IFOM or dynamic activation of NSECTLxx or NSESELxx, TCE performs a new cross-member discovery and updates the dataset grouping defined to NSESEL.AUTOCNTL. Any Dataset included in the NSESEL.AUTOCNTL inherits the control features afforded any Controlled Dataset.



21.3.1.8 Control Category Attributes

Associated with each Category, in addition to its Dataset Group, are a number of attributes: Padlock Control, Event Descriptor, Event Notification and Detected Change Notification. These are defined in NSESELxx, NSEENSxx and NSEJRNxx and best configured using the Configuration Dialogs available to the TCE Administrator.

21.3.1.9 Stealth Mode

The Descriptor Window, a Category Attribute, is normally displayed immediately before or immediately after an event, i.e., update, rename, restore. To proceed or to successfully complete, the requirements of the Descriptor definition must be satisfied. If this descriptor enforcement is not required, name the Category/Class using the reserved Category name "NEZAUTO.something" where "something" is a user-defined, one to eight character, qualifier.

```
CATEGORY NEZAUTO.something
DSN *AUTO* or
DSN fully_qualified_dataset_name(volume,system)
CATEGORY .END
```

21.3.2 For Categories containing UNIX Files

A Controlled Category may contain only one Dataset or File Type; MVS Dataset or UNIX File. Types may not be mixed within a Category.

21.3.2.1 CATEGORY_NAME

Each Category Name must be a unique string composed of two values separated by a single period. Each value may be upto eight characters.

21.3.2.2 UNIX_ROOT_DIRECTORY

This optional value represents the starting point in a UNIX File system that will prefix to UNIX Directories defined within the Category Control Block using the DIRS Statement.

21.3.2.3 DIRS

Used to define a quoted string the content of which is a UNIX Directory. Each Directory entry must begin with '/. If a UNIX Root Directory is defined it will prefix the Directory. Multiple Directories may be defined with a single Category Control Block. Resulting in:

UNIX_ROOT_DIRECTORY/DIRS

21.3.2.4 PATH

Used to define a quoted string the content of which is a fully qualified UNIX Directory Path. Each such fully qualified Directory Path entry must begin with '/. If a UNIX Root Directory is defined it WILL NOT prefix a Directory Path. Multiple Directory Paths may be defined with a single Category Control Block. Resulting in:

/PATH

21.3.2.5 SUBD

Used to define a quoted string, this Control Statement must follow either a DIRS or PATH Statement and contain a UNIX SubDirectory. Each such SubDirectory entry must begin with '/. The SUBD Control Statatement may be repeted as needed to extend the Directory or Path to a targeted UNIX File. Resulting in:

UNIX_ROOT_DIRECTORY/DIRS/SUBD

Or

PATH/SUBD

21.3.2.6 FILE

Used to define a quoted string, this Control Statement must follow either a DIRS PATH or SUBD Statement and contain the name of a fully qualified UNIX File. Each such File Name entry must begin with '/. The FILE Control Statatement may be repeted as needed to include all files that are associated with a specific Directory or Path. Resulting in:

UNIX_ROOT_DIRECTORY/DIRS/SUBD/FILE

Or

PATH/SUBD/FILE

21.4 NSECTLxx Model Member

Each NSECTLxx Configuration Member must begin with a FORMAT Statement, in column 1 or 2, as its first uncommented Control Card. Where the value defined on the VERS operand is either (1) or (2). If the FORMAT Statement is not encountered or it is incorrectly constructed when the NSECTLxx Member is read during IFOM initialization or a dynamic activation of NSECTLxx an Error Message is recorded in the system log and TCE take one of the following actions:

- If the FORMAT Statement is not encountered TCE continues to process the NSECTLxx Member as if it contains VERS(1) Control Card Systax.
- If the FORMAT Statement is found but is incorrectly constructed TCE will suppend ICE initilazation: Both Image FOCUS and The Control Editor.

Comments may be added to a FORMAT Control Card by placing then within the /* */ pair to the right of the VERS(n) operand. Content, if any, in Columns 73 – 80 will be ignored.

A sample Control Card is shown below:

FORMAT VERS(n) /* comment */

Where:

VERS(1) is used to identify NSECTLxx Members that are using the TCE Legacy Control Card Syntax the exclusively supports Control Categories containing MVS Dataset Categories.

VERS(2) is used to identify NSECTLxx Members that are using the TCE Control Card Syntax that supports Control Categories containing MVS Dataset and Contorl Categories containing UNIX PATH/FILEs.

21.4.1 FORMAT VERS(1)

A model NSECTLxx Member in VERS(1) format is shown below. A full sample can be found in the ICE SAMPLIB Dataset.

```
 FORMAT VERS(1)

**--------------**-------------------------------------------*
**   CATEGORY   **             DSNAME                        *
**   COLS       **             COLS                          *
**   2-17       **             18-61                         *
**--------------**-------------------------------------------*

For Example:

 SYSTEN.IPLPARM  *AUTO*
 SYSTEM.PARMLIB  *AUTO*
```

```
or perhaps defined specifically with Dataset names only:

 SYSTEM.DATASETS SYS1.PARMLIB
 SYSTEM.DATASETS SYS2.PARMLIB

or perhaps defined with Dataset, Volume and System names:

 SYSTEM.DATASETS SYS1.PARMLIB(VOLABC,GREEN)
 SYSTEM.DATASETS SYS2.PARMLIB(VOLDEC,BLUES)

or perhaps defined with a mix of definitions:

 SYSTEM.DATASETS SYS1.PARMLIB
 SYSTEM.DATASETS SYS2.PARMLIB(VOLDEC,BLUES)
```

21.4.2 FORMAT VERS(2)

A model NSECTLxx Member in VERS(2) format is shown below. A full sample can be found in the ICE SAMPLIB Dataset.

```
 FORMAT VERS(2)

 CATEGORY SYSTEM.PARMLIB
 DSN USER.PARMLIB(ZDSYS1,ADCD113)
 DSN ADCD.Z113.PARMLIB(ZDRES1,ADCD113)
 DSN SYS1.PARMLIB(ZDRES1,ADCD113)
 CATEGORY .END

 CATEGORY SYSTEM.IPLPARM
 DSN SYS1.IPLPARM(ZDSYS1,ADCD113)
 CATEGORY .END

 CATEGORY NEWUSS.SERVICE (/CDCD119/etc)
 DIRS '/ssh'
 FILE '/nohup.out'
 FILE '/ssh_config'
 FILE '/ssh_host_dsa_key.pub'
 FILE '/ssh_host_rsa_key.pub'
 FILE '/sshd.sh'
 DIRS '/dce'
 SUBD '/home'
 SUBD '/dts_null_provider'
 FILE '/SOME.FILE'
 FILE '/OTHER.FILES'
 PATH '/Z113'
 SUBD '/samples'
 FILE '/Dialcodes'
 FILE '/Makefile'
 FILE '/Ported_Tools_License.readme'
 PATH '/BDCD119/etc/dce'
 SUBD '/home/dts_null_provider'
 FILE '/MAYBE.FILE'
 CATEGORY .END
```

21.5 NSESELxx Configuration Statements

The syntax of each NSESELxx Control Card is as follows:

|----- control_keyword accessId member dataset(volume,system)------|

Each control_keyword must begin in column one and related values, in total, may not extend beyond column seventy-two. An '*' in column one indicates a comment.

Values following the control_keyword, on the same line (accessed, member and dataset) MUST start in a specific position:

- Accessid - must begin in position nine
- Member - must begin in position seventeen
- Dataset - must begin in position twenty-six

Each NSESELxx Control Card uses a combination of INCLUDE and EXCLUDE Statements to define the span of control over; Members in Categories and Datasets, Operator Commands, WorkGroup Datasets and TCE Projects. The general processing rules controlling Include and Exclude Control Cards is described below.

21.5.1 INCLUDE Statements

The Include Keywords are used to define users that will receive exclusive access rights to update and/or browse and/or submit controlled members. When an Include statement is used and in the absence of any other Include statement, access to the member will be denied to all other users.

When an Include Statement is used it is best practice to create a "Super-User" with access to ALL Members in Controlled Datasets to prevent a "Lockout" condition. A "Super-User" is created when the controlled member name is specified as "*".

21.5.2 EXCLUDE Statements

This class of access control statements is used to define user(s) that will be denied access to Controlled Members for the purpose of update and/or browse/view and/or SUBMIT when such members reside in Datasets defined to TCE as Controlled Datasets or part of a Dataset concatenation defined to TCE as a Controlled Category.

In the event that an INCLUDE Vs. EXCLUDE conflict arises the rights granted by TCE will default to those defined in the INCLUDE Statement Control Card(s).

21.5.3 Category Keywords

21.5.3.1 Includes

- CATEDIN Include Category Update Allows Editing_of_Member(s)_in_Category'
- CATBRIN Include Category Browse Allows Reading_of_Member(s)_in_Category'
- CATEBIN Include Category Ed|Br Allows Edit|Read_Member(s)_in_Category'
- CATSUBI Include Category Submit Allows Submission_of_Member(s)_in_CAT'
- CATALLI Include Category E|B|S Allows Edit|Read|Submit_of_MBR(s)_in_CAT'

21.5.3.2 Excludes

- CATEDEX Exclude Category Update Denies Editing_of_Member(s)_in_Category'
- CATBREX Exclude Category Browse Denies Reading_of_Member(s)_in_Category'
- CATEBEX Exclude Category Ed|Br Denies Edit|Read_Member(s)_in_Category'
- CATSUBX Exclude Category Submit Denies Submission_of_Member(s)_in_CAT'
- CATALLX Exclude Category E|B|S Denies Edit|Read|Submit_of_MBR(s)_in_CAT'

21.5.4 Dataset Keywords

21.5.4.1 Includes

- DSNEDIN Include Dataset Update Allows Editing_of_Member(s)_in_Dataset'
- DSNBRIN Include Dataset Browse Allows Reading_of_Member(s)_in_Dataset'
- DSNEBIN Include Dataset Ed|Br Allows Edit|Read_Member(s)_in_Dataset'
- DSNSUBI Include Dataset Submit Allows Submission_of_Member(s)_in_DSN'
- DSNALLI Include Dataset E|B|S Allows Edit|Read|Submit_of_MBR(s)_in_DSN'

21.5.4.2 Excludes

- DSNEDEX Exclude Dataset Update Denies Editing_of_Member(s)_in_Dataset'
- DSNBREX Exclude Dataset Browse Denies Reading_of_Member(s)_in_Dataset'
- DSNEBEX Exclude Dataset Ed|Br Denies Edit|Read_Member(s)_in_Dataset'
- DSNSUBX Exclude Dataset Submit Denies Submission_of_Member(s)_in_DSN'
- DSNALLX Exclude Dataset E|B|S Denies Edit|Read|Submit_of_MBR(s)_in_DSN'

21.5.5 Operator Commands

21.5.5.1 Includes

- CMDINCL Include RACFCmmds Usage Allows RACF_Operator_Command'

21.5.5.2 Excludes

- CMDEXCL Exclude RACFCmmds Usage Denys RACF_Operator_Command'

21.5.6 WorkGroups

21.5.6.1 Includes

- WKGRPIN Include WrkGroup E|B|S Allows Edit|Read|Submit_Group_Datasets'

21.5.6.2 Excludes

- WKGRPEX Exclude Wrkgroup E|B|S Denies Edit|Read|Submit_Group_Datasets'

21.5.7 TCE Projects

21.5.7.1 Includes

- PJTDSNI Include Project Update Allows Edit|Read|Submit_MBR(s)_in_Project'
- PJTCMDI Include Project Usage Allows RACF_Operator_Command'

21.5.7.2 Exclude

- PJTDSNX Exclude Project Usage Denies Edit|Read|Submit_MBR(s)_in_Project'
- PJTCMDX Exclude Project Usage Denies RACF_Operator_Command'

21.5.8 TCE USERMODE

All USERMODE Control Cards MUST follow ALL Include/Exclude Control Cards defined in the NSESELxx Configuration Member.

