NAG Library Routine Document

E04VGF

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

E04VGF is used to initialize the routine E04VHF.

2 Specification

```
SUBROUTINE E04VGF (CW, LENCW, IW, LENIW, RW, LENRW, IFAIL)
INTEGER            LENCW, IW(LENIW), LENIW, LENRW, IFAIL
REAL (KIND=nag_wp) RW(LENRW)
CHARACTER(8)       CW(LENCW)
```

3 Description

E04VGF initializes the arrays CW, IW and RW for the routine E04VHF.

4 References

None.

5 Arguments

1: CW(LENCW) – CHARACTER(8) array *Communication Array*

2: LENCW – INTEGER *Input*

On entry: the dimension of the array CW as declared in the (sub)program from which E04VGF is called.

Constraint: LENCW $\geq$ 600, see routine E04VHF.

3: IW(LENIW) – INTEGER array *Communication Array*

4: LENIW – INTEGER *Input*

On entry: the dimension of the array IW as declared in the (sub)program from which E04VGF is called.

Constraint: LENIW $\geq$ 600, see routine E04VHF.

5: RW(LENRW) – REAL (KIND=nag_wp) array *Communication Array*

6: LENRW – INTEGER *Input*

On entry: the dimension of the array RW as declared in the (sub)program from which E04VGF is called.

Constraint: LENRW $\geq$ 600, see routine E04VHF.

7: IFAIL – INTEGER *Input/Output*

On entry: IFAIL must be set to 0, -1 or 1. If you are unfamiliar with this argument you should refer to Section 3.4 in How to Use the NAG Library and its Documentation 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 argument, 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 $= 1$

One or more of the communication array lengths LENCW, LENIW or LENRW is less than 600.

IFAIL $= -99$

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

See Section 3.9 in How to Use the NAG Library and its Documentation for further information.

IFAIL $= -399$

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

See Section 3.8 in How to Use the NAG Library and its Documentation for further information.

IFAIL $= -999$

Dynamic memory allocation failed.

See Section 3.7 in How to Use the NAG Library and its Documentation for further information.

7 Accuracy

Not applicable.

8 Parallelism and Performance

E04VGF is not threaded in any implementation.

9 Further Comments

The time taken by E04VGF is negligible.

10 Example

See Section 10 in E04VHF and E04VKF.