Purpose

Scheme MINQ determines a release to try to prevent flooding at a downstream location by using forecasted inflows.

Input Summary

Keyword	Definition and Format
MINQ 1/	Input opening keyword for scheme
PARMS	Parameter opening keyword for scheme
INCOPT	Increasing flow option: - 1 or 2
HUPPER	Limiting upper elevation: - real - within ELVSSTOR curve 2/
HLOWER	Limiting lower elevation: - real - within ELVSSTOR curve - value < HUPPER
[TOL]	Convergence criterion: - real value between 0.01 and 1.00 - defaults to 0.02
[ELVSMAXQ] 3/	Elevation versus maximum discharge curve: - 'j' values of elevation followed by 'j' values of maximum discharge - elevations - real - within ELVSSTOR curve 2/ - ascending order - discharges - real - positive values - ascending order
[NORMQ] 3/	Constant non-spillway maximum discharge: - allowed only if ELVSMAXQ not entered - real, positive value
[ELVSQ] 3/	Elevation versus discharge curve: - allowed only if ELVSMAXQ not entered if defined here: - 'j' values of elevation followed by 'j' of discharge - elevations

Keyword	Definition and Format
	- real - within ELVSSTOR curve - ascending order - discharges - real - positive values - ascending order if referenced to original location: - name and level number of scheme in which originally defined

[HEADVSQ] 3/	Head versus discharge curve:
	- allowed only if ELVSMAXQ and NORMQ were not entered
	
	if defined here:
	- 'j' head values followed by 'j' discharge values
	- heads
	- real, positive values
	- ascending order
	
	if referenced to original definition:
	- name and level number of scheme in which it was originally defined

[TWCURVE] 3/	Tailwater Rating Curve name: - needed only if HEADVSQ entered - 8-character name - must be defined at Forecast Component level - must match name of any other tailwater rating curve use in Reservoir Operation
[CONV] 3/	Convergence criterion for curve construction: - needed only if HEADVSQ entered - defaulted to 0.02 - between 0.0 and 1.0
[REPLQ]	Peak replacing threshold: - real, positive - defaulted to machine maximum
NPERR	Number of blend periods in rising limb of inflow hydrograph: - positive integer
[INCQ]	Increase to flood discharge flag: - either YES or NO (default is NO)
[FLOODQ]	Flood discharge (only needed if INCQ is YES): S real, positive value
EVOPT	Evacuation option:

Keyword	Definition and Format
	- either 1 or 2
NPERF	Number of periods for blending back into falling limb of inflow hydrograph: - positive integer
TARGETH	Normal pool elevation: - either - real, positive and within ELVSSTOR curve, or - RULE (for rule curve elevation)
[CURVE]	Rule curve definition (needed only if RULE specified for TARGETH): If defined here: - 'j' dates followed by 'j' values of elevation - dates - integer - ascending order - between 1 and 366 - elevations - real - within ELVSSTOR curve If referenced to original definition: - name and level of scheme in which it was originally defined
[RULETIME]	Time of hydrologic day rulecurve is set: - needed only if CURVE is defined in this scheme - integer - between 0 and 24, inclusive
[LOWERLIMQ]	Lower limiting discharge (only needed if INCQ=YES or EVOPT=2): - real, positive value
ENDPARMS	Parameter ending keyword for this scheme
ENDMINQ	Input ending keyword for this scheme

Notes:

1/ No time series or carryover information is needed to define this scheme.

2/ ELVSSTOR is the elevation versus storage curve defined in the general parameter section.

3/ The maximum discharge curve can be defined in a number of ways:

a. The curve can be entered directly using the ELVSMAXQ keyword.

In this case, no other keyword is allowed.

b. The curve can be constructed as a combination of an elevation versus discharge curve (ELVSQ keyword) and a constant non-spillway maximum discharge (NORMQ keyword). In this case these are the only two parameters necessary and allowed.

c. If the tailwater significantly affects the non-spillway discharge, the elevation versus. maximum discharge curve is constructed of the elevations versus discharge curve (ELVSQ keyword), a head versus non-spillway discharge curve (HEADVSQ keyword), and a tailwater rating curve (TWCURVE keyword). In this case, neither the ELVSMAXQ or the NORMQ keywords are allowed. The convergence criteria (CONV keyword) is allowed only for this case, but it is optional.

At least one of the above three combinations of keywords must be entered.