USERMODE is used to establish optional Control Functions:

21.5.8.1 Overriding CONTROLMODE

Override, at the userid level, the default or defined settings of CONTROLMODE.

21.5.8.2 Establish Access Windows

Establish, on a userid basis, the opening and closing of a Controlled Access Window based on Day and/or Date and/or Time.

21.5.9 USERMODE Control Statements

USERMODE and all related values and sub-keywords and their enclosed values must appear as a single 80-column line. Continuation is not honored.

21.5.9.1 USERMODE Systax

```
USERMODE userid NONE|WARN|DENY STD() STM() ETM() STD()
```

USERMODE - Must begin in Column One.

Userid – Must be a fully qualified UserId that is both known to the External Manager (ESM) and have a requisite TSO Segment defined.

NONE|WARN|DENY – Specify one. Will override the more global CONTROLMODE Setting defined in the NSEJRNxx Configuration Member but only as it applies to the access rights of the accompanying Userid.

Access Windows – An optional Access Window may be established using the Sub-Keywords shown below. Each can be used stand-alone or together.

In this example a progression of sub-keyword usage first opens and then closes an Access Window an approximate duration of one month.

- STD(140101) can be used by itself to begin the override of CONTROLMODE on January 1, 2017.
- STM(0100) could be added to this control sequence to indicate that the override will START on January 1, 2017, at 01:00 oclock AM.

- ETD(140131) can be used to indicate that the control sequence descrbed will end on January 31, 2017, thus returning control to the value defined to CONTROLMODE.
- ETD(1200) could be added to this control sequence to indicate that the override will END on January 31, 2017, at 12:00 noon.

In this example a daily Access Window is opened and closed. Note that STD() and ETD() and not used.

- STM(0100) will open an access window daily at 01:00 AM at which time the global CONTROLMODE setting is overridden BUT only for the defined UserId.
- ETD(1200) adding this to the control sequence will close the access window at NOON each day returning to the global CONTROLMODE setting

21.5.9.2 USERMODE Sub-Keywords

STD – Start Date(yymmdd)
STM – Start Time(hhmm)
ETD – End Date(yymmdd)
ETM – End Time(hhmm)

21.5.10 NSESELxx Model Member

A set of NSESELxx Control Cards is shown below. A full sample can be found in the ICE SAMPLIB Dataset.

```
DSNALLI PROBI1  *00      PLAYFUL.PARMLIB(NEWVOL,ADCDXXXX)
DSNALL1 GBAGS1  *        PLAYFUL.PARMLIB(NEWVOL,ADCDXXXX)
WKGRPIN TCEUSER *ALL     PLAYFUL.DATASET(PLYVOL)
CMDINCL GBAGS1  SETROPTS RACFCMD
CMDEXCL GBAGS1  DELUSER  RACFCMD
CMDEXCL GBAGS1  ADDUSER  RACFCMD
```

NOTE: USERMODE CONTROL CARDS MUST FOLLOW MEMBER ACCESS CONTROL CARDS

```
USERMODE userid WARN
USERMODE userid DENY STD(140101)
USERMODE userid WARN ETD(140202)
USERMODE userid WARN STD(140101) ETD(140101)
USERMODE userid DENY STM(0800)
USERMODE userid WARN ETM(1800)
USERMODE userid NONE STM(0800) ETM(1800)
USERMODE userid WARN STD(140101)STM(0800)ETM(1800)STD(140202)
```

21.6 NSEPJTxx Configuration Statements

When requirements for reinforcing an ESM Dataset Boundary extend beyond Global Member Level, Allow/Deny Access Rights, TCE Project Management oriented control can be established using the NSEPJTxx member. Such controls establish 'Access Windows' with 'Access Keys'.

The syntax of each NSEPJTxx Project ACTION Block Control Card set is as follows:

```
|----- ACTION PJT(project_number) ACT() RES() PRI() KEY()------|
|----- PJTERM DUR()------|
|----- PJCYCL HRS()------|
|----- CTLDSN DSN()------|
|----- CTLMBR INC/EXC()------|
|----- CTLCMD INC/EXC()------|
|----- CTLUSR USR() START() STOP()------|
|----- ACTION .END------|
```

Because TCE Projects are accessed by users using an encoded 'Project Key' which is never displayed in 'Clear Text' outside of the TCE Administrator Interface projects may only be built and maintained using the TCE Configuration Dialogs.

21.6.1 ACTION PJT()

Required six-character, user assigned, project number. Must be unique.

21.6.2 ACT(ON|OFF)

Used to globally turn a project functional boundary on or off. Default is ON, meaning the function boundary is functional.

21.6.3 RES(ON|OFF)

Used to define the ongoing function of a project boundary once the project has reach its defined termination day, date or time. Default is ON meaning the project boundary remains in place BUT all resources are restricted.

21.6.4 PRI(ON|OFF)

Used to define the priority that a project will have relative to other established Padlock Controls. Default is ON meaning that Project Boundaries have priority (they are enforced first) over all other Padlock Controls.

21.6.5 KEY(encoded_string)

The encoded 'Project Key' required to access defined project resources.

21.6.6 PJTERM(start,stop)

The resolved Day, Date and Time when the project starts separated by a comma from the resolved Day, Date and Time when the project is scheduled to end.

21.6.7 PJCYCL(open,close)

The hour within a project 24 hour day when the project will be available for use separated by a comma from the 24 hour time when it will not, collectively the 'Project Window'.

21.6.8 CTLDSN (dataset(volume,system))

Fully qualified name of a project dataset and optional volume name and, if volume is specified, optional system name. One Control Card entry is required for each project Dataset.

21.6.9 CTLMBR member

The name of members found in project datasets that are to be included or excluded from the project. The Member Name may be full qualified, prefixed or suffixed using an asterisk. One Control Card entry is required for each project Member.

21.6.10 CTLCMD command

The name of Operator Commands (in this release IBM-RACF Commands) included in or excluded from the project. All commands may be defined using 'RACFCMD' as the name of the command. One Control Card entry is required for each project Command.

21.6.11 CTLUSR(userid)

The TSOUserId of Project Staff and the individual fully resolved day, date and time when their project access rights begin and end.

21.6.12 ACTION . END

Each Project definition must be properly ended using the ACTION .END Control Statement.

21.6.13 NSEPJTxx Model Member

A set of NSEPJTxx Control Cards is shown below. A full sample can be found in the ICE SAMPLIB Dataset.

```
ACTION PJT(ABCDEF) ACT(ON) RES(ON) PRI(ON) KEY(D1OFX$SPKFD%LFZ4?*)
PJTERM DUR(1308261101,1309271101)
PJCYCL HRS(01,14)
CTLDSN DSN(SYS1.PARMLIB)
CTLDSN DSN(SYS1.PROCLIB)
CTLMBR INC(*00)
CTLMBR INC(AUTORRP)
CTLMBR INC(*SP)
CTLMBR INC(JES*)
CTLMBR INC(*RM)
CTLMBR INC(LISTUSER)
CTLCMD INC(DELGROUP)
CTLCMD INC(DELUSER)
CTLCMD INC(SETROPTS)
CTLCMD INC(LISTDSD)
CTLCMD INC(ADDSD)
CTLCMD INC(CONNECT)
CTLCMD INC(PASSWORD)
CTLUSR USR(TCEUSER) START(1308261146) STOP(1309261146)
CTLUSR USR(PROBI3) START(1309031658) STOP(1310031658)
ACTION .END
```

21.7 NSEGRPxx Configuration Statements

The NSEGRPxx Configuration member is used to define TCE Control Groups made up of: named TSOUserIds, ESMUSERID, and/or named External Security Manager (ESM) Groups, ESMGROUP. NSEGPPxx works in conjunction with the NSESELxx member to identify members within a TCE Group and for Padlock/TimeLock control functions that, in turn, enforce defined Group resource access rights.

The syntax of each NSEGRPxx Control Card set is as follows:

```
|----- TCEGROUP group_name------|
|----- ESMUSRID (userid,userid,userid)------|
|----- ESMGROUP 'esm_group_name'------|
|----- TCEGROUP .END------|
```

Each control_statement (TCEGROUP, ESMUSRID, ESMGROUP, TCEGROUP .END) must begin in column one and associated values may not extend beyond column seventy-two. An '*' in column one indicates a comment.

21.7.1 TCEGROUP

Each TCEGroup must begin with the naming of the Control Group Set on the TCEGROUP Statement. The Group's name must be six characters, beginning with an alpha character (A-Z). Each Control Group Set must be ended with TCEGROUP .END.

21.7.2 ESMUSRID

The ESMUSERID Statement is used to define individual TSOUserIds to be included within the TCE Group.

21.7.3 EMSGROUP

The ESMGROUP Statement is used to define existing groups that are controlled with the External Security Manager that are to be included within the TCE Group.

21.7.4 TCEGROUP .END

Each Control Group Set must be ended with TCEGROUP .END.

21.7.5 NSEGRPxx Model Member

A set of NSEGRPxx Control Cards is shown below. A full sample can be found in the ICE SAMPLIB Dataset.

Model:

```
TCEGROUP GROUP_NAME(MAX 6 CHARACTERS)
ESMUSRID (USERID,USERID,USERID)
ESMGROUP (GROUP_NAME,GROUP_NAME,GROUP_NAME) RACF / TOP SECRET
ESMGROUP 'UID_MASK                ' ACF2
TCEGROUP .END
```

Sample:

```
TCEGROUP IGRP01
ESMUSRID (USERID1,USERID2,USERID3,USERID4,USERID5,NAME01)
ESMUSRID (NAME02,NAME03,TEMP1,TEMP2,TEMP3,TEMP4)
ESMGROUP (SYS1,SYSPROG) RACF / TOP SECRET
ESMGROUP '***SYSPROG***           ' ACF2
TCEGROUP .END
```

21.8 NSEENSxx Configuration Statements

The EXTERNALNOTIFICATION Keyword, defined in the NSEJRNxx configuration member, is used to toggle ON|OFF the Notification METHODS and ACTIONS found in the NSEENSxx Configuration Member.

The METHOD and ACTION blocks share a common set of control cards. Currently there is only one valid METHOD, Email. Anything supplied in a METHOD block will be used as a default for an ACTION block if a specific parameter is not supplied in the ACTION block. For example, if the TO, FROM, CC, SERVER information is to be used for all e-mail notifications but different SUBJECT information is to be used for each, specify the TO, FROM, CC, and SERVER information in the METHOD block and supply only the SUBJECT information in the individual ACTION blocks.

Each control card is processed as an independent "80 column" entity. Continuation to a second entity is NOT supported.

```
|-----Statement Keyword Value------|
```

Each control_keyword must begin in column one and keywords and values may not extend beyond column seventy-two. An '*' in column one indicates a comment.

21.8.1 Notification System Requirements

- To use IFOM with external notification, the minimum z/OS release level is z/OS 1.9.
- Copy from hlq.llq.SISPCLIB(NSIMTC3) to your REXX SYS1.SAXREXEC dataset or in a user-defined system REXX dataset.
- At z/OS 1.9, the NSIMTC3 REXX exec must be installed in the system REXX SYS1.SAXREXEC dataset. For z/OS 1.10 or newer, the NSIMTC3 REXX exec can be installed in either the SYS1.SAXREXEC dataset or in a user-defined system REXX dataset as defined with the AXRxx parmlib member.
- The NSIMTC3 REXX exec is invoked through system REXX which uses a secondary address space to perform its work. The address space names used rotate through jobs named AXR01 - AXR08 and run under USERIDs of the same name. USERIDs AXR01 - AXR08 should be set up within the corresponding security product and should be set up with an OMVS security segment as well as an OMVS UID.

