V.3.3-RES-SNGL-SPEC-SUMINF   SINGLE RESERVOIR REGULATION OPERATION
                             UTILITY INFLOW SUMMATION

Purpose

Utility SUMINF is used to:

    o  Create a running cumulative summation of time interval mean
       inflow for the entire run. The values are needed by both the
       power generation scheme and the peak outflow minimization
       scheme.

    o  Switch on the FLOOD variable to indicate the reservoir operates
       under flooding condition if the threshold elevation is
       exceeded.


Input Summary

    Keyword                  Definition and Format

    SUMINF 1/                Input opening keyword

    PARMS                    Parameter opening keyword

    NORMQ                    Constant period mean discharge

    ELTEST                   Pool level within ELVSSTOR curve above which
                             reservoir operates under flooding condition
                             2/

    ENDPARMS                 Parameter ending keyword

    ENDSUM                   Input ending keyword

Notes:

1/ No time series or carryover are needed by this Utility.

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


Input Examples

    SUMINF(1)
    PARMS
    NORMQ  30000.00
    ELTEST   190.00
    ENDP
    ENSUM


Method

The inflow summation Utility serves two purposes.  First it computes
a time series of cumulative inflow volumes from the summation of time

interval mean inflows for the entire run period.  Second it is used
to set the value of the RCL variable FLOOD.  A check is made to see
if during any period of the run a threshold elevation is exceeded.
Starting at the beginning of the run and proceeding to the end of the
run the continuity equation is used to compute a resultant
storage/pool elevation based on the cumulative inflow volume and the
cumulative outflow volume due to the specified constant mean
discharge NORMQ.  If at any period within the run the threshold
elevation is exceeded then the FLOOD variable is switched on.


User Guidelines

1. The string of cumulative inflow volumes is needed by both the
   power generation scheme and the peak outflow minimization scheme.
   The inflow summation Utility must be used whenever the power
   generation scheme or the peak outflow minimization scheme is used.

2. The computation of inflow summation values is done as a
   preliminary task in the execution of the model.  The pre-loop
   tasks represent those optional utilities that are not activated by
   an RCL DO statement and are executed only once during the course
   of a forecast run.  If selected then the pre-loop tasks are
   conducted in the order inflow adjustment, rule curve adjustment
   and inflow summation.