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G e n e r a l A l g e b r a i c M o d e l i n g S y s t e m
C o m p i l a t i o n

INCLUDE /var/www/html/interfaces/cgi-bin/crudeoil/ex4.dat
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Crude Inventory Management
C o m p i l a t i o n

```
   5
   6  OPTION SOLPRINT = OFF;
   7  OPTION LIMROW = 0;
   8  OPTION LIMCOL = 0;
   9  OPTION SYSOUT = OFF;
  10
  11  * Define index sets
  12  SETS    I Crude oil and storage tanks / 1*6 /
  13          J Charging tanks / 1*4 /
  14          K Components / 1 /
  15          L Crude Distillation Unit / 1*3 /
  16          T Times    / 1*15 /
  17          V Crude vessels  / 1*3 /
  18
  19  ALIAS(J,J2)
  20  ALIAS(T,T2)
  21
  22  *Define and initialize the problem data
  23  PARAMETER   CUNLOAD(V) Unloading cost of vessel v per unit time /
  24                 1 7.0, 2 7.0, 3 7.0 /
  25              CSEA(V) Sea waiting cost of vessel v per unit time /
  26                 1 5.0, 2 5.0, 3 5.0 /
  27              CINVST(I) Inventory cost of storage tank i per unit time per unit volume /
  28                 1 0.05, 2 0.05, 3 0.05, 4 0.05, 5 0.05, 6 0.05 /
  29              CINVBL(J) Inventory cost for each blend tank per unit time per unit volume /
  30                 1 0.06, 2 0.06, 3 0.06, 4 0.06 /
  31              DM(J) Demand of blend J by CDUs during the scheduling horizon /
  32                 1 60.0, 2 60.0, 3 60.0, 4 60.0 /
  33              FVSMIN(I) Minimum crude oil transfer rate from vessel to storage tank I /
  34                 1 0.0,   2 0.0, 3 0.0, 4 0.0, 5 0.0, 6 0.0/
  35              FVSMAX(I) Maximum crude oil transfer rate from vessel to storage tank I /
  36                 1 20.0,  2 20.0, 3 20.0, 4 20.0, 5 20.0, 6 20.0/
  37              FSBMIN(J) Minimum crude oil transfer rate from storage tank to charging tank
 J /
  38                 1 0.0,   2 0.0, 3 0.0, 4 0.0 /
  39              FSBMAX(J) Maximum crude oil transfer rate from storage tank to charging tank
 J /
  40                 1 20.0, 2 20.0, 3 20.0, 4 20.0 /
  41              FBCMIN(J) Minimum charging rate of charging tank J to CDU  /
  42                 1 3.0,  2 3.0, 3 3.0, 4 3.0 /
  43              FBCMAX(J) Maximum charging rate of charging tank J to CDU /
  44                 1 10.0,  2 10.0, 3 10.0, 4 10.0/
  45              TARR(V)   Crude vessel v arrival time around docking station /
  46                 1 1,    2 6,   3 11/
  47              TLEA(V)   Crude vessel v should leave docking station by this time /
  48                 1 5,    2 10,  3 15/
  49              VVESINI(V) Initial volume of crude oil in crude vessel v /
  50                 1 60.0, 2 60.0, 3 60.0/
  51              VSTOINI(I) Initial volume of crude oil in storage tank I /
  52                 1 60.0, 2 10.0, 3 50.0, 4 40.0, 5 30.0, 6 60.0/
  53              VSTOMIN(I) Minimum volume of crude oil in storage tank I /
  54                 1 10.0, 2 10.0, 3 10.0, 4 10.0, 5 10.0, 6 10.0/
```

```
  55              VSTOMAX(I) Maximum volume of crude oil in storage tank I /
  56                 1 90.0, 2 110.0, 3 110.0, 4 110.0, 5 90.0, 6 90.0/
  57              VBLEINI(J) Initial volume of mixed oil in charging tank J /
  58                 1 5.0, 2 30.0, 3 30.0, 4 30.0 /
  59              VBLEMIN(J) Minimum volume of mixed oil in charging tank J /
  60                 1 0.0, 2 0.0, 3 0.0, 4 0.0/
  61              VBLEMAX(J) Maximum volume of mixed oil in charging tank J /
  62                 1 80.0, 2 80.0, 3 80.0, 4 80.0/
  63              DURATION(V) Minimum unloading duration time for vessel V /
  64                 1 3, 2 3, 3 3 /
  65              CSETUP(L) Setup Cost for CDU L /
  66                 1 30, 2 30, 3 30 /;
  67
  68  * Oil transfer network configuration ( start )
  69
  70  TABLE VESSTO(V,I) From vessel V to storage tank I crude oil is trasferred
  71              1    2    3     4   5  6
  72          1   0    1    0     0   0  0
  73          2   0    0    1     0   0  0
  74          3   0    0    0     1   0  0;
  75
  76  TABLE STOBLE(I,J) From storage tank I to charging tank J oil is transferred and mixed
  77              1        2       3      4
  78          1   1        0       0      0
  79          2   1        1       0      0
  80          3   0        1       1      0
  81          4   0        1       1      0
  82          5   0        0       1      1
  83          6   0        0       0      1;
  84
  85  TABLE BLECDU(J,L) Charging tank J charges CDU L
  86              1       2  3
  87          1   1       0  0
  88          2   1       1  0
  89          3   0       1  1
  90          4   0       0  1;
  91
  92  * Oil transfer network configuration ( end )
  93
  94  * Parameters for component concentration/ weight fraction ( start )
  95
  96  TABLE VCOMINI(V,K) Concentration of component K in crude oil of vessel V
  97              1
  98          1   0.03
  99          2   0.05
 100          3   0.065 ;
 101
 102  TABLE SCOMINI(I,K) Initial concentration of component K in crude oil of storage tank I
 103              1
 104          1   0.031
 105          2   0.03
 106          3   0.05
 107          4   0.065
 108          5   0.075
 109          6   0.075;
 110
 111  TABLE SCOMMIN(I,K) Minimum concentration of component K in storage tank I
 112              1
 113          1   0.025
 114          2   0.02
 115          3   0.04
 116          4   0.06
 117          5   0.07
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 118          6   0.070;
 119
 120  TABLE SCOMMAX(I,K) Maximum concentration of component K in storage tank I
 121              1
 122          1   0.038
 123          2   0.04
 124          3   0.06
 125          4   0.07
 126          5   0.08
 127          6   0.08;
 128
 129  TABLE BCOMINI(J,K) Initial concentration of component K in blend tank J
 130              1
 131          1   0.0317
 132          2   0.0483
 133          3   0.0633
 134          4   0.075;
 135
 136  TABLE BCOMMIN(J,K) Minimum concentration of element K in blend tank J
 137              1
 138          1   0.03
 139          2   0.043
 140          3   0.06
 141          4   0.071;
 142
 143  TABLE BCOMMAX(J,K) Maximum concentration of element K in blend tank J
 144              1
 145          1   0.035
 146          2   0.05
 147          3   0.065
 148          4   0.080;
 149
 150  * Parameters for component concentration/ weight fraction ( end )
 151
 152  SCALAR       SCH Scheduling Horizon / 15 /
 153               NCDU Number of CDU / 3 /
 154               MODE Minimum changeover number for CDUs / 1 /
INCLUDE    /var/www/html/interfaces/cgi-bin/crudeoil/equm.inc
 156
 157  *                              CRUDEOIL INTERFACE
 158  *           CRUDE INVENTORY MANAGEMENT WITHOUT MIXING IN STORAGE TANKS
 159
 160  * Define the optimization variables
 161  * BST stands for storage tanks
 162  * CT stands for charging tanks
 163  VARIABLES D(L,T,J) Denote if charging tank J chargs CDU L at time T
 164            XF(V,T) Denote if vessel V starts unloading at time t
 165            XL(V,T) Denote if vessel V stops unloading at time t
 166            FBCCOM(J,L,K,T) Flow rate of component K from CT J to CDU L at time T
 167            FVESSTO(V,I,T) Flow rate of crude oil from vessel V to ST I at time T
 168            FSTOBLE(I,J,T) Flow rate of crude oil from ST I to CT J at time T
 169            FBLECDU(J,L,T) Flow rate of crude oil from CT J to CDU L at time T
 170            TF(V) Vessel V unloading starting time
 171            TL(V) Vessel V unloading completion and departure time
 172            VBCOM(J,K,T) Volume of component K in charging tank J at time T
 173            VVESS(V,T) Volume of crude oil in crude vessel V at time T
 174            VSTOR(I,T) Volume of crude oil in storage tank I at time T
 175            VBLEN(J,T) Volume of mixed oil in charging tank J at time T
 176            XW(V,T) Denote if vessel V is unloading its crude oil at time T
 177            Z(L,T)  Denote if blend charge was changed from J to J2 at time T
 178            COST  Total operating cost;
 179
 180  SOS1 VARIABLES D, XF, XL;
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 181  POSITIVE VARIABLES FBCCOM, FVESSTO, FSTOBLE, FBLECDU, TF, TL, VBCOM, VVESS, VSTOR, VBLEN
, XW, Z;
 182
 183  * Define constraints and objective function
 184  * SCH stands for scheduling horizon
 185
 186  EQUATIONS OBJFUN Operating Cost to be minimized
 187  * Vessel arrival and departure operation rules
 188            VARRIVE(V) Vessel V arrives for unloading only once throughout SCH
 189            VDEPART(V) Vessel V leaves only once throughout SCH
 190            UNLSTART(V) Equation for vessel unloading start time
 191            UNLSTOP(V) Equation for vessel unloading stop time
 192            UNLARR(V) Vessel V should start unloading after planned arrival time
 193            VESARVLEV(V) Minimum duration of vessel unloading
 194            VESBYVES(V) Vessel V unload its crude oil after preceding vessel leaves
 195            UNLOAD1(V,T) Unloading of vessel V is possible after time TF
 196            UNLOAD2(V,T) Unloading of vessel V is possible before time TL
 197  * Material balance equations for vessel
 198            VESVOLUME(V,T) Crude oil amount in vessel V at time t
 199            UNLOADLIM(V,I,T) Unloading oil transfer maximum limitation at time T
 200            UNLOADLIL(V,I,T) Unloading oil transfer minimum limitation at time T
 201            UNLOADSUM(V) Crude oil unloaded equals to the initial volume of vessel V
 202  * Material balance equations for storage tank
 203            STOVOLUME(I,T) Volume of storage tank I at time T
 204            BLEINLIM2(I,J,T) Crude feed rate max limitation at time T
 205            BLEINLIL2(I,J,T) Crude feed rate min limitation at time T
 206  * Material balance equations for charging tank
 207            BLEVOLUME(J,T) Volume of blend tank J at time T
 208            CHARGELIM(J,L,T) Blend charging capacity max limitation at time T
 209            CHARGELIL(J,L,T) Blend charging capacity min limitation at time T
 210  * Material balance equations for component K in charging tank
 211            VBLECOM(J,K,T) Volume of element K in blend tank J at time T
 212            VBCOMMIN(J,K,T) Minimum volume of element K in blend tank J at time T
 213            VBCOMMAX(J,K,T) Maximum volume of element K in blend tank J at time T
 214            FBCOMMIN(J,L,K,T) Minimum volumetric flow rate of element K from blen J at tim
e T
 215            FBCOMMAX(J,L,K,T) Maximum volumetric flow rate of element K from blen J at tim
e T
 216  * Operating rules for crude charging
 217            BLEINOUT(J,T) If blend tank J is being fed it cannot charge CDU
 218            CHARGESUM(J) Blend charging summation equals to blend J demand
 219            CHARGESEL(L,T) Blend charged should be one blend
 220            CHGNUMSUM Charging number of all blends to all CDU through all time
 221            CHGCDUN(L) Charging number of CDU L by blends
 222            MODECHN(L,J,T) Checking if mode change from J to J2 occurs at time T
 223            MODECHNL          Mode change should occur at least once;
 224
 225  OBJFUN.. COST =E= SUM(V, CUNLOAD(V)*(TL(V)- TF(V) + 1))
 226                 + SUM(V, CSEA(V)*(TF(V)-TARR(V)) )
 227                 + SUM(I, CINVST(I)*SUM(T$(ORD(T) LT SCH), VSTOR(I,T)))
 228                           +0.5*SUM(I,CINVST(I)*(VSTOINI(I) + SUM(T$(ORD(T) EQ SCH), VSTOR(
I,T))))
 229                 + SUM(J, CINVBL(J)*SUM(T$(ORD(T) LT SCH), VBLEN(J,T)))
 230                           +0.5*SUM(J,CINVBL(J)*(VBLEINI(J) + SUM(T$(ORD(T) EQ SCH), VBLEN(
J,T))))
 231                 + SUM(T$(ORD(T) GE 2), SUM(L, CSETUP(L)*Z(L,T)) );
 232
 233  VARRIVE(V).. SUM(T$((ORD(T) GE TARR(V)) AND (ORD(T) LE TLEA(V)) ), XF(V,T)) =E= 1;
 234  VDEPART(V).. SUM(T$((ORD(T) GE TARR(V)) AND (ORD(T) LE TLEA(V)) ), XL(V,T)) =E= 1;
 235  UNLSTART(V).. TF(V) =E= SUM(T$(ORD(T) GE TARR(V) AND ORD(T) LE TLEA(V)), ORD(T)*XF(V,T))
;
 236  UNLSTOP(V).. TL(V) =E= SUM(T$(ORD(T) GE TARR(V) AND ORD(T) LE TLEA(V)), ORD(T)*XL(V,T));
 237  UNLARR(V)..   TF(V) =G= TARR(V);
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 238  VESARVLEV(V).. TL(V) - TF(V) =G= DURATION(V)-1;
 239  VESBYVES(V)..  TF(V) =G= TL(V-1)$( ORD(V) GT 1 )+1;
 240  UNLOAD1(V,T)$((ORD(T) GE TARR(V)) AND (ORD(T) LE TLEA(V)) )..
 241          XW(V,T) =L= SUM(T2$(ORD(T2) GE ORD(T) and ORD(T2) LE TLEA(V)),XL(V,T2));
 242  UNLOAD2(V,T)$((ORD(T) GE TARR(V)) AND (ORD(T) LE TLEA(V)) )..
 243          XW(V,T) =L= SUM(T2$(ORD(T2) GE TARR(V) and ORD(T2) LE ORD(T)),XF(V,T2));
 244  VESVOLUME(V,T)$(ORD(T) GE TARR(V)).. VVESS(V,T) =E= VVESINI(V)
 245                  -SUM(I$(VESSTO(V,I)=1),SUM(T2$( (ORD(T2) GE TARR(V))
 246                  AND (ORD(T2) LE TLEA(V)) AND (ORD(T2) LE ORD(T)) ),FVESSTO(V,I,T2)));
 247  UNLOADLIM(V,I,T)$((VESSTO(V,I)=1) AND (ORD(T) GE TARR(V)) AND (ORD(T) LE TLEA(V)) )..
 248                                    FVESSTO(V,I,T) =L= FVSMAX(I)*XW(V,T);
 249  UNLOADLIL(V,I,T)$((VESSTO(V,I)=1) AND (ORD(T) GE TARR(V)) AND (ORD(T) LE TLEA(V)) )..
 250                                    FVESSTO(V,I,T) =G= FVSMIN(I)*XW(V,T);
 251  UNLOADSUM(V)..   SUM(T$((ORD(T) GE TARR(V)) AND (ORD(T) LE TLEA(V)) ),SUM(I$(VESSTO(V,I)
=1),
 252                                    FVESSTO(V,I,T))) =E= VVESINI(V);
 253  STOVOLUME(I,T).. VSTOR(I,T) =E= VSTOINI(I)
 254           +SUM(V$(VESSTO(V,I)=1),SUM(T2$( (ORD(T2) GE TARR(V))
 255           AND (ORD(T2) LE TLEA(V)) AND (ORD(T2) LE ORD(T))), FVESSTO(V,I,T2)))
 256           -SUM(T2$(ORD(T2) LE ORD(T)),SUM(J$(STOBLE(I,J)=1), FSTOBLE(I,J,T2)));
 257  BLEINLIM2(I,J,T)$(STOBLE(I,J)=1).. FSTOBLE(I,J,T) =L= FSBMAX(J)*(1-SUM(L$(BLECDU(J,L)=1)
,D(L,T,J)));
 258  BLEINLIL2(I,J,T)$(STOBLE(I,J)=1).. FSTOBLE(I,J,T) =G= FSBMIN(J)*(1-SUM(L$(BLECDU(J,L)=1)
,D(L,T,J)));
 259  BLEVOLUME(J,T).. VBLEN(J,T) =E= VBLEINI(J)
 260           +SUM(T2$(ORD(T2) LE ORD(T)),SUM(I$(STOBLE(I,J)=1), FSTOBLE(I,J,T2))
 261                                    -SUM(L$(BLECDU(J,L)=1), FBLECDU(J,L,T2)) );
 262  CHARGELIM(J,L,T)$(BLECDU(J,L)=1).. FBLECDU(J,L,T) =L= FBCMAX(J)*D(L,T,J);
 263  CHARGELIL(J,L,T)$(BLECDU(J,L)=1).. FBLECDU(J,L,T) =G= FBCMIN(J)*D(L,T,J);
 264  CHARGESUM(J).. SUM(T, SUM(L$(BLECDU(J,L)=1), FBLECDU(J,L,T)) ) =E= DM(J);
 265  VBLECOM(J,K,T).. VBCOM(J,K,T) =E= VBLEINI(J)*BCOMINI(J,K)
 266           +SUM(T2$(ORD(T2) LE ORD(T)),SUM(I$(STOBLE(I,J)=1), FSTOBLE(I,J,T2)*SCOMINI(I,K)
)
 267                                    -SUM(L$(BLECDU(J,L)=1), FBCCOM(J,L,K,T2)) );
 268  VBCOMMIN(J,K,T).. VBCOM(J,K,T) =G= VBLEN(J,T)*BCOMMIN(J,K);
 269  VBCOMMAX(J,K,T).. VBCOM(J,K,T) =L= VBLEN(J,T)*BCOMMAX(J,K);
 270  FBCOMMIN(J,L,K,T)$(BLECDU(J,L)=1).. FBCCOM(J,L,K,T) =G= FBLECDU(J,L,T)*BCOMMIN(J,K);
 271  FBCOMMAX(J,L,K,T)$(BLECDU(J,L)=1).. FBCCOM(J,L,K,T) =L= FBLECDU(J,L,T)*BCOMMAX(J,K);
 272  BLEINOUT(J,T).. SUM(L$(BLECDU(J,L)=1), D(L,T,J)) =L= 1;
 273  CHARGESEL(L,T).. SUM(J$(BLECDU(J,L)=1), D(L,T,J)) =E= 1;
 274  CHGNUMSUM.. SUM(T, SUM(J, SUM(L$(BLECDU(J,L)), D(L,T,J)) ) ) =E= SCH*NCDU ;
 275  CHGCDUN(L).. SUM(T, SUM(J$(BLECDU(J,L)=1), D(L,T,J)) )  =E= SCH;
 276  MODECHN(L,J,T)$(ORD(T) ge 2 and BLECDU(J,L)=1).. Z(L,T) =G= D(L,T-1,J)-D(L,T,J);
 277  MODECHNL.. SUM(T$(ORD(T) GE 2), SUM(L, Z(L,T)) ) =G= MODE;
 278
 279  * Define upper and lower bounds
 280  * Lower and Upper bounds on storage and blend tanks inventory level
 281    VSTOR.LO(I,T) = VSTOMIN(I);
 282    VSTOR.UP(I,T) = VSTOMAX(I);
 283    VBLEN.LO(J,T) = VBLEMIN(J);
 284    VBLEN.UP(J,T) = VBLEMAX(J);
 285
 286  * Upper bounds on transfer rate storage to blend
 287
 288  * Set all the solver options
 289    OPTION MIP = cplex;
 290  * iteration limit
 291    OPTION ITERLIM = 1000000;
 292  * resource limit
 293    OPTION RESLIM = 1000000;
 294  * optimality tolerance
 295    OPTION OPTCR = 0;
 296  option solprint =off;
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```
 297  * Define model and solve
 298    MODEL CRUDE /ALL/;
 299
 300  D.prior(L,T,J) = 1;
 301  XF.prior(V,T) = 2;
 302  XL.prior(V,T) = 2;
 303  CRUDE.PRIOROPT = 1;
 304  SOLVE CRUDE USING MIP MINIMIZING COST;
 305
 306  DISPLAY COST.L, TF.L, TL.L, VVESS.L, VSTOR.L, VBLEN.L, VBCOM.L, FBLECDU.L, XW.L, FVESSTO
.L, FSTOBLE.L, XF.L, XL.L, D.L;
 307
INCLUDE    /var/www/html/interfaces/cgi-bin/crudeoil/repm.inc
 309
 310  **
 311  **                 CRUDEOIL INTERFACE REPORT FILE FOR
 312  **                MILP MODEL WITHOUT MIXING CONSTRAINTS
 313  **
 314  PARAMETER FLOW;
 315  FLOW = SUM((I,J,T), FSTOBLE.L(I,J,T));
 316
 317  *FILE RES  /output.html/;
 318  FILE RES /"../../crudeoil/output.html"/
 319  PUT RES;
 320
 321  PUT //;
 322  PUT "<html><head><title>OUTPUT</title>"/;
 323  PUT '<style type="text/css">'/;
 324  PUT "   HR {"/;
 325  PUT "           border : thick outset #800000;"/;
 326  PUT "           font-color: #800000;"/;
 327  PUT "   }"/;
 328  PUT "   TD.ref {"/;
 329  PUT "           border : thick outset #FFFF130;"/;
 330  PUT "           background-color : #C0C0C0;"/;
 331  PUT "           padding-left : 1ex;"/;
 332  PUT "           width : 50%;"/;
 333  PUT "           font-size : small;"/;
 334  PUT "           font-color: #800000;"/;
 335  PUT "           padding-top : 6px;"/;
 336  PUT "           padding-right : 6px;"/;
 337  PUT "           padding-bottom : 6px;"/;
 338  PUT "           padding-left : 6px;"/;
 339  PUT "           text-align : 1em;"/;
 340  PUT "           vertical-align : top;"/;
 341  PUT "           font-weight : bold;"/;
 342  PUT "   }"/;
 343  PUT "</style>"/;
 344  PUT "</head><body alink=#800000 link=#800000>"/;
 345  PUT "<hr> <b>CRUDEOIL</b></hr><hr></hr><br>"//;
 346
 347
 348  *PUT RES ///;
 349  *PUT RES  "                        **   C R U D E O I L   **"/;
 350  PUT RES  "<p><table align=center><td><b>SUMMARY OF RESULTS</b></table><br>"/;
 351  PUT RES "<p><table align=center border=1 bordercolor=#800000><td>COST = "COST.L:9:2 "</t
able><br>"/;
 352
 353  *PUT RES "<p><table align=center border=1 bordercolor=#800000>"/;
 354  *PUT RES "<th colspan=3>Unloading Vessel"//
 355  *PUT RES "<tr><td>vessel<td>starting time<td>completion and departure time"//
 356  *LOOP(V,
 357  *    PUT RES "<tr><td>"V.TL;
```

```
 358  *    PUT RES "<td>"TF.L(V):6:2/;
 359  *    PUT RES "<td>"TL.L(V):6:2/;
 360  *    PUT RES /;
 361  *);
 362  *PUT RES "</table><br>"/;
 363
 364
 365  PUT RES /;
 366  *PUT RES "<p><table align=center border=1 bordercolor=#800000>"/;
 367  *PUT RES "<th colspan=3>Volume of crude oil in crude vessel"//
 368  *PUT RES "<tr><td>vessel<td>time   <td>       volume "/
 369  *LOOP(V,
 370  *     PUT RES "<tr><td>"V.TL;
 371  *     LOOP(T$(VVESS.L(V,T) GT  0),
 372  *          PUT RES "<td>"T.TL;
 373  *          PUT RES "<td>"VVESS.L(V,T):7:2/;
 374  *          PUT RES "<tr><td>"
 375  *          );
 376  *     PUT RES /;
 377  *);
 378  *PUT RES "</table><br>"/;*
 379
 380
 381  PUT RES /;
 382  *PUT RES "<p><table align=center border=2 bordercolor=#800000>"/;
 383  *PUT RES "<th colspan=3>Volume of crude oil in storage tank"//;
 384  *PUT RES "<tr><td>storage tank<td>time   <td>       volume "/;
 385  *LOOP(I,
 386  *     PUT RES "<tr><td>"I.TL;
 387  *     LOOP(T$(VSTOR.L(I,T) GT 0),
 388  *          PUT RES "<td>"T.TL;
 389  *          PUT RES "<td>"VSTOR.L(I,T):7:2/;
 390  *          PUT RES " <tr><td>                   "
 391  *          );
 392  *     PUT RES /;
 393  *);
 394  *PUT RES "</table><br>"/;*
 395
 396  PUT RES /;
 397  *PUT RES "<p><table align=center border=1 bordercolor=#800000><p>"/;
 398  *PUT RES "<table border=0>";
 399  *PUT RES "<th colspan=3>Volume of mixed oil in charging tank"//;
 400  *PUT RES "<tr><td>charging tank<td>time   <td>       volume "/;
 401  *LOOP(J,
 402  *     PUT RES "<tr><td>"J.TL;
 403  *     LOOP(T$(VBLEN.L(J,T) gt 0),
 404  *          PUT RES "   <td>"T.TL;
 405  *          PUT RES "<td>"VBLEN.L(J,T):7:2/;
 406  *          PUT RES "<tr><td>                    "
 407  *          );
 408  *     PUT RES /;
 409  *);
 410  *PUT RES "</table></table><br>"/;*
 411
 412  PUT RES /;
 413
 414  *PUT RES "<p><table align=center border=1 bordercolor=#800000>"/;
 415  *PUT RES "<th colspan=3>Volume of component in charging tank"//;
 416  *PUT RES "<tr><td>charging tank<td>time   <td>       volume "/;
 417  *LOOP(J,
 418  *     PUT RES "<tr><td>  "J.TL;
 419  *     LOOP(K,
 420  *          PUT RES " <td> "K.TL;
```

```
*          LOOP(T$(VBCOM.L(J,K,T) GT 0),
*               PUT RES " <td> "T.TL;
*               PUT RES "<td>"VBCOM.L(J,K,T):5:2/;
*               PUT RES "<tr><td> "
*          );
*     PUT RES /;
*     PUT RES "<tr><td>     "
*     );
*     PUT RES /;
*);
*PUT RES "</table><br>"/;*


PUT RES "<pre>"/;
PUT RES "     * Vessel unloding starting time:"//
PUT RES "       vessel        time"/
PUT RES "      _____________________"/
LOOP(V,
    PUT RES "       "V.TL;
    PUT RES " "TF.L(V):6:2/;
    PUT RES /;
);
PUT RES /;
PUT RES "     * Vessel unloding completion and departure time:"//
PUT RES "       vessel        time"/
PUT RES "      _____________________"/
LOOP(V,
    PUT RES "       "V.TL;
    PUT RES " "TL.L(V):6:2/;
    PUT RES /;
);
PUT RES /;
PUT RES "     * Volume of crude oil in crude vessel:"//
PUT RES "       vessel         time          volume "/
PUT RES "      ________________________________________"/
LOOP(V,
     PUT RES "        "V.TL;
     LOOP(T$(VVESS.L(V,T) GT  0),
          PUT RES "   "T.TL;
          PUT RES ""VVESS.L(V,T):7:2/;
          PUT RES "                    "
          );
     PUT RES /;
);
PUT RES /;
PUT RES "     * Volume of crude oil in storage tank:"//
PUT RES "       storage        time          volume "/
PUT RES "        tank                               "/
PUT RES "      ________________________________________"/
LOOP(I,
     PUT RES "        "I.TL;
     LOOP(T$(VSTOR.L(I,T) GT 0),
          PUT RES "   "T.TL;
          PUT RES ""VSTOR.L(I,T):7:2/;
          PUT RES "                    "
          );
     PUT RES /;
);
PUT RES /;
PUT RES "     * Volume of mixed oil in charging tank:"//
PUT RES "       charging        time          volume "/
PUT RES "        tank                               "/
PUT RES "      ________________________________________"/
```

```
LOOP(J,
     PUT RES "        "J.TL;
     LOOP(T$(VBLEN.L(J,T) gt 0),
          PUT RES "   "T.TL;
          PUT RES ""VBLEN.L(J,T):7:2/;
          PUT RES "                    "
          );
     PUT RES /;
);
PUT RES /;
PUT RES "     * Volume of component in charging tank:"//
PUT RES "       charging   component       time          volume"/
PUT RES "        tank                                        "/
PUT RES "     _____________________________________________________"/
LOOP(J,
     PUT RES "        "J.TL;
     LOOP(K,
          PUT RES "  "K.TL;
          LOOP(T$(VBCOM.L(J,K,T) GT 0),
               PUT RES "  "T.TL;
               PUT RES ""VBCOM.L(J,K,T):5:2/;
               PUT RES "                                    "
          );
     PUT RES /;
     PUT RES"                    "
     );
     PUT RES /;
);
PUT RES /;
PUT RES "     * Flow rate of crude oil from vessel to storage tank:"//
PUT RES "       vessel      storage        time        flow rate"/
PUT RES "                    tank                              "/
PUT RES "      ____________________________________________________"/
LOOP(V$TL.L(V),
     PUT RES "        "V.TL;
     LOOP(I$(VESSTO(V,I) GT 0),
        PUT RES "  "I.TL;
          LOOP(T$((XW.L(V,T)) and (VSTOR.L(I,T)) and (FVESSTO.L(V,I,T) GT 0)),
           PUT RES "  "T.TL;
           PUT RES ""FVESSTO.L(V,I,T):7:2/;
           PUT RES "                                    "
          );
     PUT RES /;
     PUT RES"                    "
     );
     PUT RES /;
);
PUT RES /;
PUT RES "     * Flow rate of crude oil from storage to charging tank:"//
PUT RES "       storage     charging        time        flow rate"/
PUT RES "        tank         tank                              "/
PUT RES "      ____________________________________________________"/
LOOP(I$(FLOW GT 0),
     PUT RES "        "I.TL;
     LOOP(J$((FLOW GT 0) AND (STOBLE(I,J) GT 0)),
        PUT RES "  "J.TL;
          LOOP(T$(FSTOBLE.L(I,J,T) GT 0),
           PUT RES "  "T.TL;
           PUT RES ""FSTOBLE.L(I,J,T):7:2/;
           PUT RES "                                    "
          );
     PUT RES /;
     PUT RES"                    "
```

```
 547       );
 548       PUT RES /;
 549    );
 550   PUT RES /;
 551   PUT RES "     * Flow rate of crude oil from charging tank to CDU:"//
 552   PUT RES "       charging       CDU         time        flow rate"/
 553   PUT RES "        tank                                          "/
 554   PUT RES "      ________________________________________________"/
 555   LOOP(J,
 556        PUT RES "        "J.TL;
 557        LOOP(L$(BLECDU(J,L) GT 0),
 558          PUT RES "  "L.TL;
 559          LOOP(T$((VBLEN.L(J,T) GT 0) AND (FBLECDU.L(J,L,T) GT 0) AND D.L(L,T,J)),
 560             PUT RES "  "T.TL;
 561             PUT RES ""FBLECDU.L(J,L,T):7:2/;
 562             PUT RES "                                    "
 563             );
 564        PUT RES /;
 565        PUT RES"                    "
 566        );
 567        PUT RES /;
 568   );
 569   PUT RES /;
 570
 571
 572   put res "</pre>"/;
 573
 574
 575   PUT "<br><table align=center>"/;
 576
 577   PUT '<td class="ref">'/;
 578   PUT '<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=1" target=new_window>Vessel Uloading
 Schedule</A><tr>'/;
 579   PUT $(card(l) ge 1)'<td class="ref">'/;
 580   PUT $(card(l) ge 1)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=6" target=new_window>
Crude Distillation Unit 1 Discharging Schedule</A><tr>'/;
 581   PUT $(card(l) ge 2)'<td class="ref">'/;
 582   PUT $(card(l) ge 2)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=7" target=new_window>
Crude Distillation Unit 2 Discharging Schedule</A><tr>'/;
 583   PUT $(card(l) ge 3)'<td class="ref">'/;
 584   PUT $(card(l) ge 3)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=8" target=new_window>
Crude Distillation Unit 3 Discharging Schedule</A><tr>'/;
 585   PUT $(card(l) ge 4)'<td class="ref">'/;
 586   PUT $(card(l) ge 4)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=9" target=new_window>
Crude Distillation Unit 4 Discharging Schedule</A><tr>'/;
 587   PUT $(card(l) ge 5)'<td class="ref">'/;
 588   PUT $(card(l) ge 5)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=10" target=new_window
>Crude Distillation Unit 5 Discharging Schedule</A><tr>'/;
 589
 590   PUT $(card(i) ge 1)'<td class="ref">'/;
 591   PUT $(card(i) ge 1)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=11" target=new_window
>Volume of Crude Oil in Storage Tank 1</A><tr>'/;
 592   PUT $(card(i) ge 2)'<td class="ref">'/;
 593   PUT $(card(i) ge 2)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=12" target=new_window
>Volume of Crude Oil in Storage Tank 2</A><tr>'/;
 594   PUT $(card(i) ge 3)'<td class="ref">'/;
 595   PUT $(card(i) ge 3)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=13" target=new_window
>Volume of Crude Oil in Storage Tank 3</A><tr>'/;
 596   PUT $(card(i) ge 4)'<td class="ref">'/;
 597   PUT $(card(i) ge 4)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=14" target=new_window
>Volume of Crude Oil in Storage Tank 4</A><tr>'/;
 598   PUT $(card(i) ge 5)'<td class="ref">'/;
 599   PUT $(card(i) ge 5)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=15" target=new_window
```

```
>Volume of Crude Oil in Storage Tank 5</A><tr>'/;
 600  PUT $(card(i) ge 6)'<td class="ref">'/;
 601  PUT $(card(i) ge 6)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=16" target=new_window
>Volume of Crude Oil in Storage Tank 6</A><tr>'/;
 602  PUT $(card(i) ge 7)'<td class="ref">'/;
 603  PUT $(card(i) ge 7)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=17" target=new_window
>Volume of Crude Oil in Storage Tank 7</A><tr>'/;
 604  PUT $(card(i) ge 8)'<td class="ref">'/;
 605  PUT $(card(i) ge 8)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=18" target=new_window
>Volume of Crude Oil in Storage Tank 8</A><tr>'/;
 606  PUT $(card(i) ge 9)'<td class="ref">'/;
 607  PUT $(card(i) ge 9)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=19" target=new_window
>Volume of Crude Oil in Storage Tank 9</A><tr>'/;
 608  PUT $(card(i) ge 10)'<td class="ref">'/;
 609  PUT $(card(i) ge 10)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=20" target=new_windo
w>Volume of Crude Oil in Storage Tank 10</A><tr>'/;
 610
 611  PUT $(card(j) ge 1)'<td class="ref">'/;
 612  PUT $(card(j) ge 1)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=21" target=new_window
>Volume of Crude Oil in Charging Tank 1</A><tr>'/;
 613  PUT $(card(j) ge 2)'<td class="ref">'/;
 614  PUT $(card(j) ge 2)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=22" target=new_window
>Volume of Crude Oil in Charging Tank 2</A><tr>'/;
 615  PUT $(card(j) ge 3)'<td class="ref">'/;
 616  PUT $(card(j) ge 3)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=23" target=new_window
>Volume of Crude Oil in Charging Tank 3</A><tr>'/;
 617  PUT $(card(j) ge 4)'<td class="ref">'/;
 618  PUT $(card(j) ge 4)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=24" target=new_window
>Volume of Crude Oil in Charging Tank 4</A><tr>'/;
 619  PUT $(card(j) ge 5)'<td class="ref">'/;
 620  PUT $(card(j) ge 5)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=25" target=new_window
>Volume of Crude Oil in Charging Tank 5</A><tr>'/;
 621  PUT $(card(j) ge 6)'<td class="ref">'/;
 622  PUT $(card(j) ge 6)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=26" target=new_window
>Volume of Crude Oil in Charging Tank 6</A><tr>'/;
 623  PUT $(card(j) ge 7)'<td class="ref">'/;
 624  PUT $(card(j) ge 7)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=27" target=new_window
>Volume of Crude Oil in Charging Tank 7</A><tr>'/;
 625  PUT $(card(j) ge 8)'<td class="ref">'/;
 626  PUT $(card(j) ge 8)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=28" target=new_window
>Volume of Crude Oil in Charging Tank 8</A><tr>'/;
 627  PUT $(card(j) ge 9)'<td class="ref">'/;
 628  PUT $(card(j) ge 9)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=29" target=new_window
>Volume of Crude Oil in Charging Tank 9</A><tr>'/;
 629  PUT $(card(j) ge 10)'<td class="ref">'/;
 630  PUT $(card(j) ge 10)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=30" target=new_windo
w>Volume of Crude Oil in Charging Tank 10</A><tr>'/;
 631
 632  PUT $(card(j) ge 1)'<td class="ref">'/;
 633  PUT $(card(j) ge 1)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=31" target=new_window
>'/;
 634  PUT $(card(j) ge 1)'Component 1 Concentration in Charging Tank 1</A><tr>'/;
 635  PUT $(card(j) ge 2)'<td class="ref">'/;
 636  PUT $(card(j) ge 2)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=32" target=new_window
>'/;
 637  PUT $(card(j) ge 2)'Component 1 Concentration in Charging Tank 2</A><tr>'/;
 638  PUT $(card(j) ge 3)'<td class="ref">'/;
 639  PUT $(card(j) ge 3)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=33" target=new_window
>'/;
 640  PUT $(card(j) ge 3)'Component 1 Concentration in Charging Tank 3</A><tr>'/;
 641  PUT $(card(j) ge 4)'<td class="ref">'/;
 642  PUT $(card(j) ge 4)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=34" target=new_window
>'/;
```

```
 643  PUT $(card(j) ge 4)'Component 1 Concentration in Charging Tank 4</A><tr>'/;
 644  PUT $(card(j) ge 5)'<td class="ref">'/;
 645  PUT $(card(j) ge 5)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=35" target=new_window
>'/;
 646  PUT $(card(j) ge 5)'Component 1 Concentration in Charging Tank 5</A><tr>'/;
 647  PUT $(card(j) ge 6)'<td class="ref">'/;
 648  PUT $(card(j) ge 6)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=36" target=new_window
>'/;
 649  PUT $(card(j) ge 6)'Component 1 Concentration in Charging Tank 6</A><tr>'/;
 650  PUT $(card(j) ge 7)'<td class="ref">'/;
 651  PUT $(card(j) ge 7)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=37" target=new_window
>'/;
 652  PUT $(card(j) ge 7)'Component 1 Concentration in Charging Tank 7</A><tr>'/;
 653  PUT $(card(j) ge 8)'<td class="ref">'/;
 654  PUT $(card(j) ge 8)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=38" target=new_window
>'/;
 655  PUT $(card(j) ge 8)'Component 1 Concentration in Charging Tank 8</A><tr>'/;
 656  PUT $(card(j) ge 9)'<td class="ref">'/;
 657  PUT $(card(j) ge 9)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=39" target=new_window
>'/;
 658  PUT $(card(j) ge 9)'Component 1 Concentration in Charging Tank 9</A><tr>'/;
 659  PUT $(card(j) ge 10)'<td class="ref">'/;
 660  PUT $(card(j) ge 10)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=40" target=new_windo
w>'/;
 661  PUT $(card(j) ge 10)'Component 1 Concentration in Charging Tank 10</A><tr>'/;
 662
 663  if(card(k) ge 2,
 664  PUT $(card(j) ge 1)'<td class="ref">'/;
 665  PUT $(card(j) ge 1)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=41" target=new_window
>'/;
 666  PUT $(card(j) ge 1)'Component 2 Concentration in Charging Tank 1</A><tr>'/;
 667  PUT $(card(j) ge 2)'<td class="ref">'/;
 668  PUT $(card(j) ge 2)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=42" target=new_window
>'/;
 669  PUT $(card(j) ge 2)'Component 2 Concentration in Charging Tank 2</A><tr>'/;
 670  PUT $(card(j) ge 3)'<td class="ref">'/;
 671  PUT $(card(j) ge 3)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=43" target=new_window
>'/;
 672  PUT $(card(j) ge 3)'Component 2 Concentration in Charging Tank 3</A><tr>'/;
 673  PUT $(card(j) ge 4)'<td class="ref">'/;
 674  PUT $(card(j) ge 4)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=44" target=new_window
>'/;
 675  PUT $(card(j) ge 4)'Component 2 Concentration in Charging Tank 4</A><tr>'/;
 676  PUT $(card(j) ge 5)'<td class="ref">'/;
 677  PUT $(card(j) ge 5)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=45" target=new_window
>'/;
 678  PUT $(card(j) ge 5)'Component 2 Concentration in Charging Tank 5</A><tr>'/;
 679  PUT $(card(j) ge 6)'<td class="ref">'/;
 680  PUT $(card(j) ge 6)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=46" target=new_window
>'/;
 681  PUT $(card(j) ge 6)'Component 2 Concentration in Charging Tank 6</A><tr>'/;
 682  PUT $(card(j) ge 7)'<td class="ref">'/;
 683  PUT $(card(j) ge 7)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=47" target=new_window
>'/;
 684  PUT $(card(j) ge 7)'Component 2 Concentration in Charging Tank 7</A><tr>'/;
 685  PUT $(card(j) ge 8)'<td class="ref">'/;
 686  PUT $(card(j) ge 8)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=48" target=new_window
>'/;
 687  PUT $(card(j) ge 8)'Component 2 Concentration in Charging Tank 8</A><tr>'/;
 688  PUT $(card(j) ge 9)'<td class="ref">'/;
 689  PUT $(card(j) ge 9)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=49" target=new_window
>'/;
 690  PUT $(card(j) ge 9)'Component 2 Concentration in Charging Tank 9</A><tr>'/;
```

```
 691  PUT $(card(j) ge 10)'<td class="ref">'/;
 692  PUT $(card(j) ge 10)'<A HREF="./../cgi-bin/crudeoil/graph.cgi?graph=50" target=new_windo
w>'/;
 693  PUT $(card(j) ge 10)'Component 2 Concentration in Charging Tank 10</A><tr>'/;
 694  );
 695
 696
 697  PUT "</table><p><br><table align=center>"/;
 698  PUT  '<tr><td class="ref"><a href="model.pdf" target=new_window>VIEW GAMS LIST FILE</a>'
/;
 699  PUT  "</table></body></html>"/;
 700
 701
INCLUDE    /var/www/html/interfaces/cgi-bin/crudeoil/plot.inc
 703  *                   PLOTTING INPUT FILE FOR CRUDEOIL INTERFACE
 704  *                              August, 1995
 705
 706  PARAMETERS   MVVESS, MVSTOR, TT, MVBLEN , MNVBCOM, NVBCOM, MFBLECDU;
 707  SCALAR    INCR1, INCR2, INCR3, INCR4, INCR5;
 708            INCR1  = 0.50;
 709            INCR5  = 0.70;
 710            INCR2  = 0.40;
 711            INCR3  = 0.25;
 712  SET       M   /1*100/;
 713
 714  MVVESS   = SMAX(V, VVESINI(V));
 715  MVSTOR   = SMAX((I,T), VSTOR.L(I,T));
 716  MVBLEN   = SMAX((J,T), VBLEN.L(J,T));
 717  MFBLECDU = SMAX((J,L,T), FBLECDU.L(J,L,T));
 718  TT       = CARD(T);
 719  NVBCOM(J,K,T)$(VBLEN.L(J,T) GT 0) = VBCOM.L(J,K,T)/VBLEN.L(J,T);
 720  NVBCOM(J,K,T)$(VBLEN.L(J,T) eq 0) = BCOMINI(J,K);
 721  MNVBCOM  = SMAX((J,K,T), NVBCOM(J,K,T));
 722
 723  FILE RES2 /vessel.plot/;
 724  PUT RES2;
 725  LOOP(V,
 726        PUT RES2 "  "(TF.L(V) - 1):5:2;
 727        PUT RES2 "     0"/;
 728        PUT RES2 "  "(TF.L(V) - 1):5:2;
 729        PUT RES2 "    "VVESINI(V):5:2/;
 730   LOOP(T$((VVESS.L(V,T) GT 0) AND XW.L(V,T) GT 0),
 731        PUT RES2 "  "T.TL;
 732        PUT RES2 "    "VVESS.L(V,T):5:2/;
 733    );
 734        PUT RES2 "  "TL.L(V):5:2;
 735        PUT RES2 "     0"//;
 736  );
 737  FILE RES3 /vessel.dem/;
 738  PUT RES3;
 739  PUT RES3 "set title 'CRUDEOIL:    VESSEL UNLOADING SCHEDULE' "/;
 740  PUT RES3 "set xlabel ' Time' "/;
 741  PUT RES3 "set ylabel ' Volume' "/;
 742  PUT RES3 "set nogrid"/;
 743  PUT RES3 "set nokey"/;
 744  PUT RES3 "set yrange [ 0 :"(MVVESS + 10):3:0;
 745  PUT RES3 "]"/;
 746  PUT RES3 "set xrange [ 0 :"(TT):5:1;
 747  PUT RES3 "]"/;
 748  PUT RES3 "set xtics 0,1,"(TT):5:1/;
 749  LOOP(V,
 750  PUT RES3 "set label '";
 751  PUT RES3 "Vessel "ORD(V):1:0;
```

```
 752  PUT RES3 " ’ at "(TF.L(V)-0.9):5:1;
 753  PUT RES3 " , "(MVVESS+2):3:0;
 754  PUT RES3 " left"/;
 755  );
 756  PUT RES3 "set time"/;
 757  PUT RES3 "plot ’vessel.plot’ with lines"/;
 758  PUT RES3 "pause 0 ’ ’ "/;
 759  PUT RES3 "pause 0 ’ ’ "/;
 760  PUT RES3 "pause 0 ’ ’ "/;
 761  PUT RES3 "pause 0 ’ ’ "/;
 762  *PUT RES3 "pause -1 ’                    Press Return ’ "/;
 763  PUT RES3 "set terminal png"/;
 764  PUT RES3 "set nogrid"/;
 765  PUT RES3 "set time"/;
 766  PUT RES3 "set output’../../crudeoil/vessel.png’ "/;
 767  PUT RES3 "replot";
 768
 769  FILE RES4 /storage_tank1/;
 770  PUT RES4;
 771  PUT RES4 "#VOLUME OF CRUDE OIL IN STORAGE TANK 1"///;
 772  LOOP(I,
 773       PUT$( ORD(I) EQ 1) RES4 "   0";
 774       PUT$( ORD(I) EQ 1) RES4 "  "VSTOINI(I):7:4/;
 775   LOOP(T,
 776       PUT$( ORD(I) EQ 1) RES4 "  "T.TL;
 777       PUT$( ORD(I) EQ 1) RES4 "  "VSTOR.L(I,T):7:4/;
 778    );
 779  );
 780  FILE RES5 /storage_tank2/;
 781  PUT RES5;
 782  PUT RES5 "#VOLUME OF CRUDE OIL IN STORAGE TANK 2"///;
 783  LOOP(I,
 784       PUT$( ORD(I) EQ 2) RES5 "   0";
 785       PUT$( ORD(I) EQ 2) RES5 "  "VSTOINI(I):7:4/;
 786    LOOP(T,
 787       PUT$( ORD(I) EQ 2) RES5 " "T.TL;
 788       PUT$( ORD(I) EQ 2) RES5 "  "VSTOR.L(I,T):7:4/;
 789    );
 790  );
 791  FILE RES6 /storage_tank3/;
 792  PUT RES6;
 793  PUT RES6 "#VOLUME OF CRUDE OIL IN STORAGE TANK 3"///;
 794  LOOP(I,
 795       PUT$( ORD(I) EQ 3) RES6 "   0";
 796       PUT$( ORD(I) EQ 3) RES6 "  "VSTOINI(I):7:4/;
 797    LOOP(T,
 798       PUT$( ORD(I) EQ 3) RES6 " "T.TL;
 799       PUT$( ORD(I) EQ 3) RES6 "  "VSTOR.L(I,T):7:4/;
 800    );
 801  );
 802  FILE RES7 /storage_tank4/;
 803  PUT RES7;
 804  PUT RES7 "#VOLUME OF CRUDE OIL IN STORAGE TANK 4"///;
 805  LOOP(I,
 806       PUT$( ORD(I) EQ 4) RES7 "   0";
 807       PUT$( ORD(I) EQ 4) RES7 "  "VSTOINI(I):7:4/;
 808    LOOP(T,
 809       PUT$( ORD(I) EQ 4) RES7 " "T.TL;
 810       PUT$( ORD(I) EQ 4) RES7 "  "VSTOR.L(I,T):7:4/;