21.8.2 >> METHOD BLOCK

A METHOD BLOCK is used to define parameters that configure the Email Server that will be used to send Email Notification.

21.8.3 SERVER

Use the SERVER Keyword to specify the name of the targeted Email Server that will be used for notification operations. The Server Name cannot exceed 64 bytes.

21.8.4 PORT

Use the PORT Keyword to specify the PORT address that the Mail Server is listening on. The default for this value is set as PORT 25.

21.8.5 TCPIPJBN

The TCPIPJBN Keyword is used to identify the name of the TCP/IP job. The default value is set as TCPIP.

21.8.6 TIMEOUT

The TIMEOUT is used to specify the timeout value to be used for the network operations. The default value is set as 60 seconds.

21.8.7 JRNLPOST YES|NO

By Default, Debug and Email Log Documents are not posted to the Control Journals. If you would like to post these documents to the Control Journals creating a permanent record of them set this value to “YES”. JRNLPOST may also be used with a specific ACTION BLOCK in order to log only those documents associated with Email or Debug activity.

21.8.8 TEMPDSNHLQ

The content of any Email Notification takes the form of an Email Attachment. To link the Attachment to the Email itself, a temporary dataset containing the actual Notification content is required.

Use the TEMPDSNHLQ Keyword to specify the high level qualifier of the dataset used for this purpose. The default is the high level qualifier of the parmlib dataset for IFOM. The

TEMPDSNHLQ can be a maximum of 16-bytes and must follow standard dataset naming conventions. The suffix for the temporary dataset name is as follows:

```
$TCE.TEMP.Dyyyyjjj.Thhmmss
```

If the DEBUG Keyword is specified OFF, this dataset will automatically be deleted in the normal course of operation. However, if DEBUG is specified ON, this dataset will be retained.

21.8.9 KEEPTEMP xxx

Use this Keyword in conjunction with TEMPDSNHLQ to indicate the number of Temporary Datasets you would like to retain; where xxx is a numeric value between 0 – 999. KEEPTEMP may be used within an individual Notification ACTION BLOCK in order to set a unique maximum value specific to a certain class of events.

21.8.10 KEEPDHLQ xxx

When Event Notification is active BUT a TEMPDSNHLQ has not been defined the notification system will default to the Temporary Dataset HLQ to the ICE HLQ values defined during ICE installation. When this is the case use this Keyword to indicate the number of Temporary DATASETs you would like to retain; where xxx is a numeric value between 0 – 999. KEEPDHLQ may be used within an individual Notification ACTION BLOCK in order to set a unique maximum value specific to a certain class of events.

21.8.11 KEEPMBRS xxx

In addition to the Temporary Sequential Dataset used to store Event Notification Emails a more long-lasting permanent copy is retained as a member in a PDS. This PDS is the same as that defined by TEMPDSNHLQ or the default value defined during ICE installation for the system in general. When this is the case use this Keyword to indicate the number of MEMBERs you would like to retain. Where xxx is a numeric value between 0 – 999. KEEPMBRS may be used within an individual Notification ACTION BLOCK in order to set a unique maximum value that is specific to a certain class of events.

21.8.12 FROM

A single e-mail address is limited to 48 bytes.

21.8.13 SUBJECT

The SUBJECT Keyword is used to define the Subject Line of the Notification Email. The subject text must be enclosed in quotes and cannot exceed 64 bytes.

21.8.14 TO

The TO Keyword is used to direct Email notification of an event to one or more specific recipients. Up to 128 TO control cards can be provided in either the METHOD or ACTION block. A single e-mail address is limited to 48 bytes.

21.8.15 CC

A single e-mail address is limited to 48 bytes.

21.8.16 DEBUG

Use this Keyword to toggle ON|OFF the Email Debug facility.

21.8.17 DEBUGDSNHLQ

The DEBUGDSNHLQ Keyword can be optionally used to specify the high level qualifier of the dataset that gets created if DEBUG is specified as ON.

The default value is the high level qualifier of the parmlib dataset for IFOM.

DEBUGDSNHLQ can be a maximum of 16 bytes and must follow standard dataset naming conventions. The suffix for the debug dataset name is as follows:

```
$TCE.DEBUG.Dyyyyjjj.Thhmmss
```

21.8.18 KEEPDBUG xxx

Use this Keyword in conjunction with DEBUGDSNHLQ to indicate the number of Debug Datasets you would like to retain; where xxx is a numeric value between 0 – 999. KEEPDBUG may be used within an individual Notification ACTION BLOCK in order to set a unique maximum value specific to a certain class of events.

21.8.19 NSEENSxx Model Member – METHOD BLOCK

A set of NSEENSxx Control Cards specific to the Method BLOCK is shown below. A full sample can be found in the ICE SAMPLIB Dataset.

```
SERVER       smtp.server.name.or.ip.address
PORT         port#
TCPIPJBN     tcpjobnm
TIMEOUT      timeout_seconds
JRNLPOST     YES|NO posting of Debug/Email Log to Journal
TEMPDSNHLQ   temp.dsn.hlq
KEEPTEMP xxx specify the number of temp.dsn to keep
KEEPDHLQ xxx specify the number of default.dsn to keep
KEEPMBRS xxx spedify the number of dsnhlq.members to keep
SUBJECT      'default e-mail subject'
FROM         from.email.address
TO           to.email.address.1
TO           to.email.address.2
.
.
.
TO           to.email.address.128
CC           cc.email.address
DEBUG        ON|OFF
DEBUGDSNHLQ  debug.dsn.hlq
KEEPDBUG xxx specify the number of debug.dsn to keep
```

21.8.20 >> ACTION BLOCK

An ACTION BLOCK is used in conjunction with a specific METHOD block and begins with the Reserved Keyword ACTION appearing in column one and ends with the Reserved String ACTION .END beginning in column one. Failure to properly start and/or end an ACTION block will result in an unpredictable notification failure.

In addition, each set of ACTION Keywords; CAT, OBJ and SCOPE are processed as an independent "80 column" entity and ***MUST*** appear on a single line. Continuation to a second entity is ***NOT*** supported.

ACTION blocks come in five distinct types.

- Supplemental Detectors
- Staged Events
- Command Events
- Interval Events
- Message Events

21.8.21 Supplemental Detector Notification

The following ACTION block instructions, when combined with the Email METHOD, will send notification of Change Events discovered by the optional Supplemental Detector Applications.

An ACTION block used with Detected Events has the following format:

```
ACTION DET(detector_name) METHOD(EMAIL) SCOPE(REPORT)
ACTION .END
```

Each Detector named ACTION Block and related Statements within the Block processed are independent "80 column" entity and ***MUST*** appear to TCE as a single NSEENSxx Control Card. Continuation to a second line is ***NOT*** supported.

21.8.21.1 DET

The DET Keyword is used to define the source Detector Application. A DET ACTION Block is required for each individual Detector Application.

Supported Detector Action Blocks Include the following:

```
ACTION DET(LOADLIBRARY) - 'Load Module Changes'
ACTION DET(MBRDATASETS) - 'TEXT Dataset/Member Changes'
ACTION DET(IODFDATASET) - 'IODF Dataset Changes'
ACTION DET(HEALTHCHECK) - 'Health Checker Changes'
ACTION DET(USERDEFINED) - 'LPAR IPL Event Changes'
ACTION DET(TCEWEBCYCLE) - 'TCE Controlled Event Changes'
ACTION DET(TCERPTCYCLE) - 'TCE Configuration Changes'
ACTION DET(TCEERRCYCLE) - 'TCE Configuration Errors'
ACTION DET(DB2DSNTIDXX) - 'DB2 DSNZPARMS Changes'
ACTION DET(CICSCSDPARM) - 'CICS CSDS Parameter Changes'
ACTION DET(DSMONREPORT) - 'RACF DSMONS Report Changes'
ACTION DET(ZSYSTEMSVCS) - 'Running System SVC Changes'
ACTION DET(VOLUMELISTS) - 'Running System Volume Changes'
ACTION DET(ACF2REPORTS) - 'CA ACF2 ShowAll Changes'
ACTION DET(CATSREPORTS) - 'CA Top Secret Parm Changes'
ACTION DET(ZIMAGEFOCUS) - 'Image FOCUS Inspection Changes'
ACTION DET(IPLPACKAGES) - 'Image Configuration Changes'
ACTION DET(XCFDATASETS) - 'XCF Configuration Changes'
ACTION DET(APFDATASETS) - 'APF Authorization Changes'
ACTION DET(PPTPROGRAMS) - 'Program Property Changes'
ACTION DET(IMSSYSPARMS) - 'IMS Start Parm Changes'
ACTION DET(OMVSCONFIGS) - 'OMVS Configuration Changes'
ACTION DET(BPXSETTINGS) - 'BPX/USS Configuration Changes'
ACTION DET(SYSWRKGROUP) - 'ESM SYS1* Workgroup Changes'
ACTION DET(RACFSRCHECK) - 'HZS Sensitive Resource Check'
```

21.8.21.2 METHOD

The METHOD Keyword identifies a previously defined METHOD as the process that will be used for notification when notification ACTION is taken.

21.8.21.3 SCOPE

Currently the only valid SCOPE value is REPORT. This value will return the Event Identity Block and is accompanied with the associated Change Summary Report.

21.8.22 Staged Event Notification

A Staged Event is any Controlled Event that impacts a Controlled Boundary and can be related to a Category, Dataset, Member or TSOUserId.

The following ACTION block instructions, when combined with the Email METHOD, will send notification of Staged Events on an event-by-event basis as they occur.

One or more ACTION blocks can be set up, such that they are exclusively associated with Control Editor *Events* related to a *Category, Dataset, Member or TSOUserId* as defined in the NSECTLxx and/or the NSESELxx Configuration members.

An ACTION block for use with Edit Events has the following syntax:

```
ACTION CAT(category.name) METHOD(EMAIL)
OBJ(EDIT|DMDEDIT|SUBMIT|ALL)
SCOPE(IDENTITY|BODY|REPORT)
cntl_card
cntl_card
cntl_card
ACTION .END
```

Each ACTION Keyword set; CAT, OBJ and SCOPE is processed as an independent “80 column” entity and *MUST* appear on a single line. Continuation to a second entity is *NOT* supported.

Supported Staged Event Action Blocks Include the following:

```
ACTION CAT('category_name')  METHOD(EMAIL) OBJ() SCOPE()
ACTION DSN('dataset_name')   METHOD(EMAIL) OBJ() SCOPE()
ACTION MBR('member_name')    METHOD(EMAIL) OBJ() SCOPE()
ACTION USR('user_tsouserid') METHOD(EMAIL) OBJ() SCOPE()
```

21.8.22.1 CAT

The CAT Keyword is used to define the Dataset Control Category Name housing members for which Edit Event notification is desired. Create multiple ACTION Blocks in those cases where notification is desired for one or more but not all Dataset Control Categories.

When notification of all Edit Events to all defined Dataset Control Categories is desired, use the special case value .DEFAULT within the ACTION block definition to recognize any Edit Event as a candidate for external notification when no specific ACTION block definition of Category Name (CAT) is defined. Using .DEFAULT is a recommended *Best Practice*.

21.8.22.2 METHOD

The METHOD Keyword identifies a previously defined METHOD as the process that will be used for notification when notification ACTION is taken.

