

## รายการอ้างอิง

### ภาษาไทย

ควบคุมระบบไฟฟ้า, ฟ้าส. รายงานประจำเดือน ธันวาคม 2533. กรุงเทพมหานคร :  
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บัณฑิต เอื้ออาภรณ์. การกำหนดกำลังผลิตไฟฟ้าสำรองโดยอาศัยค่าที่ความเชื่อถือได้.

วิทยานิพนธ์ปริญญาโทบัณฑิต จุฬาลงกรณ์มหาวิทยาลัย, 2532.

ศูนย์ข้อมูลระบบไฟฟ้า กว. ผคพ. สาเหตุที่ใช้ในการคิดค่าดัชนีความมั่นคงของระบบไฟฟ้าของ  
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ภาคผนวก ก

โปรแกรมซอฟต์แวร์

```
*****
* SYSTEM.PRG : This is the main menu *
*           in reliability evaluation *
*****
on error return
on escape return
set bell off
set carry on
set exact on
clear
accept "Program in directory : " to drive
accept "Data in sub-directory : " to subdir
set procedure to &drive\HELP
do while .T.
  store " " to choice
  clear
  text
  Performance System ..... 1
  Prediction System ..... 2
  Quit ..... Q
  Help ..... H
endtext
```

```
@20,26 say "Enter your choice : " get choice
read
do case
  case choice = "1"
    do &drive\PFS
  case choice = "2"
    do &drive\PDS
  case upper(choice) = "Q"
    exit
  case upper(choice) = "H"
    do SYS_help
endcase
enddo
close procedure
set bell on
set carry off
set exact off
on error
return
```

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```
*****
* PFS.PRG : Performance System *
* Call from : SYSTEM.PRG *
*****
```

```
do while .T.
  clear
  store " " to choice
  text
```

PERFORMANCE SYSTEM

```
Data ..... 1
Calculate Indices ..... 2
Exit ..... E
Help ..... H
```

```
endtext
@20,27 say "Enter your choice : " get choice
read
do case
  case choice = "1"
    do &drive\DATPFS
  case choice = "2"
    do &drive\ICPFS
  case upper(choice) = "E"
    return
  case upper(choice) = "H"
    do P_help
endcase
enddo
return
```

```
*****
* DATPFS.PRG : Data of Performance System *
* Call from : SYSTEM.PRG > PFS.PRG      *
*****
```

```
do while .T.
```

```
  store " " to choice
```

```
  clear
```

```
  text
```

DATA

Input Data ..... 1

Edit Data ..... 2

Delete File ..... 3

Merge Files ..... 4

Display Records ..... 5

Exit ..... E

Help ..... H

```
endtext
```

```
@20,27 say "Enter your choice : " get choice
```

```
read
```

```
do case
```

```
  case choice = "1"
```

```
    do &drive\IDPFS
```

```
  case choice = "2"
```

```
    do &drive\ED
```

```
  case choice = "3"
```

```
    do &drive\DF
```

```
  case choice = "4"
```



```
do &drive\MF
case choice = "5"
do &drive\DR
case upper(choice) = "E"
exit
case upper(choice) = "H"
do D_help
endcase
enddo
return
```



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```

*****
* ICPFS.PRG : Indices Calculation of Performance System *
* Call from : SYSTEM.PRG > PFS.PRG *
*****

set procedure to &drive\GRPPFS.PRG
set talk off
do while .T.
    @1,0 clear to 20,79
    store space(13) to file1,file2,file3,file4
    @2,5 say "Input load point data filename <file.dbf> :" get file1
    @4,5 say "Input interruption case data filename <file.dbf> :" get file2
    @6,5 say "Save results of data calculations in filename <file.dbf> :"
    @6,65 get file3
    @8,5 say "Save indices in filename <file.dbf> :" get file4
    read
    if file1 = " *.* "
        @1,0 clear to 22,79
        dir &drive\&subdir\ *.*
        wait
        loop
    else
        exit
    endif
enddo
clear
time = 8760
set decimals to 0
@2,2 say "Time period interested (hrs) :" get time
read
time = time*60
@4,2 say "wait.."
select 5
use &drive\icpfs.dbf
copy structure to &drive\&subdir\&file3
select 6
use &drive\pfsindex.dbf

