software AG

Natural Engineer

Messages and Codes

Version 8.3

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ADABAS & NATURAL

Acknowledgements

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ABOUT THIS MANUAL

Purpose of this manual

This manual contains the Messages and Codes used in Natural Engineer.

Target Audience

The target audience for this manual is intended to be any User of Natural Engineer at any level of experience.

Typographical Conventions used in this manual

The following conventions are used throughout this manual:

UPPERCASE TIMES	Commands, statements, names of programs and utilities referred to in text paragraphs appear in normal (Times) uppercase.
`UPPERCASE BOLD COURIER`	In illustrations or examples of commands, items in uppercase bold courier must be typed in as they appear.
< >	Items in angled brackets are placeholders for user-supplied information. For example, if asked to enter <file number>, you must type the number of the required file.
<u>Underlined</u>	Underlined parts of text are hyperlinks to other parts within the online source manual. This manual was written in MS-Word 97 using the "hyperlink" feature.

The following symbols are used for instructions:

$\Rightarrow$	Marks the beginning of an instruction set.
o	Indicates that the instruction set consists of a single step.
1.	Indicates the first of a number of steps.

How this manual is organized

This manual is organized to reflect all the messages and codes used in Natural Engineer in the following chapters:

Chapter	Contents
1	Contains descriptions for all the messages and codes produced by the Natural Engineer Extract process.
2	Contains descriptions for all the messages and codes produced by the Natural Engineer Load process.

Terminology

This section offers some of the terms that are specific to the Natural Engineer product.

Note: Familiarity is assumed with the general terminology of Natural, Adabas, Microsoft and Mainframe operating systems.

Analysis

The Analysis process of Natural Engineer searches application data within the Natural Engineer Repository, according to specified Search Criteria and generates reports on the search results.

Application

An Application is a library or group of related libraries, which define a complete Application. In Natural Engineer, the Application can have a one-to-one relationship with a single library of the same name, or a library of a different name, as well as related steplibs. The Application refers to all the source code from these libraries, which Natural Engineer loads into the Repository.

Browser

An Internet Browser such as Microsoft Internet Explorer or Netscape.

Category

Categories in Natural Engineer specify whether and how a Modification is applied to the Natural code. Valid categories are: Automatic change, Manual change, Reject the default Modification, No change to the data item, and the data item is in Generated Code.

A category is further broken down according to type of change (for example: Keyword, Literal, Data Item, Database Access, Definition).

Cobol

Abbreviation of Common Business Orientated Language. A programming language.

Cobol Link

A Cobol Link is the link between the individual Cobol modules and the executable Cobol program referenced in the JCL object.

Consistency

An option in the Analysis process that causes Natural Engineer to trace an Impact through the code, using left and right argument resolution to identify further code impacted by the code found.

Database Access Definition

A collective term used to identify DDMs, SQL Tables or Predict User Views.

Data Item

A collective term used for any data fields within a programming object. These can be user-defined variables, DDM fields or System Variables. It is inter-changeable with the term 'variable'.

Environment

The Environment process is the means by which Natural Engineer generates a structured view of the application code in the Natural Engineer Repository. This provides application analysis reports and inventory information on the application and is used as the basis for Impact Analysis.

Exception

An Exception is an Item identified as impacted that does not require a Modification. Where there are a few similar Exception Items, they can be treated as Exceptions, and rejected in the Modification review process. Where there are many similar (therefore not Exceptions), consideration should be given to changing the Search Criteria so they are not identified as impacted in the first place.

Generated Code

This is code which has been generated by a Natural code generator, such as Construct, and which is not normally modified directly in the Natural editor.

Impact

An Impact is an instance of a Natural code Item; e.g., data item or statement (a "hit" scored by the Analysis process) that matches the defined Search Criteria used in the Analysis process.

Iteration

An Iteration is one examination cycle of a field identified according to the specified Search Criteria. For example, one Iteration is reading the field right to left. Multiple Iterations are performed when the option of 'Consistency' or Multi Search is requested for Analysis, and Natural Engineer performs as many Iterations as necessary to exhaust all possibilities of expressing and tracing the field, and can be limited by a setting in the NATENG.INI file.

JCL

Job Control Language.

JCL object

A JCL object is a collection of Job Control statements in the order which they are to be executed in a mainframe batch environment. Commonly referred to as JCL.