 811    );
 812  );
 813  FILE RES40 /storage_tank5/;
 814  PUT RES40;
```

```
 815  PUT RES40 "#VOLUME OF CRUDE OIL IN STORAGE TANK 5"///;
 816  LOOP(I,
 817       PUT$( ORD(I) EQ 5) RES40 "   0";
 818       PUT$( ORD(I) EQ 5) RES40 "  "VSTOINI(I):7:4/;
 819    LOOP(T,
 820       PUT$( ORD(I) EQ 5) RES40 " "T.TL;
 821       PUT$( ORD(I) EQ 5) RES40 "  "VSTOR.L(I,T):7:4/;
 822    );
 823  );
 824  FILE RES41 /storage_tank6/;
 825  PUT RES41;
 826  PUT RES41 "#VOLUME OF CRUDE OIL IN STORAGE TANK 6"///;
 827  LOOP(I,
 828       PUT$( ORD(I) EQ 6) RES41 "   0";
 829       PUT$( ORD(I) EQ 6) RES41 "  "VSTOINI(I):7:4/;
 830    LOOP(T,
 831       PUT$( ORD(I) EQ 6) RES41 " "T.TL;
 832       PUT$( ORD(I) EQ 6) RES41 "  "VSTOR.L(I,T):7:4/;
 833    );
 834  );
 835  FILE RES100 /storage_tank7/;
 836  PUT RES100;
 837  PUT RES100 "#VOLUME OF CRUDE OIL IN STORAGE TANK 7"///;
 838  LOOP(I,
 839       PUT$( ORD(I) EQ 7) RES100 "   0";
 840       PUT$( ORD(I) EQ 7) RES100 "  "VSTOINI(I):7:4/;
 841    LOOP(T,
 842       PUT$( ORD(I) EQ 7) RES100 " "T.TL;
 843       PUT$( ORD(I) EQ 7) RES100 "  "VSTOR.L(I,T):7:4/;
 844    );
 845  );
 846  FILE RES101 /storage_tank8/;
 847  PUT RES101;
 848  PUT RES101 "#VOLUME OF CRUDE OIL IN STORAGE TANK 8"///;
 849  LOOP(I,
 850       PUT$( ORD(I) EQ 8) RES101 "   0";
 851       PUT$( ORD(I) EQ 8) RES101 "  "VSTOINI(I):7:4/;
 852    LOOP(T,
 853       PUT$( ORD(I) EQ 8) RES101 " "T.TL;
 854       PUT$( ORD(I) EQ 8) RES101 "  "VSTOR.L(I,T):7:4/;
 855    );
 856  );
 857  FILE RES102 /storage_tank9/;
 858  PUT RES102;
 859  PUT RES102 "#VOLUME OF CRUDE OIL IN STORAGE TANK 9"///;
 860  LOOP(I,
 861       PUT$( ORD(I) EQ 9) RES102 "   0";
 862       PUT$( ORD(I) EQ 9) RES102 "  "VSTOINI(I):7:4/;
 863    LOOP(T,
 864       PUT$( ORD(I) EQ 9) RES102 " "T.TL;
 865       PUT$( ORD(I) EQ 9) RES102 "  "VSTOR.L(I,T):7:4/;
 866    );
 867  );
 868  FILE RES103 /storage_tank10/;
 869  PUT RES103;
 870  PUT RES103 "#VOLUME OF CRUDE OIL IN STORAGE TANK 10"///;
 871  LOOP(I,
 872       PUT$( ORD(I) EQ 10) RES102 "   0";
 873       PUT$( ORD(I) EQ 10) RES102 "  "VSTOINI(I):7:4/;
 874    LOOP(T,
 875       PUT$( ORD(I) EQ 10) RES102 " "T.TL;
 876       PUT$( ORD(I) EQ 10) RES102 "  "VSTOR.L(I,T):7:4/;
 877    );
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 878  );
 879  FILE RES9 /charging_tank1/;
 880  PUT RES9;
 881  PUT RES9 "#VOLUME OF MIXED OIL IN CHARGING TANK 1"///;
 882  LOOP(J,
 883       PUT$( ORD(J) EQ 1) RES9 "   0";
 884       PUT$( ORD(J) EQ 1) RES9 "  "VBLEINI(J):7:4/;
 885    LOOP(T,
 886       PUT$( ORD(J) EQ 1) RES9 "  "T.TL;
 887       PUT$( ORD(J) EQ 1) RES9 "  "VBLEN.L(J,T):7:4/;
 888    );
 889  );
 890  FILE RES10 /charging_tank2/;
 891  PUT RES10;
 892  PUT RES10 "#VOLUME OF MIXED OIL IN CHARGING TANK 2"///;
 893  LOOP(J,
 894       PUT$( ORD(J) EQ 2) RES10 "   0";
 895       PUT$( ORD(J) EQ 2) RES10 "  "VBLEINI(J):7:4/;
 896    LOOP(T,
 897       PUT$( ORD(J) EQ 2) RES10 "  "T.TL;
 898       PUT$( ORD(J) EQ 2) RES10 "  "VBLEN.L(J,T):7:4/;
 899    );
 900  );
 901  FILE RES11 /charging_tank3/;
 902  PUT RES11;
 903  PUT RES11 "#VOLUME OF MIXED OIL IN CHARGING TANK 3"///;
 904  LOOP(J,
 905       PUT$( ORD(J) EQ 3) RES11 "   0";
 906       PUT$( ORD(J) EQ 3) RES11 "  "VBLEINI(J):7:4/;
 907    LOOP(T,
 908       PUT$( ORD(J) EQ 3) RES11 "  "T.TL;
 909       PUT$( ORD(J) EQ 3) RES11 "  "VBLEN.L(J,T):7:4/;
 910    );
 911  );
 912  FILE RES12 /charging_tank4/;
 913  PUT RES12;
 914  PUT RES12 "#VOLUME OF MIXED OIL IN CHARGING TANK 4"///;
 915  LOOP(J,
 916       PUT$( ORD(J) EQ 4) RES12 "   0";
 917       PUT$( ORD(J) EQ 4) RES12 "  "VBLEINI(J):7:4/;
 918    LOOP(T,
 919       PUT$( ORD(J) EQ 4) RES12 "  "T.TL;
 920       PUT$( ORD(J) EQ 4) RES12 "  "VBLEN.L(J,T):7:4/;
 921    );
 922  );
 923  FILE RES42 /charging_tank5/;
 924  PUT RES42;
 925  PUT RES42 "#VOLUME OF MIXED OIL IN CHARGING TANK 5"///;
 926  LOOP(J,
 927       PUT$( ORD(J) EQ 5) RES42 "   0";
 928       PUT$( ORD(J) EQ 5) RES42 "  "VBLEINI(J):7:4/;
 929    LOOP(T,
 930       PUT$( ORD(J) EQ 5) RES42 "  "T.TL;
 931       PUT$( ORD(J) EQ 5) RES42 "  "VBLEN.L(J,T):7:4/;
 932    );
 933  );
 934  FILE RES43 /charging_tank6/;
 935  PUT RES43;
 936  PUT RES43 "#VOLUME OF MIXED OIL IN CHARGING TANK 6"///;
 937  LOOP(J,
 938       PUT$( ORD(J) EQ 6) RES43 "   0";
 939       PUT$( ORD(J) EQ 6) RES43 "  "VBLEINI(J):7:4/;
 940    LOOP(T,
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 941       PUT$( ORD(J) EQ 6) RES43 "  "T.TL;
 942       PUT$( ORD(J) EQ 6) RES43 "  "VBLEN.L(J,T):7:4/;
 943    );
 944  );
 945  FILE RES104 /charging_tank7/;
 946  PUT RES104;
 947  PUT RES104 "#VOLUME OF MIXED OIL IN CHARGING TANK 7"///;
 948  LOOP(J,
 949       PUT$( ORD(J) EQ 7) RES104 "   0";
 950       PUT$( ORD(J) EQ 7) RES104 "  "VBLEINI(J):7:4/;
 951    LOOP(T,
 952       PUT$( ORD(J) EQ 7) RES104 "  "T.TL;
 953       PUT$( ORD(J) EQ 7) RES104 "  "VBLEN.L(J,T):7:4/;
 954    );
 955  );
 956  FILE RES105 /charging_tank8/;
 957  PUT RES105;
 958  PUT RES105 "#VOLUME OF MIXED OIL IN CHARGING TANK 8"///;
 959  LOOP(J,
 960       PUT$( ORD(J) EQ 8) RES105 "   0";
 961       PUT$( ORD(J) EQ 8) RES105 "  "VBLEINI(J):7:4/;
 962    LOOP(T,
 963       PUT$( ORD(J) EQ 8) RES105 "  "T.TL;
 964       PUT$( ORD(J) EQ 8) RES105 "  "VBLEN.L(J,T):7:4/;
 965    );
 966  );
 967  FILE RES106 /charging_tank9/;
 968  PUT RES106;
 969  PUT RES106 "#VOLUME OF MIXED OIL IN CHARGING TANK 9"///;
 970  LOOP(J,
 971       PUT$( ORD(J) EQ 9) RES106 "   0";
 972       PUT$( ORD(J) EQ 9) RES106 "  "VBLEINI(J):7:4/;
 973    LOOP(T,
 974       PUT$( ORD(J) EQ 9) RES106 "  "T.TL;
 975       PUT$( ORD(J) EQ 9) RES106 "  "VBLEN.L(J,T):7:4/;
 976    );
 977  );
 978  FILE RES107 /charging_tank10/;
 979  PUT RES107;
 980  PUT RES107 "#VOLUME OF MIXED OIL IN CHARGING TANK 10"///;
 981  LOOP(J,
 982       PUT$( ORD(J) EQ 10) RES107 "   0";
 983       PUT$( ORD(J) EQ 10) RES107 "  "VBLEINI(J):7:4/;
 984    LOOP(T,
 985       PUT$( ORD(J) EQ 10) RES107 "  "T.TL;
 986       PUT$( ORD(J) EQ 10) RES107 "  "VBLEN.L(J,T):7:4/;
 987    );
 988  );
 989  FILE RES24 /component1_chargingtank1/;
 990  PUT RES24;
 991  PUT RES24 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 1"///;
 992  LOOP(J,
 993   LOOP(K,
 994       PUT$(( ORD(J) EQ 1) AND (ORD(K) EQ 1)) RES24 "   0";
 995       PUT$(( ORD(J) EQ 1) AND (ORD(K) EQ 1)) RES24 "  "BCOMINI(J,K):7:4/;
 996    LOOP(T,
 997       PUT$(( ORD(J) EQ 1) AND (ORD(K) EQ 1)) RES24 "  "T.TL;
 998       PUT$(( ORD(J) EQ 1) AND (ORD(K) EQ 1)) RES24 "  "NVBCOM(J,K,T):7:4/;
 999    );
1000   );
1001  );
1002  FILE RES25 /component2_chargingtank1/;
1003  PUT RES25;
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1004  PUT RES25 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 1"///;
1005  LOOP(J,
1006   LOOP(K,
1007       PUT$(( ORD(J) EQ 1) AND (ORD(K) EQ 2)) RES25 "   0";
1008       PUT$(( ORD(J) EQ 1) AND (ORD(K) EQ 2)) RES25 "  "BCOMINI(J,K):7:4/;
1009    LOOP(T,
1010       PUT$(( ORD(J) EQ 1) AND (ORD(K) EQ 2)) RES25 "  "T.TL;
1011       PUT$(( ORD(J) EQ 1) AND (ORD(K) EQ 2)) RES25 "  "NVBCOM(J,K,T):7:4/;
1012    );
1013   );
1014  );
1015  FILE RES26 /component1_chargingtank2/;
1016  PUT RES26;
1017  PUT RES26 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 2"///;
1018  LOOP(J,
1019   LOOP(K,
1020       PUT$(( ORD(J) EQ 2) AND (ORD(K) EQ 1)) RES26 "   0";
1021       PUT$(( ORD(J) EQ 2) AND (ORD(K) EQ 1)) RES26 "  "BCOMINI(J,K):7:4/;
1022    LOOP(T,
1023       PUT$(( ORD(J) EQ 2) AND (ORD(K) EQ 1)) RES26 " "T.TL;
1024       PUT$(( ORD(J) EQ 2) AND (ORD(K) EQ 1)) RES26 "  "NVBCOM(J,K,T):7:4/;
1025    );
1026   );
1027  );
1028  FILE RES27 /component2_chargingtank2/;
1029  PUT RES27;
1030  PUT RES27 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 2"///;
1031  LOOP(J,
1032   LOOP(K,
1033       PUT$(( ORD(J) EQ 2) AND (ORD(K) EQ 2)) RES27 "   0";
1034       PUT$(( ORD(J) EQ 2) AND (ORD(K) EQ 2)) RES27 "  "BCOMINI(J,K):7:4/;
1035    LOOP(T,
1036       PUT$(( ORD(J) EQ 2) AND (ORD(K) EQ 2)) RES27 "  "T.TL;
1037       PUT$(( ORD(J) EQ 2) AND (ORD(K) EQ 2)) RES27 "  "NVBCOM(J,K,T):7:4/;
1038    );
1039   );
1040  );
1041  FILE RES28 /component1_chargingtank3/;
1042  PUT RES28;
1043  PUT RES28 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 3"///;
1044  LOOP(J,
1045   LOOP(K,
1046       PUT$(( ORD(J) EQ 3) AND (ORD(K) EQ 1)) RES28 "   0";
1047       PUT$(( ORD(J) EQ 3) AND (ORD(K) EQ 1)) RES28 "  "BCOMINI(J,K):7:4/;
1048    LOOP(T,
1049       PUT$(( ORD(J) EQ 3) AND (ORD(K) EQ 1)) RES28 "  "T.TL;
1050       PUT$(( ORD(J) EQ 3) AND (ORD(K) EQ 1)) RES28 "  "NVBCOM(J,K,T):7:4/;
1051    );
1052   );
1053  );
1054  FILE RES29 /component2_chargingtank3/;
1055  PUT RES29;
1056  PUT RES29 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 3"///;
1057  LOOP(J,
1058   LOOP(K,
1059       PUT$(( ORD(J) EQ 3) AND (ORD(K) EQ 2)) RES29 "   0";
1060       PUT$(( ORD(J) EQ 3) AND (ORD(K) EQ 2)) RES29 "  "BCOMINI(J,K):7:4/;
1061    LOOP(T,
1062       PUT$(( ORD(J) EQ 3) AND (ORD(K) EQ 2)) RES29 "  "T.TL;
1063       PUT$(( ORD(J) EQ 3) AND (ORD(K) EQ 2)) RES29 "  "NVBCOM(J,K,T):7:4/;
1064    );
1065   );
1066  );
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1067  FILE RES50 /component1_chargingtank4/;
1068  PUT RES50;
1069  PUT RES50 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 4"///;
1070  LOOP(J,
1071   LOOP(K,
1072       PUT$(( ORD(J) EQ 4) AND (ORD(K) EQ 1)) RES50 "   0";
1073       PUT$(( ORD(J) EQ 4) AND (ORD(K) EQ 1)) RES50 "  "BCOMINI(J,K):7:4/;
1074    LOOP(T,
1075       PUT$(( ORD(J) EQ 4) AND (ORD(K) EQ 1)) RES50 "  "T.TL;
1076       PUT$(( ORD(J) EQ 4) AND (ORD(K) EQ 1)) RES50 "  "NVBCOM(J,K,T):7:4/;
1077    );
1078   );
1079  );
1080  FILE RES51 /component2_chargingtank4/;
1081  PUT RES51;
1082  PUT RES51 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 4"///;
1083  LOOP(J,
1084   LOOP(K,
1085       PUT$(( ORD(J) EQ 4) AND (ORD(K) EQ 2)) RES51 "   0";
1086       PUT$(( ORD(J) EQ 4) AND (ORD(K) EQ 2)) RES51 "  "BCOMINI(J,K):7:4/;
1087    LOOP(T,
1088       PUT$(( ORD(J) EQ 4) AND (ORD(K) EQ 2)) RES51 "  "T.TL;
1089       PUT$(( ORD(J) EQ 4) AND (ORD(K) EQ 2)) RES51 "  "NVBCOM(J,K,T):7:4/;
1090    );
1091   );
1092  );
1093  FILE RES52 /component1_chargingtank5/;
1094  PUT RES52;
1095  PUT RES52 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 5"///;
1096  LOOP(J,
1097   LOOP(K,
1098       PUT$(( ORD(J) EQ 5) AND (ORD(K) EQ 1)) RES52 "   0";
1099       PUT$(( ORD(J) EQ 5) AND (ORD(K) EQ 1)) RES52 "  "BCOMINI(J,K):7:4/;
1100    LOOP(T,
1101       PUT$(( ORD(J) EQ 5) AND (ORD(K) EQ 1)) RES52 "  "T.TL;
1102       PUT$(( ORD(J) EQ 5) AND (ORD(K) EQ 1)) RES52 "  "NVBCOM(J,K,T):7:4/;
1103    );
1104   );
1105  );
1106  FILE RES53 /component2_chargingtank5/;
1107  PUT RES53;
1108  PUT RES53 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 5"///;
1109  LOOP(J,
1110   LOOP(K,
1111       PUT$(( ORD(J) EQ 5) AND (ORD(K) EQ 2)) RES53 "   0";
1112       PUT$(( ORD(J) EQ 5) AND (ORD(K) EQ 2)) RES53 "  "BCOMINI(J,K):7:4/;
1113    LOOP(T,
1114       PUT$(( ORD(J) EQ 5) AND (ORD(K) EQ 2)) RES53 "  "T.TL;
1115       PUT$(( ORD(J) EQ 5) AND (ORD(K) EQ 2)) RES53 "  "NVBCOM(J,K,T):7:4/;
1116    );
1117   );
1118  );
1119  FILE RES108 /component1_chargingtank6/;
1120  PUT RES108;
1121  PUT RES108 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 6"///;
1122  LOOP(J,
1123   LOOP(K,
1124       PUT$(( ORD(J) EQ 6) AND (ORD(K) EQ 1)) RES108 "   0";
1125       PUT$(( ORD(J) EQ 6) AND (ORD(K) EQ 1)) RES108 "  "BCOMINI(J,K):7:4/;
1126    LOOP(T,
1127       PUT$(( ORD(J) EQ 6) AND (ORD(K) EQ 1)) RES108 "  "T.TL;
1128       PUT$(( ORD(J) EQ 6) AND (ORD(K) EQ 1)) RES108 "  "NVBCOM(J,K,T):7:4/;
1129    );
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1130   );
1131  );
1132  FILE RES109 /component2_chargingtank6/;
1133  PUT RES109;
1134  PUT RES109 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 6"///;
1135  LOOP(J,
1136   LOOP(K,
1137       PUT$(( ORD(J) EQ 6) AND (ORD(K) EQ 2)) RES109 "   0";
1138       PUT$(( ORD(J) EQ 6) AND (ORD(K) EQ 2)) RES109 "  "BCOMINI(J,K):7:4/;
1139    LOOP(T,
1140       PUT$(( ORD(J) EQ 6) AND (ORD(K) EQ 2)) RES109 "  "T.TL;
1141       PUT$(( ORD(J) EQ 6) AND (ORD(K) EQ 2)) RES109 "  "NVBCOM(J,K,T):7:4/;
1142    );
1143   );
1144  );
1145  FILE RES110 /component1_chargingtank7/;
1146  PUT RES110;
1147  PUT RES110 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 7"///;
1148  LOOP(J,
1149   LOOP(K,
1150       PUT$(( ORD(J) EQ 7) AND (ORD(K) EQ 1)) RES110 "   0";
1151       PUT$(( ORD(J) EQ 7) AND (ORD(K) EQ 1)) RES110 "  "BCOMINI(J,K):7:4/;
1152    LOOP(T,
1153       PUT$(( ORD(J) EQ 7) AND (ORD(K) EQ 1)) RES110 "  "T.TL;
1154       PUT$(( ORD(J) EQ 7) AND (ORD(K) EQ 1)) RES110 "  "NVBCOM(J,K,T):7:4/;
1155    );
1156   );
1157  );
1158  FILE RES111 /component2_chargingtank7/;
1159  PUT RES111;
1160  PUT RES111 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 7"///;
1161  LOOP(J,
1162   LOOP(K,
1163       PUT$(( ORD(J) EQ 7) AND (ORD(K) EQ 2)) RES111 "   0";
1164       PUT$(( ORD(J) EQ 7) AND (ORD(K) EQ 2)) RES111 "  "BCOMINI(J,K):7:4/;
1165    LOOP(T,
1166       PUT$(( ORD(J) EQ 7) AND (ORD(K) EQ 2)) RES111 "  "T.TL;
1167       PUT$(( ORD(J) EQ 7) AND (ORD(K) EQ 2)) RES111 "  "NVBCOM(J,K,T):7:4/;
1168    );
1169   );
1170  );
1171  FILE RES112 /component1_chargingtank8/;
1172  PUT RES112;
1173  PUT RES112 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 8"///;
1174  LOOP(J,
1175   LOOP(K,
1176       PUT$(( ORD(J) EQ 8) AND (ORD(K) EQ 1)) RES112 "   0";
1177       PUT$(( ORD(J) EQ 8) AND (ORD(K) EQ 1)) RES112"  "BCOMINI(J,K):7:4/;
1178    LOOP(T,
1179       PUT$(( ORD(J) EQ 8) AND (ORD(K) EQ 1)) RES112 "  "T.TL;
1180       PUT$(( ORD(J) EQ 8) AND (ORD(K) EQ 1)) RES112 "  "NVBCOM(J,K,T):7:4/;
1181    );
1182   );
1183  );
1184  FILE RES113 /component2_chargingtank8/;
1185  PUT RES113;
1186  PUT RES113 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 8"///;
1187  LOOP(J,
1188   LOOP(K,
1189       PUT$(( ORD(J) EQ 8) AND (ORD(K) EQ 2)) RES113 "   0";
1190       PUT$(( ORD(J) EQ 8) AND (ORD(K) EQ 2)) RES113 "  "BCOMINI(J,K):7:4/;
1191    LOOP(T,
1192       PUT$(( ORD(J) EQ 8) AND (ORD(K) EQ 2)) RES113 "  "T.TL;
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1193       PUT$(( ORD(J) EQ 8) AND (ORD(K) EQ 2)) RES113 "  "NVBCOM(J,K,T):7:4/;
1194     );
1195    );
1196   );
1197   FILE RES114 /component1_chargingtank9/;
1198   PUT RES114;
1199   PUT RES114 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 9"///;
1200   LOOP(J,
1201    LOOP(K,
1202       PUT$(( ORD(J) EQ 9) AND (ORD(K) EQ 1)) RES114 "   0";
1203       PUT$(( ORD(J) EQ 9) AND (ORD(K) EQ 1)) RES114"  "BCOMINI(J,K):7:4/;
1204     LOOP(T,
1205       PUT$(( ORD(J) EQ 9) AND (ORD(K) EQ 1)) RES114 "  "T.TL;
1206       PUT$(( ORD(J) EQ 9) AND (ORD(K) EQ 1)) RES114 "  "NVBCOM(J,K,T):7:4/;
1207     );
1208    );
1209   );
1210   FILE RES115 /component2_chargingtank9/;
1211   PUT RES115;
1212   PUT RES115 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 9"///;
1213   LOOP(J,
1214    LOOP(K,
1215       PUT$(( ORD(J) EQ 9) AND (ORD(K) EQ 2)) RES115 "   0";
1216       PUT$(( ORD(J) EQ 9) AND (ORD(K) EQ 2)) RES115 "  "BCOMINI(J,K):7:4/;
1217     LOOP(T,
1218       PUT$(( ORD(J) EQ 9) AND (ORD(K) EQ 2)) RES115 "  "T.TL;
1219       PUT$(( ORD(J) EQ 9) AND (ORD(K) EQ 2)) RES115 "  "NVBCOM(J,K,T):7:4/;
1220     );
1221    );
1222   );
1223   FILE RES116 /component1_chargingtank10/;
1224   PUT RES116;
1225   PUT RES116 "#COMPONENT 1 CONCENTRATION IN CHARGING TANK 10"///;
1226   LOOP(J,
1227    LOOP(K,
1228       PUT$(( ORD(J) EQ 10) AND (ORD(K) EQ 1)) RES116 "   0";
1229       PUT$(( ORD(J) EQ 10) AND (ORD(K) EQ 1)) RES116"  "BCOMINI(J,K):7:4/;
1230     LOOP(T,
1231       PUT$(( ORD(J) EQ 10) AND (ORD(K) EQ 1)) RES116 "  "T.TL;
1232       PUT$(( ORD(J) EQ 10) AND (ORD(K) EQ 1)) RES116 "  "NVBCOM(J,K,T):7:4/;
1233     );
1234    );
1235   );
1236   FILE RES117 /component2_chargingtank10/;
1237   PUT RES117;
1238   PUT RES117 "#COMPONENT 2 CONCENTRATION IN CHARGING TANK 10"///;
1239   LOOP(J,
1240    LOOP(K,
1241       PUT$(( ORD(J) EQ 10) AND (ORD(K) EQ 2)) RES117 "   0";
1242       PUT$(( ORD(J) EQ 10) AND (ORD(K) EQ 2)) RES117 "  "BCOMINI(J,K):7:4/;
1243     LOOP(T,
1244       PUT$(( ORD(J) EQ 10) AND (ORD(K) EQ 2)) RES117 "  "T.TL;
1245       PUT$(( ORD(J) EQ 10) AND (ORD(K) EQ 2)) RES117 "  "NVBCOM(J,K,T):7:4/;
1246     );
1247    );
1248   );
1249   FILE RES31 /open.c/;
1250   PUT RES31;
1251   PUT RES31 ""CARD(I):2:0/;
1252   PUT RES31 ""CARD(J):2:0/;
1253   PUT RES31 ""CARD(K):2:0/;
1254   PUT RES31 ""CARD(L):2:0/;
1255   FILE RES32 /b1/;
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1256  put RES32 "0 0"/;
1257  PUT RES32;
1258  LOOP(J,
1259   LOOP(L,
1260    LOOP(T,
1261       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 " "T.TL;
1262       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 "0"/;
1263       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 " "T.TL;
1264       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 ""FBLECDU.
L(J,L,T):7:4/;
1265       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 " "(ORD(T)
+0.5):4:1;
1266       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 "      "FB
LECDU.L(J,L,T):7:4/;
1267       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 " "(ORD(T)
+0.5):4:1;
1268       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 "       0"
//;
1269    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1270       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 " "T.TL;
1271       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 " "(FBLECD
U.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1272       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 " "(ORD(T)
+0.5):4:1;
1273       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES32 " "(FBLECD
U.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1274          );
1275      );
1276    );
1277  );
1278  FILE RES33 /b2/;
1279  PUT RES33;
1280  PUT RES33 "#CDU 1 CHARGING SCHEDULE FOR BLEND 2"///;
1281  put RES33 "0 0"/;
1282  LOOP(J,
1283   LOOP(L,
1284    LOOP(T,
1285       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 "  "T.TL;
1286       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 "   0"/;
1287       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 "  "T.TL;
1288       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 "  "FBLECD
U.L(J,L,T):7:4/;
1289       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 "  "(ORD(T
)+0.5):4:1;
1290       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 "  "FBLECD
U.L(J,L,T):7:4/;
1291       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 "  "(ORD(T
)+0.5):4:1;
1292       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 "   0"//;
1293    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
1294       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 " "T.TL;
1295       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 " "(FBLECD
U.L(J,L,T)-INCR5*(ORD(M))):7:4/;
1296       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 " "(ORD(T)
+0.5):4:1;
1297       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES33 " "(FBLECD
U.L(J,L,T)-INCR5*(ORD(M))):7:4//;
1298          );
1299    );
1300   );
1301  );
1302  FILE RES34 /b3/;
1303  PUT RES34;
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1304  PUT RES34 "#CDU 1 CHARGING SCHEDULE FOR BLEND 3"///;
1305  put RES34 "0 0"/;
1306  LOOP(J,
1307   LOOP(L,
1308    LOOP(T,
1309       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 "  "T.TL;
1310       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 "   0"/;
1311       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 "  "T.TL;
1312       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 "  "FBLECD
U.L(J,L,T):7:4/;
1313       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 "  "(ORD(T
)+0.5):4:1;
1314       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 "  "FBLECD
U.L(J,L,T):7:4/;
1315       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 "  "(ORD(T
)+0.5):4:1;
1316       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 "   0"//;
1317    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
1318       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 " "T.TL;
1319       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 " "(FBLECD
U.L(J,L,T)-INCR2*(ORD(M))):7:4/;
1320       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 " "(ORD(T)
+0.5):4:1;
1321       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES34 " "(FBLECD
U.L(J,L,T)-INCR2*(ORD(M))):7:4//;
1322          );
1323    );
1324   );
1325  );
1326  FILE RES55 /b4/;
1327  PUT RES55;
1328  PUT RES55 "#CDU 1 CHARGING SCHEDULE FOR BLEND 4"///;
1329  put RES55 "0 0"/;
1330  LOOP(J,
1331   LOOP(L,
1332    LOOP(T,
1333       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 "  "T.TL;
1334       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 "   0"/;
1335       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 "  "T.TL;
1336       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 "  "FBLECD
U.L(J,L,T):7:4/;
1337       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 "  "(ORD(T
)+0.5):4:1;
1338       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 "  "FBLECD
U.L(J,L,T):7:4/;
1339       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 "  "(ORD(T
)+0.5):4:1;
1340       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 "   0"//;
1341    LOOP(M$((FBLECDU.L(J,L,T)-INCR3*(ORD(M))) GT 0),
1342       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 " "T.TL;
1343       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 " "(FBLECD
U.L(J,L,T)-INCR3*(ORD(M))):7:4/;
1344       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 " "(ORD(T)
+0.5):4:1;
1345       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES55 " "(FBLECD
U.L(J,L,T)-INCR3*(ORD(M))):7:4//;
1346          );
1347    );
1348   );
1349  );
1350  FILE RES118 /b5/;
1351  PUT RES118;
1352  PUT RES118 "#CDU 1 CHARGING SCHEDULE FOR BLEND 5"///;
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1353  put RES118 "0 0"/;
1354  LOOP(J,
1355   LOOP(L,
1356    LOOP(T,
1357       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 "  "T.TL;
1358       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 "   0"/;
1359       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 "  "T.TL;
1360       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 "  "FBLEC
DU.L(J,L,T):7:4/;
1361       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 "  "(ORD(
T)+0.5):4:1;
1362       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 "  "FBLEC
DU.L(J,L,T):7:4/;
1363       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 "  "(ORD(
T)+0.5):4:1;
1364       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 "   0"//;
1365    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1366       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 " "T.TL;
1367       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1368       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 " "(ORD(T
)+0.5):4:1;
1369       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES118 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1370          );
1371    );
1372   );
1373  );
1374  FILE RES119 /b6/;
1375  PUT RES119;
1376  PUT RES119 "#CDU 1 CHARGING SCHEDULE FOR BLEND 6"///;
1377  put RES119 "0 0"/;
1378  LOOP(J,
1379   LOOP(L,
1380    LOOP(T,
1381       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 "  "T.TL;
1382       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 "   0"/;
1383       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 "  "T.TL;
1384       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 "  "FBLEC
DU.L(J,L,T):7:4/;
1385       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 "  "(ORD(
T)+0.5):4:1;
1386       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 "  "FBLEC
DU.L(J,L,T):7:4/;
1387       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 "  "(ORD(
T)+0.5):4:1;
1388       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 "   0"//;
1389    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
1390       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 " "T.TL;
1391       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
1392       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 " "(ORD(T
)+0.5):4:1;
1393       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES119 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
1394          );
1395    );
1396   );
1397  );
1398  FILE RES120 /b7/;
1399  PUT RES120;
1400  PUT RES120 "#CDU 1 CHARGING SCHEDULE FOR BLEND 7"///;
1401  put RES120 "0 0"/;
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1402  LOOP(J,
1403   LOOP(L,
1404    LOOP(T,
1405       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 "  "T.TL;
1406       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 "   0"/;
1407       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 "  "T.TL;
1408       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 "  "FBLEC
DU.L(J,L,T):7:4/;
1409       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 "  "(ORD(
T)+0.5):4:1;
1410       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 "  "FBLEC
DU.L(J,L,T):7:4/;
1411       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 "  "(ORD(
T)+0.5):4:1;
1412       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 "   0"//;
1413    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
1414       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 " "T.TL;
1415       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
1416       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 " "(ORD(T
)+0.5):4:1;
1417       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES120 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
1418          );
1419    );
1420   );
1421  );
1422  FILE RES121 /b8/;
1423  PUT RES121;
1424  PUT RES121 "#CDU 1 CHARGING SCHEDULE FOR BLEND 8"///;
1425  put RES121 "0 0"/;
1426  LOOP(J,
1427   LOOP(L,
1428    LOOP(T,
1429       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 "  "T.TL;
1430       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 "   0"/;
1431       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 "  "T.TL;
1432       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 "  "FBLEC
DU.L(J,L,T):7:4/;
1433       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 "  "(ORD(
T)+0.5):4:1;
1434       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 "  "FBLEC
DU.L(J,L,T):7:4/;
1435       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 "  "(ORD(
T)+0.5):4:1;
1436       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 "   0"//;
1437    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
1438       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 " "T.TL;
1439       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
1440       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 " "(ORD(T
)+0.5):4:1;
1441       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES121 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
1442          );
1443    );
1444   );
1445  );
1446  FILE RES122 /b9/;
1447  PUT RES122;
1448  PUT RES122 "#CDU 1 CHARGING SCHEDULE FOR BLEND 9"///;
1449  put RES122 "0 0"/;
1450  LOOP(J,
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1451   LOOP(L,
1452    LOOP(T,
1453       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 "  "T.TL;
1454       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 "   0"/;
1455       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 "  "T.TL;
1456       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 "  "FBLEC
DU.L(J,L,T):7:4/;
1457       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 "  "(ORD(
T)+0.5):4:1;
1458       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 "  "FBLEC
DU.L(J,L,T):7:4/;
1459       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 "  "(ORD(
T)+0.5):4:1;
1460       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 "   0"//;
1461    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1462       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 " "T.TL;
1463       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1464       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 " "(ORD(T
)+0.5):4:1;
1465       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES122 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1466          );
1467    );
1468   );
1469  );
1470  FILE RES167 /b10/;
1471  PUT RES167;
1472  PUT RES167 "#CDU 1 CHARGING SCHEDULE FOR BLEND 10"///;
1473  put RES167 "0 0"/;
1474  LOOP(J,
1475   LOOP(L,
1476    LOOP(T,
1477       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 "  "T.TL
;
1478       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 "   0"/;
1479       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 "  "T.TL
;
1480       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 "  "FBLE
CDU.L(J,L,T):7:4/;
1481       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 "  "(ORD
(T)+0.5):4:1;
1482       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 "  "FBLE
CDU.L(J,L,T):7:4/;
1483       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 "  "(ORD
(T)+0.5):4:1;
1484       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 "   0"//
;
1485    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
1486       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 " "T.TL;
1487       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
1488       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 " "(ORD(
T)+0.5):4:1;
1489       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 1) AND (FBLECDU.L(J,L,T) GT 0)) RES167 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
1490          );
1491    );
1492   );
1493  );
1494  FILE RES36 /bl1/;
1495  PUT RES36;
1496  PUT RES36 "#CDU 2 CHARGING SCHEDULE FOR BLEND 1"///;
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1497  put RES36 "0 0"/;
1498  LOOP(J,
1499   LOOP(L,
1500    LOOP(T,
1501       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 "  "T.TL;
1502       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 "   0"/;
1503       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 "  "T.TL;
1504       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 "  "FBLECD
U.L(J,L,T):7:4/;
1505       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 "  "(ORD(T
)+0.5):4:1;
1506       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 "  "FBLECD
U.L(J,L,T):7:4/;
1507       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 "  "(ORD(T
)+0.5):4:1;
1508       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 "   0"//;
1509    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1510       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 " "T.TL;
1511       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 " "(FBLECD
U.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1512       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 " "(ORD(T)
+0.5):4:1;
1513       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES36 " "(FBLECD
U.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1514          );
1515    );
1516   );
1517  );
1518  FILE RES37 /bl2/;
1519  PUT RES37;
1520  PUT RES37 "#CDU 2 CHARGING SCHEDULE FOR BLEND 2"///;
1521  put RES37 "0 0"/;
1522  LOOP(J,
1523   LOOP(L,
1524    LOOP(T,
1525       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 "  "T.TL;
1526       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 "   0"/;
1527       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 "  "T.TL;
1528       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 "  "FBLECD
U.L(J,L,T):7:4/;
1529       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 "  "(ORD(T
)+0.5):4:1;
1530       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 "  "FBLECD
U.L(J,L,T):7:4/;
1531       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 "  "(ORD(T
)+0.5):4:1;
1532       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 "   0"//;
1533    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
1534       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 " "T.TL;
1535       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 " "(FBLECD
U.L(J,L,T)-INCR5*(ORD(M))):7:4/;
1536       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 " "(ORD(T)
+0.5):4:1;
1537       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES37 " "(FBLECD
U.L(J,L,T)-INCR5*(ORD(M))):7:4//;
1538          );
1539    );
1540   );
1541  );
1542  FILE RES35 /bl3/;
1543  PUT RES35;
1544  PUT RES35 "#CDU 2 CHARGING SCHEDULE FOR BLEND 3"///;
1545  put RES35 "0 0"/;
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1546  LOOP(J,
1547   LOOP(L,
1548    LOOP(T,
1549       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 "  "T.TL;
1550       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 "   0"/;
1551       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 "  "T.TL;
1552       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 "  "FBLECD
U.L(J,L,T):7:4/;
1553       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 "  "(ORD(T
)+0.5):4:1;
1554       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 "  "FBLECD
U.L(J,L,T):7:4/;
1555       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 "  "(ORD(T
)+0.5):4:1;
1556       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 "   0"//;
1557    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
1558       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 " "T.TL;
1559       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 " "(FBLECD
U.L(J,L,T)-INCR2*(ORD(M))):7:4/;
1560       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 " "(ORD(T)
+0.5):4:1;
1561       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES35 " "(FBLECD
U.L(J,L,T)-INCR2*(ORD(M))):7:4//;
1562          );
1563    );
1564   );
1565  );
1566  FILE RES59 /bl4/;
1567  PUT RES59;
1568  PUT RES59 "#CDU 2 CHARGING SCHEDULE FOR BLEND 4"///;
1569  put RES59 "0 0"/;
1570  LOOP(J,
1571   LOOP(L,
1572    LOOP(T,
1573       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 "  "T.TL;
1574       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 "   0"/;
1575       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 "  "T.TL;
1576       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 "  "FBLECD
U.L(J,L,T):7:4/;
1577       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 "  "(ORD(T
)+0.5):4:1;
1578       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 "  "FBLECD
U.L(J,L,T):7:4/;
1579       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 "  "(ORD(T
)+0.5):4:1;
1580       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 "   0"//;
1581    LOOP(M$((FBLECDU.L(J,L,T)-INCR3*(ORD(M))) GT 0),
1582       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 " "T.TL;
1583       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 " "(FBLECD
U.L(J,L,T)-INCR3*(ORD(M))):7:4/;
1584       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 " "(ORD(T)
+0.5):4:1;
1585       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES59 " "(FBLECD
U.L(J,L,T)-INCR3*(ORD(M))):7:4//;
1586          );
1587    );
1588   );
1589  );
1590  FILE RES123 /bl5/;
1591  PUT RES123;
1592  PUT RES123 "#CDU 2 CHARGING SCHEDULE FOR BLEND 5"///;
1593  put RES123 "0 0"/;
1594  LOOP(J,
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1595   LOOP(L,
1596    LOOP(T,
1597       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 "  "T.TL;
1598       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 "   0"/;
1599       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 "  "T.TL;
1600       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 "  "FBLEC
DU.L(J,L,T):7:4/;
1601       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 "  "(ORD(
T)+0.5):4:1;
1602       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 "  "FBLEC
DU.L(J,L,T):7:4/;
1603       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 "  "(ORD(
T)+0.5):4:1;
1604       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 "   0"//;
1605    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1606       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 " "T.TL;
1607       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1608       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 " "(ORD(T
)+0.5):4:1;
1609       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES123 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1610          );
1611    );
1612   );
1613  );
1614  FILE RES124 /bl6/;
1615  PUT RES124;
1616  PUT RES124 "#CDU 2 CHARGING SCHEDULE FOR BLEND 6"///;
1617  put RES124 "0 0"/;
1618  LOOP(J,
1619   LOOP(L,
1620    LOOP(T,
1621       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 "  "T.TL;
1622       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 "   0"/;
1623       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 "  "T.TL;
1624       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 "  "FBLEC
DU.L(J,L,T):7:4/;
1625       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 "  "(ORD(
T)+0.5):4:1;
1626       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 "  "FBLEC
DU.L(J,L,T):7:4/;
1627       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 "  "(ORD(
T)+0.5):4:1;
1628       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 "   0"//;
1629    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
1630       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 " "T.TL;
1631       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
1632       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 " "(ORD(T
)+0.5):4:1;
1633       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES124 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
1634          );
1635    );
1636   );
1637  );
1638  FILE RES125 /bl7/;
1639  PUT RES125;
1640  PUT RES125 "#CDU 2 CHARGING SCHEDULE FOR BLEND 7"///;
1641  put RES125 "0 0"/;
1642  LOOP(J,
1643   LOOP(L,
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1644    LOOP(T,
1645       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 "  "T.TL;
1646       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 "   0"/;
1647       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 "  "T.TL;
1648       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 "  "FBLEC
DU.L(J,L,T):7:4/;
1649       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 "  "(ORD(
T)+0.5):4:1;
1650       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 "  "FBLEC
DU.L(J,L,T):7:4/;
1651       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 "  "(ORD(
T)+0.5):4:1;
1652       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 "   0"//;
1653    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
1654       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 " "T.TL;
1655       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
1656       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 " "(ORD(T
)+0.5):4:1;
1657       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES125 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
1658          );
1659    );
1660   );
1661  );
1662  FILE RES126 /bl8/;