```

```
copy structure to &drive\&subdir\&file4
select 4
use &drive\&subdir\&file4
select 3
use &drive\&subdir\&file3
append from &drive\&subdir\&file2
go top
set decimals to 6
set fixed on
select 1
use &drive\&subdir\&file1
sum all Customer to N
rec = 1
Na = N
go top
do while .not. eof()
    store Load_name to name
    store Customer to C
    store Av_load to A
    check = 0
    select 3
    do while .T.
        locate next 100 for Load_name = name
        if .not. found()
            go record rec
            exit
        else
            check = 1
            y = Duration * C
            z = Duration * A / 60
            replace Customer with C, Av_load with A
            replace Cus_mi_off with y, E_lack with z
            rec = recno()
            skip
        loop
    enddo
    if check = 0
```

```

        Na = Na - C
    endif
    select 1
    skip
enddo
select 3
sum all Customer,Av_load,Cus_mi_off,E_lack to Nc,Lc,Ncd,Lcd
SAIFI_ = Nc/N
CAIFI_ = Nc/Na
SAIDI_ = Ncd/N
CAIDI_ = Ncd/Nc
ASUI_ = Ncd/time/N
ASAI_ = 1 - ASUI_
AENS_ = Lcd/N
ACCI_ = Lcd/Na
select 4
append blank
replace LOAD_NAME with "SYSTEM" , SAIFI with SAIFI_
replace CAIFI with CAIFI_ , SAIDI with SAIDI_
replace CAIDI with CAIDI_ , ASAI with ASAI_
replace ASUI with ASUI_ , ENS with Lcd
replace AENS with AENS_ , ACCI with ACCI_
clear
?
? " SYSTEM :"
? "SAIFI =" , SAIFI_ , "interruptions/customer"
? "CAIFI =" , CAIFI_ , "interruptions/customer affected"
? "SAIDI =" , SAIDI_ , "minutes/customer"
? "CAIDI =" , CAIDI_ , "minutes/customer interruption"
? "ASAI =" , ASAI_
? "ASUI =" , ASUI_
? "ENS =" , Lcd , "kWh"
? "AENS =" , AENS_ , "kWh/customer"
? "ACCI =" , ACCI_ , "kWh/customer affected"
wait " "
clear
do while .T.

```

```
ans = " "  
@2,2 say "Do you want to group system in another form [Y/N] :" get ans  
read  
if upper(ans) <> "Y"  
    exit  
else  
    do newgroup  
endif  
enddo  
set decimals to 2  
close all  
set fixed off  
set talk on  
return
```



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```

*****
* GRPPFS.PRG : This program to grouping new system *
* Call from   : SYSTEM.PRG > PFS.PRG > ICPFS.PRG   *
*****
procedure newgroup
  clear
  store space(20) to new_load
  store 0 to rec,rec1,rec2,N,Na,Nc,Ncd,Lcd
  @2,2 say "Input new system name :" get new_load
  @4,2 say "Input record form Load name file you want to join in "
  @6,2 say "Begin at record :" get rec1
  @8,2 say "End at record :" get rec2
  read
  select 3
  go top
  select 1
  diff = rec2 - rec1 + 1
  go record(rec1)
  sum next diff Customer to N
  Na = N
  go record(rec1)
  do while rec <> diff
    locate rest
    store Load_name to name
    store Customer to C
    check = 0
    select 3
    locate rest for name = Load_name
    do while .not. eof()
      if name <> Load_name
        exit
      else
        check = 1
        Nc = Nc + Customer
        Ncd = Ncd + Cus_mi_off
        Lcd = Lcd + E_lack

```

```

        endif
        skip
    enddo
    if check = 0
        Na = Na - C
        go top
    endif
    select 1
    rec = rec + 1
    skip
enddo
if Na = 0
    store 0 to SAIFI_, CAIFI_, SAIDI_, CAIDI_, ASUI_, AENS_, ACCI_
    store 1 to ASAI_
else
    SAIFI_ = Nc/N
    CAIFI_ = Nc/Na
    SAIDI_ = Ncd/N
    CAIDI_ = Ncd/Nc
    ASUI_ = Ncd/time/N
    ASAI_ = 1 - ASUI_
    AENS_ = Lcd/N
    ACCI_ = Lcd/Na
endif
select 4
append blank
replace LOAD_NAME with new_load , SAIFI with SAIFI_
replace CAIFI with CAIFI_ , SAIDI with SAIDI_
replace CAIDI with CAIDI_ , ASAI with ASAI_
replace ASUI with ASUI_ , ENS with Lcd
replace AENS with AENS_ , ACCI with ACCI_
clear
?
? " SYSTEM :" , new_load
? "SAIFI =" , SAIFI_ , "interruptions/customer"
? "CAIFI =" , CAIFI_ , "interruptions/customer affected"

```

```
? "SAIDI =" , SAIDI_ , "minutes/customer"  
? "CAIDI =" , CAIDI_ , "minutes/customer interruption"  
? "ASAI =" , ASAI_  
? "ASUI =" , ASUI_  
? "ENS =" , Lcd , "kWh"  
? "AENS =" , AENS_ , "kWh/customer"  
? "ACCI =" , ACCI_ , "kWh/customer affected"  
wait " "  
clear  
return
```



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```
*****
* IDPFS.PRG : Input Data in Performance System *
* Call from : SYSTEM.PRG > PFS.PRG > DATPFS.PRG *
*****
```

```
do while .T.
  clear
  store " " to choice
  text
```