21.8.22.3 OBJ

The OBJ Keyword defines the specific edit event that can trigger the external notification within the specified category. These include EDIT (for edit requests which will include normal edit, delete, rename, and restore), DMDEDIT (for demand edit requests), SUBMIT (for submits performed within Control Editor edit sessions, and ALL (anything that would fall into EDIT, DMDEDIT, or SUBMIT).

21.8.22.4 SCOPE

The SCOPE Keyword defines the amount of information about the edit event that will be supplied in the external notification operation. If IDENTITY is specified, only the journal entry control information will be included in the external notification. If BODY is specified, the IDENTITY information will be included along with all other Descriptor Data. If REPORT is specified, the IDENTITY and BODY information will be included along with the specific data contents associated with the edit or submit request.

- Specify IDENTITY to receive the following:

```
01C|-SRC: PROBI1---------------THE CONTROL EDITOR-------------------- Edit -
02C|SYSPLX:SVSCPLEX SYSNM:S0W1     USRID:PROBI1  TIME:15:14:31 DATE:09/20/10
03C|-DSN: PROBI1.IFO80DR.PARMLIB(CLOCK00)----------------------VOL: PROBI1-
```

- Specify BODY to receive the following:

```
01C|-SRC: PROBI1---------------THE CONTROL EDITOR-------------------- Edit -
02C|SYSPLX:SVSCPLEX SYSNM:S0W1     USRID:PROBI1  TIME:15:14:31 DATE:09/20/17
03C|-DSN: PROBI1.IFO80DR.PARMLIB(CLOCK00)----------------------VOL: PROBI1-
04T|#1-CHANGE AUTHORITY
05D|                   Last Staff Meeting
06T|#2-CHANGE DESCRIPTION
07D|                   Adjusting for Time Change
08D|
09T|#3-CHANGE IMPACT
10D|                   No Impact expected. Backup Member Available.
11D|
12D|
```

- Specify REPORT to receive the following:

```
01C|-SRC: PROBI1---------------THE CONTROL EDITOR-------------------- Edit -
02C|SYSPLX:SVSCPLEX SYSNM:S0W1     USRID:PROBI1  TIME:15:14:31 DATE:09/20/17
03C|-DSN: PROBI1.IFO80DR.PARMLIB(CLOCK00)----------------------VOL: PROBI1-
04T|#1-CHANGE AUTHORITY
05D|                   Last Staff Meeting
06T|#2-CHANGE DESCRIPTION
07D|                   Adjusting for Time Change
08D|
09T|#3-CHANGE IMPACT
10D|                   No Impact expected. Backup Member Available.
11D|
12D|
OPERATOR NOPROMPT                                                    00050000
TIMEZONE W.00.00.00                                                  00100000
ETRMODE  YES                                                         00150000
ETRZONE  YES                                                         00200000
ETRDELTA 12                                                          00250000
******************************** Bottom of Data ********************************
```

21.8.23 Command Event Notification

The following ACTION block instructions, when combined with the Email METHOD, will send notification of Command Events on an individual event-by-event basis as they occur.

An ACTION block can also be set up for Command Events that are being captured as defined by MISCCMD, MODCMD, SETCMD, RACFCMD, ACF2CMD, and TSSCMD definitions in the NSEJRNxx configuration member.

An ACTION block for a command event has the following syntax:

```
ACTION CMD(.DEFAULT|command_type&command_name) METHOD(EMAIL)
OBJ(CON|JOB|STC|TSO|ALL)
SCOPE(IDENTITY|BODY|REPORT)
cntl_card
cntl_card
cntl_card
ACTION .END
```

Each ACTION Keyword set: CMD, OBJ and SCOPE is processed as an independent "80 column" entity and ***MUST*** appear on a single line. Continuation to a second entity is ***NOT*** supported.

Supported Staged Event Action Blocks Include the following:

```
ACTION CMD(.DEFAULT)              - All Commands
ACTION CMD(SETCMD)                - All SET Commands
ACTION CMD(SETCMD.command_name)   - Named SET Command Only
ACTION CMD(MODCMD)                - All Modify Commands
ACTION CMD(MODCMD.job_name)       - Named Modify Commands Only
ACTION CMD(MISCCMD)               - All Miscellaneous Commands
ACTION CMD(MISCCMD.command_name)- Named Misc. Commands Only

ACTION CMD(RACFCMD)               - All RACF Commands
ACTION CMD(racf_command)          - Named RACF Command Only
ACTION CMD(ACF2CGSO)              - ACF2 CGSO Command Only
ACTION CMD(TSSMODIF)              - Top Secret Modify Command
```

21.8.23.1 CMD

The CMD Keyword is used to define the Command types for which Event notification is desired. Create multiple ACTION Blocks in those cases where notification is desired for one or more but not all Command types.

When notification of all Command Events to all defined Commands is desired, use the special case value .DEFAULT within the ACTION block definition to recognize any Command Event as a candidate for external notification when no specific ACTION block definition of Command Name (CMD) is defined. Using .DEFAULT is a recommended *Best Practice*.

21.8.23.2 OBJ

OBJ defines the specific command entry location that can trigger the external notification. These include CON (for commands entered at a console), JOB (for commands entered from within a batch job), STC (for commands entered from within a started task), TSO (for commands entered from a TSO session), or ALL (for commands entered from any source).

21.8.23.3 SCOPE

SCOPE defines the amount of information about the edit event that will be supplied in the external notification operation. If IDENTITY is specified, only the journal entry control information will be included in the external notification. If BODY is specified, the IDENTITY information will be included along with the command that triggered the external notification event. If REPORT is specified, the IDENTITY and BODY information will be included along with console message buffer information that exists for the journal entry for this event.

- Specify IDENTITY to receive the following:

```
01C|-SRC: TSU04068------------THE CONTROL EDITOR------------------- Opcmd -
02C|SYSPLX:ADCDPL   CONNM:ESSJDL1  CONID:03000003 TM:12.26.56 DT:08/12/17
03C|-CMD: SET PROG  ------------------------------------------------------
```

- Specify BODY to receive the following:

```
01C|-SRC: TSU04068------------THE CONTROL EDITOR------------------- Opcmd -
02C|SYSPLX:ADCDPL   CONNM:ESSJDL1  CONID:03000003 TM:12.26.56 DT:08/12/17
03C|-CMD: SET PROG  ------------------------------------------------------
12.26.56.42 T PROG=QG
```

- Specify REPORT to receive the following:

```
01C|-SRC: TSU04068------------THE CONTROL EDITOR------------------- Opcmd -
02C|SYSPLX:ADCDPL   CONNM:ESSJDL1  CONID:03000003 TM:12.26.56 DT:08/12/17
03C|-CMD: SET PROG  ------------------------------------------------------
12.26.56.42 T PROG=QG
12.26.56.47 IEE538I PROGQG   MEMBER NOT FOUND IN PARMLIB
12.28.01.42 D A,L
```

```
12.28.01.45 IEE114I 12.28.01 2016.224 ACTIVITY 711
            JOBS     M/S    TS USERS    SYSAS    INITS   ACTIVE/MAX VTAM     OA
           00003    00013    00001      00031    00012    00001/00040       000
            LLA      LLA      LLA      NSW  S  JES2     JES2     IEFPROC  NSW
            ACF2     ACF2     IEFPROC  NSW  S  VLF      VLF      VLF      NSW
            VTAM     VTAM     VTAM     NSW  S  DLF      DLF      DLF      NSW
            TSO      TSO      STEP1    OWT  S  SDSF     SDSF     SDSF     NSW
            TN3270   TN3270   TN3270   NSW  SO TCPIP    TCPIP    TCPIP    NSW
            INETD4   STEP1    BPXOINIT OWT  AO PORTMAP  PORTMAP  PMAP     OWT
            FTPD1    STEP1    FTPD     OWT  AO PSYNCH1  PSYNCH1  PSYNCH1  NSW
            ESSJDL1Q DMX1              OWT  J  IFOM     IFOM     IEFPROC  NSW
            ESSJDL1 IN
```

21.8.24 Interval Event Notification

The ACTION block instructions described in this section, combined with the Email METHOD block, to configure and send an Interval Event Notification containing designated event(s) at a predetermined interval within and/or at the end of a user-defined 24 hour period called the ROLLOVER Time.

Interval Reports are constructed using the following content outline:

- User Defined Report Header:

```
HEADER "------user defined------"
```

- ENS Default Report Header:

```
/*****************************************************************************/
/*                                                                           */
/*       The Controls Environment(TCE) - Event Notication Service(ENS)       */
/*               Definition DSN(MBR):IFO.IFOT.PARMLIB(NSEENS00)              */
/*                                                                           */
/*                  Update:05M/04D/17Y     Time:07:00:02                     */
/*                                                                           */
/*****************************************************************************/
```

- First Event of designated Event Type:

```
SCOPE(IDENTITY|BODY|REPORT)
```

- User Defined Event Separator:

```
SEPARATOR "-----user defined-----"
```

- Second Event of designated Event Type:

```
SCOPE(IDENTITY|BODY|REPORT)
```

- User Defined Event Separator:

```
SEPARATOR "-----user defined-----"
```

- Last Event of designated Event Type:

```
SCOPE(IDENTITY|BODY|REPORT)
```

- Default Report Footer

```
/*****************************************************************************/
 NewEra Software, Inc.
   Our Job? Help you avoid problems and improve z/OS integrity.
```

The ACTION blocks that control the construction of Interval Reports have the following syntax:

```
ACTION DSRPT(STAGED|OPERCMD|ESMCMD|IFOPOST)
METHOD(NONE|EMAIL)
SCOPE(IDENTITY|BODY|REPORT)
HEADER "—header text—"
SEPARATOR "—separator text—"
ROLLOVER hh:mm INTERVAL(01|02|03|04|06|08|12) SEQDSDISP(KEEP|DELETE)
DSNHLQ hlq.llq.llq
DSALLOC TYPE(PDS) PRIMARY(8) SECONDARY(1) UNITS(TRK) DIRBLKS(12)
ACTION .END
```

Each ACTION Keyword is processed as an independent "80 column" entity and ***MUST*** appear on a single line. Continuation to a second entity is ***NOT*** supported.

21.8.24.1 DS|DSRPT(

The DSRPT Keyword is used to define the Event Content Type that will be stored/available in the Interval Notification Report. A Unique ACTION block is required for each unique Event Type:

(STAGED|OPERCMD|ESMCMD|IFOPOST|HZSIDS|MSGIDS)

There can only be one Event Type specified per DSRPT ACTION block.

21.8.24.2 METHOD (NONE|EMAIL)

METHOD specifies the method that will be used to deliver the Interval Notification Report. Currently only two METHODs are available. NONE is used to indicate that no METHOD has been defined and, therefore, no notification action is required. EMAIL is used to indicate that the Email METHOD of notification is to be used. When the Email METHOD is selected additional Email specific Keywords can be used within this ACTION block to override values specified in the Email METHOD block.

21.8.24.3 SCOPE (IDENTITY|BODY|REPORT)

SCOPE defines the amount of information about an event that will be written into the Interval Notification Report. If IDENTITY is specified, only the journal entry control information will be included. If BODY is specified, the IDENTITY information will be included along with the command that triggered the event. If REPORT is specified, the IDENTITY and BODY information will be included along with a copy of the affected member or console message buffer information that exists for the event.

21.8.24.4 HEADER "—header text—"

HEADER is used to specify up to 8 lines of text to be used as that part of the Report Header Block appearing before the ENS default header lines. The specified lines,

including any BLANK line, must be enclosed in quotes and will be automatically centered within the Header Block.

21.8.24.5 SEPARATOR "—separator text—"

SEPARATOR is used to specify up to 4 lines of text to be used as a separator appearing between individual events. The specified lines, including any BLANK line, must be enclosed in quotes and will be automatically centered.