1663  PUT RES126;
1664  PUT RES126 "#CDU 2 CHARGING SCHEDULE FOR BLEND 8"///;
1665  put RES126 "0 0"/;
1666  LOOP(J,
1667   LOOP(L,
1668    LOOP(T,
1669       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 "  "T.TL;
1670       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 "   0"/;
1671       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 "  "T.TL;
1672       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 "  "FBLEC
DU.L(J,L,T):7:4/;
1673       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 "  "(ORD(
T)+0.5):4:1;
1674       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 "  "FBLEC
DU.L(J,L,T):7:4/;
1675       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 "  "(ORD(
T)+0.5):4:1;
1676       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 "   0"//;
1677    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
1678       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 " "T.TL;
1679       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
1680       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 " "(ORD(T
)+0.5):4:1;
1681       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES126 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
1682          );
1683    );
1684   );
1685  );
1686  FILE RES127 /bl9/;
1687  PUT RES127;
1688  PUT RES127 "#CDU 2 CHARGING SCHEDULE FOR BLEND 9"///;
1689  put RES127 "0 0"/;
1690  LOOP(J,
1691   LOOP(L,
1692    LOOP(T,
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1693       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 "  "T.TL;
1694       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 "   0"/;
1695       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 "  "T.TL;
1696       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 "  "FBLEC
DU.L(J,L,T):7:4/;
1697       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 "  "(ORD(
T)+0.5):4:1;
1698       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 "  "FBLEC
DU.L(J,L,T):7:4/;
1699       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 "  "(ORD(
T)+0.5):4:1;
1700       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 "   0"//;
1701    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1702       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 " "T.TL;
1703       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1704       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 " "(ORD(T
)+0.5):4:1;
1705       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES127 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1706          );
1707    );
1708   );
1709  );
1710  FILE RES128 /bl10/;
1711  PUT RES128;
1712  PUT RES128 "#CDU 2 CHARGING SCHEDULE FOR BLEND 10"///;
1713  put RES128 "0 0"/;
1714  LOOP(J,
1715   LOOP(L,
1716    LOOP(T,
1717       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 "  "T.TL
;
1718       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 "   0"/;
1719       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 "  "T.TL
;
1720       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 "  "FBLE
CDU.L(J,L,T):7:4/;
1721       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 "  "(ORD
(T)+0.5):4:1;
1722       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 "  "FBLE
CDU.L(J,L,T):7:4/;
1723       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 "  "(ORD
(T)+0.5):4:1;
1724       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 "   0"//
;
1725    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
1726       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 " "T.TL;
1727       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
1728       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 " "(ORD(
T)+0.5):4:1;
1729       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 2) AND (FBLECDU.L(J,L,T) GT 0)) RES128 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
1730          );
1731    );
1732   );
1733  );
1734  FILE RES60 /d1/;
1735  PUT RES60;
1736  PUT RES60 "#CDU 3 CHARGING SCHEDULE FOR BLEND 1"///;
1737  put RES60 "0 0"/;
1738  LOOP(J,
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1739   LOOP(L,
1740    LOOP(T,
1741       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 " "T.TL;
1742       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 "0"/;
1743       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 " "T.TL;
1744       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 ""FBLECDU.
L(J,L,T):7:4/;
1745       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 " "(ORD(T)
+0.5):4:1;
1746       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 "      "FB
LECDU.L(J,L,T):7:4/;
1747       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 " "(ORD(T)
+0.5):4:1;
1748       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 "       0"
//;
1749    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1750       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 " "T.TL;
1751       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 " "(FBLECD
U.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1752       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 " "(ORD(T)
+0.5):4:1;
1753       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES60 " "(FBLECD
U.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1754          );
1755      );
1756    );
1757  );
1758  FILE RES61 /d2/;
1759  PUT RES61;
1760  PUT RES61 "#CDU 3 CHARGING SCHEDULE FOR BLEND 2"///;
1761  put RES61 "0 0"/;
1762  LOOP(J,
1763   LOOP(L,
1764    LOOP(T,
1765       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 "  "T.TL;
1766       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 "   0"/;
1767       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 "  "T.TL;
1768       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 "  "FBLECD
U.L(J,L,T):7:4/;
1769       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 "  "(ORD(T
)+0.5):4:1;
1770       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 "  "FBLECD
U.L(J,L,T):7:4/;
1771       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 "  "(ORD(T
)+0.5):4:1;
1772       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 "   0"//;
1773    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
1774       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 " "T.TL;
1775       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 " "(FBLECD
U.L(J,L,T)-INCR5*(ORD(M))):7:4/;
1776       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 " "(ORD(T)
+0.5):4:1;
1777       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES61 " "(FBLECD
U.L(J,L,T)-INCR5*(ORD(M))):7:4//;
1778          );
1779    );
1780   );
1781  );
1782  FILE RES62 /d3/;
1783  PUT RES62;
1784  PUT RES62 "#CDU 3 CHARGING SCHEDULE FOR BLEND 3"///;
1785  put RES62 "0 0"/;
1786  LOOP(J,
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1787   LOOP(L,
1788    LOOP(T,
1789       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 "  "T.TL;
1790       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 "   0"/;
1791       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 "  "T.TL;
1792       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 "  "FBLECD
U.L(J,L,T):7:4/;
1793       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 "  "(ORD(T
)+0.5):4:1;
1794       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 "  "FBLECD
U.L(J,L,T):7:4/;
1795       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 "  "(ORD(T
)+0.5):4:1;
1796       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 "   0"//;
1797    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
1798       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 " "T.TL;
1799       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 " "(FBLECD
U.L(J,L,T)-INCR2*(ORD(M))):7:4/;
1800       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 " "(ORD(T)
+0.5):4:1;
1801       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES62 " "(FBLECD
U.L(J,L,T)-INCR2*(ORD(M))):7:4//;
1802          );
1803    );
1804   );
1805  );
1806  FILE RES58 /d4/;
1807  PUT RES58;
1808  PUT RES58 "#CDU 3 CHARGING SCHEDULE FOR BLEND 4"///;
1809  put RES58 "0 0"/;
1810  LOOP(J,
1811   LOOP(L,
1812    LOOP(T,
1813       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 "  "T.TL;
1814       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 "   0"/;
1815       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 "  "T.TL;
1816       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 "  "FBLECD
U.L(J,L,T):7:4/;
1817       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 "  "(ORD(T
)+0.5):4:1;
1818       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 "  "FBLECD
U.L(J,L,T):7:4/;
1819       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 "  "(ORD(T
)+0.5):4:1;
1820       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 "   0"//;
1821    LOOP(M$((FBLECDU.L(J,L,T)-INCR3*(ORD(M))) GT 0),
1822       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 " "T.TL;
1823       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 " "(FBLECD
U.L(J,L,T)-INCR3*(ORD(M))):7:4/;
1824       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 " "(ORD(T)
+0.5):4:1;
1825       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES58 " "(FBLECD
U.L(J,L,T)-INCR3*(ORD(M))):7:4//;
1826          );
1827    );
1828   );
1829  );
1830  FILE RES129 /d5/;
1831  PUT RES129;
1832  PUT RES129 "#CDU 3 CHARGING SCHEDULE FOR BLEND 5"///;
1833  put RES129 "0 0"/;
1834  LOOP(J,
1835   LOOP(L,
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1836    LOOP(T,
1837       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 "  "T.TL;
1838       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 "   0"/;
1839       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 "  "T.TL;
1840       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 "  "FBLEC
DU.L(J,L,T):7:4/;
1841       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 "  "(ORD(
T)+0.5):4:1;
1842       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 "  "FBLEC
DU.L(J,L,T):7:4/;
1843       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 "  "(ORD(
T)+0.5):4:1;
1844       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 "   0"//;
1845    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1846       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 " "T.TL;
1847       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1848       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 " "(ORD(T
)+0.5):4:1;
1849       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES129 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1850          );
1851    );
1852   );
1853  );
1854  FILE RES130 /d6/;
1855  PUT RES130;
1856  PUT RES130 "#CDU 3 CHARGING SCHEDULE FOR BLEND 6"///;
1857  put RES130 "0 0"/;
1858  LOOP(J,
1859   LOOP(L,
1860    LOOP(T,
1861       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 "  "T.TL;
1862       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 "   0"/;
1863       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 "  "T.TL;
1864       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 "  "FBLEC
DU.L(J,L,T):7:4/;
1865       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 "  "(ORD(
T)+0.5):4:1;
1866       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 "  "FBLEC
DU.L(J,L,T):7:4/;
1867       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 "  "(ORD(
T)+0.5):4:1;
1868       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 "   0"//;
1869    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
1870       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 " "T.TL;
1871       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
1872       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 " "(ORD(T
)+0.5):4:1;
1873       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES130 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
1874          );
1875    );
1876   );
1877  );
1878  FILE RES131 /d7/;
1879  PUT RES131;
1880  PUT RES131 "#CDU 3 CHARGING SCHEDULE FOR BLEND 7"///;
1881  put RES131 "0 0"/;
1882  LOOP(J,
1883   LOOP(L,
1884    LOOP(T,
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1885       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 "  "T.TL;
1886       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 "   0"/;
1887       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 "  "T.TL;
1888       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 "  "FBLEC
DU.L(J,L,T):7:4/;
1889       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 "  "(ORD(
T)+0.5):4:1;
1890       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 "  "FBLEC
DU.L(J,L,T):7:4/;
1891       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 "  "(ORD(
T)+0.5):4:1;
1892       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 "   0"//;
1893    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
1894       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 " "T.TL;
1895       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
1896       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 " "(ORD(T
)+0.5):4:1;
1897       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES131 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
1898          );
1899    );
1900   );
1901  );
1902  FILE RES132 /d8/;
1903  PUT RES132;
1904  PUT RES132 "#CDU 3 CHARGING SCHEDULE FOR BLEND 8"///;
1905  put RES132 "0 0"/;
1906  LOOP(J,
1907   LOOP(L,
1908    LOOP(T,
1909       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 "  "T.TL;
1910       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 "   0"/;
1911       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 "  "T.TL;
1912       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 "  "FBLEC
DU.L(J,L,T):7:4/;
1913       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 "  "(ORD(
T)+0.5):4:1;
1914       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 "  "FBLEC
DU.L(J,L,T):7:4/;
1915       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 "  "(ORD(
T)+0.5):4:1;
1916       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 "   0"//;
1917    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
1918       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 " "T.TL;
1919       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
1920       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 " "(ORD(T
)+0.5):4:1;
1921       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES132 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
1922          );
1923    );
1924   );
1925  );
1926  FILE RES133 /d9/;
1927  PUT RES133;
1928  PUT RES133 "#CDU 3 CHARGING SCHEDULE FOR BLEND 9"///;
1929  put RES133 "0 0"/;
1930  LOOP(J,
1931   LOOP(L,
1932    LOOP(T,
1933       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 "  "T.TL;
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1934       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 "   0"/;
1935       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 "  "T.TL;
1936       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 "  "FBLEC
DU.L(J,L,T):7:4/;
1937       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 "  "(ORD(
T)+0.5):4:1;
1938       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 "  "FBLEC
DU.L(J,L,T):7:4/;
1939       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 "  "(ORD(
T)+0.5):4:1;
1940       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 "   0"//;
1941    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1942       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 " "T.TL;
1943       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1944       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 " "(ORD(T
)+0.5):4:1;
1945       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES133 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1946          );
1947    );
1948   );
1949  );
1950  FILE RES134 /d10/;
1951  PUT RES134;
1952  PUT RES134 "#CDU 3 CHARGING SCHEDULE FOR BLEND 10"///;
1953  put RES134 "0 0"/;
1954  LOOP(J,
1955   LOOP(L,
1956    LOOP(T,
1957       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 "  "T.TL
;
1958       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 "   0"/;
1959       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 "  "T.TL
;
1960       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 "  "FBLE
CDU.L(J,L,T):7:4/;
1961       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 "  "(ORD
(T)+0.5):4:1;
1962       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 "  "FBLE
CDU.L(J,L,T):7:4/;
1963       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 "  "(ORD
(T)+0.5):4:1;
1964       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 "   0"//
;
1965    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
1966       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 " "T.TL;
1967       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
1968       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 " "(ORD(
T)+0.5):4:1;
1969       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 3) AND (FBLECDU.L(J,L,T) GT 0)) RES134 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
1970          );
1971    );
1972   );
1973  );
1974  FILE RES169 /g1/;
1975  PUT RES169;
1976  PUT RES169 "#CDU 4 CHARGING SCHEDULE FOR BLEND 1"///;
1977  LOOP(J,
1978   LOOP(L,
1979    LOOP(T,
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1980       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 " "T.TL;
1981       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 "0"/;
1982       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 " "T.TL;
1983       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 ""FBLECDU
.L(J,L,T):7:4/;
1984       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 " "(ORD(T
)+0.5):4:1;
1985       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 "      "F
BLECDU.L(J,L,T):7:4/;
1986       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 " "(ORD(T
)+0.5):4:1;
1987       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 "       0
"//;
1988    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
1989       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 " "T.TL;
1990       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
1991       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 " "(ORD(T
)+0.5):4:1;
1992       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES169 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
1993          );
1994      );
1995    );
1996  );
1997  FILE RES170 /g2/;
1998  PUT RES170;
1999  PUT RES170 "#CDU 4 CHARGING SCHEDULE FOR BLEND 2"///;
2000  LOOP(J,
2001   LOOP(L,
2002    LOOP(T,
2003       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 "  "T.TL;
2004       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 "   0"/;
2005       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 "  "T.TL;
2006       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 "  "FBLEC
DU.L(J,L,T):7:4/;
2007       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 "  "(ORD(
T)+0.5):4:1;
2008       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 "  "FBLEC
DU.L(J,L,T):7:4/;
2009       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 "  "(ORD(
T)+0.5):4:1;
2010       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 "   0"//;
2011    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
2012       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 " "T.TL;
2013       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
2014       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 " "(ORD(T
)+0.5):4:1;
2015       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES170 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
2016          );
2017    );
2018   );
2019  );
2020  FILE RES171 /g3/;
2021  PUT RES171;
2022  PUT RES171 "#CDU 4 CHARGING SCHEDULE FOR BLEND 3"///;
2023  LOOP(J,
2024   LOOP(L,
2025    LOOP(T,
2026       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 "  "T.TL;
2027       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 "   0"/;
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2028       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 "  "T.TL;
2029       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 "  "FBLEC
DU.L(J,L,T):7:4/;
2030       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 "  "(ORD(
T)+0.5):4:1;
2031       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 "  "FBLEC
DU.L(J,L,T):7:4/;
2032       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 "  "(ORD(
T)+0.5):4:1;
2033       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 "   0"//;
2034    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
2035       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 " "T.TL;
2036       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
2037       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 " "(ORD(T
)+0.5):4:1;
2038       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES171 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
2039          );
2040    );
2041   );
2042  );
2043  FILE RES172 /g4/;
2044  PUT RES172;
2045  PUT RES172 "#CDU 4 CHARGING SCHEDULE FOR BLEND 4"///;
2046  LOOP(J,
2047   LOOP(L,
2048    LOOP(T,
2049       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 "  "T.TL;
2050       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 "   0"/;
2051       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 "  "T.TL;
2052       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 "  "FBLEC
DU.L(J,L,T):7:4/;
2053       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 "  "(ORD(
T)+0.5):4:1;
2054       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 "  "FBLEC
DU.L(J,L,T):7:4/;
2055       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 "  "(ORD(
T)+0.5):4:1;
2056       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 "   0"//;
2057    LOOP(M$((FBLECDU.L(J,L,T)-INCR3*(ORD(M))) GT 0),
2058       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 " "T.TL;
2059       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 " "(FBLEC
DU.L(J,L,T)-INCR3*(ORD(M))):7:4/;
2060       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 " "(ORD(T
)+0.5):4:1;
2061       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES172 " "(FBLEC
DU.L(J,L,T)-INCR3*(ORD(M))):7:4//;
2062          );
2063    );
2064   );
2065  );
2066  FILE RES173 /g5/;
2067  PUT RES173;
2068  PUT RES173 "#CDU 4 CHARGING SCHEDULE FOR BLEND 5"///;
2069  LOOP(J,
2070   LOOP(L,
2071    LOOP(T,
2072       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 "  "T.TL;
2073       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 "   0"/;
2074       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 "  "T.TL;
2075       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 "  "FBLEC
DU.L(J,L,T):7:4/;
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2076       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 "  "(ORD(
T)+0.5):4:1;
2077       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 "  "FBLEC
DU.L(J,L,T):7:4/;
2078       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 "  "(ORD(
T)+0.5):4:1;
2079       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 "   0"//;
2080    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
2081       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 " "T.TL;
2082       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
2083       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 " "(ORD(T
)+0.5):4:1;
2084       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES173 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
2085          );
2086    );
2087   );
2088  );
2089  FILE RES174 /g6/;
2090  PUT RES174;
2091  PUT RES174 "#CDU 4 CHARGING SCHEDULE FOR BLEND 6"///;
2092  LOOP(J,
2093   LOOP(L,
2094    LOOP(T,
2095       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 "  "T.TL;
2096       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 "   0"/;
2097       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 "  "T.TL;
2098       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 "  "FBLEC
DU.L(J,L,T):7:4/;
2099       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 "  "(ORD(
T)+0.5):4:1;
2100       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 "  "FBLEC
DU.L(J,L,T):7:4/;
2101       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 "  "(ORD(
T)+0.5):4:1;
2102       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 "   0"//;
2103    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
2104       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 " "T.TL;
2105       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
2106       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 " "(ORD(T
)+0.5):4:1;
2107       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES174 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
2108          );
2109    );
2110   );
2111  );
2112  FILE RES175 /g7/;
2113  PUT RES175;
2114  PUT RES175 "#CDU 4 CHARGING SCHEDULE FOR BLEND 7"///;
2115  LOOP(J,
2116   LOOP(L,
2117    LOOP(T,
2118       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 "  "T.TL;
2119       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 "   0"/;
2120       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 "  "T.TL;
2121       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 "  "FBLEC
DU.L(J,L,T):7:4/;
2122       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 "  "(ORD(
T)+0.5):4:1;
2123       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 "  "FBLEC
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DU.L(J,L,T):7:4/;
2124       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 "  "(ORD(
T)+0.5):4:1;
2125       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 "   0"//;
2126    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
2127       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 " "T.TL;
2128       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
2129       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 " "(ORD(T
)+0.5):4:1;
2130       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES175 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
2131          );
2132    );
2133   );
2134  );
2135  FILE RES176 /g8/;
2136  PUT RES176;
2137  PUT RES176 "#CDU 4 CHARGING SCHEDULE FOR BLEND 8"///;
2138  LOOP(J,
2139   LOOP(L,
2140    LOOP(T,
2141       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 "  "T.TL;
2142       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 "   0"/;
2143       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 "  "T.TL;
2144       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 "  "FBLEC
DU.L(J,L,T):7:4/;
2145       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 "  "(ORD(
T)+0.5):4:1;
2146       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 "  "FBLEC
DU.L(J,L,T):7:4/;
2147       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 "  "(ORD(
T)+0.5):4:1;
2148       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 "   0"//;
2149    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
2150       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 " "T.TL;
2151       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
2152       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 " "(ORD(T
)+0.5):4:1;
2153       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES176 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
2154          );
2155    );
2156   );
2157  );
2158  FILE RES177 /g9/;
2159  PUT RES177;
2160  PUT RES177 "#CDU 4 CHARGING SCHEDULE FOR BLEND 9"///;
2161  LOOP(J,
2162   LOOP(L,
2163    LOOP(T,
2164       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 "  "T.TL;
2165       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 "   0"/;
2166       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 "  "T.TL;
2167       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 "  "FBLEC
DU.L(J,L,T):7:4/;
2168       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 "  "(ORD(
T)+0.5):4:1;
2169       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 "  "FBLEC
DU.L(J,L,T):7:4/;
2170       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 "  "(ORD(
T)+0.5):4:1;
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2171       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 "   0"//;
2172    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
2173       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 " "T.TL;
2174       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
2175       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 " "(ORD(T
)+0.5):4:1;
2176       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES177 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
2177          );
2178    );
2179   );
2180  );
2181  FILE RES178 /g10/;
2182  PUT RES178;
2183  PUT RES178 "#CDU 4 CHARGING SCHEDULE FOR BLEND 10"///;
2184  LOOP(J,
2185   LOOP(L,
2186    LOOP(T,
2187       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 "  "T.TL
;
2188       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 "   0"/;
2189       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 "  "T.TL
;
2190       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 "  "FBLE
CDU.L(J,L,T):7:4/;
2191       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 "  "(ORD
(T)+0.5):4:1;
2192       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 "  "FBLE
CDU.L(J,L,T):7:4/;
2193       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 "  "(ORD
(T)+0.5):4:1;
2194       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 "   0"//
;
2195    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
2196       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 " "T.TL;
2197       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
2198       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 " "(ORD(
T)+0.5):4:1;
2199       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 4) AND (FBLECDU.L(J,L,T) GT 0)) RES178 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
2200          );
2201    );
2202   );
2203  );
2204  FILE RES180 /f1/;
2205  PUT RES180;
2206  PUT RES180 "#CDU 5 CHARGING SCHEDULE FOR BLEND 1"///;
2207  LOOP(J,
2208   LOOP(L,
2209    LOOP(T,
2210       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 " "T.TL;
2211       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 "0"/;
2212       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 " "T.TL;
2213       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 ""FBLECDU
.L(J,L,T):7:4/;
2214       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 " "(ORD(T
)+0.5):4:1;
2215       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 "      "F
BLECDU.L(J,L,T):7:4/;
2216       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 " "(ORD(T
)+0.5):4:1;
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2217       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 "       0
"//;
2218    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
2219       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 " "T.TL;
2220       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
2221       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 " "(ORD(T
)+0.5):4:1;
2222       PUT$(( ORD(J) EQ 1) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES180 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
2223          );
2224      );
2225    );
2226  );
2227
2228  FILE RES181 /f2/;
2229  PUT RES181;
2230  PUT RES181 "#CDU 5 CHARGING SCHEDULE FOR BLEND 2"///;
2231  LOOP(J,
2232   LOOP(L,
2233    LOOP(T,
2234       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 "  "T.TL;
2235       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 "   0"/;
2236       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 "  "T.TL;
2237       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 "  "FBLEC
DU.L(J,L,T):7:4/;
2238       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 "  "(ORD(
T)+0.5):4:1;
2239       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 "  "FBLEC
DU.L(J,L,T):7:4/;
2240       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 "  "(ORD(
T)+0.5):4:1;
2241       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 "   0"//;
2242    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
2243       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 " "T.TL;
2244       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
2245       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 " "(ORD(T
)+0.5):4:1;
2246       PUT$(( ORD(J) EQ 2) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES181 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
2247          );
2248    );
2249   );
2250  );
2251  FILE RES182 /f3/;
2252  PUT RES182;
2253  PUT RES182 "#CDU 5 CHARGING SCHEDULE FOR BLEND 3"///;
2254  LOOP(J,
2255   LOOP(L,
2256    LOOP(T,
2257       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 "  "T.TL;
2258       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 "   0"/;
2259       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 "  "T.TL;
2260       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 "  "FBLEC
DU.L(J,L,T):7:4/;
2261       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 "  "(ORD(
T)+0.5):4:1;
2262       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 "  "FBLEC
DU.L(J,L,T):7:4/;
2263       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 "  "(ORD(
T)+0.5):4:1;
2264       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 "   0"//;
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2265    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
2266       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 " "T.TL;
2267       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
2268       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 " "(ORD(T
)+0.5):4:1;
2269       PUT$(( ORD(J) EQ 3) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES182 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
2270          );
2271    );
2272   );
2273  );
2274  FILE RES183 /f4/;
2275  PUT RES183;
2276  PUT RES183 "#CDU 5 CHARGING SCHEDULE FOR BLEND 4"///;
2277  LOOP(J,
2278   LOOP(L,
2279    LOOP(T,
2280       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 "  "T.TL;
2281       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 "   0"/;
2282       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 "  "T.TL;
2283       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 "  "FBLEC
DU.L(J,L,T):7:4/;
2284       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 "  "(ORD(
T)+0.5):4:1;
2285       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 "  "FBLEC
DU.L(J,L,T):7:4/;
2286       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 "  "(ORD(
T)+0.5):4:1;
2287       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 "   0"//;
2288    LOOP(M$((FBLECDU.L(J,L,T)-INCR3*(ORD(M))) GT 0),
2289       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 " "T.TL;
2290       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 " "(FBLEC
DU.L(J,L,T)-INCR3*(ORD(M))):7:4/;
2291       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 " "(ORD(T
)+0.5):4:1;
2292       PUT$(( ORD(J) EQ 4) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES183 " "(FBLEC
DU.L(J,L,T)-INCR3*(ORD(M))):7:4//;
2293          );
2294    );
2295   );
2296  );
2297  FILE RES184 /f5/;
2298  PUT RES184;
2299  PUT RES184 "#CDU 5 CHARGING SCHEDULE FOR BLEND 5"///;
2300  LOOP(J,
2301   LOOP(L,
2302    LOOP(T,
2303       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 "  "T.TL;
2304       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 "   0"/;
2305       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 "  "T.TL;
2306       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 "  "FBLEC
DU.L(J,L,T):7:4/;
2307       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 "  "(ORD(
T)+0.5):4:1;
2308       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 "  "FBLEC
DU.L(J,L,T):7:4/;
2309       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 "  "(ORD(
T)+0.5):4:1;
2310       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 "   0"//;
2311    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
2312       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 " "T.TL;
2313       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 " "(FBLEC
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DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
2314       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 " "(ORD(T
)+0.5):4:1;
2315       PUT$(( ORD(J) EQ 5) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES184 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
2316          );
2317    );
2318   );
2319  );
2320  FILE RES185 /f6/;
2321  PUT RES185;
2322  PUT RES185 "#CDU 5 CHARGING SCHEDULE FOR BLEND 6"///;
2323  LOOP(J,
2324   LOOP(L,
2325    LOOP(T,
2326       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 "  "T.TL;
2327       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 "   0"/;
2328       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 "  "T.TL;
2329       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 "  "FBLEC
DU.L(J,L,T):7:4/;
2330       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 "  "(ORD(
T)+0.5):4:1;
2331       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 "  "FBLEC
DU.L(J,L,T):7:4/;
2332       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 "  "(ORD(
T)+0.5):4:1;
2333       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 "   0"//;
2334    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
2335       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 " "T.TL;
2336       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
2337       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 " "(ORD(T
)+0.5):4:1;
2338       PUT$(( ORD(J) EQ 6) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES185 " "(FBLEC
DU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
2339          );
2340    );
2341   );
2342  );
2343  FILE RES186 /f7/;
2344  PUT RES186;
2345  PUT RES186 "#CDU 5 CHARGING SCHEDULE FOR BLEND 7"///;
2346  LOOP(J,
2347   LOOP(L,
2348    LOOP(T,
2349       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 "  "T.TL;
2350       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 "   0"/;
2351       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 "  "T.TL;
2352       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 "  "FBLEC
DU.L(J,L,T):7:4/;
2353       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 "  "(ORD(
T)+0.5):4:1;
2354       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 "  "FBLEC
DU.L(J,L,T):7:4/;
2355       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 "  "(ORD(
T)+0.5):4:1;
2356       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 "   0"//;
2357    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
2358       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 " "T.TL;
2359       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
2360       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 " "(ORD(T
)+0.5):4:1;
```