INPUT DATA

```
Load Point Data ..... 1
Interruption Case Data ..... 2
Exit ..... E
Help ..... H
```

```
endtext
@20,27 say "Enter your choice :" get choice
read
do case
  case choice = "1"
    do &drive\LPD
  case choice = "2"
    do &drive\ICD
  case upper(choice) = "E"
    return
  case upper(choice) = "H"
    do IDPFS_h
endcase
enddo
return
```

```
*****
* ED.PRG      : Edit Data          *
* Call from  : SYSTEM.PRG > PFS.PRG > DATPFS.PRG *
*              > PDS.PRG > DATPDS.PRG *
*****
```

```
do while .T.
  @22,0 clear to 22,79
  store space(13) to file1
  @22,20 say "Edit Filename <file.dbf> :" get file1
  read
  if file1 = " *.*"
    @1,0 clear to 20,79
    dir &drive\&subdir\ *.*
    loop
  else
    exit
  endif
enddo
clear
select 1
use &drive\&subdir\&file1
browse
wait "Do you want to PACK records you have been deleted? [Y/N] : " to choice
if upper(choice) = "Y"
  pack
endif
close databases
wait
return
```

```
*****
* DF.PRG      : Delete File                               *
* Call from  : SYSTEM.PRG > PFS.PRG > DATPFS.PRG      *
*                                     > PDS.PRG > DATPDS.PRG *
*****

do while .T.
  @22,0 clear to 22,79
  store space(13) to file1
  @22,20 say "Delete Filename <file.dbf> :" get file1
  read
  if file1 = " *.*"
    @1,0 clear to 20,79
    dir &drive\&subdir\ *.*
    loop
  else
    exit
  endif
enddo
close databases
delete file &drive\&subdir\&file1
wait
return
```

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```

*****
* MF.PRG      : Merge Files          *
* Call from  : SYSTEM.PRG > PFS.PRG > DATPFS.PRG *
*              > PDS.PRG > DATPDS.PRG *
*****

do while .T.
  @18,0 clear to 22,79
  store space(13) to file1,file2,file3
  @18,22 say "Enter filename 1 :" get file1
  @20,22 say "Enter filename 2 :" get file2
  @22,22 say "Save in filename :" get file3
  read
  if file1 = ".*" .or. file2 = ".*" .or. file3 = ".*"
    @1,0 clear to 22,79
    dir &drive\&subdir\ *.*
    wait
    loop
  else
    exit
  endif
enddo
if file1 = file3
  select 3
  use &drive\&subdir\&file3
  append from &drive\&subdir\&file2
else
  copy file &drive\&subdir\&file1 to &drive\&subdir\&file3
  select 3
  use &drive\&subdir\&file3
  append from &drive\&subdir\&file2
endif
close databases
wait
return

```

```
*****
* DR.PRG      : Display Records          *
* Call from  : SYSTEM.PRG > PFS.PRG > DATPFS.PRG *
*              > PDS.PRG > DATPDS.PRG *
*****

do while .T.
  store space(13) to file1
  @22,0 clear to 22,79
  @22,19 say "Enter filename to display :" get file1
  read
  if file1 = " *.*"
    @1,0 clear to 20,79
    dir &drive\&subdir\ *.*
    loop
  else
    exit
  endif
enddo
use &drive\&subdir\&file1
wait "                      Printer 1=ON : 2=OFF : " to choice
clear
if choice = "1"
  display off all to print
else
  display off all
endif
close databases
wait
return
```

```
*****
* LPD.PRG : Load Point Data *
* Call from : SYSTEM.PRG > PFS.PRG > DATPFS.PRG > IDPFS.PRG *
* > PDS.PRG > DATPDS.PRG > IDPDS.PRG *
*****
```

```
do while .T.
  @22,0 clear to 22,79
  store space(13) to file1
  @22,20 say "Create Filename <file.dbf> :" get file1
  read
  if file1 = " *.*"
    @1,0 clear to 20,79
    dir &drive\&subdir\ *.*
    loop
  else
    exit
  endif
enddo
clear
select 1
use &drive\loadpoin.dbf
copy structure to &drive\&subdir\&file1
select 2
use &drive\&subdir\&file1
append blank
@ 6, 21 SAY "Data of the distribution system"
@ 9, 19 SAY "Load point name"
@ 9, 39 GET B->LOAD_NAME
@ 11, 19 SAY "Number of customer"
@ 11, 43 GET B->CUSTOMER
@ 13, 19 SAY "Average load connected"
@ 13, 43 GET B->AV_LOAD
@ 13, 52 SAY "kW"
@ 4, 15 TO 7, 58
@ 4, 15 TO 15, 58 DOUBLE
read
browse
close databases
return
```