Library

A single library of source code, which exists in the Natural system file.

Modification

A Modification is a change suggested or made to an object or data item resulting in the required compliance of that object or data item. Modifications in Natural Engineer are classified according to Category and Type.

Natural Engineer Messages and Codes

Refactoring

Improving a computer program by reorganizing its internal structure without altering its external behavior.

Soft Link

A Soft Link is where a link between two objects has been defined using an alphanumeric variable rather than a literal constant.

TLM

Text Logic Members are used to contain the code required to support inclusion of common code into the application. An example of this is the code to include into an application before updating a database.

Type

The Type of Modification available, for example: Data Item, Keyword and Literal.

Variable

A collective term used for any data fields within a programming object. These can be user-defined variables, DDM fields or System Variables. It is inter-changeable with the term 'data item'.

Related Literature

The complete set of Natural Engineer manuals consists of:

1   Natural Engineer Concepts and Facilities (NEE83-006ALL)

The Concepts and Facilities manual describes the many application systems problems and solutions offered by Natural Engineer, providing some guidelines and usage that can be applied to Natural applications.

2   Natural Engineer Release Notes (NEE83-008ALL)

The Release Notes describe all the information relating to the new features, upgrades to existing functions and documentation updates that have been applied to Natural Engineer.

3   Natural Engineer Installation Guide for Windows (NEE83-010WIN)
Natural Engineer Installation Guide for Mainframes(NEE83-010MFR)
Natural Engineer Installation Guide for Unix (NEE83-010UNX)

The Installation Guide provides information on how to install Natural Engineer on PC, Unix and mainframe platforms.

4   Natural Engineer Administration Guide (NEE83-040WIN)
Natural Engineer Administration Guide (NEE83-040MFR)

The Administration Guide provides information on all the various control settings available to control the usage of the different functions within Natural Engineer.

5   Natural Engineer Application Management (NEE83-020WIN)
Natural Engineer Application Management (NEE83-020MFR)

The Application Management manual describes all the functions required to add Natural applications into the Repository.

6   Natural Engineer Application Documentation (NEE83-022WIN)
Natural Engineer Application Documentation (NEE83-022MFR)

The Application Documentation manual describes all the available functions to document a Natural application within the Repository. These functions will help enhance / supplement any existing systems documentation such as BSD / CSD / Specifications etc.

7   Natural Engineer Application Analysis and Modification (NEE83-023WIN)
Natural Engineer Application Analysis and Modification (NEE83-023MFR)

The Application Analysis and Modification manual describes all the available functions to carry out analysis of Natural applications; including basic keyword searches. The modification process is described and detailed to show how it can be applied to modify single selected objects within a Natural application, or the entire Natural application in one single execution.

8 **Natural Engineer Application Restructuring (NEE83-024WIN)**
Natural Engineer Application Restructuring (NEE83-024MFR)

The Application Restructuring manual describes the analysis and modification functionality required to carryout some of the more sophisticated functions such as Object Builder.

9 **Natural Engineer Utilities (NEE83-080WIN)**
Natural Engineer Utilities (NEE83-080MFR)

The Utilities manual describes all the available utilities found within Natural Engineer and, when and how they should be used.

10 **Natural Engineer Reporting (NEE83-025ALL)**

The Reporting manual describes each of the reports available in detail, providing report layouts, how to trigger the report and when the report data becomes available. The various report-producing mediums within Natural Engineer are also described.

11 **Natural Engineer Batch Processing [Mainframes] (NEE83-026MFR)**

The Batch Processing manual describes the various batch jobs (JCL) and their functionality.

12 **Natural Engineer Messages and Codes (NEE83-060ALL)**

The Messages and Codes manual describes the various messages and codes produced by Natural Engineer.

13 **Natural Engineer Web Interface Installation and Configuration Guide(NEA83-010ALL)**

The Web Interface Installation and Configuration Guide provides information on how to install and configure the Natural Engineer Web Interface.

14 **Natural Engineer Advanced Services (NEE83-017WIN)**

The Advanced Services manual describes various advanced options such as the Refactoring of Natural application source code with Natural Engineer, conversion of applications for Natural for Ajax and Business Rule processing.

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EXTRACT MESSAGES AND CODES

Chapter Overview

This chapter describes the messages and codes that are produced for errors during execution of the Natural Engineer Extract process.