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2361       PUT$(( ORD(J) EQ 7) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES186 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
2362          );
2363    );
2364   );
2365  );
2366  FILE RES187 /f8/;
2367  PUT RES187;
2368  PUT RES187 "#CDU 5 CHARGING SCHEDULE FOR BLEND 8"///;
2369  LOOP(J,
2370   LOOP(L,
2371    LOOP(T,
2372       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 "  "T.TL;
2373       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 "   0"/;
2374       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 "  "T.TL;
2375       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 "  "FBLEC
DU.L(J,L,T):7:4/;
2376       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 "  "(ORD(
T)+0.5):4:1;
2377       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 "  "FBLEC
DU.L(J,L,T):7:4/;
2378       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 "  "(ORD(
T)+0.5):4:1;
2379       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 "   0"//;
2380    LOOP(M$((FBLECDU.L(J,L,T)-INCR2*(ORD(M))) GT 0),
2381       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 " "T.TL;
2382       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4/;
2383       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 " "(ORD(T
)+0.5):4:1;
2384       PUT$(( ORD(J) EQ 8) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES187 " "(FBLEC
DU.L(J,L,T)-INCR2*(ORD(M))):7:4//;
2385          );
2386    );
2387   );
2388  );
2389  FILE RES188 /f9/;
2390  PUT RES188;
2391  PUT RES188 "#CDU 5 CHARGING SCHEDULE FOR BLEND 9"///;
2392  LOOP(J,
2393   LOOP(L,
2394    LOOP(T,
2395       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 "  "T.TL;
2396       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 "   0"/;
2397       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 "  "T.TL;
2398       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 "  "FBLEC
DU.L(J,L,T):7:4/;
2399       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 "  "(ORD(
T)+0.5):4:1;
2400       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 "  "FBLEC
DU.L(J,L,T):7:4/;
2401       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 "  "(ORD(
T)+0.5):4:1;
2402       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 "   0"//;
2403    LOOP(M$((FBLECDU.L(J,L,T)-INCR1*(ORD(M))) GT 0),
2404       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 " "T.TL;
2405       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4/;
2406       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 " "(ORD(T
)+0.5):4:1;
2407       PUT$(( ORD(J) EQ 9) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES188 " "(FBLEC
DU.L(J,L,T)-INCR1*(ORD(M))):7:4//;
2408          );
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2409    );
2410   );
2411  );
2412  FILE RES189 /f10/;
2413  PUT RES189;
2414  PUT RES189 "#CDU 5 CHARGING SCHEDULE FOR BLEND 10"///;
2415  LOOP(J,
2416   LOOP(L,
2417    LOOP(T,
2418       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 "  "T.TL
;
2419       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 "   0"/;
2420       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 "  "T.TL
;
2421       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 "  "FBLE
CDU.L(J,L,T):7:4/;
2422       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 "  "(ORD
(T)+0.5):4:1;
2423       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 "  "FBLE
CDU.L(J,L,T):7:4/;
2424       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 "  "(ORD
(T)+0.5):4:1;
2425       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 "   0"//
;
2426    LOOP(M$((FBLECDU.L(J,L,T)-INCR5*(ORD(M))) GT 0),
2427       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 " "T.TL;
2428       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4/;
2429       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 " "(ORD(
T)+0.5):4:1;
2430       PUT$(( ORD(J) EQ 10) AND (ORD(L) EQ 5) AND (FBLECDU.L(J,L,T) GT 0)) RES189 " "(FBLE
CDU.L(J,L,T)-INCR5*(ORD(M))):7:4//;
2431          );
2432    );
2433   );
2434  );
2435  FILE RES63 /st1.dem/;
2436  PUT RES63;
2437  PUT RES63 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (1)' "/;
2438  PUT RES63 "set xlabel ' Time' "/;
2439  PUT RES63 "set ylabel ' Volume' "/;
2440  PUT RES63 "set nogrid"/;
2441  LOOP(I$(ORD(I) EQ 1),
2442  PUT RES63 "set yrange [ 0 : "VSTOMAX(I):7:2;
2443  PUT RES63 "]"/;
2444  );
2445  PUT RES63 "set xrange [ 0 :"(TT):4:0;
2446  PUT RES63 "]"/;
2447  PUT RES63 "set time"/;
2448  PUT RES63 "set xtics 0,1,"(TT):4:0/;
2449  PUT RES63 "plot 'storage_tank1' with linespoint "/;
2450  PUT RES63 "pause 0 ' ' "/;
2451  PUT RES63 "pause 0 ' ' "/;
2452  PUT RES63 "pause 0 ' ' "/;
2453  PUT RES63 "pause 0 ' ' "/;
2454  *PUT RES63 "pause -1 '                      Press Return ' "/;
2455  PUT RES63 "set terminal png"/;
2456  PUT RES63 "set nogrid"/;
2457  PUT RES63 "set time"/;
2458  *PUT RES63 "set output 'st1.ps' "/;
2459  PUT RES63 "set output'../../crudeoil/st1.png' "/;
2460  PUT RES63 "replot"/;
2461  FILE RES64 /st2.dem/;
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2462  PUT RES64;
2463  PUT RES64 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (2)' "/;
2464  PUT RES64 "set xlabel ' Time' "/;
2465  PUT RES64 "set ylabel ' Volume' "/;
2466  PUT RES64 "set nogrid"/;
2467  LOOP(I$(ORD(I) EQ 2),
2468  PUT RES64 "set yrange [ 0 : "VSTOMAX(I):7:2;
2469  PUT RES64 "]"/;
2470  );
2471  PUT RES64 "set xrange [ 0 :"(TT):4:0;
2472  PUT RES64 "]"/;
2473  PUT RES64 "set time"/;
2474  PUT RES64 "set xtics 0,1,"(TT):4:0/;
2475  PUT RES64 "plot 'storage_tank2' with linespoint "/;
2476  PUT RES64 "pause 0 ' ' "/;
2477  PUT RES64 "pause 0 ' ' "/;
2478  PUT RES64 "pause 0 ' ' "/;
2479  PUT RES64 "pause 0 ' ' "/;
2480  *PUT RES64 "pause -1 '                    Press Return ' "/;
2481  PUT RES64 "set terminal png"/;
2482  PUT RES64 "set nogrid"/;
2483  PUT RES64 "set time"/;
2484  *PUT RES64 "set output 'st2.ps' "/;
2485  PUT RES64 "set output'../../crudeoil/st2.png' "/;
2486  PUT RES64 "replot"/;
2487  FILE RES65 /st3.dem/;
2488  PUT RES65;
2489  PUT RES65 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (3)' "/;
2490  PUT RES65 "set xlabel ' Time' "/;
2491  PUT RES65 "set ylabel ' Volume' "/;
2492  PUT RES65 "set nogrid"/;
2493  LOOP(I$(ORD(I) EQ 3),
2494  PUT RES65 "set yrange [ 0 : "VSTOMAX(I):7:2;
2495  PUT RES65 "]"/;
2496  );
2497  PUT RES65 "set xrange [ 0 :"(TT):4:0;
2498  PUT RES65 "]"/;
2499  PUT RES65 "set time"/;
2500  PUT RES65 "set xtics 0,1,"(TT):4:0/;
2501  PUT RES65 "plot 'storage_tank3' with linespoint "/;
2502  PUT RES65 "pause 0 ' ' "/;
2503  PUT RES65 "pause 0 ' ' "/;
2504  PUT RES65 "pause 0 ' ' "/;
2505  PUT RES65 "pause 0 ' ' "/;
2506  *PUT RES65 "pause -1 '                    Press Return ' "/;
2507  PUT RES65 "set terminal png"/;
2508  PUT RES65 "set nogrid"/;
2509  PUT RES65 "set time"/;
2510  *PUT RES65 "set output 'st3.ps' "/;
2511  PUT RES65 "set output'../../crudeoil/st3.png' "/;
2512  PUT RES65 "replot"/;
2513  FILE RES66 /st4.dem/;
2514  PUT RES66;
2515  PUT RES66 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (4)' "/;
2516  PUT RES66 "set xlabel ' Time' "/;
2517  PUT RES66 "set ylabel ' Volume' "/;
2518  PUT RES66 "set nogrid"/;
2519  LOOP(I$(ORD(I) EQ 4),
2520  PUT RES66 "set yrange [ 0 : "VSTOMAX(I):7:2;
2521  PUT RES66 "]"/;
2522  );
2523  PUT RES66 "set xrange [ 0 :"(TT):4:0;
2524  PUT RES66 "]"/;
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2525  PUT RES66 "set time"/;
2526  PUT RES66 "set xtics 0,1,"(TT):4:0/;
2527  PUT RES66 "plot 'storage_tank4' with linespoint "/;
2528  PUT RES66 "pause 0 ' ' "/;
2529  PUT RES66 "pause 0 ' ' "/;
2530  PUT RES66 "pause 0 ' ' "/;
2531  PUT RES66 "pause 0 ' ' "/;
2532  *PUT RES66 "pause -1 '                    Press Return ' "/;
2533  PUT RES66 "set terminal png"/;
2534  PUT RES66 "set nogrid"/;
2535  PUT RES66 "set time"/;
2536  *PUT RES66 "set output 'st4.ps' "/;
2537  PUT RES66 "set output'../../crudeoil/st4.png' "/;
2538  PUT RES66 "replot"/;
2539  FILE RES67 /st5.dem/;
2540  PUT RES67;
2541  PUT RES67 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (5)' "/;
2542  PUT RES67 "set xlabel ' Time' "/;
2543  PUT RES67 "set ylabel ' Volume' "/;
2544  PUT RES67 "set nogrid"/;
2545  LOOP(I$(ORD(I) EQ 5),
2546  PUT RES67 "set yrange [ 0 : "VSTOMAX(I):7:2;
2547  PUT RES67 "]"/;
2548  );
2549  PUT RES67 "set xrange [ 0 :"(TT):4:0;
2550  PUT RES67 "]"/;
2551  PUT RES67 "set time"/;
2552  PUT RES67 "set xtics 0,1,"(TT):4:0/;
2553  PUT RES67 "plot 'storage_tank5' with linespoint "/;
2554  PUT RES67 "pause 0 ' ' "/;
2555  PUT RES67 "pause 0 ' ' "/;
2556  PUT RES67 "pause 0 ' ' "/;
2557  PUT RES67 "pause 0 ' ' "/;
2558  *PUT RES67 "pause -1 '                    Press Return ' "/;
2559  PUT RES67 "set terminal png"/;
2560  PUT RES67 "set nogrid"/;
2561  PUT RES67 "set time"/;
2562  *PUT RES67 "set output 'st5.ps' "/;
2563  PUT RES67 "set output'../../crudeoil/st5.png' "/;
2564  PUT RES67 "replot"/;
2565  FILE RES68 /st6.dem/;
2566  PUT RES68;
2567  PUT RES68 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (6)' "/;
2568  PUT RES68 "set xlabel ' Time' "/;
2569  PUT RES68 "set ylabel ' Volume' "/;
2570  PUT RES68 "set nogrid"/;
2571  LOOP(I$(ORD(I) EQ 6),
2572  PUT RES68 "set yrange [ 0 : "VSTOMAX(I):7:2;
2573  PUT RES68 "]"/;
2574  );
2575  PUT RES68 "set xrange [ 0 :"(TT):4:0;
2576  PUT RES68 "]"/;
2577  PUT RES68 "set time"/;
2578  PUT RES68 "set xtics 0,1,"(TT):4:0/;
2579  PUT RES68 "plot 'storage_tank6' with linespoint "/;
2580  PUT RES68 "pause 0 ' ' "/;
2581  PUT RES68 "pause 0 ' ' "/;
2582  PUT RES68 "pause 0 ' ' "/;
2583  PUT RES68 "pause 0 ' ' "/;
2584  *PUT RES68 "pause -1 '                    Press Return ' "/;
2585  PUT RES68 "set terminal png"/;
2586  PUT RES68 "set nogrid"/;
2587  PUT RES68 "set time"/;
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2588  *PUT RES68 "set output 'st6.ps' "/;
2589  PUT RES68 "set output'../../crudeoil/st6.png' "/;
2590  PUT RES68 "replot"/;
2591  FILE RES151 /st7.dem/;
2592  PUT RES151;
2593  PUT RES151 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (7)' "/;
2594  PUT RES151 "set xlabel ' Time' "/;
2595  PUT RES151 "set ylabel ' Volume' "/;
2596  PUT RES151 "set nogrid"/;
2597  LOOP(I$(ORD(I) EQ 7),
2598  PUT RES151 "set yrange [ 0 : "VSTOMAX(I):7:2;
2599  PUT RES151 "]"/;
2600  );
2601  PUT RES151 "set xrange [ 0 :"(TT):4:0;
2602  PUT RES151 "]"/;
2603  PUT RES151 "set time"/;
2604  PUT RES151 "set xtics 0,1,"(TT):4:0/;
2605  PUT RES151 "plot 'storage_tank7' with linespoint "/;
2606  PUT RES151 "pause 0 ' ' "/;
2607  PUT RES151 "pause 0 ' ' "/;
2608  PUT RES151 "pause 0 ' ' "/;
2609  PUT RES151 "pause 0 ' ' "/;
2610  *PUT RES151 "pause -1 '                      Press Return ' "/;
2611  PUT RES151 "set terminal png"/;
2612  PUT RES151 "set nogrid"/;
2613  PUT RES151 "set time"/;
2614  *PUT RES151 "set output 'st7.ps' "/;
2615  PUT RES151 "set output'../../crudeoil/st7.png' "/;
2616  PUT RES151 "replot"/;
2617  FILE RES152 /st8.dem/;
2618  PUT RES152;
2619  PUT RES152 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (8)' "/;
2620  PUT RES152 "set xlabel ' Time' "/;
2621  PUT RES152 "set ylabel ' Volume' "/;
2622  PUT RES152 "set nogrid"/;
2623  LOOP(I$(ORD(I) EQ 8),
2624  PUT RES152 "set yrange [ 0 : "VSTOMAX(I):7:2;
2625  PUT RES152 "]"/;
2626  );
2627  PUT RES152 "set xrange [ 0 :"(TT):4:0;
2628  PUT RES152 "]"/;
2629  PUT RES152 "set time"/;
2630  PUT RES152 "set xtics 0,1,"(TT):4:0/;
2631  PUT RES152 "plot 'storage_tank8' with linespoint "/;
2632  PUT RES152 "pause 0 ' ' "/;
2633  PUT RES152 "pause 0 ' ' "/;
2634  PUT RES152 "pause 0 ' ' "/;
2635  PUT RES152 "pause 0 ' ' "/;
2636  *PUT RES152 "pause -1 '                      Press Return ' "/;
2637  PUT RES152 "set terminal png"/;
2638  PUT RES152 "set nogrid"/;
2639  PUT RES152 "set time"/;
2640  *PUT RES152 "set output 'st8.ps' "/;
2641  PUT RES152 "set output'../../crudeoil/st8.png' "/;
2642  PUT RES152 "replot"/;
2643  FILE RES153 /st9.dem/;
2644  PUT RES153;
2645  PUT RES153 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (9)' "/;
2646  PUT RES153 "set xlabel ' Time' "/;
2647  PUT RES153 "set ylabel ' Volume' "/;
2648  PUT RES153 "set nogrid"/;
2649  LOOP(I$(ORD(I) EQ 9),
2650  PUT RES153 "set yrange [ 0 : "VSTOMAX(I):7:2;
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2651  PUT RES153 "]"/;
2652  );
2653  PUT RES153 "set xrange [ 0 :"(TT):4:0;
2654  PUT RES153 "]"/;
2655  PUT RES153 "set time"/;
2656  PUT RES153 "set xtics 0,1,"(TT):4:0/;
2657  PUT RES153 "plot 'storage_tank9' with linespoint "/;
2658  PUT RES153 "pause 0 ' ' "/;
2659  PUT RES153 "pause 0 ' ' "/;
2660  PUT RES153 "pause 0 ' ' "/;
2661  PUT RES153 "pause 0 ' ' "/;
2662  *PUT RES153 "pause -1 '                    Press Return ' "/;
2663  PUT RES153 "set terminal png"/;
2664  PUT RES153 "set nogrid"/;
2665  PUT RES153 "set time"/;
2666  *PUT RES153 "set output 'st9.ps' "/;
2667  PUT RES153 "set output'../../crudeoil/st9.png' "/;
2668  PUT RES153 "replot"/;
2669  FILE RES154 /st10.dem/;
2670  PUT RES154;
2671  PUT RES154 "set title 'CRUDEOIL:   VOLUME OF CRUDE OIL IN STORAGE TANK (10)' "/;
2672  PUT RES154 "set xlabel ' Time' "/;
2673  PUT RES154 "set ylabel ' Volume' "/;
2674  PUT RES154 "set nogrid"/;
2675  LOOP(I$(ORD(I) EQ 10),
2676  PUT RES154 "set yrange [ 0 : "VSTOMAX(I):7:2;
2677  PUT RES154 "]"/;
2678  );
2679  PUT RES154 "set xrange [ 0 :"(TT):4:0;
2680  PUT RES154 "]"/;
2681  PUT RES154 "set time"/;
2682  PUT RES154 "set xtics 0,1,"(TT):4:0/;
2683  PUT RES154 "plot 'storage_tank10' with linespoint "/;
2684  PUT RES154 "pause 0 ' ' "/;
2685  PUT RES154 "pause 0 ' ' "/;
2686  PUT RES154 "pause 0 ' ' "/;
2687  PUT RES154 "pause 0 ' ' "/;
2688  *PUT RES154 "pause -1 '                    Press Return ' "/;
2689  PUT RES154 "set terminal png"/;
2690  PUT RES154 "set nogrid"/;
2691  PUT RES154 "set time"/;
2692  *PUT RES154 "set output 'st10.ps' "/;
2693  PUT RES154 "set output'../../crudeoil/st10.png' "/;
2694  PUT RES154 "replot"/;
2695  FILE RES69 /ct1.dem/;
2696  PUT RES69;
2697  PUT RES69 "set title 'CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (1)' "/;
2698  PUT RES69 "set xlabel ' Time' "/;
2699  PUT RES69 "set ylabel ' Volume' "/;
2700  PUT RES69 "set nogrid"/;
2701  LOOP(J$(ORD(J) EQ 1),
2702  PUT RES69 "set yrange [ 0 : "VBLEMAX(J):7:2;
2703  PUT RES69 "]"/;
2704  );
2705  PUT RES69 "set xrange [ 0 :"(TT):4:0;
2706  PUT RES69 "]"/;
2707  PUT RES69 "set time"/;
2708  PUT RES69 "set xtics 0,1,"(TT):4:0/;
2709  PUT RES69 "plot 'charging_tank1' with linespoint "/;
2710  PUT RES69 "pause 0 ' ' "/;
2711  PUT RES69 "pause 0 ' ' "/;
2712  PUT RES69 "pause 0 ' ' "/;
2713  PUT RES69 "pause 0 ' ' "/;
```