21.8.24.6 ROLLOVER hh:mm

ROLLOVER is used to denote the HOUR and MINUTE at which the 24 hour Event Notification Cycle begins and ends. Time as used in this context is specified in military format where "hh" is a value from 00 to 23 and "mm" a value from 00 to 59. Regardless of the time specified a rollover is forced whenever the IFOM address space is stopped and restarted.

Once the Event Notification Cycle begins the sequential dataset allocated using the DSNHLQ PARM will continue to collect event information. If the INTERVAL keyword is used, all available information collected from the beginning of the cycle will be distributed using the ACTION block's defined METHOD() of delivery when an interval boundary is reached. When the end of the Event Cycle is detected, the sequential dataset *is Marked Complete* by MODDING the default footer to the report. The complete report is next written to the PDS defined using the DSALLOC keyword using the member name "?yymmdd" where "?" indicates the Event Type, "yy" the year, "mm" the month and "dd" the day. And as defined by the ACTION block's METHOD() the report content will be distributed. Currently only the Email METHOD is available for report distribution.

Only one sequential dataset or PDS member can exist for any given day. It is therefore possible that the IFOM address space could be stopped and restarted within the daily Event Notification Cycle. Should this happen, the default footer will appear multiple times to indicate the point in the cycle where the break occurred.

21.8.24.7 INTERVAL (01|02|03|04|06|08|12)

Each Event Notification Cycle may be optionally subdivided into Notification intervals using the INTERVAL keyword. A single keyword numeric value of two-digits is allowed to indicate the point in the Notification Cycle, in addition to Cycle Termination, when notification will be sent to defined Email recipients. If no value is specified, the default interval value is set to 24.

21.8.24.8 SEQDSDISP(KEEP|DELETE)

SEQDSDISP is used to denote the disposition of the sequential dataset at the end of the Event Monitor Cycle. The default value is KEEP.

21.8.24.9 DSNHLQ hlq.llq.llq

Represents the High-Level qualifier and Low-Level qualifier(s) that will be used to build the fully qualified name of the Daily Event Collector Dataset(s). A total of 16 characters including "." is allowed. The final name will appear as follows:

- hlq.llq.llq.'OPERCMD'.&system.'M'yymmdd (DYNAMIC Events)
- hlq.llq.llq.'STAGED'.&system.'S'yymmdd (STAGED Events)
- hlq.llq.llq.'EMSCMD'.&system.'E'yymmdd (POLICY Events)

21.8.24.10 DSALLOC

The DSALLOC keyword and its sub-parameters are used to allocate the PDS that will contain the completed daily Event Notification Reports. Currently only PDS datasets are supported. Recommended sub-parameters for TYPE PDS are:

- PRIMARY(8)
- SECONDARY(1)
- UNITS(TRK)
- DIRBLKS(12)

21.8.25 Message Event Notification

The ACTION block instructions described in this section, combined with the Email METHOD block, to configure and send notification based on the intercept of named system messages. Two Notification Services are provided:

This service supports only System, Health Checker or RACF Message Events as defined using the following Action Block Syntax:

```
MSGID(message_id)ACTION, for example MSGID(IEEXXXXI)ACTION
HZSID(message_id)ACTION, for example HZSID(HZSXXXXE)ACTION
ICHID(message_id)ACTION, for example ICHID(ICHXXXXE)ACTION
```

Note these Action blocks do not support the use of the MATCHSTR.

This service supports a broader set of messages from any source and can trigger supplemental actions and processesses via a call to a named Rexx program stored in HLQ.HLQ.SISPCLIB. The Rexx program NSIDIPL is provided for supporting the 'Image Manager', an ICE Viewer Application that executes it in conjunction with the Health Checker Message 'HZS0003E' or similar message.

An ACTION block for use with Message Events has the following syntax:

```
ACTION EVENTMSG(message_id) METHOD(EMAIL)
OBJ(EDIT|DMDEDIT|SUBMIT|ALL)
SCOPE(IDENTITY|BODY|REPORT)
cntl_card
cntl_card
cntl_card
ACTION .END
```

Each ACTION Keyword set is processed as an independent "80 column" entity and ***MUST*** appear on a single line. Continuation to a second line is ***NOT*** supported.

21.8.25.1 MESSAGE_ID

For Message Identifier as issued by the system the '*' may be used to denote message severity wild-carding. Examples: NEZ0000E and NEZ0000* are acceptable Message IDs.

21.8.25.2 MATCHSTR

Used to specify an optional Message String. The Message String will generally follow a Message Id. May be specified in part beginning with the start of the message and enclosed in single quotes. Examples: 'NEWERA' or 'NEWERA,NEZ' or 'NEWERA,NEZ_OPSYS' are acceptable Match Strings.

21.8.25.3 SUBJECT

Email Notification Subject.

21.8.25.4 TO

Recipient Email Address, repeat as needed.

21.8.25.5 FROM

Sender's Email Address, one only.

21.8.25.6 RPTHLQ

The Notification and Report Dataset Qualifiers hlq.llq.$RPTHLQ.

21.8.25.7 KEEPRPTS

YES indicates Report Dataset is to be kept, NO indicates it will be deleted.

21.8.25.8 BODYTEXT

Text enclosed in single quotes' to be inserted into body of notification.
For example, 'PRODUCTION IPL CHANGE EVENT'

21.8.25.9 CMDNAME

Rexx Command name must be in SISPCLIB. NSIDIPL is provided for use with the Image Manager Application.

21.8.25.10 JRNLPOST

YES, Message Event posted to Control Journal.

21.8.25.11 PRODS/PRIME

When change detected in comparing Production Settings vs. Production Baseline send Text or Post WTO.

21.8.25.12 PRODS/SNAPS

When change detected in comparing Production Settings vs. Production Snapshot send Text or Post WTO.

21.8.25.13 ALTER/PRIME

When change detected in comparing Alternate Settings vs. Alternate Baseline send Text or Post WTO.

21.8.25.14 ALTER/SNAPS

When change detected in comparing Alternate Settings vs. Alternate Snapshot send Text or Post WTO.

21.8.25.15 PRODS/ALTER

When change detected in comparing Production Settings vs. Alternate Settings send Text or Post WTO.

21.8.25.16 TEXTANYCNGS

When any change is detected, at any configuration level, send Text or Post WTO.

21.8.26 NSEENSxx Model Member – ACTION BLOCK

```
ACTION DET(TCERPTCYCLE) METHOD(EMAIL) SCOPE(REPORT)
TO prr@newera.com
TO ghb@newera.com
FROM SUPPORT@NEWERA.COM
SUBJECT 'TCE_Configuration_Report'
ACTION .END

ACTION CMD(SET.APPC) METHOD(EMAIL) OBJ(ALL) SCOPE(REPORT)
TO pat@newera.com
FROM support@newera.com
SUBJECT 'Notice_SET.APPC_Issued'
ACTION .END

ACTION CMD(RACFCMD) METHOD(EMAIL) OBJ(ALL) SCOPE(REPORT)
TO prr@newera.com
FROM support@newera.com
SUBJECT 'Notice_all_RACF_Commands'
ACTION .END

ACTION DSRPT(STAGED) METHOD(EMAIL) SCOPE(IDENTITY)
TO pat@newera.com
TO support@newera.com
TO PLAYTWO@NEWERA.COM
TO ghb@newera.com
FROM support@newera.com
SUBJECT 'changes'
HEADER 'This Report Title'
SEPARATOR '/---------------/'
ROLLOVER 06:00 INTERVAL(8) SEQDSDISP(KEEP)
DSNHLQ IFO.TEST
DSALLOC TYPE(PDS)
ACTION .END

ACTION CAT(IPL.ALT) METHOD(EMAIL) OBJ(ALL) SCOPE(REPORT)
TO JMS@NEWERA.COM
FROM SUPPORT@NEWERA.COM
SUBJECT 'AlTERNATE IPL CHNAGES'
ACTION .END

ACTION DSN(SYS1.PARMLIB) METHOD(EMAIL) OBJ(ALL) SCOPE(REPORT)
TO PAT@NEWERA.COM
FROM SUPPORT@NEWERA.COM
SUBJECT ‘SYS1 PARMLIB CHANGE’
ACTION .END

ACTION EVENTMSG(CSV410I) METHOD(EMAIL) SCOPE(REPORT)
MATCHSTR 'DATA SET'
SUBJECT 'APF Change Event'
TO recipient@yourcompany.com
FROM sender@yourcompany.com
RPTHLQ   hlq.llq.$RPTHLQ
KEEPRPTS YES
BODYTEXT 'APF Change Event'
```

```
CMDNAME  NSIDAPF
JRNLPOST YES
ACTION .END

ACTION EVENTMSG(HZS0003E) METHOD(EMAIL) SCOPE(REPORT)
MATCHSTR 'NEWERA,NEZ_OPSYS'
SUBJECT 'PRODUCTION IPL CHANGE EVENT'
TO recipient@yourcompany.com
FROM sender@yourcompany.com
RPTHLQ   hlq.llq.$RPTHLQ
KEEPRPTS YES
BODYTEXT 'PRODUCTION IPL CHANGE EVENT'
CMDNAME  NSIDIPL
JRNLPOST YES
PRODS/PRIME 4084827430@VTEXT.COM,WTOR
PRODS/SNAPS WTOR
ALTER/PRIME WTOR
ALTER/SNAPS WTOR
PRODS/ALTER WTOR
TEXTANYCNGS WTOR
ACTION .END
```

21.9 NSEDETxx Configuration Statements

The optional Supplemental Detectors are designed to extend the scope of configuration change detection within the Integrity Controls Environment (ICE). Each Detector creates specific configuration baselines and subsequently, at a user defined interval, compares stored baselines with newly discovered configuration settings. Changes detected, if any, form the content of Change Reports. Change Reports may be optionally sent to a named list of recipients via email, (see NSEENSxx), and/or posted to the TCE Control Journals ensuring a permanent record of all detected changes, Reports and Notifications.

21.9.1 LAUNCHPROC

The *"LAUNCHPROC"* Keyword is used to identify, by name, a specific procedure, other than the default procedure IFODET that you have placed into the System Procedure Library and subsequently started.

This Keyword should be used when you intend to associate a uniquely named IFODET Procedure with a specific instance of IFOM.

```
LAUNCHPROC IFOxDET
```

21.9.2 DETECTOR ON|OFF

To activate a Detector it must be called by name and turned ON|OFF. For Example:

```
LOADLIBRARY ON
```

21.9.3 >>CYCLE

The CYCLE Keywords - HOURLY, DAILY and WEEKLY - are mutually exclusive. Only the last encountered for a named Detector Cycle will be used.

21.9.4 CYCLE - DAILY

The Cycle Keyword must be associated with each active Detector. For example, when the Detector is to CYCLE DAILY beginning at 01:15AM each 12 hours, two intervals.

```
LOADLIBRARY CYCLE(DAILY) TIME(01:15) INTERVAL(2)
```

21.9.5 CYCLE - WEEKLY

The Cycle Keyword must be associated with each active Detector. For example, when a detector is to CYCLE on a WEEKLY basis on Monday, Tuesday, Wednesday and Sunday at 12:47PM.

```
LOADLIBRARY CYCLE(WEEKLY(MON,TUE,WED,SUN)) TIME(12:47)
```

21.9.6 CYCLE - MONTHLY

The Cycle Keyword must be associated with each active Detector. For example, when the detector is to CYCLE at 12:46PM on a MONTHLY on the `2,20,30,15,22 and at the end of the month.`

21.9.7 NSEDETxx Partial - Model Member

```
LAUNCHPROC IFOxDET

LOADLIBRARY ON|OFF

LOADLIBRARY CYCLE(DAILY) TIME(18:00)
LOADLIBRARY CYCLE(WEEKLY(MON,TUE,FRI,SUN)) TIME(15:03)
LOADLIBRARY CYCLE(MONTHLY(EOM)) TIME(01:01)
LOADLIBRARY CYCLE(MONTHLY(DOM(2,20,30,15,22),EOM)) TIME(12:46)
```

21.9.8 NSEDETxx Complete - Model Member

An explanation of all Detector configuration parameters, Operational Keywords, Detector Identifiers, Sub-Keywords and Full Syntax can be found in the ICE Supplemental Detectors User Guide.