Each message and code available is listed along with an explanation text to describe the nature of the error and the recommended course of action to resolve the error.

The messages use the following format:

NEE1nnn 'message-text'
where:
NEE1   standard Extract error code prefix.
nnn   unique sequential number assigned for each message.
'message-text'   describes the error.

Extract Messages and Codes

The Extract process messages and codes can be located in the EEX file (Error Extract file).

Windows

The file naming convention is 'aaaaaaaa.EEX', where 'aaaaaaaa' is the application name being used.

It is located in the DATA directory of the Natural Engineer installation.

z/OS

The file naming convention is 'NATENG.aaaaaaaa.EEX.DATAF', where 'aaaaaaaa' is the application name being used.

It will be located on the DASD volume used by the JCL.

z/VSE

The file naming convention is 'NATENG.aaaaaaaa.EEX.DATAF', where 'aaaaaaaa' is the application name being used.

It will be located on the DASD volume used by the JCL.

BS2000

The file naming convention is 'NATENG.EXTRACT.aaaaaaaa.EEX', where 'aaaaaaaa' is the application name being used.

It will be located on the DASD volume used by the JCL.

Extract Messages and Codes

NEE1001 Error' *ERROR-NR '- Missing DLLs/External programs

Explanation: Natural Engineer cannot access NATTABLE.DLL.

Action: Ensure NATTABLE.DLL is present in the BIN directory of Natural and that NATTABLE is specified as a NATUSER variable to Natural.

NEE1002 ELEMENT ALLOCATION FAILED

Explanation: Natural Engineer cannot allocate enough memory for the ELETAB parameter in the [EXTRACT] section of the NATENG.INI file.

Action: Review Initialization settings in the NATENG.INI file.

NEE1003 VARIABLE ALLOCATION FAILED

Explanation: Natural Engineer cannot allocate enough memory for the VARTAB parameter in the [EXTRACT] section of the NATENG.INI file.

Action: Review Initialization settings in the NATENG.INI file.

NEE1004 GLOBAL DDM ALLOCATION FAILED

Explanation: Natural Engineer cannot allocate enough memory for the GBLDDM-TAB parameter in the [EXTRACT] section of the NATENG.INI file.

Action: Review Initialization settings in the NATENG.INI file.

NEE1005 OBJECT ALLOCATION FAILED

Explanation: Natural Engineer cannot allocate enough memory for the REFTAB parameter in the [EXTRACT] section of the NATENG.INI file.

Action: Review Initialization settings in the NATENG.INI file.

NEE1006 PERFORM PTABLE ALLOCATION FAILED

Explanation: Natural Engineer cannot allocate enough memory for the PERF-PTAB parameter in the [EXTRACT] section of the NATENG.INI file. This parameter controls the maximum amount of PERFORM statements within one object.

Action: Review Initialization settings in the NATENG.INI file.

NEE1007 PERFORM DTABLE ALLOCATION FAILED

Explanation: Natural Engineer cannot allocate enough memory for the PERF-DTAB parameter in the [EXTRACT] section of the NATENG.INI file. This parameter controls the maximum amount of DEFINE SUBROUTINE statements within one object.

Action: Review Initialization settings in the NATENG.INI file.

NEE1008 NO OBJECTS TO RESYNCHRONIZE

Explanation: Synchronization has been selected in the Extract and Load Selection Criteria but no objects match the synchronization parameters specified.

Action: Check that the synchronization parameters are as you would expect. If they are then no objects match the parameters you have specified.

NEE1009 NO VALID INPUT PARAMETERS

Explanation: Natural Engineer cannot find any valid objects to extract.

Action: Check the Extract and Load Selection Criteria to ensure that the objects
                specified to extract are correct. Alternatively the Natural Engineer application
                may not be pointing to a valid Natural library.

**NEE1010 OBJECT TABLE FULL: INCREASE OBJTAB INITIALISATION
PARAMETER**

Explanation: The Object Table is full. This contains the amount of unique object names to
                be extracted from a base library.

Action: Increase OBJTAB parameter in the [EXTRACT] section of the NATENG.INI
                file. Re-run Extract for the object in error.

NEE1011 STEPLIB ALLOCATION FAILED

Explanation: Natural Engineer cannot allocate enough memory for the STEPTAB
                parameter in the [EXTRACT] section of the NATENG.INI file.

