MUSKINGUM ROUTING OPERATION


Identifier:  MUSKROUT


Operation Number:  9


Parameter Array:  The FORTRAN identifier used for the parameter array
for this Operation is PO.  The contents of the PO array are:

| Position | Contents |
|----------|----------|
| 1 | Operation version number (integer value) |
| 2-6 | General name for the reach or point where the Operation is applied |
| 7-8 | Inflow time series identifier |
| 9 | Inflow time series type |
| 10 | Inflow time series data time interval (integer value) |
| 11-12 | Outflow time series identifier (blank if routing at a point) |
| 13 | Outflow time series type (blank if routing at a point) |
| 14 | Outflow time series data time interval (integer value):<br>    0 = routing at a point |
| 15 | K parameter |
| 16 | X parameter |
| 17 | C0 routing coefficient |
| 18 | C1 routing coefficient |
| 19 | C2 routing coefficient |
| 20 | Carryover control indicator (integer value):<br>    0 = QIN and QOUT initially set to zero by default<br>    1 = QIN and QOUT were read from data cards |

Carryover Array:  The FORTRAN identifier used for the carryover array
is CO.  The contents of the CO array are:

| Position | Contents |
|----------|----------|
| 1 | QIN - initial inflow carryover value |

2          QOUT – initial outflow carryover value

Subroutine Names and Functions:

   Subroutine     Function

      PIN9        Input cards and stores values in the PO and CO arrays

      PRP9        Print information in the PO array

      PRC9        Print information in the CO array

      EX9         Execute the Operation

      COX9        Perform carryover transfer

      PUC9        Punch information in the PO and CO arrays

      TAB9        Operation Table entry subroutine

Subroutines PIN9, PRP9, PRC9, COX9 and PUC9 have the standard
argument lists for these subroutines as given in Section VIII.4.3.

```
SUBROUTINE EX9 (PO,CO,QI,QO)
```

Function:  This is the execution routine for Operation MUSKROUT.

Argument List:

| Argument | Input/<br>Output | Type | Dimension | Description |
|----------|--------|------|-----------|-------------|
| PO | Input | R*4 | 20 | Contains parameters and other information |
| CO | Input | R*4 | 2 | Contains carryover values |
| QI | Input | R*4 | Variable | Inflow time series |
| QO | Output | R*4 | Variable | Routed inflow time series |

```
SUBROUTINE TAB9        (TO,LEFT,IUSET,NXT,LPO,PO,LCO,TS,MTS,NWORK,NDD,L
                        WORK,
   IDT)
```

Function:  This is the Operation Table entry subroutine for Operation
MUSKROUT.


Argument List:  The arguments for this subroutine are similar to the
arguments for the Operation Table entry subroutines for other
Operations.  A description of the arguments is contained in Section
VIII.4.2-TAB.


Operation Table Array:  The contents of the TO array are:

     Position      Contents

        1          Operation number

        2          Location in the T array of the next Operation to be
                   executed

        3          Location of the parameter array for this Operation in
                   the P array

        4          Location of the carryover array for this Operation in
                   the C array

        5          Location of the inflow data in the D array

        6          Location of the outflow data in the D array:
                     0 = routing at a point

        7          Location of work space for routed inflow in the D
                   array

        8          Location of work space in the D array for changing the
                   time interval:
                     0 = not needed

```