```
2714  *PUT RES69 "pause -1 '                      Press Return ' "/;
2715  PUT RES69 "set terminal png"/;
2716  PUT RES69 "set nogrid"/;
2717  PUT RES69 "set time"/;
2718  *PUT RES69 "set output 'ct1.ps' "/;
2719  PUT RES69 "set output'../../crudeoil/ct1.png' "/;
2720  PUT RES69 "replot"/;
2721  FILE RES70 /ct2.dem/;
2722  PUT RES70;
2723  PUT RES70 "set title 'CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (2)' "/;
2724  PUT RES70 "set xlabel ' Time' "/;
2725  PUT RES70 "set ylabel ' Volume' "/;
2726  PUT RES70 "set nogrid"/;
2727  LOOP(J$(ORD(J) EQ 2),
2728  PUT RES70 "set yrange [ 0 : "VBLEMAX(J):7:2;
2729  PUT RES70 "]"/;
2730  );
2731  PUT RES70 "set xrange [ 0 :"(TT):4:0;
2732  PUT RES70 "]"/;
2733  PUT RES70 "set time"/;
2734  PUT RES70 "set xtics 0,1,"(TT):4:0/;
2735  PUT RES70 "plot 'charging_tank2' with linespoint "/;
2736  PUT RES70 "pause 0 ' ' "/;
2737  PUT RES70 "pause 0 ' ' "/;
2738  PUT RES70 "pause 0 ' ' "/;
2739  PUT RES70 "pause 0 ' ' "/;
2740  *PUT RES70 "pause -1 '                      Press Return ' "/;
2741  PUT RES70 "set terminal png"/;
2742  PUT RES70 "set nogrid"/;
2743  PUT RES70 "set time"/;
2744  PUT RES70 "set output 'ct2.ps' "/;
2745  PUT RES70 "set output'../../crudeoil/ct2.png' "/;
2746  PUT RES70 "replot"/;
2747  FILE RES71 /ct3.dem/;
2748  PUT RES71;
2749  PUT RES71 "set title 'CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (3)' "/;
2750  PUT RES71 "set xlabel ' Time' "/;
2751  PUT RES71 "set ylabel ' Volume' "/;
2752  PUT RES71 "set nogrid"/;
2753  LOOP(J$(ORD(J) EQ 3),
2754  PUT RES71 "set yrange [ 0 : "VBLEMAX(J):7:2;
2755  PUT RES71 "]"/;
2756  );
2757  PUT RES71 "set xrange [ 0 :"(TT):4:0;
2758  PUT RES71 "]"/;
2759  PUT RES71 "set time"/;
2760  PUT RES71 "set xtics 0,1,"(TT):4:0/;
2761  PUT RES71 "plot 'charging_tank3' with linespoint "/;
2762  PUT RES71 "pause 0 ' ' "/;
2763  PUT RES71 "pause 0 ' ' "/;
2764  PUT RES71 "pause 0 ' ' "/;
2765  PUT RES71 "pause 0 ' ' "/;
2766  *PUT RES71 "pause -1 '                      Press Return ' "/;
2767  PUT RES71 "set terminal png"/;
2768  PUT RES71 "set nogrid"/;
2769  PUT RES71 "set time"/;
2770  *PUT RES71 "set output 'ct3.ps' "/;
2771  PUT RES71 "set output'../../crudeoil/ct3.png' "/;
2772  PUT RES71 "replot"/;
2773  FILE RES72 /ct4.dem/;
2774  PUT RES72;
2775  PUT RES72 "set title 'CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (4)' "/;
2776  PUT RES72 "set xlabel ' Time' "/;
```

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2777  PUT RES72 "set ylabel ’ Volume’ "/;
2778  PUT RES72 "set nogrid"/;
2779  LOOP(J$(ORD(J) EQ 4),
2780  PUT RES72 "set yrange [ 0 : "VBLEMAX(J):7:2;
2781  PUT RES72 "]"/;
2782  );
2783  PUT RES72 "set xrange [ 0 :"(TT):4:0;
2784  PUT RES72 "]"/;
2785  PUT RES72 "set time"/;
2786  PUT RES72 "set xtics 0,1,"(TT):4:0/;
2787  PUT RES72 "plot ’charging_tank4’ with linespoint "/;
2788  PUT RES72 "pause 0 ’ ’ "/;
2789  PUT RES72 "pause 0 ’ ’ "/;
2790  PUT RES72 "pause 0 ’ ’ "/;
2791  PUT RES72 "pause 0 ’ ’ "/;
2792  *PUT RES72 "pause -1 ’                    Press Return ’ "/;
2793  PUT RES72 "set terminal png"/;
2794  PUT RES72 "set nogrid"/;
2795  PUT RES72 "set time"/;
2796  PUT RES72 "set output ’ct4.ps’ "/;
2797  PUT RES72 "set output’../../crudeoil/ct4.png’ "/;
2798  PUT RES72 "replot"/;
2799  FILE RES73 /ct5.dem/;
2800  PUT RES73;
2801  PUT RES73 "set title ’CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (5)’ "/;
2802  PUT RES73 "set xlabel ’ Time’ "/;
2803  PUT RES73 "set ylabel ’ Volume’ "/;
2804  PUT RES73 "set nogrid"/;
2805  LOOP(J$(ORD(J) EQ 5),
2806  PUT RES73 "set yrange [ 0 : "VBLEMAX(J):7:2;
2807  PUT RES73 "]"/;
2808  );
2809  PUT RES73 "set xrange [ 0 :"(TT):4:0;
2810  PUT RES73 "]"/;
2811  PUT RES73 "set time"/;
2812  PUT RES73 "set xtics 0,1,"(TT):4:0/;
2813  PUT RES73 "plot ’charging_tank5’ with linespoint "/;
2814  PUT RES73 "pause 0 ’ ’ "/;
2815  PUT RES73 "pause 0 ’ ’ "/;
2816  PUT RES73 "pause 0 ’ ’ "/;
2817  PUT RES73 "pause 0 ’ ’ "/;
2818  *PUT RES73 "pause -1 ’                    Press Return ’ "/;
2819  PUT RES73 "set terminal png"/;
2820  PUT RES73 "set nogrid"/;
2821  PUT RES73 "set time"/;
2822  *PUT RES73 "set output ’ct5.ps’ "/;
2823  PUT RES73 "set output’../../crudeoil/ct5.png’ "/;
2824  PUT RES73 "replot"/;
2825  FILE RES74 /ct6.dem/;
2826  PUT RES74;
2827  PUT RES74 "set title ’CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (6)’ "/;
2828  PUT RES74 "set xlabel ’ Time’ "/;
2829  PUT RES74 "set ylabel ’ Volume’ "/;
2830  PUT RES74 "set nogrid"/;
2831  LOOP(J$(ORD(J) EQ 6),
2832  PUT RES74 "set yrange [ 0 : "VBLEMAX(J):7:2;
2833  PUT RES74 "]"/;
2834  );
2835  PUT RES74 "set xrange [ 0 :"(TT):4:0;
2836  PUT RES74 "]"/;
2837  PUT RES74 "set time"/;
2838  PUT RES74 "set xtics 0,1,"(TT):4:0/;
2839  PUT RES74 "plot ’charging_tank6’ with linespoint "/;
```

```
PUT RES74 "pause 0 ' ' "/;
PUT RES74 "pause 0 ' ' "/;
PUT RES74 "pause 0 ' ' "/;
PUT RES74 "pause 0 ' ' "/;
*PUT RES74 "pause -1 '                        Press Return ' "/;
PUT RES74 "set terminal png"/;
PUT RES74 "set nogrid"/;
PUT RES74 "set time"/;
*PUT RES74 "set output 'ct6.ps' "/;
PUT RES74 "set output'../../crudeoil/ct6.png' "/;
PUT RES74 "replot"/;
FILE RES155 /ct7.dem/;
PUT RES155;
PUT RES155 "set title 'CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (7)' "/;
PUT RES155 "set xlabel ' Time' "/;
PUT RES155 "set ylabel ' Volume' "/;
PUT RES155 "set nogrid"/;
LOOP(J$(ORD(J) EQ 7),
PUT RES155 "set yrange [ 0 : "VBLEMAX(J):7:2;
PUT RES155 "]"/;
);
PUT RES155 "set xrange [ 0 :"(TT):4:0;
PUT RES155 "]"/;
PUT RES155 "set time"/;
PUT RES155 "set xtics 0,1,"(TT):4:0/;
PUT RES155 "plot 'charging_tank7' with linespoint "/;
PUT RES155 "pause 0 ' ' "/;
PUT RES155 "pause 0 ' ' "/;
PUT RES155 "pause 0 ' ' "/;
PUT RES155 "pause 0 ' ' "/;
*PUT RES155 "pause -1 '                        Press Return ' "/;
PUT RES155 "set terminal png"/;
PUT RES155 "set nogrid"/;
PUT RES155 "set time"/;
*PUT RES155 "set output 'ct7.ps' "/;
PUT RES155"set output'../../crudeoil/ct7.png' "/;
PUT RES155 "replot"/;
FILE RES156 /ct8.dem/;
PUT RES156;
PUT RES156 "set title 'CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (8)' "/;
PUT RES156 "set xlabel ' Time' "/;
PUT RES156 "set ylabel ' Volume' "/;
PUT RES156 "set nogrid"/;
LOOP(J$(ORD(J) EQ 8),
PUT RES156 "set yrange [ 0 : "VBLEMAX(J):7:2;
PUT RES156 "]"/;
);
PUT RES156 "set xrange [ 0 :"(TT):4:0;
PUT RES156 "]"/;
PUT RES156 "set time"/;
PUT RES156 "set xtics 0,1,"(TT):4:0/;
PUT RES156 "plot 'charging_tank8' with linespoint "/;
PUT RES156 "pause 0 ' ' "/;
PUT RES156 "pause 0 ' ' "/;
PUT RES156 "pause 0 ' ' "/;
PUT RES156 "pause 0 ' ' "/;
*PUT RES156 "pause -1 '                        Press Return ' "/;
PUT RES156 "set terminal png"/;
PUT RES156 "set nogrid"/;
PUT RES156 "set time"/;
*PUT RES156 "set output 'ct8.ps' "/;
PUT RES156 "set output'../../crudeoil/ct8.png' "/;
PUT RES156 "replot"/;
```

```
2903  FILE RES157 /ct9.dem/;
2904  PUT RES157;
2905  PUT RES157 "set title 'CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (9)' "/;
2906  PUT RES157 "set xlabel ' Time' "/;
2907  PUT RES157 "set ylabel ' Volume' "/;
2908  PUT RES157 "set nogrid"/;
2909  LOOP(J$(ORD(J) EQ 9),
2910  PUT RES157 "set yrange [ 0 : "VBLEMAX(J):7:2;
2911  PUT RES157 "]"/;
2912  );
2913  PUT RES157 "set xrange [ 0 :"(TT):4:0;
2914  PUT RES157 "]"/;
2915  PUT RES157 "set time"/;
2916  PUT RES157 "set xtics 0,1,"(TT):4:0/;
2917  PUT RES157 "plot 'charging_tank9' with linespoint "/;
2918  PUT RES157 "pause 0 ' ' "/;
2919  PUT RES157 "pause 0 ' ' "/;
2920  PUT RES157 "pause 0 ' ' "/;
2921  PUT RES157 "pause 0 ' ' "/;
2922  *PUT RES157 "pause -1 '                       Press Return ' "/;
2923  PUT RES157 "set terminal png"/;
2924  PUT RES157 "set nogrid"/;
2925  PUT RES157 "set time"/;
2926  *PUT RES157 "set output 'ct9.ps' "/;
2927  PUT RES157 "set output'../../crudeoil/ct9.png' "/;
2928  PUT RES157 "replot"/;
2929  FILE RES158 /ct10.dem/;
2930  PUT RES158;
2931  PUT RES158 "set title 'CRUDEOIL:   VOLUME OF MIXED OIL IN CHARGING TANK (10)' "/;
2932  PUT RES158 "set xlabel ' Time' "/;
2933  PUT RES158 "set ylabel ' Volume' "/;
2934  PUT RES158 "set nogrid"/;
2935  LOOP(J$(ORD(J) EQ 10),
2936  PUT RES158 "set yrange [ 0 : "VBLEMAX(J):7:2;
2937  PUT RES158 "]"/;
2938  );
2939  PUT RES158 "set xrange [ 0 :"(TT):4:0;
2940  PUT RES158 "]"/;
2941  PUT RES158 "set time"/;
2942  PUT RES158 "set xtics 0,1,"(TT):4:0/;
2943  PUT RES158 "plot 'charging_tank10' with linespoint "/;
2944  PUT RES158 "pause 0 ' ' "/;
2945  PUT RES158 "pause 0 ' ' "/;
2946  PUT RES158 "pause 0 ' ' "/;
2947  PUT RES158 "pause 0 ' ' "/;
2948  *PUT RES158 "pause -1 '                       Press Return ' "/;
2949  PUT RES158 "set terminal png"/;
2950  PUT RES158 "set nogrid"/;
2951  PUT RES158 "set time"/;
2952  PUT RES158 "set output'../../crudeoil/ct10.png' "/;
2953  *PUT RES158 "set output 'ct10.ps' "/;
2954  PUT RES158 "replot"/;
2955  FILE RES30 /c1c1.dem/;
2956  PUT RES30;
2957  PUT RES30 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (1)' "
/;
2958  PUT RES30 "set xlabel ' Time' "/;
2959  PUT RES30 "set ylabel ' Conc.' "/;
2960  PUT RES30 "set nogrid"/;
2961  LOOP(J$(ORD(J) EQ 1),
2962   LOOP(K$(ORD(K) EQ 1),
2963  PUT RES30 "set yrange [ "BCOMMIN(J,K):7:4;
2964  PUT RES30 " : "BCOMMAX(J,K):7:4;
```

```
2965  PUT RES30 "]"/;
2966   );
2967  );
2968  PUT RES30 "set xrange [ 0 :"(TT):4:0;
2969  PUT RES30 "]"/;
2970  PUT RES30 "set time"/;
2971  PUT RES30 "set xtics 0,1,"(TT):4:0/;
2972  PUT RES30 "plot 'component1_chargingtank1' with linespoint "/;
2973  PUT RES30 "pause 0 ' ' "/;
2974  PUT RES30 "pause 0 ' ' "/;
2975  PUT RES30 "pause 0 ' ' "/;
2976  PUT RES30 "pause 0 ' ' "/;
2977  *PUT RES30 "pause -1 '                      Press Return ' "/;
2978  PUT RES30 "set terminal png"/;
2979  PUT RES30 "set nogrid"/;
2980  PUT RES30 "set time"/;
2981  *PUT RES30 "set output 'c1c1.ps' "/;
2982  PUT RES30 "set output'../../crudeoil/c1c1.png' "/;
2983  PUT RES30 "replot"/;
2984  FILE RES76 /c1c2.dem/;
2985  PUT RES76;
2986  PUT RES76 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (2)' "
/;
2987  PUT RES76 "set xlabel ' Time' "/;
2988  PUT RES76 "set ylabel ' Conc.' "/;
2989  PUT RES76 "set nogrid"/;
2990  LOOP(J$(ORD(J) EQ 2),
2991   LOOP(K$(ORD(K) EQ 1),
2992  PUT RES76 "set yrange [ "BCOMMIN(J,K):7:4;
2993  PUT RES76 " : "BCOMMAX(J,K):7:4;
2994  PUT RES76 "]"/;
2995  );
2996  );
2997  PUT RES76 "set xrange [ 0 :"(TT):4:0;
2998  PUT RES76 "]"/;
2999  PUT RES76 "set time"/;
3000  PUT RES76 "set xtics 0,1,"(TT):4:0/;
3001  PUT RES76 "plot 'component1_chargingtank2' with linespoint "/;
3002  PUT RES76 "pause 0 ' ' "/;
3003  PUT RES76 "pause 0 ' ' "/;
3004  PUT RES76 "pause 0 ' ' "/;
3005  PUT RES76 "pause 0 ' ' "/;
3006  *PUT RES76 "pause -1 '                      Press Return ' "/;
3007  PUT RES76 "set terminal png"/;
3008  PUT RES76 "set nogrid"/;
3009  PUT RES76 "set time"/;
3010  *PUT RES76 "set output 'c1c2.ps' "/;
3011  PUT RES76 "set output'../../crudeoil/c1c2.png' "/;
3012  PUT RES76 "replot"/;
3013  FILE RES77 /c1c3.dem/;
3014  PUT RES77;
3015  PUT RES77 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (3)' "
/;
3016  PUT RES77 "set xlabel ' Time' "/;
3017  PUT RES77 "set ylabel ' Conc.' "/;
3018  PUT RES77 "set nogrid"/;
3019  LOOP(J$(ORD(J) EQ 3),
3020   LOOP(K$(ORD(K) EQ 1),
3021  PUT RES77 "set yrange [ "BCOMMIN(J,K):7:4;
3022  PUT RES77 " : "BCOMMAX(J,K):7:4;
3023  PUT RES77 "]"/;
3024  );
3025  );
```