Action: Review Initialization settings in the NATENG.INI file.

NEE1012 Max DDMs per Application has been reached

Explanation: The maximum amount of unique DDM names that can be extracted at one
                time for an application has been exceeded.

Action: Increase the GBLDDM-TAB parameter in the [EXTRACT] section of the
                NATENG.INI file. Re-run Extract.

NEE1013 OBJECT DOES NOT EXIST

Explanation:	The object that has been specified to extract does not exist on the Natural Library.
Action:	Check the Extract and Load Selection Criteria to ensure that the objects specified to extract are correct.

NEE1014 RECURSIVE INCLUDE/COPYCODE

Explanation:	Natural Engineer has detected a recursive INCLUDE or COPYCODE situation.
Action:	Remove the object from the Natural Library and re-extract.

NEE1015 REJECTED - CANNOT BE PROCESSED

Explanation:	Natural Engineer can not process this object. It may not be a valid Natural object.
Action:	Remove the object from the Natural Library and re-extract.

NEE1016 ELEMENT TABLE FULL: INCREASE ELETAB INITIALISATION PARAMETER

Explanation:	The maximum amount of element names for an object has been exceeded.
Action:	Increase the ELETAB parameter in the [EXTRACT] section of the NATENG.INI file. Re-run Extract for the object in error.

NEE1017 NO SUCH OBJECT EXISTS IN DIRECTORY

Explanation: The object that has been specified to extract does not exist on the Natural Library.

Action: Check the Extract and Load Selection Criteria to ensure that the objects specified to extract are correct.

NEE1018 STEPLIB TABLE FULL: INCREASE STEPTAB INITIALISATION PARAMETER

Explanation: The maximum amount of unique objects from a steplib has been exceeded.

Action: Increase the STEPTAB parameter in the [EXTRACT] section of the NATENG.INI file. Re-run Extract.

NEE1019 REFERENCED TABLE FULL: INCREASE REFTAB INITIALISATION PARAMETER

Explanation: The maximum amount of unique objects referenced from the base library has been exceeded.

Action: Increase the REFTAB parameter in the [EXTRACT] section of the NATENG.INI file. Re-run Extract.

NEE1020 PERFORM TABLE OVERFLOW (PTAB)

Explanation: The maximum amount of PERFORMs for an object has been exceeded.

Action: Increase the PERF-PTAB parameter in the [EXTRACT] section of the NATENG.INI file. Re-run Extract for the object in error.

NEE1021 COND TABLE overflow

Explanation:	Internal. Natural Engineer keeps track of all conditional statements and their nested status and has encountered more than 100 nested conditions.
Action:	If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1022 COND TABLE logic error (entry missing) - ZERO count

Explanation:	Internal. Natural Engineer keeps track of all conditional statements and their nested status and has encountered a logic error.
Action:	If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1023 COND TABLE logic error (missing IF/ELSE) entry - ZERO count

Explanation:	Internal. Natural Engineer keeps track of all conditional statements and their nested status and has encountered a logic error.
Action:	If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1024 COND TABLE logic error - non ZERO count (at end of object)

Explanation:	Internal. Natural Engineer keeps track of all conditional statements and their nested status and has encountered a logic error.
Action:	If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1025 COND logic error 2 (count= nnnnn)

Explanation: Internal. Natural Engineer keeps track of all conditional statements and their nested status and has encountered a logic error.

Action: If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1026 COND TABLE logic error (remove entry) - ZERO count

Explanation: Internal. Natural Engineer keeps track of all conditional statements and their nested status and has encountered a logic error.

Action: If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1027 Operator not recognised - xxx

Explanation: Internal. Natural Engineer keeps track of all operands and has encountered an unknown type.

Action: If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1028 Level number > nn

Explanation: Internal. Natural Engineer keeps track of all level numbers within the data definitions of a structured object and has identified more than the maximum allowed ('nn').

Action: If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

Natural Engineer Messages and Codes

NEE1029 Invalid level number

Explanation:	Internal. Natural Engineer keeps track of all level numbers within the data definitions of a structured object and has identified an invalid number.
Action:	If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1030 View field table overflow

Explanation:	The amount of fields allowed in a view has been exceeded. See limits section in the Administration Guide for details.
Action:	None. This object may not be processed.