```

*****
* ICD.PRG   : Interruption Case Data                               *
* Call from : SYSTEM.PRG > PFS.PRG > DATPFS.PRG > IDPFS.PRG      *
*****

do while .T.
  @22,0 clear to 22,79
  store space(13) to file1
  @22,20 say "Create Filename <file.dbf> :" get file1
  read
  if file1 = " *.*"
    @1,0 clear to 20,79
    dir &drive\&subdir\ *.*
    loop
  else
    exit
  endif
enddo
clear
select 1
use &drive\interrup.dbf
copy structure to &drive\&subdir\&file1
select 2
use &drive\&subdir\&file1
append blank
@ 6, 11 SAY "Data of interruption effects in interested time period"
@ 9, 15 SAY "Interruption case"
@ 9, 45 GET B->INTERRUPT
@ 11, 15 SAY "Name of load point affected"
@ 11, 45 GET B->LOAD_NAME
@ 13, 15 SAY "Duration of interruption"
@ 13, 45 GET B->DURATION
@ 13, 55 SAY " minutes"
@ 4, 8 TO 7, 67
@ 4, 8 TO 15, 67 DOUBLE
read
browse
close databases
return

```

```
*****
* PDS.PRG : Prediction System *
* Call from : SYSTEM.PRG      *
*****
```

```
do while .T.
  clear
  store " " to choice
  text
```

PREDICTION SYSTEM

```
Data ..... 1
Calculate Indices ..... 2
Exit ..... E
Help ..... H
```

```
endtext
```

```
@20,27 say "Enter your choice : " get choice
```

```
read
```

```
do case
```

```
  case choice = "1"
```

```
    do &drive\DATPDS
```

```
  case choice = "2"
```

```
    do &drive\ICPDS
```

```
  case upper(choice) = "E"
```

```
    return
```

```
  case upper(choice) = "H"
```

```
    do P_help
```

```
endcase
```

```
enddo
```

```
return
```



```
*****
* DATPDS.PRG : Data of Prediction System *
* Call from : SYSTEM.PRG > PDS.PRG *
*****
```

```
do while .T.
  store " " to choice
  clear
  text
```

### DATA

```
Input Data ..... 1
Edit Data ..... 2
Delete File ..... 3
Merge Files ..... 4
Display Records ..... 5
Exit ..... E
Help ..... H
```

```
endtext
```

```
@20,27 say "Enter your choice : " get choice
```

```
read
```

```
do case
```

```
  case choice = "1"
```

```
    do &drive\IDPDS
```

```
  case choice = "2"
```

```
    do &drive\ED
```

```
  case choice = "3"
```

```
    do &drive\DF
```

```
  case choice = "4"
```

```
do &drive\MF
case choice = "5"
do &drive\DR
case upper(choice) = "E"
exit
case upper(choice) = "H"
do D_help
endcase
enddo
return
```



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```

*****
* ICPDS.PRG : Indices Calculation of Prediction System *
* Call from : SYSTEM.PRG > PDS.PRG *
*****

set procedure to &drive\FORMULA.PRG
set talk off
store 0 to pr1,pr2,pr3,pr4,mr1,mr2,mr3,mr4,tr1,tr2,tr3,tr4
store 0 to pt1,pt2,pt3,pt4,mt1,mt2,mt3,mt4,tt1,tt2,tt3,tt4
do while .T.
    @1,0 clear to 20,79
    store space(13) to file1,file2,file3,file4,file5
    @2,5 say "Input load point data filename <file.dbf> :" get file1
    @4,5 say "Input reliability data filename <file.dbf> :" get file2
    @6,5 say "Input failure name data filename <file.dbf> :" get file3
    @8,5 say "Save results of data calculations in filename <file.dbf> :";
    get file4
    @10,5 say "Save indices in filename <file.dbf> :" get file5
    read
    if file1="*.*"
        @1,0 clear to 22,79
        dir &drive\&subdir\ *.*
        wait
        loop
    else
        exit
    endif
enddo
clear
@2,2 say "wait.."
select 1
use &drive\&subdir\&file1
sum all Customer to N
select 2
use &drive\&subdir\&file2
select 6
use &drive\icpds.dbf
copy structure to &drive\&subdir\&file4
select 7

```

```
use &drive\pdsindex.dbf
copy structure to &drive\&subdir\&file5
select 5
use &drive\&subdir\&file5
select 4
use &drive\&subdir\&file4
append from &drive\&subdir\&file3
go top
do while .not. eof()
  store Load_name to name
  store Comp_name1 to name1
  store Comp_name2 to name2
  store Comp_name3 to name3
  store Comp_name4 to name4
  do case
    case name2 = " "
      do formula1
      skip
      loop
    case name3 = " "
      do formula2
      skip
      loop
    case name4 = " "
      do formula3
      skip
      loop
    otherwise
      do formula4
      skip
      loop
  endcase
enddo
set decimals to 10
set fixed on
select 1
go top
do while .not. eof()
```

```

store 0 to Ui, FRi
store Load_name to name
store Av_load to A
store Customer to C
select 4
go top
do while .not. eof()
    locate rest for Load_name = name
    store U to v
    store FR to w
    x = v * A
    y = w * C
    z = v * C
    Ui = Ui + v
    FRi = FRi + w
    replace Av_load with A , Customer with C
    replace E_lack with x , Cus_FR with y , Cus_U with z
    continue
enddo
CAIDI_ = Ui/FRi
ASUI_ = Ui/8760
ASAI_ = 1-ASUI_
ENS_ = Ui*A
AENS_ = Ui*A/C
select 5
append blank
replace LOAD_NAME with name , SAIFI with FRi
replace SAIDI with Ui , CAIDI with CAIDI_
replace ASUI with ASUI_ , ASAI with ASAI_
replace ENS with ENS_ , AENS with AENS_
clear
?
? " LOAD NAME :", name
? "SAIFI = " , FRi , "interruptions/customer yr"
? "SAIDI = " , Ui , "hours/customer yr"
? "CAIDI = " , CAIDI_ , "hours/customer interruption"
? "ASUI = " , ASUI_
? "ASAI = " , ASAI_