22 Appendix E – The Update Event Descriptor

To define a custom descriptor panel, first define the Category to which it will be bound. Next, use a copy of one of the example descriptor panels supplied in the HLQ.HLQ.SISPPENU install dataset. Select one that best fits your descriptor data entry requirements. Either DDE@PNL8 or DDE@PNL9 may be more appropriate for a specific need. DDE@PNL8 shows a basic ISPF data entry panel without a scrollable area definition; DDE@PNL9 shows a slightly more complex ISPF data entry panel that has a scrollable area definition.

22.1 DESCPNL Descriptor Panel Processing

Choose an appropriate name for a new panel member and copy the selected panel member example into this new panel member target. Modify the panel as required for the specific installation use.

The following ISPF panel sections are the ones processed specifically by The Control Editor DESCPNL processing:

```
- )ATTR
- )BODY
- )AREA
- )INIT
```

Other ISPF panel sections can be specified as necessary but will not be processed.

Once a panel member has been defined it must be stored in HLQ.HLQ.SISPPENU. This is required in order to make the panel accessible to TCE under either TSO/ISPF or ICE/ISPF.

22.1.1)ATTR Section

DESCPNL -)ATTR section processing will examine the specified panel's)ATTR section to determine the panel's active TYPE characters. It will also check for an AREA(SCRL) definition. DESCPNL processing supports one defined scrollable area.

Here is an example ISPF panel)ATTR section:

```
)ATTR
  \ TYPE(NEF) PAD(USER) CAPS(OFF)
 28 TYPE(NEF) CAPS(OFF) PADC(USER)
 31 AREA(SCRL) EXTEND(ON)
```

22.1.2)INIT Section

DESCPNL -)INIT section processing will examine the specified panel's)INIT section to determine the panel's active .ZVARS. If panel data entry will be used, the panel *must* contain an)INIT section and the)INIT section must contain a .ZVARS variable assignment statement. DESCPNL processing supports a maximum of 100 .ZVARS variables)

DESCPNL processing will do panel data value insertion only for panel)BODY Z variables. DESCPNL processing will consider a Z variable as any)ATTR section TYPE character followed immediately by the character 'Z' as a Z variable and will do data value insertion at that point.

Here is an example ISPF panel)INIT section:

```
)INIT
.ZVARS = '($TCEAV00 $TCEAV02 $TCEAV01 $TCEAV03 $TCEAV04 $TCEAV05 +
           $TCEAV06 $TCEAV07 $TCEAV08 $TCEAV09                  +
           $TCEAV10 $TCEAV11 $TCEAV12 $TCEAV13 $TCEAV14 $TCEAV15 +
           $TCEAV16 $TCEAV17 $TCEAV18 $TCEAV19                  )'
.CURSOR = $TCEAV00
```

22.1.3)BODY Section Processing

The purpose of using a DESCPNL definition is to permit more sophisticated panel data entry and data value syntax checking, but the data entry values in and of themselves would provide little meaning without the panel's static area data. The DESCPNL)BODY processing allows for the marriage of a panel's static data along with the variable data that is entered via the panel user.

DESCPNL -)BODY section processing will take each static panel data line and scan for)ATTR section defined TYPE characters. For every TYPE character detected, DESCPNL)BODY section processing will determine if it represents a Z variable data substitution point (TYPE character followed immediately by 'Z'). If a Z variable is detected, DESCPNL)BODY section processing will substitute the value of the appropriate .ZVARS variable. If the TYPE character is not a Z variable indicator, DESCPNL)BODY section processing will substitute a blank into the descriptor
record data.

DESCPNL -)BODY section processing will also support one scrollable area. If a TYPE character is detected that represents a scrollable area definition, DESCPNL)BODY section processing will insert the scrollable area (as defined by the)AREA ISPF panel section). Appropriate Z variable substitution will continue with the data contained in the scrollable area.

22.1.4)AREA Section Processing

DESCPNL)AREA section processing will examine the specified panel's)AREA section to determine if there is a defined scrollable area. If a scrollable area definition is detected, the scrollable area records are captured and saved to be used in DESCPNL)BODY section processing for scrollable area substitution.

22.2 DESCPNL Descriptor Control Card

DESCPNL definitions, as constructed in NSEJRNxx, will override the DLINES keyword if the member to be edited is defined in a category with a corresponding DESCPNL.

22.2.1 Required DESCPNL Parameters

To define a Panel Descriptor the NSEJRNxx Member DESCPNL Statement requires the naming of a Controlled Category and an ISPF Panel. These required parameters include:

22.2.1.1 CATEGORY|CAT(category-name)

Where 'category-name' is the Dataset Category name that is being included in this DESCPNL definition.

22.2.1.2 PANEL|PNL(panelnam)

Where 'panelnam' is the name of a full-size ISPF Panel member in the ISPPLIB datasets containing the ICE/ISPF and TSO/ISPF full panel definition.

22.2.1.3 POPUP|POP(panelnam)

Where 'panelnam' is the name of a Popup-size Panel member in the ISPPLIB datasets containing the ICE/ISPF and TSO/ISPF pop-up panel definition.

22.2.2 Optional DESCPNL Parameters

Optional DESCPNL parameters can be specified for any DESCPNL definition. These parameters include:

22.2.2.1 BYPASSCHAR|BPC(char)

Specified on the DESCPNL statement where 'char' represents the panel TYPE character that, if located in column 1 of a panel)BODY line, will cause that line to be eliminated from the Journal Entry Descriptor record.

22.2.2.2 CONF - YES|NO

Used to confirm or not the information entered by the user in the descriptor. The Default is ‘YES’ meaning that the confirmation pop-up is displayed. ‘NO’ will suppress the descriptor Pop-Up.

22.2.2.3 EDITORDR|EORDR|EO

Specified on the DESCPNL statement where valid values for 'option' are:

1 - MF (display the member data first)
2 - DF (display the descriptor data entry edit window prior to the member)

If not specified, the default will be MF.

22.2.2.4 ACTIVE(Starting:hhmm-Ending:hhmm)

Specified when a descriptor will be active where:

1 - 'Starting:hhmm' represents the start time that this descriptor panel will be active (in 'hhmm' format)
2 - 'Ending:hhmm' represents the end time that this descriptor panel will cease to be active.

If not specified, the descriptor remains active throughout the entire 24 hour day.

ACTIVE start and end times can span midnight. For example, ACTIVE(2200-0500) would indicate that this descriptor panel is active between 10:00 p.m. and 5:00 a.m.

22.3 DESCPNL – An Example

22.3.1 Control Card

```
DESCPNL CAT(SYSTEM.PARMLIB) PANEL(DDE@PNL1) BYPASSCHAR(!)
```

In this example the panel member, DDE@PNL1, must be stored in both HLQ.HLQ.SISPPENU. This is required in order to make the panel accessible to TCE under either TSO/ISPF or ICE/ISPF.

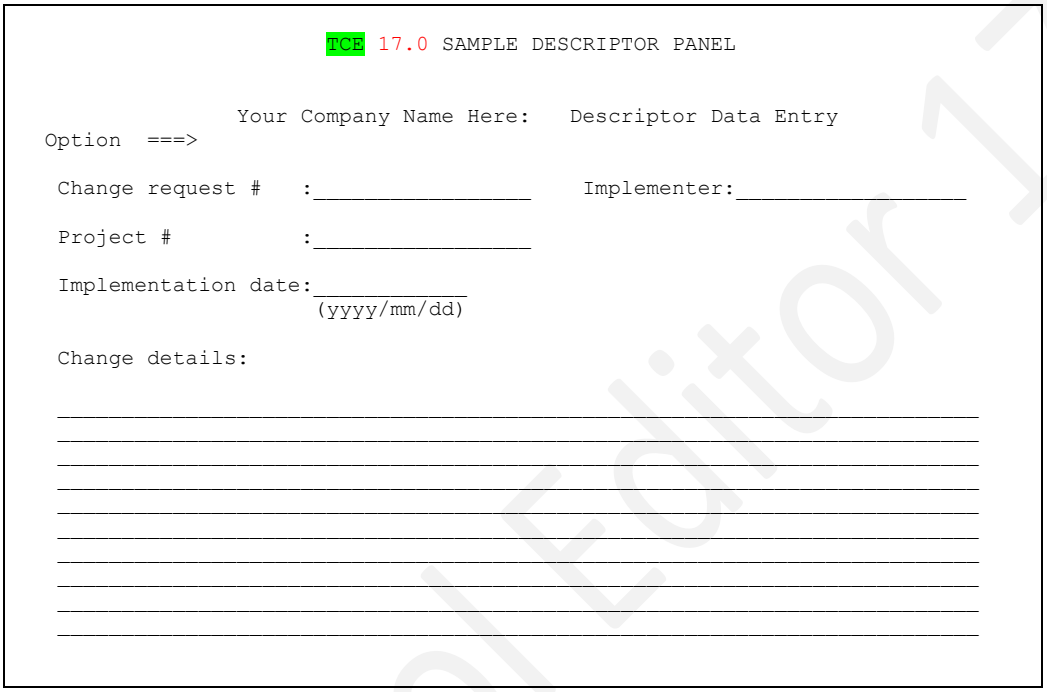
22.3.2 Full-Size ISPF Panel Definition

This Panel, member DDE@PNL7 is stored in hlq.llq.SISPPENU.

```
)ATTR
  ◊ TYPE(NEF) PAD(USER) CAPS(OFF)
  } TYPE(PT)
  { TYPE(NT)
  ^ TYPE(PIN)
  $ TYPE(SAC)
  ! TYPE(FP)
  \ TYPE(TEXT) INTENS(LOW) COLOR(GREEN) HILITE(REVERSE)
  ~ TYPE(TEXT) INTENS(LOW) COLOR(TURQ)
  õ TYPE(TEXT) INTENS(LOW) COLOR(RED)
 0A TYPE(NT)
 28 TYPE(NEF) CAPS(OFF) PADC(USER)
 31 AREA(SCRL) EXTEND(ON)
 32 TYPE(OUTPUT) INTENS(NON)
)BODY
!                     \TCEõ17.0~SAMPLE CUSTOM PANEL DESCRIPTOR
!
             %Your Company Name Here:   Descriptor Data Entry DDE@PNL7%
!Option  ===>◊ZCMD                                                          +
%
%  Change request #   :◊Z                 % Implementor:◊Z                 +
!
%  Project #          :◊Z                 +
!
%  Implementation date:◊Z         +
%                       (yyyy/mm/dd)
! TCEDSN                                        + TCEFUNC1 TCEFUNC2
! TCEMEM  + TCEVOL+ TCEUSR + TCESYS  + TCENEW  + TCEALT  +
! TCECAT         +
% Change details:
%
SCRLAREA ------------------------------------------------------------------
)AREA SCRLAREA DEPTH(3)
 Z
 Z
 Z
 Z
)INIT
.HELP = DDE@HLP7
.ZVARS = '($TCEAV00 $TCEAV02 $TCEAV01 $TCEAV03                   +
           $TCEAV04 $TCEAV05                                     +
           $TCEAV06 $TCEAV07 $TCEAV08 $TCEAV09             +
           $TCEAV10 $TCEAV11 $TCEAV12 $TCEAV13 $TCEAV14 $TCEAV15 +
           $TCEAV16 $TCEAV17 $TCEAV18 $TCEAV19              )'
VGET (TCEDSN TCEMEM TCEVOL TCEUSR TCESYS TCENEW TCEALT TCEFUNC1 TCEFUNC2)
.CURSOR = $TCEAV00
VER(&$TCEAV00,NUM)
)PROC
  &ZSEL = TRANS( TRUNC (&ZCMD,'.')
               X,'EXIT'
               ' ',' '
               *,'?' )
  &ZTRAIL = .TRAIL
  &CMD = TRUNC(&ZCMD,'.')
  VER(&$TCEAV00,NUM)
  VER(&$TCEAV01,NUM)
  VER(&$TCEAV03,STDDATE)
  IF (VER(&$TCEAV00,NUM))
  ELSE
    &$TCEAV00 = ' '
    REFRESH($TCEAV00)
  VPUT ($TCEAV00 $TCEAV01 $TCEAV02 $TCEAV03 $TCEAV04 $TCEAV05) PROFILE
  VPUT ($TCEAV06 $TCEAV07 $TCEAV08 $TCEAV09 $TCEAV10 $TCEAV11) PROFILE
  VPUT ($TCEAV12 $TCEAV13 $TCEAV14 $TCEAV15 $TCEAV16 $TCEAV17) PROFILE
  VPUT ($TCEAV18 $TCEAV19) PROFILE
  *REXX(*,(SAMRXPNL))
  .RESP=ENTER
)END
```