NEE1031 Variable table overflow

Explanation:	The maximum amount of variable names for an object has been exceeded.
Action:	Increase the VARTAB parameter in the [EXTRACT] section of the NATENG.INI file. Re-run Extract for the object in error.

NEE1032 DDM table overflow

Explanation:	The maximum amount of DDMs for an object has been exceeded See limits section in the Administration Guide for details.
Action:	None. This object may not be processed.

NEE1033 DDM not found

Explanation: The DDM was not found in the Natural application.

Action: Locate the missing DDM and then re-extract all objects that use this DDM or re-extract the whole application.

NEE1034 DDM not available

Explanation: Natural Engineer cannot get hold of the DDM.

Action: Investigate if anybody has the DDM in hold.

NEE1035 DDM error - nnnnn

Explanation: Internal. Invalid response nnnnn returned from user exit when attempting to read DDM.

Action: Retry.

NEE1036 SQL COLUMN ALLOCATION FAILED

Explanation: Natural Engineer cannot allocate enough memory for the internal table that holds SQL column information.

Action: Review Initialization settings in the NATENG.INI file or review memory usage on the machine.

NEE1037 SQL Column table overflow

Explanation: Internal. Natural Engineer keeps track of all SQL column definitions within an object and the maximum value has been exceeded.

Action: If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1038 LOGIC ERROR IN SQL

Explanation: Internal. Natural Engineer has detected a logic error in the processing of this SQL object.

Action: If this is a valid Natural object that stows then please send a copy of the object to your local Natural Engineer Support for interrogation.

NEE1039 PERFORM TABLE OVERFLOW (DTAB)

Explanation: The maximum amount of DEFINE SUBROUTINEs for an object has been exceeded.

Action: Increase the PERF-DTAB parameter in the [EXTRACT] section of the NATENG.INI file. Re-run Extract for the object in error.

NEE1040 TOO MANY DDMS FOR ONE DBID/FNR

Explanation: The maximum amount DDMs for a Database ID and File Number combination has been exceeded.

Action: Please refer to your local Natural Engineer Support

NEE1041 View Table for an object exceeded

Explanation: The maximum number of views per object has been exceeded. See limits section in the Administration Guide for details.

Action: None. This object may not be processed.

LOAD MESSAGES AND CODES

Chapter Overview

This chapter describes the messages and codes that are produced for errors during execution of the Natural Engineer Load process.

Each message and code available is listed along with an explanation text to describe the nature of the error and the recommended course of action to resolve the error.

The messages use the following format:

NEE2nnn 'message-text'
where:
NEE2   standard Load error code prefix.
nnn   unique sequential number assigned for each message.
'message-text'   describes the error.

Load Messages and Codes

The Load process messages and codes can be located in the ELD file (Error Load file).

Windows

The file naming convention is 'aaaaaaaa.ELD', where 'aaaaaaaa' is the application name being used.

It is located in the DATA directory of the Natural Engineer installation.

z/OS

The file naming convention is 'NATENG.aaaaaaaa.ELD.DATAF', where 'aaaaaaaa' is the application name being used.

It will be located on the DASD volume used by the JCL.

z/VSE

The file naming convention is 'NATENG.aaaaaaaa.ELD.DATAF', where 'aaaaaaaa' is the application name being used.

It will be located on the DASD volume used by the JCL.

BS2000

The file naming convention is 'NATENG.LOAD.aaaaaaaa.ELD', where 'aaaaaaaa' is the application name being used.

It will be located on the DASD volume used by the JCL.

Load Messages and Codes

NEE2001 Main Program-' *PROGRAM ' Error nr-' *ERROR-NR ' line-' *ERROR-LINE

Explanation:	A Natural Error has occurred.
	The Error number is specified by *ERROR-NR.
Action:	Check the Natural Messages and Codes Manual for the error number.

NEE2002 Input parameter logic error

Explanation:	The extract file, applname.OUT, is incorrect.
Action:	Check the applname.OUT file. If it looks incorrect refer to Natural Engineer support for resolution.

NEE2003 Incomplete Extract Code, Object not loaded

Explanation: There has been a problem with the extract process and the extract data for this object as specified in the applname.OUT file is incomplete.

Action: Check the Natural object. If it is a valid Natural object then refer to Natural Engineer support for resolution.

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