```

```
? "ENS = " , ENS_ , "kWh/yr"
? "AENS = " , AENS_ , "kWh/customer yr"
wait " "
select 1
skip
enddo
select 4
  sum all E_lack , Cus_FR , Cus_U to LU , FRN , UN
  SAIFI_ = FRN/N
  SAIDI_ = UN/N
  CAIDI_ = UN/FRN
  ASUI_ = UN/N/8760
  ASAI_ = 1-ASUI_
  AENS_ = LU/N
select 5
append blank
replace LOAD_NAME with "SYSTEM" , SAIFI with SAIFI_
replace SAIDI with SAIDI_ , CAIDI with CAIDI_
replace ASUI with ASUI_ , ASAI with ASAI_
replace ENS with LU , AENS with AENS_
clear
?
? " SYSTEM "
? "SAIFI = " , SAIFI_ , "interruptions/customer yr"
? "SAIDI = " , SAIDI_ , "hours/customer yr"
? "CAIDI = " , CAIDI_ , "hours/customer interruption"
? "ASUI = " , ASUI_
? "ASAI = " , ASAI_
? "ENS = " , LU , "kWh/yr"
? "AENS = " , AENS_ , "kWh/customer yr"
wait " "
clear
close all
set decimals to 2
set fixed off
set talk on
return
```

```
*****
* FORMULA.PRG : This program to find FR and U *
* Call from : SYSTEM.PRG > PDS.PRG > ICPDS.PRG *
*****
```

```
procedure formula1
```

```
store 0 to fr_,u_
```

```
no = "1"
```

```
do getvalue
```

```
fr_ = pr1 + tr1
```

```
u_ = pr1*pt1 + tr1*tt1
```

```
select 4
```

```
replace FR with fr_ , U with u_
```

```
return
```

```
procedure formula2
```

```
store 0 to fr_,u_
```

```
no = "1"
```

```
do getvalue
```

```
no = "2"
```

```
do getvalue
```

```
*PP
```

```
do second with pr1,pr2,pt1,pt2
```

```
*PT
```

```
do second with pr1,tr2,pt1,tt2
```

```
do second with tr1,pr2,tt2,pt2
```

```
*TT
```

```
do second with tr1,tr2,tt1,tt2
```

```
*PM
```

```
do m_second with mr1,pr2,mt1,pt2
```

```
do m_second with mr2,pr1,mt2,pt1
```

```
*TM
```

```
do m_second with mr1,tr2,mt1,tt2
```

```
do m_second with mr2,tr1,mt2,tt1
```

```
select 4
```

```
replace FR with fr_ , U with u_
```

```
return
```

```

procedure second
  parameter a,b,c,d
  fr2 = a * b * (c+d)
  u2 = a * b * c * d
  fr_ = fr_ + fr2 / 8760
  u_ = u_ + u2 / 8760
return

```

```

procedure m_second
  parameter a,b,c,d
  fr2 = a * b * c
  if c+d = 0
    u2 = 0
  else
    u2 = fr2 * c * d / (c+d)
  endif
  fr_ = fr_ + fr2 / 8760
  u_ = u_ + u2 / 8760
return

```

```

procedure formula3
  store 0 to fr_,u_
  no = "1"
  do getvalue
  no = "2"
  do getvalue
  no = "3"
  do getvalue
  *PPP
  do third with pr1,pr2,pr3,pt1,pt2,pt3
  *PPT
  do third with tr1,pr2,pr3,tt1,pt2,pt3
  do third with pr1,tr2,pr3,pt1,tt2,pt3
  do third with pr1,pr2,tr3,pt1,pt2,tt3
  *PTT
  do third with pr1,tr2,tr3,pt1,tt2,tt3
  do third with tr1,pr2,tr3,tt1,pt2,tt3

