# NAG Library Routine Document

# E05JEF

**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

E05JEF may be used to supply individual 'ON'/'OFF'-valued character optional parameters to E05JBF. The initialization routine E05JAF **must** have been called before calling E05JEF.

## 2 Specification

```
SUBROUTINE E05JEF(OPTSTR, CVALUE, COMM, LCOMM, IFAIL)
INTEGER           LCOMM, IFAIL
double precision  COMM(LCOMM)
CHARACTER*(*)     OPTSTR, CVALUE
```

## 3 Description

E05JEF may be used to supply values for 'ON'/'OFF'-valued character optional parameters to E05JBF. It is only necessary to call E05JEF for those parameters whose values are to be different from their default values. One call to E05JEF sets one parameter value.

Each 'ON'/'OFF'-valued character optional parameter is defined by a single character string in OPTSTR and the corresponding value in CVALUE. For example, the following allows local searches to be turned off:

```
LCSRCH = 'off'
CALL E05JEF ('Local Searches', LCSRCH, COMM, LCOMM, IFAIL)
```

A complete list of optional parameters, their symbolic names and default values is given in Section 11 in E05JBF.

## 4 References

None.

## 5 Parameters

1: OPTSTR – CHARACTER*(*) *Input*

*On entry*: a string defining a single 'ON'/'OFF'-valued character optional parameter (as described in Section 11 in E05JBF).

2: CVALUE – CHARACTER*(*) *Input*

*On entry*: the 'ON'/'OFF' value associated with the keyword in OPTSTR.

3: COMM(LCOMM) – ***double precision*** array *Communication Array*

*On exit*: COMM **must not** be altered between calls to any of the routines E05JBF, E05JCF, E05JDF, E05JEF, E05JFF, E05JGF, E05JHF, E05JJF, E05JKF and E05JLF.

4: LCOMM – INTEGER *Input*

*On entry*: the dimension of the array COMM as declared in the (sub)program from which E05JEF is called.

*Constraint*: LCOMM $\geq 100$.

5: 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.

*On exit*: IFAIL $= 0$ unless the routine detects an error (see Section 6).

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.**

## 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 $= 1$

On entry, LCOMM $< 100$,
or the initialization routine E05JAF has not been called.

IFAIL $= 2$

Either the optional-parameter given in OPTSTR is invalid (the correct number of word 'tokens' are present, but a keyword or keyword combination is not valid) or the string given in CVALUE is not a valid value to be taken by the optional-parameter supplied in OPTSTR.

IFAIL $= 3$

The optional-parameter given in OPTSTR is not associated with an 'ON'/'OFF' value. See Section 11 in E05JBF for a full list of the optional parameters.

## 7 Accuracy

Not applicable.

## 8 Further Comments

E05JCF or E05JDF may also be used to supply 'ON'/'OFF'-valued character optional parameters to E05JBF.

## 9 Example

See Section 9 in E05JCF.