

V.3.3-RES-SNGL-SPEC-FLASHBDS SINGLE RESERVOIR REGULATION OPERATION  
SCHEME FLASH BOARDS

Purpose

Scheme FLASHBDS is used to specify flash boards.

Input Summary

<u>Keyword</u>	<u>Definition and Format</u>
FLASHBDS	Input opening keyword for scheme
<u>PARMS</u>	Parameter opening keyword for scheme
NBOARDS	Number of boards (2 values): 1) number of large boards - required - integer 2) [number of small boards] - optional - integer
GENL-L	Large board specifications (5 values): 1) crest elevation 2) hinge elevation 3) top elevation 4) flip elevation - real values - ascending order - within ELVSSTOR curve <u>1</u> / 5) length of spillway real, positive value
RATING-L	Spillway rating curve for large boards: - 'j' values of elevation followed by 'j' values of discharge - elevations - ascending order - within ELVSSTOR curve <u>1</u> / - 1st elevation = crest elevation (from GENL-L) - discharges - real, positive values - ascending order - 1st discharge = 0.0
[GENL-S]	Small board specifications (5 values): - needed only if number of small boards >0 - if needed, use same input format as for large board specifications, GENL-L
[RATING-S]	Spillway rating curve for small boards: - needed only if number of small boards >0

Keyword

Definition and Format

- if needed, use same input format as for large board rating curve, RATING-L
  
- [GENL-G] Gate specifications (4 values):
  - 1) crest elevation
  - 2) pool elevation where gate opens
    - both real values
    - both values within ELVSSTOR curve
  - 3) maximum gate opening
    - real, positive value
  - 4) number of future periods to scan for max inflows
    - integer
  
- [RATING-G] Spillway rating curve for gates:
  - needed only if GENL-G entered
  - if needed, use same input format as for large board rating curve, RATING-L
  
- [REPLQ] Peak replacing discharge:
  - real, positive value
  - defaults to machine maximum
  
- [HEADVSQ] Head versus discharge curve:
  - if defined here:
    - 'j' values of head followed by 'j' values of discharge
    - heads
      - real, positive values
      - ascending order
    - discharges
      - real, positive values
      - ascending order
  - if referenced to original definition:
    - name and level number of scheme in which it was originally defined
  
- [TWCURVE] Tailwater rating curve name:
  - only allowed if HEADSVQ was entered
  - 8-character name
  - must be defined by FCINIT DEF-RC command
  - must match name of any other tailwater rating curve used in Reservoir Operation:
  
- [CONV] Convergence criterion for computing maximum generation curve:
  - only allowed if HEADVSQ was entered
  - real value between 0.0 and 1.0
  - defaults to 0.02
  
- [QGEN] Constant maximum generation discharge:
  - S only allowed if HEADVSGQ was not entered

<u>Keyword</u>	<u>Definition and Format</u>
	<ul style="list-style-type: none"> <li>- real, positive value</li> <li>- defaults to 0.0</li> </ul>
[SLUICEQ]	Constant non-generation, non-spillway discharge: <ul style="list-style-type: none"> <li>- real, positive value</li> <li>- defaults to 0.0</li> </ul>
<u>ENDPARMS</u>	Parameter ending keyword for scheme
[ <u>TIME-SERIES</u> ] 3/	Time series opening keyword for scheme: <ul style="list-style-type: none"> <li>S needed only if any time series are entered</li> </ul>
[LARGEGBDS]	Time series of observed number of large boards down: <ul style="list-style-type: none"> <li>S data time interval = Operation data time interval</li> <li>- dimensions = DLES</li> <li>- units = NUM</li> <li>- missing values are allowed</li> </ul>
[SMALLGBDS]	Time series of observed number of small boards down: <ul style="list-style-type: none"> <li>S only allowed if number of small boards &gt;0</li> <li>S data time interval = Operation data time interval</li> <li>- dimensions = DLES</li> <li>- units = NUM</li> <li>- missing values are allowed</li> </ul>
[GATE]	Time series of observed flood gate openings: <ul style="list-style-type: none"> <li>- only allowed if GENL-G entered</li> <li>S data time interval = Operation data time interval</li> <li>- dimensions = L</li> <li>- units = M</li> <li>- missing values are allowed</li> </ul>
[GENQ]	Time series of observed and projected generation discharge: <ul style="list-style-type: none"> <li>S data time interval = Operation data time interval</li> <li>- dimensions = L3</li> <li>- units = CMSD</li> <li>- missing values are allowed</li> </ul>
[SLUICEQ]	Time series of observed and projected sluice discharge: <ul style="list-style-type: none"> <li>- same requirements as GENQ</li> </ul>
[ <u>ENDTS</u> ]	Time series ending keyword for scheme: <ul style="list-style-type: none"> <li>- needed only if TIME-SERIES was entered</li> </ul>

<u>Keyword</u>	<u>Definition and Format</u>
[ <u>CARRYOVER</u> ]	Carryover opening keyword for scheme: - needed only if carryover is entered
[ <u>DOWN</u> ]	Number of boards down (2 values): 1) number of large boards down - required, defaults to 0 if not entered - integer - value $\leq$ number of large boards  2) [number of small boards down] - optional, needed only if number of small boards > 0 - defaults to 0 if needed and not entered - integer - value $\leq$ number of small
[ <u>GATE</u> ]	Gate opening: - only allowed if GATE was specified in PARMS - real, positive value - value $\leq$ maximum gate opening (GENL-G)
[ <u>ENDCO</u> ]	Carryover ending keyword for scheme: - needed only if CO was specified
ENDFLASH	Input ending keyword for scheme

Notes:

- 1/ ELVSSTOR is the elevation versus storage curve defined in the general parameter section.
- 2/ If neither HEADVSQ nor GENQ entered a value of 0.0 is stored for GENQ.
- 3/ See 'Time Series Definition' in Section V.3.3-RES-SNGL-SPEC.