COMMON BLOCK NAME: ARS

<u>Purpose</u>

Holds arrays containing intermediate values of parameters and other intermediate values associated with the
current trial, as well as information associated with the best trial.

<u>Listing</u>

COMMON/ARS/BL, BU, VAR, ITRIAL, K, L, IBT, Q, QOPT, KOPT, IQ1, BESTQ, IBTRL, NLOCAL, XS, XX, XN, XOPT, IF2,
ILCL1

<u>Size</u>

20 words

<u>Description of Variables</u>

<u>Variable</u>	<u>Type</u>	<u>Dimension</u>	Word <u>Position</u>	<u>Description</u>
BL	R*4	1	1	Lower boundary of parameter.
BU	R*4	1	2	Upper boundary of parameter.
VAR	R*4	1	3	Array containing the ranges for each parameter at each K level.
ITRIAL	I*4	1	4	Number of the current trial.
K	I*4	1	5	Current range level.
L	I*4	1	6	Trial number within current range.
IBT	I*4	1	7	Number of the best trial.
Q	R*4	1	8	Array containing the best objective function value for each K level in the current cycle.
QOPT	R*4	1	9	Objective function value associated with the best trial.
KOPT	I*4	1	10	K level with best trial.
IQ1	I*4	1	11	Number of cycles that optimization is in minimum (the smallest) range.
BESTQ	R*4	1	12	Minimum objective function value for all previous K and L level.
IBTRL	I*4	1	13	The number of the trial with the best objective function at the end of the current cycle. The best value from Q(I). The trial no. associated with current XS array.
NLOCAL	I*4	1	14	Not referenced.
XS	R*4	16	15	Array containing the best parameter set from the previous cycle. This set comprises the point on the response surface where the next cycle will begin.
XX	R*4	16	16	An intermediate array containing what is currently the best parameter set, based on a minimum objective function, produced by the current cycle. The array is continually updated throughout the cycle with the values in XN. At the end of the cycle the values in XX are transferred to XS.
XN	R*4	16	17	Array containing the parameter set associated with the current trial.

Variable	Type	Dimension	Word Position	Description
XOPT	R*4	16	18	Array containing the best parameter set. Updated, if needed, at the end of every cycle with the values in XS.
IF2	I*4	1	19	Number of trials per range level (computed).
ILCL1	I*4	1	20	Not referenced.