

# NAG Library Routine Document

## E04VSF

**Note:** before using this routine, please read the Users' Note for your implementation to check the interpretation of *bold italicised* terms and other implementation-dependent details.

### 1 Purpose

E04VSF is used to get the value of a real optional parameter. E04VSF can be used before or after calling E04VHF.

### 2 Specification

```
SUBROUTINE E04VSF (STRING, RVALUE, CW, IW, RW, IFAIL)
INTEGER           IW(*), IFAIL
REAL (KIND=nag_wp) RVALUE, RW(*)
CHARACTER(*)     STRING
CHARACTER(8)     CW(*)
```

### 3 Description

E04VSF obtains the current value of a real option. For example

```
CALL E04VSF ('Feasibility Tolerance', FEATOL, CW, IW, RW, IFAIL)
```

will result in the value of the optional parameter **Feasibility Tolerance** being output in FEATOL.

A complete list of optional parameters, their abbreviations, synonyms and default values is given in Section 12 in E04VHF.

### 4 References

None.

### 5 Parameters

- 1: STRING – CHARACTER(\*) *Input*  
*On entry:* a single valid keyword of a real optional parameter (as described in Section 12 in E04VHF).
- 2: RVALUE – REAL (KIND=nag\_wp) *Output*  
*On exit:* the real value associated with the keyword in STRING.
- 3: CW(\*) – CHARACTER(8) array *Communication Array*  
**Note:** the dimension of the array CW must be at least LENCW (see E04VGF).
- 4: IW(\*) – INTEGER array *Communication Array*  
**Note:** the dimension of the array IW must be at least LENIW (see E04VGF).
- 5: RW(\*) – REAL (KIND=nag\_wp) array *Communication Array*  
**Note:** the dimension of the array RW must be at least LENRW (see E04VGF).

## 6: IFAIL – INTEGER

*Input/Output*

*On entry:* IFAIL must be set to 0, -1 or 1. If you are unfamiliar with this parameter you should refer to Section 3.3 in the Essential Introduction for details.

For environments where it might be inappropriate to halt program execution when an error is detected, the value -1 or 1 is recommended. If the output of error messages is undesirable, then the value 1 is recommended. Otherwise, if you are not familiar with this parameter, the recommended value is 0. **When the value -1 or 1 is used it is essential to test the value of IFAIL on exit.**

*On exit:* IFAIL = 0 unless the routine detects an error or a warning has been flagged (see Section 6).

## 6 Error Indicators and Warnings

If on entry IFAIL = 0 or -1, explanatory error messages are output on the current error message unit (as defined by X04AAF).

Errors or warnings detected by the routine:

IFAIL = 1

The initialization routine E04VGF has not been called.

IFAIL = 2

The supplied option is invalid. Check that the keywords are neither ambiguous nor misspelt.

IFAIL = -99

An unexpected error has been triggered by this routine. Please contact NAG.

See Section 3.8 in the Essential Introduction for further information.

IFAIL = -399

Your licence key may have expired or may not have been installed correctly.

See Section 3.7 in the Essential Introduction for further information.

IFAIL = -999

Dynamic memory allocation failed.

See Section 3.6 in the Essential Introduction for further information.

## 7 Accuracy

Not applicable.

## 8 Parallelism and Performance

Not applicable.

## 9 Further Comments

None.

## 10 Example

See Section 10 in E04VKF.