22.3.3 ISPF Full Panel - Displayed

The descriptor associated with the Descriptor Category, SYSTEM.PARMLIB as defined to ISPF as a full panel is shown below:



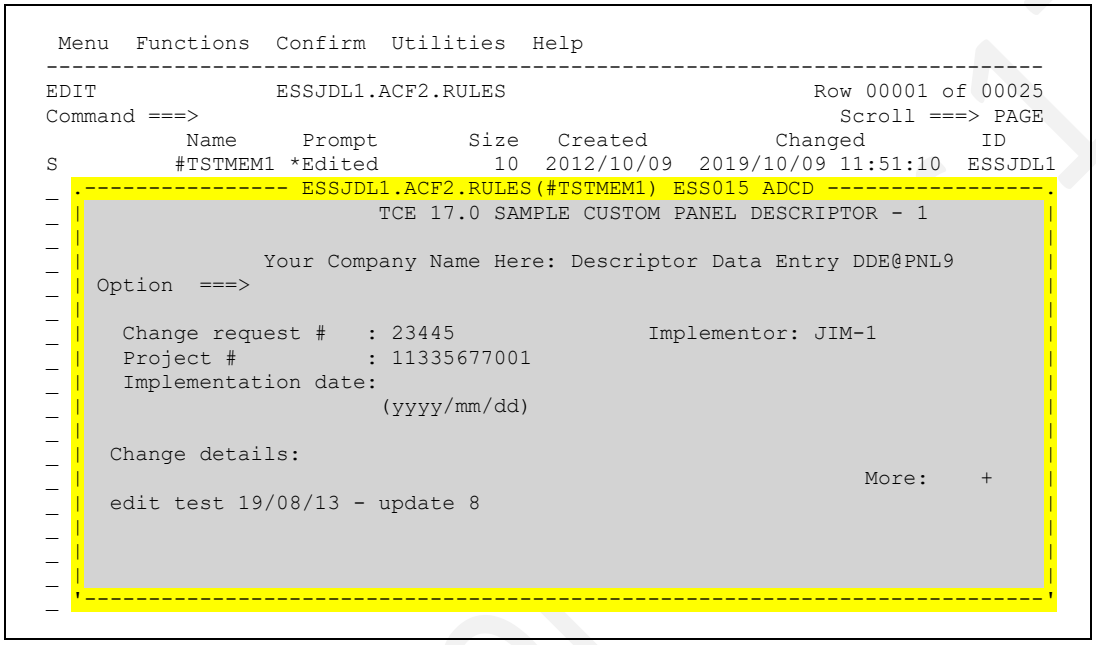
22.3.4 Pop-Up ISPF Panel Definition

This Panel, member DDE@PNL7 is stored in hlq.llq.SISPPENU.

```
)ATTR
  ◊ TYPE(NEF) PAD(USER) CAPS(OFF)
  } TYPE(PT)
  { TYPE(NT)
  ^ TYPE(PIN)
  $ TYPE(SAC)
  ! TYPE(FP)
  \ TYPE(TEXT) INTENS(LOW) COLOR(GREEN) HILITE(REVERSE)
  ~ TYPE(TEXT) INTENS(LOW) COLOR(TURQ)
  õ TYPE(TEXT) INTENS(LOW) COLOR(RED)
 0A TYPE(NT)
 28 TYPE(NEF) CAPS(OFF) PADC(USER)
 31 AREA(SCRL) EXTEND(ON)
 32 TYPE(OUTPUT) INTENS(NON)
)BODY (WINDOW 60,20) <-WINDOW size definition must be consistend with panel size.
!                     \TCEõ17.0~SAMPLE CUSTOM PANEL DESCRIPTOR
!
             %Your Company Name Here:   Descriptor Data Entry DDE@PNL7%
!Option  ===>◊ZCMD                                                          +
%
%  Change request #    :◊Z                 % Implementor:◊Z                 +
!
%  Project #           :◊Z                 +
!
%  Implementation date:◊Z         +
%                       (yyyy/mm/dd)
! TCEDSN                                        + TCEFUNC1 TCEFUNC2
! TCEMEM  + TCEVOL+ TCEUSR + TCESYS  + TCENEW  + TCEALT  +
! TCECAT         +
% Change details:
%
SCRLAREA ------------------------------------------------------------------
)AREA SCRLAREA DEPTH(3)
 Z
 Z
 Z
 Z
)INIT
.HELP = DDE@HLP7
.ZVARS = '($TCEAV00 $TCEAV02 $TCEAV01 $TCEAV03                   +
           $TCEAV04 $TCEAV05                                     +
           $TCEAV06 $TCEAV07 $TCEAV08 $TCEAV09             +
           $TCEAV10 $TCEAV11 $TCEAV12 $TCEAV13 $TCEAV14 $TCEAV15 +
           $TCEAV16 $TCEAV17 $TCEAV18 $TCEAV19              )'
VGET (TCEDSN TCEMEM TCEVOL TCEUSR TCESYS TCENEW TCEALT TCEFUNC1 TCEFUNC2)
.CURSOR = $TCEAV00
VER(&$TCEAV00,NUM)
)PROC
  &ZSEL = TRANS( TRUNC (&ZCMD,'.')
               X,'EXIT'
               ' ',' '
               *,'?' )
  &ZTRAIL = .TRAIL
  &CMD = TRUNC(&ZCMD,'.')
  VER(&$TCEAV00,NUM)
  VER(&$TCEAV01,NUM)
  VER(&$TCEAV03,STDDATE)
  IF (VER(&$TCEAV00,NUM))
  ELSE
    &$TCEAV00 = ' '
    REFRESH($TCEAV00)
  VPUT ($TCEAV00 $TCEAV01 $TCEAV02 $TCEAV03 $TCEAV04 $TCEAV05) PROFILE
  VPUT ($TCEAV06 $TCEAV07 $TCEAV08 $TCEAV09 $TCEAV10 $TCEAV11) PROFILE
  VPUT ($TCEAV12 $TCEAV13 $TCEAV14 $TCEAV15 $TCEAV16 $TCEAV17) PROFILE
  VPUT ($TCEAV18 $TCEAV19) PROFILE
  *REXX(*,(SAMRXPNL))
  .RESP=ENTER
)END
```

22.3.5 ISPF Pop-Up - Displayed

In the sample shown below the Pop-Up is overlaying the 3.4 Member Select Panel from which the #TSTMEM1 member was selected. The Pop-Up is outlined in yellow, a user preference. Note that in the upper border of the Pop-Up the identity of the edit source; Dataset, Member, Volume and System are displayed.



22.3.6 Sample Rexx Program using TCE Variables

A sample Rexx Exec, member SAMRXPNL, is stored in HLQ.HLQ.SISPCLB2 as an example of panel value extraction.

```
/***REXX***/
  say'.hello'
  say'.'TCEDSN
  say'.'TCEFUNC1
  say'.'TCEFUNC2
  say'.'TCEMEM
  say'.'TCEVOL
  say'.'TCEUSR
  say'.'TCESYS
  say'.'TCENEW
  say'.'TCEALT
  say'.'TCECAT
EXIT
```

22.4 Direct Calls to ICE

The following API calls are made by Rexx application running within the Integrity Controls Environment (ICE) or from a batch Rexx application where initiating JCL contains the following STEPLIB Control Card where IFODSN is equal to the fully qualified name of the ICE Control Dataset.

```
//STEPLIB   DD DSN='IFODSN'.LOAD,DISP=SHR
```

22.4.1 NEZCHKT

```
ADDRESS TSO ; "NEZCHKT 1"  ; /* Returns Active IFOM */
```

The purpose of NEZCHKT 1 is to return, as the value of the variable SSNM, the name of the active IFOM Journal Address Space. Always remember to use "NEZCHKT 0" to terminate/close the service before exiting your subroutine or application.

22.4.2 NSISJCU

```
ADDRESS TSO  ;  "NSISJCU"
```

The purpose of NSISJCU is to update the Control Journals with any discovered Detected Changes to the Controlled Datasets. A Detected Change is a change that is caused by a process that is outside the scope of the Control Editor.

The following Rexx code snippet can be used to evaluate the Return Code (RC) NSISJCU returns to the calling program where the resulting value of the variable DCNGS is equal to the number of changes detected.

```
ADDRESS TSO
"NEZCHKT 1"
"NSISJCU"

IF RC = 0 THEN
   DCNGS = 'None'
ELSE
  DO
    IF RC > 256 THEN
      DCNGS = RC - 256
    ELSE
      DCNGS = 'Failed'
  END

ADDRESS TSO
"NEZCHKT 0"
```

22.4.3 NSIRQJR

```
ARC = NSIRQJR(0,'D','A')
```

The purpose of NSIRQJR is to return three arrays containing information directly related to the status of Control Journals. The arrays are:

IFO_JRN_DSNAME.0		Contains the name of a Control Journal Dataset,
IFO_JRN_JRSTAT.0		Contains the Status Code of a Journal Datasets IF 'O' THEN ; JRLStat = 'ACTIVE' IF 'C' THEN ; JRLStat = 'CLOSED' IF 'B' THEN ; JRLStat = 'BACKUP' IF 'N' THEN ; JRLStat = 'INVALD'
IFO_JRN_JRENTR.0		Contains the number of entries in a Journal Dataset.

The REXX sample program TCEJRLS illustrates how to call and display data provided by this function.