```



```

do third with tr1,tr2,pr3,tt1,tt2,pt3
*MPP
do m_third with mr1,pr2,pr3,mt1,pt2,pt3
do m_third with mr2,pr3,pr1,mt2,pt3,pt2
do m_third with mr3,pr1,pr2,mt3,pt1,pt2
*MTT
do m_third with mr1,tr2,tr3,mt1,tt2,tt3
do m_third with mr2,tr3,tr1,mt2,tt3,tt1
do m_third with mr3,tr1,tr2,mt3,tt1,tt2
*MPT
do m_third with mr1,pr2,tr3,mt1,pt2,tt3
do m_third with mr1,tr2,pr3,mt1,tt2,pt3
do m_third with mr2,pr3,tr1,mt2,pt3,tt1
do m_third with mr2,tr3,pr1,mt2,tt3,pt1
do m_third with mr3,pr1,tr2,mt3,pt1,tt2
do m_third with mr3,tr1,pr2,mt3,tt1,pt2
select 4
replace FR with fr_ , U with u_
return

```

```

procedure third
parameter a,b,c,d,e,f
fr3 = a * b * c * (d*e + e*f + f*d)
u3 = a * b * c * d * e * f
fr_ = fr_ + fr3 / 8760^2
u_ = u_ + u3 / 8760^2
return

```

```

procedure m_third
parameter a,b,c,d,e,f
if d = 0
fr3 = 0
else
fr3 = a * b * c * d^2 * ( e/(d+e) + f/(d+f) )
endif
if d*e*f = 0
u3 = 0

```

```

else
    u3 = fr3 * d * e * f / (d*e + e*f + f*d)
endif
fr_ = fr_ + fr3 / 8760^2
u_ = u_ + u3 / 8760^2
return

```

```

procedure formula4

```

```

    store 0 to fr_,u_

```

```

    no = "1"

```

```

    do getvalue

```

```

    no = "2"

```

```

    do getvalue

```

```

    no = "3"

```

```

    do getvalue

```

```

    no = "4"

```

```

    do getvalue

```

```

    *PPPP

```

```

    do forth with pr1,pr2,pr3,pr4,pt1,pt2,pt3,pt4

```

```

    *PPPT

```

```

    do forth with tr1,pr2,pr3,pr4,tt1,pt2,pt3,pt4

```

```

    do forth with pr1,tr2,pr3,pr4,pt1,tt2,pt3,pt4

```

```

    do forth with pr1,pr2,tr3,pr4,pt1,pt2,tt3,pt4

```

```

    do forth with pr1,pr2,pr3,tr4,pt1,pt2,pt3,tt4

```

```

    *PPTT

```

```

    do forth with tr1,tr2,pr3,pr4,tt1,tt2,pt3,pt4

```

```

    do forth with tr1,pr2,tr3,pr4,tt1,pt2,tt3,pt4

```

```

    do forth with tr1,pr2,pr3,tr4,tt1,pt2,pt3,tt4

```

```

    do forth with pr1,tr2,tr3,pr4,pt1,tt2,tt3,pt4

```

```

    do forth with pr1,tr2,pr3,tr4,pt1,tt2,pt3,tt4

```

```

    do forth with pr1,pr2,tr3,tr4,pt1,pt2,tt3,tt4

```

```

    *MPPP

```

```

    do m_forth with mr1,pr2,pr3,pr4,mt1,pt2,pt3,pt4

```

```

    do m_forth with mr2,pr1,pr3,pr4,mt2,pt1,pt3,pt4

```

```

    do m_forth with mr3,pr1,pr2,pr4,mt3,pt1,pt2,pt4

```

```

    do m_forth with mr4,pr1,pr2,pr3,mt4,pt1,pt2,pt3

```

```

    *MPPT

```

```

    do m_forth with mr1,pr2,pr3,tr4,mt1,pt2,pt3,tt4

```

```

do m_forth with mr1,pr2,tr3,pr4,mt1,pt2,tt3,pt4
do m_forth with mr1,tr2,pr3,pr4,mt1,tt2,pt3,pt4
do m_forth with mr2,pr1,pr3,tr4,mt2,pt1,pt3,tt4
do m_forth with mr2,pr1,tr3,pr4,mt2,pt1,tt3,pt4
do m_forth with mr2,tr1,pr3,pr4,mt2,tt1,pt3,pt4
do m_forth with mr3,pr1,pr2,tr4,mt3,pt1,pt2,tt4
do m_forth with mr3,pr1,tr2,pr4,mt3,pt1,tt2,pt4
do m_forth with mr3,tr1,pr2,pr4,mt3,tt1,pt2,pt4
do m_forth with mr4,pr1,pr2,tr3,mt4,pt1,pt2,tt3
do m_forth with mr4,pr1,tr2,pr3,mt4,pt1,tt2,pt3
do m_forth with mr4,tr1,pr2,pr3,mt4,tt1,pt2,pt3
*MPTT
do m_forth with mr1,pr2,tr3,tr4,mt1,pt2,tt3,tt4
do m_forth with mr1,tr2,pr3,tr4,mt1,tt2,pt3,tt4
do m_forth with mr1,tr2,tr3,pr4,mt1,tt2,tt3,pt4
do m_forth with mr2,pr1,tr3,tr4,mt2,pt1,tt3,tt4
do m_forth with mr2,tr1,pr3,tr4,mt2,tt1,pt3,tt4
do m_forth with mr2,tr1,tr3,pr4,mt2,tt1,tt3,pt4
do m_forth with mr3,pr1,tr2,tr4,mt3,pt1,tt2,tt4
do m_forth with mr3,tr1,pr2,tr4,mt3,tt1,pt2,tt4
do m_forth with mr3,tr1,tr2,pr4,mt3,tt1,tt2,pt4
do m_forth with mr4,pr1,tr2,tr3,mt4,pt1,tt2,tt3
do m_forth with mr4,tr1,pr2,tr3,mt4,tt1,pt2,tt3
do m_forth with mr4,tr1,tr2,pr3,mt4,tt1,tt2,pt3
select 4
  replace FR with fr_ , U with u_
return

procedure forth
  parameter a,b,c,d,e,f,g,h
  fr4 = a * b * c * d * (e*f*g + f*g*h + g*h*e + h*e*f)
  u4 = a * b * c * d * e * f * g * h
  fr_ = fr_ + fr4 / 8760^3
  u_ = u_ + u4 / 8760^3
return

procedure m_forth
  parameter a,b,c,d,e,f,g,h