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3026  PUT RES77 "set xrange [ 0 :"(TT):4:0;
3027  PUT RES77 "]"/;
3028  PUT RES77 "set time"/;
3029  PUT RES77 "set xtics 0,1,"(TT):4:0/;
3030  PUT RES77 "plot 'component1_chargingtank3' with linespoint "/;
3031  PUT RES77 "pause 0 ' ' "/;
3032  PUT RES77 "pause 0 ' ' "/;
3033  PUT RES77 "pause 0 ' ' "/;
3034  PUT RES77 "pause 0 ' ' "/;
3035  *PUT RES77 "pause -1 '                    Press Return ' "/;
3036  PUT RES77 "set terminal png"/;
3037  PUT RES77 "set nogrid"/;
3038  PUT RES77 "set time"/;
3039  *PUT RES77 "set output 'c1c3.ps' "/;
3040  PUT RES77 "set output'../../crudeoil/c1c3.png' "/;
3041  PUT RES77 "replot"/;
3042  FILE RES78 /c1c4.dem/;
3043  PUT RES78;
3044  PUT RES78 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (4)' "
/;
3045  PUT RES78 "set xlabel ' Time' "/;
3046  PUT RES78 "set ylabel ' Conc.' "/;
3047  PUT RES78 "set nogrid"/;
3048  LOOP(J$(ORD(J) EQ 4),
3049   LOOP(K$(ORD(K) EQ 1),
3050  PUT RES78 "set yrange [ "BCOMMIN(J,K):7:4;
3051  PUT RES78 " : "BCOMMAX(J,K):7:4;
3052  PUT RES78 "]"/;
3053  );
3054  );
3055  PUT RES78 "set xrange [ 0 :"(TT):4:0;
3056  PUT RES78 "]"/;
3057  PUT RES78 "set time"/;
3058  PUT RES78 "set xtics 0,1,"(TT):4:0/;
3059  PUT RES78 "plot 'component1_chargingtank4' with linespoint "/;
3060  PUT RES78 "pause 0 ' ' "/;
3061  PUT RES78 "pause 0 ' ' "/;
3062  PUT RES78 "pause 0 ' ' "/;
3063  PUT RES78 "pause 0 ' ' "/;
3064  *PUT RES78 "pause -1 '                    Press Return ' "/;
3065  PUT RES78 "set terminal png"/;
3066  PUT RES78 "set nogrid"/;
3067  PUT RES78 "set time"/;
3068  *PUT RES78 "set output 'c1c4.ps' "/;
3069  PUT RES78 "set output'../../crudeoil/c1c4.png' "/;
3070  PUT RES78 "replot"/;
3071  FILE RES79 /c1c5.dem/;
3072  PUT RES79;
3073  PUT RES79 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (5)' "
/;
3074  PUT RES79 "set xlabel ' Time' "/;
3075  PUT RES79 "set ylabel ' Conc.' "/;
3076  PUT RES79 "set nogrid"/;
3077  LOOP(J$(ORD(J) EQ 5),
3078   LOOP(K$(ORD(K) EQ 1),
3079  PUT RES79 "set yrange [ "BCOMMIN(J,K):7:4;
3080  PUT RES79 " : "BCOMMAX(J,K):7:4;
3081  PUT RES79 "]"/;
3082  );
3083  );
3084  PUT RES79 "set xrange [ 0 :"(TT):4:0;
3085  PUT RES79 "]"/;
3086  PUT RES79 "set time"/;
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3087  PUT RES79 "set xtics 0,1,"(TT):4:0/;
3088  PUT RES79 "plot 'component1_chargingtank5' with linespoint "/;
3089  PUT RES79 "pause 0 ' ' "/;
3090  PUT RES79 "pause 0 ' ' "/;
3091  PUT RES79 "pause 0 ' ' "/;
3092  PUT RES79 "pause 0 ' ' "/;
3093  *PUT RES79 "pause -1 '                    Press Return ' "/;
3094  PUT RES79 "set terminal png"/;
3095  PUT RES79 "set nogrid"/;
3096  PUT RES79 "set time"/;
3097  *PUT RES79 "set output 'c1c5.ps' "/;
3098  PUT RES79 "set output'../../crudeoil/c1c5.png' "/;
3099  PUT RES79 "replot"/;
3100  FILE RES80 /c1c6.dem/;
3101  PUT RES80;
3102  PUT RES80 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (6)' "
/;
3103  PUT RES80 "set xlabel ' Time' "/;
3104  PUT RES80 "set ylabel ' Conc.' "/;
3105  PUT RES80 "set nogrid"/;
3106  LOOP(J$(ORD(J) EQ 6),
3107   LOOP(K$(ORD(K) EQ 1),
3108  PUT RES80 "set yrange [ "BCOMMIN(J,K):7:4;
3109  PUT RES80 " : "BCOMMAX(J,K):7:4;
3110  PUT RES80 "]"/;
3111  );
3112  );
3113  PUT RES80 "set xrange [ 0 :"(TT):4:0;
3114  PUT RES80 "]"/;
3115  PUT RES80 "set time"/;
3116  PUT RES80 "set xtics 0,1,"(TT):4:0/;
3117  PUT RES80 "plot 'component1_chargingtank6' with linespoint "/;
3118  PUT RES80 "pause 0 ' ' "/;
3119  PUT RES80 "pause 0 ' ' "/;
3120  PUT RES80 "pause 0 ' ' "/;
3121  PUT RES80 "pause 0 ' ' "/;
3122  *PUT RES80 "pause -1 '                    Press Return ' "/;
3123  PUT RES80 "set terminal png"/;
3124  PUT RES80 "set nogrid"/;
3125  PUT RES80 "set time"/;
3126  *PUT RES80 "set output 'c1c6.ps' "/;
3127  PUT RES80 "set output'../../crudeoil/c1c6.png' "/;
3128  PUT RES80 "replot"/;
3129  FILE RES159 /c1c7.dem/;
3130  PUT RES159;
3131  PUT RES159 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (7)'
"/;
3132  PUT RES159 "set xlabel ' Time' "/;
3133  PUT RES159 "set ylabel ' Conc.' "/;
3134  PUT RES159 "set nogrid"/;
3135  LOOP(J$(ORD(J) EQ 7),
3136   LOOP(K$(ORD(K) EQ 1),
3137  PUT RES159 "set yrange [ "BCOMMIN(J,K):7:4;
3138  PUT RES159 " : "BCOMMAX(J,K):7:4;
3139  PUT RES159 "]"/;
3140  );
3141  );
3142  PUT RES159 "set xrange [ 0 :"(TT):4:0;
3143  PUT RES159 "]"/;
3144  PUT RES159 "set time"/;
3145  PUT RES159 "set xtics 0,1,"(TT):4:0/;
3146  PUT RES159 "plot 'component1_chargingtank7' with linespoint "/;
3147  PUT RES159 "pause 0 ' ' "/;
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3148  PUT RES159 "pause 0 ' ' "/;
3149  PUT RES159 "pause 0 ' ' "/;
3150  PUT RES159 "pause 0 ' ' "/;
3151  *PUT RES159 "pause -1 '                    Press Return ' "/;
3152  PUT RES159 "set terminal png"/;
3153  PUT RES159 "set nogrid"/;
3154  PUT RES159 "set time"/;
3155  *PUT RES159 "set output 'c1c7.ps' "/;
3156  PUT RES159 "set output'../../crudeoil/c1c7.png' "/;
3157  PUT RES159 "replot"/;
3158  FILE RES160 /c1c8.dem/;
3159  PUT RES160;
3160  PUT RES160 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (8)'
"/;
3161  PUT RES160 "set xlabel ' Time' "/;
3162  PUT RES160 "set ylabel ' Conc.' "/;
3163  PUT RES160 "set nogrid"/;
3164  LOOP(J$(ORD(J) EQ 8),
3165   LOOP(K$(ORD(K) EQ 1),
3166  PUT RES160 "set yrange [ "BCOMMIN(J,K):7:4;
3167  PUT RES160 " : "BCOMMAX(J,K):7:4;
3168  PUT RES160 "]"/;
3169  );
3170  );
3171  PUT RES160 "set xrange [ 0 :"(TT):4:0;
3172  PUT RES160 "]"/;
3173  PUT RES160 "set time"/;
3174  PUT RES160 "set xtics 0,1,"(TT):4:0/;
3175  PUT RES160 "plot 'component1_chargingtank8' with linespoint "/;
3176  PUT RES160 "pause 0 ' ' "/;
3177  PUT RES160 "pause 0 ' ' "/;
3178  PUT RES160 "pause 0 ' ' "/;
3179  PUT RES160 "pause 0 ' ' "/;
3180  *PUT RES160 "pause -1 '                    Press Return ' "/;
3181  PUT RES160 "set terminal png"/;
3182  PUT RES160 "set nogrid"/;
3183  PUT RES160 "set time"/;
3184  *PUT RES160 "set output 'c1c8.ps' "/;
3185  PUT RES160 "set output'../../crudeoil/c1c8.png' "/;
3186  PUT RES160 "replot"/;
3187  FILE RES161 /c1c9.dem/;
3188  PUT RES161;
3189  PUT RES161 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (9)'
"/;
3190  PUT RES161 "set xlabel ' Time' "/;
3191  PUT RES161 "set ylabel ' Conc.' "/;
3192  PUT RES161 "set nogrid"/;
3193  LOOP(J$(ORD(J) EQ 9),
3194   LOOP(K$(ORD(K) EQ 1),
3195  PUT RES161 "set yrange [ "BCOMMIN(J,K):7:4;
3196  PUT RES161 " : "BCOMMAX(J,K):7:4;
3197  PUT RES161 "]"/;
3198  );
3199  );
3200  PUT RES161 "set xrange [ 0 :"(TT):4:0;
3201  PUT RES161 "]"/;
3202  PUT RES161 "set time"/;
3203  PUT RES161 "set xtics 0,1,"(TT):4:0/;
3204  PUT RES161 "plot 'component1_chargingtank9' with linespoint "/;
3205  PUT RES161 "pause 0 ' ' "/;
3206  PUT RES161 "pause 0 ' ' "/;
3207  PUT RES161 "pause 0 ' ' "/;
3208  PUT RES161 "pause 0 ' ' "/;
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3209  *PUT RES161 "pause -1 '                      Press Return ' "/;
3210  PUT RES161 "set terminal png"/;
3211  PUT RES161 "set nogrid"/;
3212  PUT RES161 "set time"/;
3213  *PUT RES161 "set output 'c1c9.ps' "/;
3214  PUT RES161 "set output'../../crudeoil/c2c9.png' "/;
3215  PUT RES161 "replot"/;
3216  FILE RES162 /c1c10.dem/;
3217  PUT RES162;
3218  PUT RES162 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (1) IN CHARGING TANK (10)'
 "/;
3219  PUT RES162 "set xlabel ' Time' "/;
3220  PUT RES162 "set ylabel ' Conc.' "/;
3221  PUT RES162 "set nogrid"/;
3222  LOOP(J$(ORD(J) EQ 10),
3223   LOOP(K$(ORD(K) EQ 1),
3224  PUT RES162 "set yrange [ "BCOMMIN(J,K):7:4;
3225  PUT RES162 " : "BCOMMAX(J,K):7:4;
3226  PUT RES162 "]"/;
3227  );
3228  );
3229  PUT RES162 "set xrange [ 0 :"(TT):4:0;
3230  PUT RES162 "]"/;
3231  PUT RES162 "set time"/;
3232  PUT RES162 "set xtics 0,1,"(TT):4:0/;
3233  PUT RES162 "plot 'component1_chargingtank10' with linespoint "/;
3234  PUT RES162 "pause 0 ' ' "/;
3235  PUT RES162 "pause 0 ' ' "/;
3236  PUT RES162 "pause 0 ' ' "/;
3237  PUT RES162 "pause 0 ' ' "/;
3238  *PUT RES162 "pause -1 '                      Press Return ' "/;
3239  PUT RES162 "set terminal png"/;
3240  PUT RES162 "set nogrid"/;
3241  PUT RES162 "set time"/;
3242  *PUT RES162 "set output 'c1c10.ps' "/;
3243  PUT RES162 "set output'../../crudeoil/c1c10.png' "/;
3244  PUT RES162 "replot"/;
3245  FILE RES81 /c2c1.dem/;
3246  PUT RES81;
3247  PUT RES81 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (1)' "
/;
3248  PUT RES81 "set xlabel ' Time' "/;
3249  PUT RES81 "set ylabel ' Conc.' "/;
3250  PUT RES81 "set nogrid"/;
3251  LOOP(J$(ORD(J) EQ 1),
3252   LOOP(K$(ORD(K) EQ 2),
3253  PUT RES81 "set yrange [ "BCOMMIN(J,K):7:4;
3254  PUT RES81 " : "BCOMMAX(J,K):7:4;
3255  PUT RES81 "]"/;
3256  );
3257  );
3258  PUT RES81 "set xrange [ 0 :"(TT):4:0;
3259  PUT RES81 "]"/;
3260  PUT RES81 "set time"/;
3261  PUT RES81 "set xtics 0,1,"(TT):4:0/;
3262  PUT RES81 "plot 'component2_chargingtank1' with linespoint "/;
3263  PUT RES81 "pause 0 ' ' "/;
3264  PUT RES81 "pause 0 ' ' "/;
3265  PUT RES81 "pause 0 ' ' "/;
3266  PUT RES81 "pause 0 ' ' "/;
3267  *PUT RES81 "pause -1 '                      Press Return ' "/;
3268  PUT RES81 "set terminal png"/;
3269  PUT RES81 "set nogrid"/;
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3270  PUT RES81 "set time"/;
3271  *PUT RES81 "set output 'c2c1.ps' "/;
3272  PUT RES81 "set output'../../crudeoil/c2c1.png' "/;
3273  PUT RES81 "replot"/;
3274  FILE RES82 /c2c2.dem/;
3275  PUT RES82;
3276  PUT RES82 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (2)' "
/;
3277  PUT RES82 "set xlabel ' Time' "/;
3278  PUT RES82 "set ylabel ' Conc.' "/;
3279  PUT RES82 "set nogrid"/;
3280  LOOP(J$(ORD(J) EQ 2),
3281   LOOP(K$(ORD(K) EQ 2),
3282  PUT RES82 "set yrange [ "BCOMMIN(J,K):7:4;
3283  PUT RES82 " : "BCOMMAX(J,K):7:4;
3284  PUT RES82 "]"/;
3285  );
3286  );
3287  PUT RES82 "set xrange [ 0 :"(TT):4:0;
3288  PUT RES82 "]"/;
3289  PUT RES82 "set time"/;
3290  PUT RES82 "set xtics 0,1,"(TT):4:0/;
3291  PUT RES82 "plot 'component2_chargingtank2' with linespoint "/;
3292  PUT RES82 "pause 0 ' ' "/;
3293  PUT RES82 "pause 0 ' ' "/;
3294  PUT RES82 "pause 0 ' ' "/;
3295  PUT RES82 "pause 0 ' ' "/;
3296  *PUT RES82 "pause -1 '                      Press Return ' "/;
3297  PUT RES82 "set terminal png"/;
3298  PUT RES82 "set nogrid"/;
3299  PUT RES82 "set time"/;
3300  *PUT RES82 "set output 'c2c2.ps' "/;
3301  PUT RES82 "set output'../../crudeoil/c2c2.png' "/;
3302  PUT RES82 "replot"/;
3303  FILE RES83 /c2c3.dem/;
3304  PUT RES83;
3305  PUT RES83 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (3)' "
/;
3306  PUT RES83 "set xlabel ' Time' "/;
3307  PUT RES83 "set ylabel ' Conc.' "/;
3308  PUT RES83 "set nogrid"/;
3309  LOOP(J$(ORD(J) EQ 3),
3310   LOOP(K$(ORD(K) EQ 2),
3311  PUT RES83 "set yrange [ "BCOMMIN(J,K):7:4;
3312  PUT RES83 " : "BCOMMAX(J,K):7:4;
3313  PUT RES83 "]"/;
3314  );
3315  );
3316  PUT RES83 "set xrange [ 0 :"(TT):4:0;
3317  PUT RES83 "]"/;
3318  PUT RES83 "set time"/;
3319  PUT RES83 "set xtics 0,1,"(TT):4:0/;
3320  PUT RES83 "plot 'component2_chargingtank3' with linespoint "/;
3321  PUT RES83 "pause 0 ' ' "/;
3322  PUT RES83 "pause 0 ' ' "/;
3323  PUT RES83 "pause 0 ' ' "/;
3324  PUT RES83 "pause 0 ' ' "/;
3325  *PUT RES83 "pause -1 '                      Press Return ' "/;
3326  PUT RES83 "set terminal png"/;
3327  PUT RES83 "set nogrid"/;
3328  PUT RES83 "set time"/;
3329  *PUT RES83 "set output 'c2c3.ps' "/;
3330  PUT RES83 "set output'../../crudeoil/c2c3.png' "/;
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3331  PUT RES83 "replot"/;
3332  FILE RES84 /c2c4.dem/;
3333  PUT RES84;
3334  PUT RES84 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (4)' "
/;
3335  PUT RES84 "set xlabel ' Time' "/;
3336  PUT RES84 "set ylabel ' Conc.' "/;
3337  PUT RES84 "set nogrid"/;
3338  LOOP(J$(ORD(J) EQ 4),
3339   LOOP(K$(ORD(K) EQ 2),
3340  PUT RES84 "set yrange [ "BCOMMIN(J,K):7:4;
3341  PUT RES84 " : "BCOMMAX(J,K):7:4;
3342  PUT RES84 "]"/;
3343  );
3344  );
3345  PUT RES84 "set xrange [ 0 :"(TT):4:0;
3346  PUT RES84 "]"/;
3347  PUT RES84 "set time"/;
3348  PUT RES84 "set xtics 0,1,"(TT):4:0/;
3349  PUT RES84 "plot 'component2_chargingtank4' with linespoint "/;
3350  PUT RES84 "pause 0 ' ' "/;
3351  PUT RES84 "pause 0 ' ' "/;
3352  PUT RES84 "pause 0 ' ' "/;
3353  PUT RES84 "pause 0 ' ' "/;
3354  *PUT RES84 "pause -1 '                        Press Return ' "/;
3355  PUT RES84 "set terminal png"/;
3356  PUT RES84 "set nogrid"/;
3357  PUT RES84 "set time"/;
3358  *PUT RES84 "set output 'c2c4.ps' "/;
3359  PUT RES84 "set output'../../crudeoil/c2c4.png' "/;
3360  PUT RES84 "replot"/;
3361  FILE RES85 /c2c5.dem/;
3362  PUT RES85;
3363  PUT RES85 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (5)' "
/;
3364  PUT RES85 "set xlabel ' Time' "/;
3365  PUT RES85 "set ylabel ' Conc.' "/;
3366  PUT RES85 "set nogrid"/;
3367  LOOP(J$(ORD(J) EQ 5),
3368   LOOP(K$(ORD(K) EQ 2),
3369  PUT RES85 "set yrange [ "BCOMMIN(J,K):7:4;
3370  PUT RES85 " : "BCOMMAX(J,K):7:4;
3371  PUT RES85 "]"/;
3372  );
3373  );
3374  PUT RES85 "set xrange [ 0 :"(TT):4:0;
3375  PUT RES85 "]"/;
3376  PUT RES85 "set time"/;
3377  PUT RES85 "set xtics 0,1,"(TT):4:0/;
3378  PUT RES85 "plot 'component2_chargingtank5' with linespoint "/;
3379  PUT RES85 "pause 0 ' ' "/;
3380  PUT RES85 "pause 0 ' ' "/;
3381  PUT RES85 "pause 0 ' ' "/;
3382  PUT RES85 "pause 0 ' ' "/;
3383  *PUT RES85 "pause -1 '                        Press Return ' "/;
3384  PUT RES85 "set terminal png"/;
3385  PUT RES85 "set nogrid"/;
3386  PUT RES85 "set time"/;
3387  *PUT RES85 "set output 'c2c5.ps' "/;
3388  PUT RES85 "set output'../../crudeoil/c2c5.png' "/;
3389  PUT RES85 "replot"/;
3390  FILE RES86 /c2c6.dem/;
3391  PUT RES86;
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3392  PUT RES86 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (6)' "
/;
3393  PUT RES86 "set xlabel ' Time' "/;
3394  PUT RES86 "set ylabel ' Conc.' "/;
3395  PUT RES86 "set nogrid"/;
3396  LOOP(J$(ORD(J) EQ 6),
3397   LOOP(K$(ORD(K) EQ 2),
3398  PUT RES86 "set yrange [ "BCOMMIN(J,K):7:4;
3399  PUT RES86 " : "BCOMMAX(J,K):7:4;
3400  PUT RES86 "]"/;
3401  );
3402  );
3403  PUT RES86 "set xrange [ 0 :"(TT):4:0;
3404  PUT RES86 "]"/;
3405  PUT RES86 "set time"/;
3406  PUT RES86 "set xtics 0,1,"(TT):4:0/;
3407  PUT RES86 "plot 'component2_chargingtank6' with linespoint "/;
3408  PUT RES86 "pause 0 ' ' "/;
3409  PUT RES86 "pause 0 ' ' "/;
3410  PUT RES86 "pause 0 ' ' "/;
3411  PUT RES86 "pause 0 ' ' "/;
3412  *PUT RES86 "pause -1 '                      Press Return ' "/;
3413  PUT RES86 "set terminal png"/;
3414  PUT RES86 "set nogrid"/;
3415  PUT RES86 "set time"/;
3416  *PUT RES86 "set output 'c2c6.ps' "/;
3417  PUT RES86 "set output'../../crudeoil/c2c6.png' "/;
3418  PUT RES86 "replot"/;
3419  FILE RES163 /c2c7.dem/;
3420  PUT RES163;
3421  PUT RES163 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (7)'
"/;
3422  PUT RES163 "set xlabel ' Time' "/;
3423  PUT RES163 "set ylabel ' Conc.' "/;
3424  PUT RES163 "set nogrid"/;
3425  LOOP(J$(ORD(J) EQ 7),
3426   LOOP(K$(ORD(K) EQ 2),
3427  PUT RES163 "set yrange [ "BCOMMIN(J,K):7:4;
3428  PUT RES163 " : "BCOMMAX(J,K):7:4;
3429  PUT RES163 "]"/;
3430  );
3431  );
3432  PUT RES163 "set xrange [ 0 :"(TT):4:0;
3433  PUT RES163 "]"/;
3434  PUT RES163 "set time"/;
3435  PUT RES163 "set xtics 0,1,"(TT):4:0/;
3436  PUT RES163 "plot 'component2_chargingtank7' with linespoint "/;
3437  PUT RES163 "pause 0 ' ' "/;
3438  PUT RES163 "pause 0 ' ' "/;
3439  PUT RES163 "pause 0 ' ' "/;
3440  PUT RES163 "pause 0 ' ' "/;
3441  *PUT RES163 "pause -1 '                       Press Return ' "/;
3442  PUT RES163 "set terminal png"/;
3443  PUT RES163 "set nogrid"/;
3444  PUT RES163 "set time"/;
3445  *PUT RES163 "set output 'c2c7.ps' "/;
3446  PUT RES163 "set output'../../crudeoil/c2c7.png' "/;
3447  PUT RES163 "replot"/;
3448  FILE RES164 /c2c8.dem/;
3449  PUT RES164;
3450  PUT RES164 "set title 'CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (8)'
"/;
3451  PUT RES164 "set xlabel ' Time' "/;
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3452  PUT RES164 "set ylabel ’ Conc.’ "/;
3453  PUT RES164 "set nogrid"/;
3454  LOOP(J$(ORD(J) EQ 8),
3455   LOOP(K$(ORD(K) EQ 2),
3456  PUT RES164 "set yrange [ "BCOMMIN(J,K):7:4;
3457  PUT RES164 " : "BCOMMAX(J,K):7:4;
3458  PUT RES164 "]"/;
3459  );
3460  );
3461  PUT RES164 "set xrange [ 0 :"(TT):4:0;
3462  PUT RES164 "]"/;
3463  PUT RES164 "set time"/;
3464  PUT RES164 "set xtics 0,1,"(TT):4:0/;
3465  PUT RES164 "plot ’component2_chargingtank8’ with linespoint "/;
3466  PUT RES164 "pause 0 ’ ’ "/;
3467  PUT RES164 "pause 0 ’ ’ "/;
3468  PUT RES164 "pause 0 ’ ’ "/;
3469  PUT RES164 "pause 0 ’ ’ "/;
3470  *PUT RES164 "pause -1 ’                    Press Return ’ "/;
3471  PUT RES164 "set terminal png"/;
3472  PUT RES164 "set nogrid"/;
3473  PUT RES164 "set time"/;
3474  *PUT RES164 "set output ’c2c8.ps’ "/;
3475  PUT RES164 "set output’../../crudeoil/c2c8.png’ "/;
3476  PUT RES164 "replot"/;
3477  FILE RES165 /c2c9.dem/;
3478  PUT RES165;
3479  PUT RES165 "set title ’CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (9)’
"/;
3480  PUT RES165 "set xlabel ’ Time’ "/;
3481  PUT RES165 "set ylabel ’ Conc.’ "/;
3482  PUT RES165 "set nogrid"/;
3483  LOOP(J$(ORD(J) EQ 9),
3484   LOOP(K$(ORD(K) EQ 2),
3485  PUT RES165 "set yrange [ "BCOMMIN(J,K):7:4;
3486  PUT RES165 " : "BCOMMAX(J,K):7:4;
3487  PUT RES165 "]"/;
3488  );
3489  );
3490  PUT RES165 "set xrange [ 0 :"(TT):4:0;
3491  PUT RES165 "]"/;
3492  PUT RES165 "set time"/;
3493  PUT RES165 "set xtics 0,1,"(TT):4:0/;
3494  PUT RES165 "plot ’component2_chargingtank9’ with linespoint "/;
3495  PUT RES165 "pause 0 ’ ’ "/;
3496  PUT RES165 "pause 0 ’ ’ "/;
3497  PUT RES165 "pause 0 ’ ’ "/;
3498  PUT RES165 "pause 0 ’ ’ "/;
3499  *PUT RES165 "pause -1 ’                    Press Return ’ "/;
3500  PUT RES165 "set terminal png"/;
3501  PUT RES165 "set nogrid"/;
3502  PUT RES165 "set time"/;
3503  *PUT RES165 "set output ’c2c9.ps’ "/;
3504  PUT RES165 "set output’../../crudeoil/c2c9.png’ "/;
3505  PUT RES165 "replot"/;
3506  FILE RES166 /c2c10.dem/;
3507  PUT RES166;
3508  PUT RES166 "set title ’CRUDEOIL:   CONCENTRATION OF COMPONENT (2) IN CHARGING TANK (10)’
 "/;
3509  PUT RES166 "set xlabel ’ Time’ "/;
3510  PUT RES166 "set ylabel ’ Conc.’ "/;
3511  PUT RES166 "set nogrid"/;
3512  LOOP(J$(ORD(J) EQ 10),
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3513   LOOP(K$(ORD(K) EQ 2),
3514  PUT RES166 "set yrange [ "BCOMMIN(J,K):7:4;
3515  PUT RES166 " : "BCOMMAX(J,K):7:4;
3516  PUT RES166 "]"/;
3517  );
3518  );
3519  PUT RES166 "set xrange [ 0 :"(TT):4:0;
3520  PUT RES166 "]"/;
3521  PUT RES166 "set time"/;
3522  PUT RES166 "set xtics 0,1,"(TT):4:0/;
3523  PUT RES166 "plot 'component2_chargingtank10' with linespoint "/;
3524  PUT RES166 "pause 0 ' ' "/;
3525  PUT RES166 "pause 0 ' ' "/;
3526  PUT RES166 "pause 0 ' ' "/;
3527  PUT RES166 "pause 0 ' ' "/;
3528  *PUT RES166 "pause -1 '                       Press Return ' "/;
3529  PUT RES166 "set terminal png"/;
3530  PUT RES166 "set nogrid"/;
3531  PUT RES166 "set time"/;
3532  *PUT RES166 "set output 'c2c10.ps' "/;
3533  PUT RES166 "set output'../../crudeoil/c2c10.png' "/;
3534  PUT RES166 "replot"/;
3535  FILE RES38 /cdu1.dem/;
3536  PUT RES38;
3537  LOOP(L$(ORD(L) EQ 1),
3538  PUT RES38 "set title 'CRUDEOIL:   CDU (1)  CHARGING SCHEDULE' "/;
3539  PUT RES38 "set xlabel ' Time' "/;
3540  PUT RES38 "set ylabel ' Flow Rates' "/;
3541  PUT RES38 "set nogrid"/;
3542  PUT RES38 "set nokey"/;
3543  PUT RES38 "set yrange [ 0 : "(MFBLECDU + 3):5:2;
3544  PUT RES38 "]"/;
3545  PUT RES38 "set xrange [ 0 :"(TT + 1):4:0;
3546  PUT RES38 "]"/;
3547  PUT RES38 "set xtics 0,1,"(TT+1):4:0/;
3548  PUT RES38 "set time"/;
3549  LOOP(J,
3550   LOOP(T$(FBLECDU.L(J,L,T) GT 0),
3551  PUT RES38 "set label 'b"J.TL;
3552  PUT RES38 "' at "T.TL;
3553  PUT$(MFBLECDU GT 20) RES38 ", "(FBLECDU.L(J,L,T) + 1.1):7:4/;
3554  PUT$(MFBLECDU EQ 20) RES38 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3555  PUT$(MFBLECDU LT 20) RES38 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3556  );
3557  );
3558  PUT RES38 "set boxwidth 0.4"/;
3559  LOOP(J,
3560   LOOP(T,
3561  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "plot 'b1'
w l 1,";
3562  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "plot 'b1' l
s 1 w boxes fs pattern 5,";
3563  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b2' w l 3
,";
3564  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b2' ls 3 w
 boxes fs pattern 5,";
3565  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b3' w l 4
,";
3566  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b3' ls 4 w
 boxes fs pattern 5,";
3567  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b4' w l 7
,";
3568  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b4' ls 7 w
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 boxes fs pattern 5,";
3569  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b5' w l 1
,";
3570  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b5' ls 1 w
 boxes fs pattern 5,\" /;
3571  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b6' w l 3
,";
3572  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b6' ls 3 w
 boxes fs pattern 5,";
3573  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b7' w l 4
,";
3574  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b7' ls 4 w
 boxes fs pattern 5,";
3575  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b8' w l 7
,";
3576  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b8' ls 7 w
 boxes fs pattern 5,";
3577  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b9' w l 1
,";
3578  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b9' ls 1 w
 boxes fs pattern 5,";
3579  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b10' w l
3"/;
3580  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 1) AND (D.L(L,T,J) GT 0)) RES38 "'b10' ls 3
w boxes fs pattern 5"/;
3581   );
3582  );
3583  );
3584  PUT RES38 "pause 0 ' ' "/;
3585  PUT RES38 "pause 0 ' ' "/;
3586  PUT RES38 "pause 0 ' ' "/;
3587  PUT RES38 "pause 0 ' ' "/;
3588  *PUT RES38 "pause -1 '                      Press Return ' "/;
3589  PUT RES38 "set terminal png"/;
3590  PUT RES38 "set nogrid"/;
3591  PUT RES38 "set time"/;
3592  PUT RES38 "set nokey"/;
3593  *PUT RES38 "set output 'cdu1.ps' "/;
3594  PUT RES38 "set output'../../crudeoil/cdu1.png' "/;
3595  PUT RES38 "replot"/;
3596  FILE RES87 /cdu2.dem/;
3597  PUT RES87;
3598  LOOP(L$(ORD(L) EQ 2),
3599  PUT RES87 "set title 'CRUDEOIL:   CDU (2)  CHARGING SCHEDULE' "/;
3600  PUT RES87 "set xlabel ' Time' "/;
3601  PUT RES87 "set ylabel ' Flow Rates' "/;
3602  PUT RES87 "set nogrid"/;
3603  PUT RES87 "set nokey"/;
3604  PUT RES87 "set yrange [ 0 : "(MFBLECDU + 3):5:2;
3605  PUT RES87 "]"/;
3606  PUT RES87 "set xrange [ 0 :"(TT + 1):4:0;
3607  PUT RES87 "]"/;
3608  PUT RES87 "set xtics 0,1,"(TT+1):4:0/;
3609  PUT RES87 "set time"/;
3610  LOOP(J,
3611   LOOP(T$(FBLECDU.L(J,L,T) GT 0),
3612  PUT RES87 "set label 'b"J.TL;
3613  PUT RES87 "' at "T.TL;
3614  PUT$(MFBLECDU GT 20) RES87 ", "(FBLECDU.L(J,L,T) + 1.1):7:4/;
3615  PUT$(MFBLECDU EQ 20) RES87 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3616  PUT$(MFBLECDU LT 20) RES87 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3617  );
3618  );
```

