Description

Subroutine QGEN26 computes the generation discharge from a
hydroelectric dam.

Calling Sequence

CALL QGEN26 (QOMEAN,QIMHYD,SQIM,QOMBAC,QOMSIM,QOMOBS,QOMHYD,STOHYD,
             RULEL,RULSTO,DATEUP,ELEVUP,DATELR,ELEVLR,STOMAX,STOMIN,
             ELVGEN,GENMXQ,DATMIN,QMIN,FRACMD,FRACRL,FRACDA,FRAC24,
             QAVAIL,STOR,ELEV)

Argument List

Argument	Input/ Output	Type	Dimension	Description
QOMEAN	Output	R*4	1	Array of 24 hour mean outflows; only the first position of the array is used in this subroutine
QIMHYD	Input	R*4	NUM	Time series of mean inflows
SQIM	Input	R*4	NUM	Time series of cumulative mean flows
QOMBAC	Input	R*4	NTIM24	Array of back mean time interval outflows for a 24 hour period prior to the first time interval
QOMSIM	Input	R*4	NUM	Time series of simulated mean outflows by time intervals; QOMSIM is needed in routine CONV26 for the adjusted run when distributing 24 hour mean outflows into the time interval values under one of the options
QOMOBS	Input	R*4	NUM	Time series of observed mean outflows; missing values will be -999.0
QOMHYD	Output	R*4	NUM	Time series of mean outflows by time intervals
STOHYD	Output	R*4	NUM	Time series of pool storages
RULEL	Input	R*4	NUM	Time series of rule curve elevations computed in routine ERUL26 prior to first call to routine QGEN26 and then used in

Argument	Input/ Output	Type	Dimension	Description
				subsequent entries
RULSTO	Input	R*4	NUM	Time series of rule curve storages corresponding to RULEL values; computed on first RULSTO(1) must be -999.0 prior to first call to routine QGEN26
DATEUP	Input	R*4	NELVUP	Julian dates for date versus upper limiting elevation when elevations vary with date; relation is not used when the elevation is constant, elevations are the same as rule curve elevations or elevations are rule curve elevations plus a constant deviation; DATEUP(1) must be -999.0 when the relation is not used
ELEVUP	Input	R*4	NELVUP	Upper limiting elevations corresponding to DATEUP values; rule curve plus varying deviations are defined as -999.0 plus deviations
STOMAX	Output	R*4	NUM	Time series of upper limiting pool storages when upper limiting elevation is not constant; will be computed in first call ro routine QGEN26 and will be used in first and subsequent entries; STOMAX(1) must be -999.0 prior to first call to routine QGEN26
STOMIN	Output	R*4	NUM	Time series of lower limiting pool storages when lower limiting elevation is not constant; computed in first call to QGEN26 and used in first and subsequent entries; STOMIN(1) must be -999.0 prior to first call to routine QGEN26
ELVGEN	Input	R*4	NELVGN	Pool elevations for elevation versus maximum generation discharge relation; ELVGEN(1) must be -999.0 if relation is not used
GENMXQ	Input	R*4	NELVGN	Maximum generation discharges corresponding to ELVGEN values

| | Input/ | | | |
Argument	Output	Type	Dimension	Description
DATMIN	Input	R*4	NDATMN	Julian dates for date versus required minimum instantaneous outflow relation; DATMIN(1) must be -999.0 if relation is not used
QMIN	Input	R*4	NDATMN	Minimum outflows corresponding to DATMIN values
FRACMD	Input	R*4	NTIM24	Fractions of 24 hour outflow volume used to compute mean outflows for each time interval in 24 hour period nearest to midnight to midnight; last value must correspond with time interval whose end time is nearest to midnight
FRACRL	Input	R*4	NTIM24	Fractions of 24 hour outflow volume used to compute mean outflow for each time interval in 24 hour period ending at time of day (JTIMRL) when pool is brought back to rule curve; last value must be for time interval ending at JTIMRL; values are defined on first call to routine QGEN26
FRACDA	Input	R*4	7	Fractions of weekly volume to use for each day (nearest 24 hour period from midnight to midnight) when pool is brought back to rule curve once a week; the day of the week (Sunday=1, etc.) is the position number in the FRACDA array
FRAC24	Input	R*4	7	Fractions of weekly volume to use for each 24 hour period ending at time of day when pool is brought back to rule curve at end of weekly period; computed in first call to routine QGEN26
QAVAIL	Input	R*4	NTIM24	Work array used for computations in routine CONV26
STOR	Input	R*4	NSE	Pool storages for elevation versus storage relation
ELEV	Input	R*4	NSE	Pool elevations for elevation versus storage relation

Dimension variables are in common blocks CRNC26, GENQ26 and RESV26.

Variable JTIMRL is in common block GENQ26.