```

```

store 0 to i,j,k
do group with e,f,g,i
do group with e,g,h,j
do group with e,h,f,k
fr4 = a * b * c * d * (i + j + k)
if e*f*g*h = 0
    u4 = 0
else
    u4 = fr4 * e * f * g * h / (e*f*g + f*g*h + g*h*e + h*e*f)
endif
fr_ = fr_ + fr4 / 8760^3
u_ = u_ + u4 / 8760^3
return

procedure group
parameter a,b,c,d
if a*b*c = 0
    d = 0
else
    d = a^3 * b * c * (b/(a+b) + c/(a+c)) / (a*b + b*c + c*a)
endif
return

procedure getvalue
select 2
locate all for Component = name&no
if .not. found()
    ? "Mismatch data in reliability and failure name files"
    wait "Press any key to interrupt program"
    quit
endif
pr&no = PR
pt&no = PT
mr&no = MR
mt&no = MT
tr&no = TR
tt&no = TT

return

```

```
*****
* IDPDS.PRG : Input Data in Prediction System *
* Call from : SYSTEM.PRG > PDS.PRG > DATPDS.PRG *
*****
```

```
do while .T.
  clear
  store " " to choice
  text
```

### INPUT DATA

```
Load Point Data ..... 1
Reliability Data ..... 2
Failure Name Data ..... 3
Exit ..... E
Help ..... H
```

```
endtext
@20,27 say "Enter your choice : " get choice
read
do case.
  case choice = "1"
    do &drive\LPD
  case choice = "2"
    do &drive\RED
  case choice = "3"
    do &drive\FND
  case upper(choice) = "E"
    return
  case upper(choice) = "H"
    do IDPDS_h
endcase
enddo
return
```

```

*****
* RED.PRG   : Reliability Data                                     *
* Call from : SYSTEM.PRG > PDS.PRG > DATPDS.PRG > IDPDS.PRG *
*****

do while .T.
  @22,0 clear to 22,79
  store space(13) to file1
  @22,20 say "Create Filename <file.dbf> :" get file1
  read
  if file1 = " *.*"
    @1,0 clear to 20,79
    dir &drive\&subdir\ *.*
    loop
  else
    exit
  endif
enddo
clear
select 1
use &drive\reliabil.dbf
copy structure to &drive\&subdir\&file1
select 2
use &drive\&subdir\&file1
append blank
@ 3, 19 SAY "Reliability data for distribution system"
@ 6, 16 SAY "Component name"
@ 6, 41 GET B->COMPONENT
@ 8, 16 SAY "Force outage failure rate (FR)"
@ 8, 50 GET B->PR
@ 8, 58 SAY "f/year"
@ 9, 16 SAY "Force outage time (FT)"
@ 9, 50 GET B->PT
@ 9, 58 SAY "hours"
@ 11, 16 SAY "Maintenance outage rate (MR)"
@ 11, 50 GET B->MR
@ 11, 58 SAY "f/year"
@ 12, 16 SAY "Maintenance time (MT)"

```

```
@ 12, 50 GET B->MT
@ 12, 58 SAY "hours"
@ 14, 16 SAY "Transient failure rate (TR)"
@ 14, 50 GET B->TR
@ 14, 58 SAY "f/year"
@ 15, 16 SAY "Restoration time (TT)"
@ 15, 50 GET B->TT
@ 15, 58 SAY "f/year"
@ 1, 12 TO 4, 67
@ 1, 12 TO 17, 67 . DOUBLE
read
browse
close databases
return
```