```
3619  PUT RES87 "set boxwidth 0.4"/;
3620  LOOP(J,
3621   LOOP(T,
3622  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "plot 'bl1'
 w l 1,";
3623  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "plot 'bl1'
ls 1 w boxes fs pattern 5,";
3624  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl2' w l
3,";
3625  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl2' ls 3
w boxes fs pattern 5,";
3626  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl3' w l
4,";
3627  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl3' ls 4
w boxes fs pattern 5,";
3628  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl4' w l
7,";
3629  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl4' ls 7
w boxes fs pattern 5,";
3630  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl5' w l
1,";
3631  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl5' ls 1
w boxes fs pattern 5,\" /;
3632  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl6' w l
3,";
3633  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl6' ls 3
w boxes fs pattern 5,";
3634  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl7' w l
4,";
3635  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl7' ls 4
w boxes fs pattern 5,";
3636  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl8' w l
7,";
3637  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl8' ls 7
w boxes fs pattern 5,";
3638  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl9' w l
1,";
3639  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl9' ls 1
w boxes fs pattern 5,";
3640  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl10' w l
 3"/;
3641  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 2) AND (D.L(L,T,J) GT 0)) RES87 "'bl10' ls 3
 w boxes fs pattern 5"/;
3642   );
3643  );
3644  );
3645  PUT RES87 "pause 0 ' ' "/;
3646  PUT RES87 "pause 0 ' ' "/;
3647  PUT RES87 "pause 0 ' ' "/;
3648  PUT RES87 "pause 0 ' ' "/;
3649  *PUT RES87 "pause -1 '                      Press Return ' "/;
3650  PUT RES87 "set terminal png"/;
3651  PUT RES87 "set nogrid"/;
3652  PUT RES87 "set time"/;
3653  PUT RES87 "set nokey"/;
3654  *PUT RES87 "set output 'cdu2.ps' "/;
3655  PUT RES87 "set output'../../crudeoil/cdu2.png' "/;
3656  PUT RES87 "replot"/;
3657  FILE RES88 /cdu3.dem/;
3658  PUT RES88;
3659  LOOP(L$(ORD(L) EQ 3),
3660  PUT RES88 "set title 'CRUDEOIL:   CDU (3)  CHARGING SCHEDULE' "/;
3661  PUT RES88 "set xlabel ' Time' "/;
```

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3662  PUT RES88 "set ylabel ’ Flow Rates’ "/;
3663  PUT RES88 "set nogrid"/;
3664  PUT RES88 "set nokey"/;
3665  PUT RES88 "set yrange [ 0 : "(MFBLECDU + 3):7:4;
3666  PUT RES88 "]"/;
3667  PUT RES88 "set xrange [ 0 :"(TT + 1):4:0;
3668  PUT RES88 "]"/;
3669  PUT RES88 "set xtics 0,1,"(TT+1):4:0/;
3670  PUT RES88 "set time"/;
3671  LOOP(J,
3672   LOOP(T$(FBLECDU.L(J,L,T) GT 0),
3673  PUT RES88 "set label ’b"J.TL;
3674  PUT RES88 "’ at "T.TL;
3675  PUT$(MFBLECDU GT 20) RES88 ", "(FBLECDU.L(J,L,T) + 1.1):7:4/;
3676  PUT$(MFBLECDU EQ 20) RES88 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3677  PUT$(MFBLECDU LT 20) RES88 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3678  );
3679  );
3680  PUT RES88 "set boxwidth 0.4"/;
3681  LOOP(J,
3682   LOOP(T,
3683  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "plot ’d1’
w l 1,";
3684  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "plot ’d1’ l
s 1 w boxes fs pattern 5,";
3685  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d2’ w l 3
,";
3686  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d2’ ls 3 w
 boxes fs pattern 5,";
3687  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d3’ w l 4
,";
3688  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d3’ ls 4 w
 boxes fs pattern 5,";
3689  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d4’ w l 7
,";
3690  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d4’ ls 7 w
 boxes fs pattern 5,";
3691  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d5’ w l 1
,";
3692  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d5’ ls 1 w
 boxes fs pattern 5, \" /;
3693  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d6’ w l 3
,";
3694  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d6’ ls 3 w
 boxes fs pattern 5,";
3695  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d7’ w l 4
,";
3696  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d7’ ls 4 w
 boxes fs pattern 5,";
3697  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d8’ w l 7
,";
3698  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d8’ ls 7 w
 boxes fs pattern 5,";
3699  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d9’ w l 1
,";
3700  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d9’ ls 1 w
 boxes fs pattern 5,";
3701  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d10’ w l
3"/;
3702  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 3) AND (D.L(L,T,J) GT 0)) RES88 "’d10’ ls 3
w boxes fs pattern 5"/;
3703   );
3704  );
```

```
3705  );
3706  PUT RES88 "pause 0 ' ' "/;
3707  PUT RES88 "pause 0 ' ' "/;
3708  PUT RES88 "pause 0 ' ' "/;
3709  PUT RES88 "pause 0 ' ' "/;
3710  *PUT RES88 "pause -1 '                        Press Return ' "/;
3711  PUT RES88 "set terminal png"/;
3712  PUT RES88 "set nogrid"/;
3713  PUT RES88 "set time"/;
3714  PUT RES88 "set nokey"/;
3715  *PUT RES88 "set output 'cdu3.ps' "/;
3716  PUT RES88 "set output'../../crudeoil/cdu3.png' "/;
3717  PUT RES88 "replot"/;
3718  FILE RES190 /cdu4.dem/;
3719  PUT RES190;
3720  LOOP(L$(ORD(L) EQ 4),
3721  PUT RES190 "set title 'CRUDEOIL:   CDU (4)  CHARGING SCHEDULE' "/;
3722  PUT RES190 "set xlabel ' Time' "/;
3723  PUT RES190 "set ylabel ' Flow Rates' "/;
3724  PUT RES190 "set nogrid"/;
3725  PUT RES190 "set nokey"/;
3726  PUT RES190 "set yrange [ 0 : "(MFBLECDU + 3):7:4;
3727  PUT RES190 "]"/;
3728  PUT RES190 "set xrange [ 0 :"(TT + 1):4:0;
3729  PUT RES190 "]"/;
3730  PUT RES190 "set xtics 0,1,"(TT+1):4:0/;
3731  PUT RES190 "set time"/;
3732  LOOP(J,
3733   LOOP(T$(FBLECDU.L(J,L,T) GT 0),
3734  PUT RES190 "set label 'b"J.TL;
3735  PUT RES190 "' at "T.TL;
3736  PUT$(MFBLECDU GT 20) RES190 ", "(FBLECDU.L(J,L,T) + 1.1):7:4/;
3737  PUT$(MFBLECDU EQ 20) RES190 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3738  PUT$(MFBLECDU LT 20) RES190 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3739  );
3740  );
3741  PUT RES190 "set boxwidth 0.4"/;
3742  LOOP(J,
3743   LOOP(T,
3744  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "plot 'g1'
 w l 1,";
3745  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "plot 'g1'
ls 1 w boxes fs pattern 5,";
3746  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g2' w l
3,";
3747  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g2' ls 3
w boxes fs pattern 5,";
3748  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g3' w l
4,";
3749  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g3' ls 4
w boxes fs pattern 5,";
3750  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g4' w l
7,";
3751  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g4' ls 7
w boxes fs pattern 5,";
3752  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g5' w l
1,";
3753  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g5' ls 1
w boxes fs pattern 5, \" /;
3754  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g6' w l
3,";
3755  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g6' ls 3
w boxes fs pattern 5,";
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```
3756  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g7' w l
4,";
3757  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g7' ls 4
w boxes fs pattern 5,";
3758  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g8' w l
7,";
3759  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g8' ls 7
w boxes fs pattern 5,";
3760  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g9' w l
1,";
3761  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g9' ls 1
w boxes fs pattern 5,";
3762  *PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g10' w l
 3"/;
3763  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 4) AND (D.L(L,T,J) GT 0)) RES190 "'g10' ls 3
 w boxes fs pattern 5"/;
3764   );
3765  );
3766  );
3767  PUT RES190 "pause 0 ' ' "/;
3768  PUT RES190 "pause 0 ' ' "/;
3769  PUT RES190 "pause 0 ' ' "/;
3770  PUT RES190 "pause 0 ' ' "/;
3771  *PUT RES190 "pause -1 '                        Press Return ' "/;
3772  PUT RES190 "set terminal png"/;
3773  PUT RES190 "set nogrid"/;
3774  PUT RES190 "set time"/;
3775  PUT RES190 "set nokey"/;
3776  *PUT RES190 "set output 'cdu4.ps' "/;
3777  PUT RES190 "set output'../../crudeoil/cdu4.png' "/;
3778  PUT RES190 "replot"/;
3779  FILE RES179 /cdu5.dem/;
3780  PUT RES179;
3781  LOOP(L$(ORD(L) EQ 5),
3782  PUT RES179 "set title 'CRUDEOIL:   CDU (4)  CHARGING SCHEDULE' "/;
3783  PUT RES179 "set xlabel ' Time' "/;
3784  PUT RES179 "set ylabel ' Flow Rates' "/;
3785  PUT RES179 "set nogrid"/;
3786  PUT RES179 "set nokey"/;
3787  PUT RES179 "set yrange [ 0 : "(MFBLECDU + 3):7:4;
3788  PUT RES179 "]"/;
3789  PUT RES179 "set xrange [ 0 :"(TT + 1):4:0;
3790  PUT RES179 "]"/;
3791  PUT RES179 "set xtics 0,1,"(TT+1):4:0/;
3792  PUT RES179 "set time"/;
3793  LOOP(J,
3794   LOOP(T$(FBLECDU.L(J,L,T) GT 0),
3795  PUT RES179 "set label 'b"J.TL;
3796  PUT RES179 "' at "T.TL;
3797  PUT$(MFBLECDU GT 20) RES179 ", "(FBLECDU.L(J,L,T) + 1.1):7:4/;
3798  PUT$(MFBLECDU EQ 20) RES179 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3799  PUT$(MFBLECDU LT 20) RES179 ", "(FBLECDU.L(J,L,T) + 0.6):7:4/;
3800  );
3801  );
3802  LOOP(J,
3803   LOOP(T,
3804  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "plot 'f1'
w l 1,";
3805  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "'f2' w l 3
,";
3806  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "'f3' w l 4
,";
3807  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "'f4' w l 7
```