22.4.4 NSIRQDS

```
ARC = NSIRQDS(0,'A',IFO_JRN_DSNAME.XY)
```

The purpose of NSIRQDS is to return arrays that containing META information about each Event Transaction contained within a named Journal Dataset. The arrays are:

IFO_JRN_APDATA.0		A POSITIONAL STRING of Event Specific META Data DSNName = 1 / CNGStat = 7 VOLName = 2 / MBRttrs = 8 USERtso = 3 / VERMods = 9 PLXName = 4 / INILine = 10 SYSName = 5 / CREDate = 11 IMAName = 6 / MODLine = 12
IFO_JRN_JRTYPE.0		Contains the TYPE of Journal Datasets IF 'O' THEN ; JRLType = 'ACTIVE' IF 'C' THEN ; JRLType = 'CLOSED' IF 'B' THEN ; JRLType = 'BACKUP' IF 'N' THEN ; JRLType = 'INVALD'
IFO_JRN_JRCATN.0		Contains the Journal Dataset CATEGORY Name
IFO_JRN_JREFLAG.0		Contains a two character EVENT Type Flag Character 1: S = SAVED / Character 2: B = BCKUP

		B = FIRST / E = CEDIT D = AUDIT / R = RSTOR A = ATMPT / D = DELET M = OTHER / O = RNOLD N = RNNEW S = SBMIT F = DTCNG C = ADDED G = AUDIT P = REPLC X = CANCL B = HBEAT A = CEACT When Used with "M" 1 = RACFS 2 = SETCM 3 = MODCM 4 = VARCM 5 = MISCM B = BCAST D = DDSET E = EMAIL L = DBUGS Optional Detector Event Type Flag Determination IF JRLCats = 'ISN.CSD.NSIMLOD' THEN JRLFone = 'DETER' ; JRLFtwo = 'DTLOD' IF JRLCats = 'TCE.DET.NSIMLOD' THEN JRLFone = 'DETER' ; JRLFtwo = 'DTLOD' IF JRLCats = 'ISN.CSD.NSIMIOD' THEN JRLFone = 'DETER' ; JRLFtwo = 'DTIOD' IF JRLCats = 'TCE.DET.NSIMIOD' THEN JRLFone = 'DETER' ; JRLFtwo = 'DTIOD' IF JRLCats = 'ISN.CSD.NSIMCHK' THEN JRLFone = 'DETER' ; JRLFtwo = 'DTCHK' IF JRLCats = 'TCE.DET.NSIMCHK' THEN JRLFone = 'DETER' ; JRLFtwo = 'DTCHK'
IFO_JRN_CNGD		Contains a control member's change date
IFO_JRN_CNGT		Contains a control member's change time
IFO_JRN_WRTD		Contains the actual date event written to Journal
IFO_JRN_WRTT		Contains the actual time event written to Journal
IFO_JRN_JRRSLT		Contains the Journal process results flag IF 'SUCCESS' THEN EVENT PROCESSED SUCCESSFULLY ELSE EVENT PROCESS FAILED
IFO_JRN_JRMEMB		Contains the name of the affected member
IFO_JRN_JRRTKN		Contains Event entry location boundary in Journal POSITION 1-4 = START OF BOUNDARY POSITION 5-8 = END OF BOUNDARY
IFO_JRN_JRRECS		Contains number of records in stored member

IFO_JRN_JRRDRC		Contains number of records in stored descriptor

The REXX sample program TCERECS illustrates how to call and display data provided by this function.

22.4.5 NSISJRC

```
TKN1 = IFO_JRN_JRRTKN.xx
RECS1= IFO_JRN_JRRECS.xx,
       + IFO_JRN_JRRDRC.xx

DRC1 = STRIP(IFO_JRN_JRRDRC.xx)
FSZ1 = STRIP(IFO_JRN_JRRFSZ.xx)
RFC1 = STRIP(IFO_JRN_JRRRFC.xx)
LRL1 = STRIP(IFO_JRN_JRRLRL.xx,'L',0)ADDRESS TSO

"ALLOC DD(OLDDD) REU",
"SPA(4 4) CYL LRECL("LRL1")",
"RECFM("RFC1") BLKSIZE(0)"

CTKN1 = C2D(SUBSTR(TKN1,1,4))
CTKN2 = C2D(SUBSTR(TKN1,5,4))

"NSISJRC TOKEN("CTKN1 CTKN2")",
"MEMBER("RMEM")",
"RECORDS("RECS1")",
"FLSZ("FSZ1")",
"DRECS("DRC1")",
"DDNAME(OLDDD)"

"EXECIO * DISKR OLDDD (FINIS STEM MBRRECS."
```

The purpose of NSISJRC is to return an array (MBRRECS.) containing DETAIL information about a specific Event Transaction within a named Journal Dataset where:

- CTK1 = The START of the records boundary
- CTK2 = The END of the records boundary
- RECS = The Number of records within the boundary

The array contains change event detail as described below:

- An Edit Event results in the capture of:
  - Event Header
  - Event Descriptor
  - Update member

- A Command Event results in the capture of:

- Event Header
- Up to 20 associated records from system log

The REXX sample program TCEDETL illustrates how to call and display data provided by this function.

22.5 Rexx API Samples

The Rexx application sample programs – TCEJRLS, TCERECS and TCEDETL demonstrate how the API Calls can be used to access Journaled event information. The function and output of these programs is described below. Executable copies of these programs can be found in hlq.llq.SISPCLIB.

22.5.1 TCEJRLS

The REXX program TCEJRLS is designed to provide a POSITIONAL List of each accessible Control Journal dataset.

Fields within each record are:

- Dataset Name,
- Operational Status and
- Event Member Count

A sample of program output is shown below.

```
...TCEJRLS = LIST ALL CONTROL JOURNAL DATASETS
...
.1.journal_dataset_name
.2.operational_status
.3.event_member_count
...
...IFO.IFOP.JOURNAL.D2019107.T0829067,ACTIVE,0061
...IFO.IFOP.JOURNAL.D2019100.T1840054,CLOSED,0090
...IFO.IFOP.JOURNAL.D2019098.T2217116,CLOSED,0090
...IFO.IFOP.JOURNAL.D2019094.T0100001,CLOSED,0090
...IFO.IFOP.JOURNAL.D2019091.T1502029,CLOSED,0090
...IFO.IFOP.JOURNAL.D2019089.T2051141,CLOSED,0007
...IFO.IFOP.JOURNAL.D2019082.T2100007,CLOSED,0090
...IFO.IFOP.JOURNAL.D2019070.T1810445,CLOSED,0090
...IFO.IFOP.JOURNAL.D2019070.T1810428,CLOSED,0090
```

Control Journal Status will be one of the following:

- ACTIVE = The Journal is OPEN and recording Change Events.

- CLOSED = The Journal is CLOSED and no longer recording Change Events.
- BACKUP = The Journal was used specifically to house control dataset backups.

22.5.2 TCERECS

The REXX program TCERECS is designed to list the content of all META Records within a Control Journal. The sample will list only ACTIVE JOURNAL records. Remove the conditional execution logic to list all records or filter, as needed, for a specific application.

Primary Meta Fields within each record are:

1. Record Number
2. Image FOCUS high level qualifier(s),
3. The Control Editor Configuration Member Suffix,
4. The Control List Member Suffix,
5. The Journal Dataset Name containing the event entry,
6. The status of the Journal Dataset – (ACTIVE, CLOSED, BACKUP),
7. The number of records associated with the event entry,
8. The Journal Dataset Type – (ACTIVE,INACTIVE),
9. The Control Dataset Category,====..==.
10. Primary Event Classification – (SAVE,FIRST,AUDIT,ATMPT,OTHER),
11. Secondary Event Classification – (See Detail Below),
12. Date of the Change Event,
13. Time of the Change Event,
14. Event processing results – (PASS,FAIL),
15. Event Member or Command,
16. Start of the event detail records,
17. End of the event detail records,
18. Event detail (Member) record count,
19. Event detail (Descriptor) record count,
20. Name of associated Control Dataset,
21. VOLSER associated with Control Dataset,
22. UserID, Console or Process associated with Event,
23. Associated Sysplex Name,
24. Associated System Name,
25. Associated Image Name,
26. Event record update status (SAVED,FAILED),
27. Event member version,
28. Event member initial records,
29. Event member creation date,
30. Event member modified lines,
31. Journal Dataset Volume(Reserved)

Extended Meta Fields in NSIMCEW Records Only

32. Date of Event Class Update

33. Date Format
34. Time of Event Class Update
35. Time Format
36. Event Class Name
37. Reporting Period
38. Total Events in Period

Secondary Event Classification:

BCKUP	CEDIT	RSTOR	DELET	RNOLD
RNNEW	SBMIT	DTCNG	ADDED	AUDIT
RACFS	SETCM	MODCM	VARCM	

A sample output from TCERECS is shown below.

```
   ...TCERECS = LIST THE CONTENT OF ALL TCE META RECORDS
   ...
   .1.image_focus_high_level_qualifier
   .2.configuration_member_suffix
   .3.control_list_suffix
   .4.journal_dataset_name
   .5.journal_dataset_status
   .6.event_member_count
   .7.control_journal_type
   .8.control_dataset_catagory
   .9.primary_event_classification
   10.secondary_event_classification
   11.event_date
   12.event_time
   13.event_process_result
   14.event_member
   15.start_of_event_record
   16.end_of_event_record
   17.event_record_count
   18.event_descriptor_count
   19.control_dataset_name
   20.control_dataset_volser
   21.associated_userid
   22.associated_sysplex_name
   23.associated_system_name
   24.associated_image_name
   25.event_transaction_status
   26.event_member_version
   27.event_initial_line
   28.event_create_date
   29.event_modified_lines
   ...

IFO.IFOP,00,00,IFO.IFOP.JOURNAL.D2019112.T2157054,ACTIVE,
0001,ACTIVE,PAULS.DATASETS,SAVED,CEDIT,04/22/2016,16:57:05,
PASS,ANTXIN00,419472960,0,0000014,00000
12,PROBI1.SYS1.PARMLIB,VPWRKI,PROBI1,SVSCPLEX,S0W1,N/A,
SAVED,01.00,000014,04/19/2007,000001
```

22.5.3 TCEDETL

The REXX program TCEDETL is designed to list the detail captured during a change event thus enhancing the summary information stored in the META Record. The sample will list up to ten ACTIVE records. Remove the conditional execution logic to list all records or filter as needed for a specific application.

Captured detail varies depending on the type of change events as described below:

- An Edit Event results in the capture of:
  - Event Header/Identifier
  - Event Descriptor/Body
  - Update Member/Report

- A Command Event results in the capture of:
  - Event Header/Identity
  - Up to 20 associated records from system log, the Report

A sample output from TCEDTL is shown below:

```
...01C|--------------------------THE CONTROL EDITOR-------------------- Edit -
...02C|SYSPLX:SVSCPLEX SYSNM:S0W1    USRID:PROBI1  TIME:15:14:31 DATE:09/20/10
...03C|-DSN: PROBI1.IFO80DR.PARMLIB(ANTXIN00)----------------------VOL: PROBI1-

...04T|#1-CHANGE AUTHORITY
...05D|                      As per planning meeting 04/04/2016.
...06T|#2-CHANGE DESCRIPTION
...07D|                      Change will update member as authorized.
...08D|
...09T|#3-CHANGE IMPACT
...10D|                      No adverse impact is expected to result.
...11D|
...12D|

.../*                                                                */ 00050000
.../*                  ANTXIN00                                      */ 00100000
.../*                                                                */ 00150000
.../*  This is an initialization parmlib member for DFSMS/MVS System  */ 00200000
.../*  Data Mover.  It resides in SYS1.PARMLIB.  The syntax of the    */ 00250000
.../*  parameters is found in DFSMS ADVANCED COPY SERVICES, SC35-0428.*/ 00300000
.../*                                                                */ 00350000
.../*  Change Activity:                                              */ 00400000
.../*                                                                */ 00450000
.../*  $L0=OW52938,HDZ11D0,011225,TUCRNC: Initial release           */ 00500000
.../*                                                                */ 00550000
...NAMES -                                                             00600000
...       Hlq(SYS1)  /* High level qualifier for XRC data sets */ -     00650000
...       MHlq(SYS1) /* High level qualifier for XRC master data set */  00700000
```

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Contact us for additional information:

NewEra Software Technical Support

800-421-5035 or 408-520-7100
Or text support requests to 669-888-5061

support@newera.com

www.newera.com