

VIII.3.3-RES-SNGL-CO SINGLE RESERVOIR REGULATION OPERATION CO ARRAY  
LAYOUT FOR SPECIFIC CARRYOVER

The location of carryover values of a Scheme/Utility in the CO array for Operation RES-SNGL varies with the Scheme/Utility and its input sequence.

Some schemes/utilities do not require carryover values. For those that have carryover, the values are based on the input parameters in the PO array.

The following table lists all the schemes and utilities which may require carryover values:

<u>Numerical Code (ICODE)</u>	<u>Scheme/Utility Identifier</u>	<u>Maximum Number Carryover (MCO)</u>	<u>MCO Parameter Dependent</u>
102X.01	SETQ	≤ 50	yes
103X.01	SETH	≤ 50	yes
105X.01	FILLSPILL	1	no
106X.01	SPILLWAY	1	no
108X.01	STPOOLQ	≤ 9	yes
111X.01	INDSRCHGE	6	no
112X.01	FLASHBDS	≤ 3	yes
113X.01	POWERGEN	1	no
151X.01	RULEADJ	≤ 101	yes
154X.01	ADJUST	≤ 2	yes
155X.01	BACKFLOW	1	no

Note: X is the level of definition of the Scheme/Utility  
X ≥ 1, default to 1

Each Scheme/Utility is identified by a numerical code given by:

$$ICODE=PO(20+(ISU-1)*4+1)$$

where ISU=1 to NSU  
NSU=PO(20)

The beginning position of carryover values of a Scheme/Utility is given in the PO array by:

$$ICO=PO(20+(ISU-1)*4+4)$$

where ISU=1 to NSU  
NSU=PO(20)

<u>ICODE</u>	<u>Position</u>	<u>Description</u>
102X.01	CO(ICO) to CO(ICO+n)	n values (from PO array) of instantaneous or mean discharge (units of CMS)

<u>ICODE</u>	<u>Position</u>	<u>Description</u>
103X.01	CO(ICO) to CO(ICO+n)	n values (from PO array) of pool elevations (units of M)
105X.01	CO(ICO)	Nonspillway discharge (units of CMS)
106X.01	CO(ICO)	Nonspillway discharge (units of CMS)
108X.01	CO(ICO)	Previous period discharge for local flow at gage 1 (units of CMS)
	CO(ICO+1) to CO(ICO+8)	Initial values for loop rating stage-discharge conversion; first four values for gage 1 and next four values for gage 2
	CO(ICO+1), CO(ICO+5)	Previous stage (units of M)
	CO(ICO+2), CO(ICO+6)	Previous discharge (units of CMS)
	CO(ICO+3), CO(ICO+7)	Previous rate of change of stage (units of M/time-interval)
	CO(ICO+4), CO(ICO+8)	Number of previous missing values in stage-discharge conversion (default to 0)
111X.01	CO(ICO)	Instantaneous inflow two periods prior to start of run (units of CMS)
	CO(ICO+1)	Pool elevation two periods prior to start of run (units of CMS)
	CO(ICO+2)	Increment/decrement of pool elevation above the values two periods prior to start of run (units of M)
	CO(ICO+3)	Maximum elevation reached in surcharge operation (units of M)
	CO(ICO+4)	Discharge corresponding to maximum elevation reached in surcharge operation (units of CMS)
	CO(ICO+5)	Maximum discharge reached in surcharge operation (units of CMS)
112X.01	CO(IC)+1)	Number of large boards down
	CO(ICO+2)	Number of small boards down

<u>ICODE</u>	<u>Position</u>	<u>Description</u>
		(omitted if no small boards in PO array)
	CO(ICO+3)	Gate opening (omitted if no gates)
113X.01	CO(ICO+1)	Mean generation discharge (units of CMS)
115X.01	CO(ICO+1)	Number of missing observed elevations at the start of run
	CO(ICO+1) to CO(ICO+n)	n values (from PO array) of differential elevations (observed-rule curve) (units of M)
154X.01	CO(ICO+1)	Discharge difference (observed-simulated) (units of CMS) or Discharge ratio (observed/simulated)
	CO(ICO+2)	Number of periods of missing data prior to the start of run
155X.01	CO(ICO)	Pool elevation one period before start of run (units of M)