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,";
3808  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "'f5' w l 1
,";
3809  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "'f6' w l 3
,";
3810  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "'f7' w l 4
,";
3811  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "'f8' w l 7
,";
3812  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "'f9' w l 1
,";
3813  PUT$((FBLECDU.L(J,L,T) GT 0) AND (ORD(L) EQ 5) AND (D.L(L,T,J) GT 0)) RES179 "'f10' w l
3"/;
3814   );
3815  );
3816  );
3817  PUT RES179 "pause 0 ' ' "/;
3818  PUT RES179 "pause 0 ' ' "/;
3819  PUT RES179 "pause 0 ' ' "/;
3820  PUT RES179 "pause 0 ' ' "/;
3821  *PUT RES179 "pause -1 '                      Press Return ' "/;
3822  PUT RES179 "set terminal png"/;
3823  PUT RES179 "set nogrid"/;
3824  PUT RES179 "set time"/;
3825  PUT RES179 "set nokey"/;
3826  *PUT RES179 "set output 'cdu5.ps' "/;
3827  PUT RES179 "set output'../../crudeoil/cdu5.png' "/;
3828  PUT RES179 "replot"/;

**** LIST OF STRAY NAMES - CHECK DECLARATIONS FOR SPURIOUS COMMAS
**** STRAY NAME INCR4 OF TYPE PARAM
```


Crude Inventory Management

Include File Summary

SEQ	GLOBAL	TYPE	PARENT	LOCAL	FILENAME
1	1	INPUT	0	0	/var/www/html/interfaces/cgi-bin/crudeoil/model.gms
2	1	INCLUDE	1	1	./var/www/html/interfaces/cgi-bin/crudeoil/ex4.dat
3	155	INCLUDE	1	2	./var/www/html/interfaces/cgi-bin/crudeoil/equm.inc
4	308	INCLUDE	1	3	./var/www/html/interfaces/cgi-bin/crudeoil/repm.inc
5	702	INCLUDE	1	4	./var/www/html/interfaces/cgi-bin/crudeoil/plot.inc

```
COMPILATION TIME     =        0.045 SECONDS      3 MB  38.2.1 96226ea8 LEX-LEG
```


Crude Inventory Management

Model Statistics SOLVE CRUDE Using MIP From line 304

MODEL STATISTICS

BLOCKS OF EQUATIONS	32	SINGLE EQUATIONS	1,303
BLOCKS OF VARIABLES	16	SINGLE VARIABLES	769 90 projected
NON ZERO ELEMENTS	8,223		

```
GENERATION TIME      =        0.022 SECONDS      5 MB  38.2.1 96226ea8 LEX-LEG
```


Crude Inventory Management

Solution Report SOLVE CRUDE Using MIP From line 304

S O L V E S U M M A R Y

MODEL	CRUDE	OBJECTIVE	COST
TYPE	MIP	DIRECTION	MINIMIZE
SOLVER	CPLEX	FROM LINE	304

```
**** SOLVER STATUS     1 Normal Completion
**** MODEL STATUS      1 Optimal
**** OBJECTIVE VALUE              413.6250

 RESOURCE USAGE, LIMIT          3.394   1000000.000
 ITERATION COUNT, LIMIT     48342       1000000
--- GAMS/Cplex Link licensed for continuous and discrete problems.
--- GMO setup time: 0.00s
--- Space for names approximately 0.05 Mb
--- Use option 'names no' to turn use of names off
--- Priorities on the discrete variables are being used.
--- GMO memory 0.74 Mb (peak 0.74 Mb)
--- Dictionary memory 0.00 Mb
--- Cplex 20.1.0.1 link memory 0.03 Mb (peak 0.18 Mb)
--- Starting Cplex


--- MIP status (101): integer optimal solution.
--- Cplex Time: 3.37sec (det. 2742.00 ticks)

--- Fixing integer variables and solving final LP...


--- Fixed MIP status (1): optimal.
--- Cplex Time: 0.00sec (det. 3.43 ticks)


Proven optimal solution
MIP Solution:          413.625000    (48342 iterations, 829 nodes)
Final Solve:           413.625000    (179 iterations)

Best possible:         413.625000
Absolute gap:            0.000000
Relative gap:            0.000000



**** REPORT SUMMARY :        0     NONOPT
                             0 INFEASIBLE
                             0  UNBOUNDED
                            15  PROJECTED
```


Crude Inventory Management

E x e c u t i o n

```
----    306 VARIABLE COST.L                =      413.625  Total operating cost

----    306 VARIABLE TF.L  Vessel V unloading starting time

1  1.000,    2  6.000,    3 11.000


----    306 VARIABLE TL.L  Vessel V unloading completion and departure time

1  3.000,    2  8.000,    3 13.000
```

---- 306 VARIABLE VVESS.L Volume of crude oil in crude vessel V at time T

	1	2	6	7	11	12
1	40.000	20.000				
2			40.000	20.000		
3					40.000	20.000

---- 306 VARIABLE VSTOR.L Volume of crude oil in storage tank I at time T

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	60.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	
2	15.000	15.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	
3	50.000	50.000	30.000	13.333	13.333	33.333	53.333	73.333	73.333	73.333	73.333	73.333	73.333	73.333	
4	40.000	40.000	40.000	36.667	36.667	36.667	36.667	36.667	36.667	56.667	76.667	96.667	96.667	96.667	
5	30.000	30.000	30.000	20.000	20.000	20.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	
6	60.000	60.000	60.000	60.000	60.000	60.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000	

---- 306 VARIABLE VBLEN.L Volume of mixed oil in charging tank J at time T

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	20.000	60.000	50.000	40.000	30.000	27.000	24.000	21.000	18.000	15.000	12.000	9.000	6.000	3.000
2	20.000	10.000	40.000	33.000	30.000	27.000	24.000	21.000	18.000	15.000	12.000	9.000	6.000	3.000
3	20.000	10.000		30.000	20.000	10.000								
4	20.000	10.000	3.000				30.000	21.000	18.000	15.000	12.000	9.000	6.000	3.000

---- 306 VARIABLE VBCOM.L Volume of component K in charging tank J at time T

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.1	0.608	1.828	1.528	1.228	0.928	0.838	0.748	0.658	0.555	0.450	0.360	0.270	0.180	0.090
2.1	1.000	0.500	1.800	1.499	1.370	1.241	1.112	0.983	0.833	0.683	0.554	0.425	0.296	0.150
3.1	1.299	0.650		1.800	1.200	0.600								
4.1	1.540	0.800	0.240				2.250	1.599	1.359	1.146	0.933	0.720	0.480	0.240

---- 306 VARIABLE FBLECDU.L Flow rate of crude oil from CT J to CDU L at time T

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

```
1.1                                10.000      10.000      10.000       3.000       3.000
3.000       3.000       3.000       3.000       3.000       3.000       3.000       3.000
2.1      10.000      10.000
2.2                                             7.000       3.000       3.000       3.000
3.000       3.000       3.000       3.000       3.000       3.000       3.000       3.000
3.2      10.000      10.000      10.000
3.3                                                         10.000      10.000      10.000
4.3      10.000      10.000       7.000       3.000
9.000       3.000       3.000       3.000       3.000       3.000       3.000       3.000


----    306 VARIABLE XW.L  Denote if vessel V is unloading its crude oil at time T

            1           2           3           6           7           8          11
 12          13

1       1.000       1.000       1.000
2                                           1.000       1.000       1.000
3                                                                                1.000       1.
000       1.000


----    306 VARIABLE FVESSTO.L  Flow rate of crude oil from vessel V to ST I at time T

              1           2           3           6           7           8          11
   12          13

1.2      20.000      20.000      20.000
2.3                                         20.000      20.000      20.000
3.4                                                                              20.000      2
0.000      20.000


----    306 VARIABLE FSTOBLE.L  Flow rate of crude oil from ST I to CT J at time T

              1           2           3           4           7

1.1                   20.000
2.1      15.000       20.000
2.2                               10.000
3.2                               20.000
3.3                                         16.667
4.3                                          3.333
5.3                                         10.000
5.4                                                     10.000
6.4                                                     20.000


----    306 VARIABLE XF.L  Denote if vessel V starts unloading at time t

            1           6          11

1       1.000
2                   1.000
3                               1.000


----    306 VARIABLE XL.L  Denote if vessel V stops unloading at time t

            3           8          13

1       1.000
2                   1.000
```

3 1.000

---- 306 VARIABLE D.L Denote if charging tank J chargs CDU L at time T

	1	2	3	4
1.1		1.000		
1.2		1.000		
1.3	1.000			
1.4	1.000			
1.5	1.000			
1.6	1.000			
1.7	1.000			
1.8	1.000			
1.9	1.000			
1.10	1.000			
1.11	1.000			
1.12	1.000			
1.13	1.000			
1.14	1.000			
1.15	1.000			
2.1			1.000	
2.2			1.000	
2.3			1.000	
2.4		1.000		
2.5		1.000		
2.6		1.000		
2.7		1.000		
2.8		1.000		
2.9		1.000		
2.10		1.000		
2.11		1.000		
2.12		1.000		
2.13		1.000		
2.14		1.000		
2.15		1.000		
3.1				1.000
3.2				1.000
3.3				1.000
3.4				1.000
3.5			1.000	
3.6			1.000	
3.7			1.000	
3.8				1.000
3.9				1.000
3.10				1.000
3.11				1.000
3.12				1.000
3.13				1.000
3.14				1.000
3.15				1.000

**** REPORT FILE SUMMARY

RES /var/www/html/interfaces/crudeoil/output.html
RES2 /var/www/html/interfaces/cgi-bin/crudeoil/vessel.plot
RES3 /var/www/html/interfaces/cgi-bin/crudeoil/vessel.dem
RES4 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank1
RES5 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank2
RES6 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank3
RES7 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank4

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RES40 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank5
RES41 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank6
RES100 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank7
RES101 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank8
RES102 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank9
RES103 /var/www/html/interfaces/cgi-bin/crudeoil/storage_tank10
RES9 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank1
RES10 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank2
RES11 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank3
RES12 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank4
RES42 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank5
RES43 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank6
RES104 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank7
RES105 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank8
RES106 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank9
RES107 /var/www/html/interfaces/cgi-bin/crudeoil/charging_tank10
RES24 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank1
RES25 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank1
RES26 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank2
RES27 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank2
RES28 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank3
RES29 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank3
RES50 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank4
RES51 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank4
RES52 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank5
RES53 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank5
RES108 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank6
RES109 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank6
RES110 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank7
RES111 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank7
RES112 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank8
RES113 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank8
RES114 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank9
RES115 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank9
RES116 /var/www/html/interfaces/cgi-bin/crudeoil/component1_chargingtank10
RES117 /var/www/html/interfaces/cgi-bin/crudeoil/component2_chargingtank10
RES31 /var/www/html/interfaces/cgi-bin/crudeoil/open.c
RES32 /var/www/html/interfaces/cgi-bin/crudeoil/b1
RES33 /var/www/html/interfaces/cgi-bin/crudeoil/b2
RES34 /var/www/html/interfaces/cgi-bin/crudeoil/b3
RES55 /var/www/html/interfaces/cgi-bin/crudeoil/b4
RES118 /var/www/html/interfaces/cgi-bin/crudeoil/b5
RES119 /var/www/html/interfaces/cgi-bin/crudeoil/b6
RES120 /var/www/html/interfaces/cgi-bin/crudeoil/b7
RES121 /var/www/html/interfaces/cgi-bin/crudeoil/b8
RES122 /var/www/html/interfaces/cgi-bin/crudeoil/b9
RES167 /var/www/html/interfaces/cgi-bin/crudeoil/b10
RES36 /var/www/html/interfaces/cgi-bin/crudeoil/bl1
RES37 /var/www/html/interfaces/cgi-bin/crudeoil/bl2
RES35 /var/www/html/interfaces/cgi-bin/crudeoil/bl3
RES59 /var/www/html/interfaces/cgi-bin/crudeoil/bl4
RES123 /var/www/html/interfaces/cgi-bin/crudeoil/bl5
RES124 /var/www/html/interfaces/cgi-bin/crudeoil/bl6
RES125 /var/www/html/interfaces/cgi-bin/crudeoil/bl7
RES126 /var/www/html/interfaces/cgi-bin/crudeoil/bl8
RES127 /var/www/html/interfaces/cgi-bin/crudeoil/bl9
RES128 /var/www/html/interfaces/cgi-bin/crudeoil/bl10
RES60 /var/www/html/interfaces/cgi-bin/crudeoil/d1
RES61 /var/www/html/interfaces/cgi-bin/crudeoil/d2
RES62 /var/www/html/interfaces/cgi-bin/crudeoil/d3
RES58 /var/www/html/interfaces/cgi-bin/crudeoil/d4
RES129 /var/www/html/interfaces/cgi-bin/crudeoil/d5
RES130 /var/www/html/interfaces/cgi-bin/crudeoil/d6
```

```
RES131 /var/www/html/interfaces/cgi-bin/crudeoil/d7
RES132 /var/www/html/interfaces/cgi-bin/crudeoil/d8
RES133 /var/www/html/interfaces/cgi-bin/crudeoil/d9
RES134 /var/www/html/interfaces/cgi-bin/crudeoil/d10
RES169 /var/www/html/interfaces/cgi-bin/crudeoil/g1
RES170 /var/www/html/interfaces/cgi-bin/crudeoil/g2
RES171 /var/www/html/interfaces/cgi-bin/crudeoil/g3
RES172 /var/www/html/interfaces/cgi-bin/crudeoil/g4
RES173 /var/www/html/interfaces/cgi-bin/crudeoil/g5
RES174 /var/www/html/interfaces/cgi-bin/crudeoil/g6
RES175 /var/www/html/interfaces/cgi-bin/crudeoil/g7
RES176 /var/www/html/interfaces/cgi-bin/crudeoil/g8
RES177 /var/www/html/interfaces/cgi-bin/crudeoil/g9
RES178 /var/www/html/interfaces/cgi-bin/crudeoil/g10
RES180 /var/www/html/interfaces/cgi-bin/crudeoil/f1
RES181 /var/www/html/interfaces/cgi-bin/crudeoil/f2
RES182 /var/www/html/interfaces/cgi-bin/crudeoil/f3
RES183 /var/www/html/interfaces/cgi-bin/crudeoil/f4
RES184 /var/www/html/interfaces/cgi-bin/crudeoil/f5
RES185 /var/www/html/interfaces/cgi-bin/crudeoil/f6
RES186 /var/www/html/interfaces/cgi-bin/crudeoil/f7
RES187 /var/www/html/interfaces/cgi-bin/crudeoil/f8
RES188 /var/www/html/interfaces/cgi-bin/crudeoil/f9
RES189 /var/www/html/interfaces/cgi-bin/crudeoil/f10
RES63 /var/www/html/interfaces/cgi-bin/crudeoil/st1.dem
RES64 /var/www/html/interfaces/cgi-bin/crudeoil/st2.dem
RES65 /var/www/html/interfaces/cgi-bin/crudeoil/st3.dem
RES66 /var/www/html/interfaces/cgi-bin/crudeoil/st4.dem
RES67 /var/www/html/interfaces/cgi-bin/crudeoil/st5.dem
RES68 /var/www/html/interfaces/cgi-bin/crudeoil/st6.dem
RES151 /var/www/html/interfaces/cgi-bin/crudeoil/st7.dem
RES152 /var/www/html/interfaces/cgi-bin/crudeoil/st8.dem
RES153 /var/www/html/interfaces/cgi-bin/crudeoil/st9.dem
RES154 /var/www/html/interfaces/cgi-bin/crudeoil/st10.dem
RES69 /var/www/html/interfaces/cgi-bin/crudeoil/ct1.dem
RES70 /var/www/html/interfaces/cgi-bin/crudeoil/ct2.dem
RES71 /var/www/html/interfaces/cgi-bin/crudeoil/ct3.dem
RES72 /var/www/html/interfaces/cgi-bin/crudeoil/ct4.dem
RES73 /var/www/html/interfaces/cgi-bin/crudeoil/ct5.dem
RES74 /var/www/html/interfaces/cgi-bin/crudeoil/ct6.dem
RES155 /var/www/html/interfaces/cgi-bin/crudeoil/ct7.dem
RES156 /var/www/html/interfaces/cgi-bin/crudeoil/ct8.dem
RES157 /var/www/html/interfaces/cgi-bin/crudeoil/ct9.dem
RES158 /var/www/html/interfaces/cgi-bin/crudeoil/ct10.dem
RES30 /var/www/html/interfaces/cgi-bin/crudeoil/c1c1.dem
RES76 /var/www/html/interfaces/cgi-bin/crudeoil/c1c2.dem
RES77 /var/www/html/interfaces/cgi-bin/crudeoil/c1c3.dem
RES78 /var/www/html/interfaces/cgi-bin/crudeoil/c1c4.dem
RES79 /var/www/html/interfaces/cgi-bin/crudeoil/c1c5.dem
RES80 /var/www/html/interfaces/cgi-bin/crudeoil/c1c6.dem
RES159 /var/www/html/interfaces/cgi-bin/crudeoil/c1c7.dem
RES160 /var/www/html/interfaces/cgi-bin/crudeoil/c1c8.dem
RES161 /var/www/html/interfaces/cgi-bin/crudeoil/c1c9.dem
RES162 /var/www/html/interfaces/cgi-bin/crudeoil/c1c10.dem
RES81 /var/www/html/interfaces/cgi-bin/crudeoil/c2c1.dem
RES82 /var/www/html/interfaces/cgi-bin/crudeoil/c2c2.dem
RES83 /var/www/html/interfaces/cgi-bin/crudeoil/c2c3.dem
RES84 /var/www/html/interfaces/cgi-bin/crudeoil/c2c4.dem
RES85 /var/www/html/interfaces/cgi-bin/crudeoil/c2c5.dem
RES86 /var/www/html/interfaces/cgi-bin/crudeoil/c2c6.dem
RES163 /var/www/html/interfaces/cgi-bin/crudeoil/c2c7.dem
RES164 /var/www/html/interfaces/cgi-bin/crudeoil/c2c8.dem
RES165 /var/www/html/interfaces/cgi-bin/crudeoil/c2c9.dem
```

```
RES166 /var/www/html/interfaces/cgi-bin/crudeoil/c2c10.dem
RES38 /var/www/html/interfaces/cgi-bin/crudeoil/cdu1.dem
RES87 /var/www/html/interfaces/cgi-bin/crudeoil/cdu2.dem
RES88 /var/www/html/interfaces/cgi-bin/crudeoil/cdu3.dem
RES190 /var/www/html/interfaces/cgi-bin/crudeoil/cdu4.dem
RES179 /var/www/html/interfaces/cgi-bin/crudeoil/cdu5.dem


EXECUTION TIME       =        3.571 SECONDS      6 MB  38.2.1 96226ea8 LEX-LEG


USER: Prof. Ignacio E. Grossmann                     G241203|0002AS-GEN
      Carnegie Mellon University, Dept. of Chemical Engineering  DCE375
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**** FILE SUMMARY

Input      /var/www/html/interfaces/cgi-bin/crudeoil/model.gms
Output     /var/www/html/interfaces/cgi-bin/crudeoil/model.lst
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