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```

*****
* FND.PRG   : Failure Name Data                               *
* Call from : SYSTEM.PRG > PDS.PRG > DATPDS.PRG > IDPDS.PRG *
*****

do while .T.
  @22,0 clear to 22,79
  store space(13) to file1
  @22,20 say "Create Filename <file.dbf> :" get file1
  read
  if file1 = " *.*"
    @1,0 clear to 20,79
    dir &drive\&subdir\ *.*
    loop
  else
    exit
  endif
enddo
clear
select 1
use &drive\failname.dbf
copy structure to &drive\&subdir\&file1
select 2
use &drive\&subdir\&file1
append blank
@ 5, 17 SAY "Date of failure events for distribution system"
@ 8, 22 SAY "Load point name"
@ 8, 43 GET B->LOAD_NAME
@ 10, 22 SAY "Component name #1"
@ 10, 43 GET B->COMP_NAME1
@ 12, 22 SAY "Component name #2"
@ 12, 43 GET B->COMP_NAME2
@ 14, 22 SAY "Component name #3"
@ 14, 43 GET B->COMP_NAME3
@ 16, 22 SAY "Component name #4"
@ 16, 43 GET B->COMP_NAME4
@ 3, 13 TO 6, 66
@ 3, 13 TO 18, 66   DOUBLE

```



read  
browse  
close databases  
return



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\*\*\*\*\*

\* HELP.PRG \*

\*\*\*\*\*

procedure SYS\_help

clear

text

PERFORMANCE : TO FIND RELIABILITY INDICES OF DISTRIBUTION SYSTEM  
WHICH HAVE BEEN OCCERED.

PREDICTION : TO FIND RELIABILITY INDICES OF DISTRIBUTION SYSTEM  
FOR PLANNING AND DESIGNING NEW SYSTEM.

QUIT : RETURN TO DBASE

endtext

?

wait

return

procedure P\_help

clear

text

DATA : TO PREPARE DATA FILES

CALCULATE INDICES : MAKE SURE THAT YOU HAVE SET DATA FILES COMPLETELY  
BEFORE CALCULATION

EXIT : RETURN TO MAIN MENU

endtext

?

wait

return

procedure D\_help

clear

text

Input Data : TO INPUT NEW DATA

Edit Data : TO CHANGE DATA

Delete File : TO DELETE FILE

Merge Files : TO COMBIME TWO FILES TO ONE FILE

Display Records : TO SHOW RECORDS OF ANY FILE ON PRINTER

Exit : RETURN TO PERFORMANCE MENU

```
endtext  
?  
wait  
return
```

```
procedure IDPFS_h  
clear  
text  
YOU MUST INPUT BOTH LOAD POINT DATA FILE AND  
INTERRUPTION CASE DATA FILE BEFORE CALCULATION  
EXIT : RETURN TO DATA MENU  
endtext  
?  
wait  
return
```

```
procedure IDPDS_h  
clear  
text  
YOU MUST INPUT LOAD POINT DATA FILE, RELEABILITY DATA FILE  
AND FAILURE NAME DATA FILE BEFORE CALCULATION  
EXIT : RETURN TO DATA MENU  
endtext  
?  
wait  
return
```

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ภาคผนวก ข

แน้มข้อมูลที่ใช้ในการประเมินความเชื่อถือในส่วนของสมรรถนะระบบ

ตารางที่ ข.1 แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
1	BA-11	2130	4647
2	BA-12	2130	5472
3	BA-13	2130	4951
4	BA-14	2130	4604
5	BA-15	2130	3605
6	BA-16	2130	5733
7	BA-17	2130	2519
8	BA-21	2130	6775
9	BA-22	2130	6298
10	BA-23	2130	5907
11	BA-24	2130	5994
12	BA-25	2130	2562
13	BA-26	2130	3170
14	BB-11	2130	5212
15	BB-13	2130	7861
16	BB-14	2130	7079
17	BB-15	2130	6037
18	DB-16	2130	3952
19	BB-21	2130	3431
20	BB-22	2130	4430
21	BB-23	2130	5646
22	BB-24	2130	6254
23	BB-25	2130	5472
24	BB-26	2130	6949
25	BB-31	2130	4256
26	BB-34	2130	3518
27	BB-35	2130	6819

ตารางที่ ๓.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
28	BB-36	2130	2258
29	BB-38	2130	6471
30	BC-12	2130	1737
31	BC-14	2130	1607
32	BC-21	2130	5429
33	BD-11	2130	1676
34	BD-12	2130	4864
35	BD-13	2130	5299
36	BD-14	2130	3692
37	BD-21	2130	1954
38	BD-22	2130	1173
39	BD-23	2130	1954
40	BD-24	2130	4821
41	BG-11	2130	4430
42	BG-12	2130	1868
43	BG-13	2130	4517
44	BG-14	2130	2866
45	BG-16	2130	7036
46	BG-21	2130	6341
47	BG-22	2130	6428
48	BG-23	2130	5212
49	BG-24	2130	5168
50	BG-25	2130	3388
51	BK-11	2130	4083
52	BK-12	2130	6602
53	BK-13	2130	6341
54	BK-14	2130	2432
55	BK-15	2130	1607
56	BK-16	2130	2780
57	BL-11	2130	4864
58	BL-12	2130	5733
59	BL-13	2130	3952
60	BL-14	2130	5907
61	BL-16	2130	5559

ตารางที่ ข.1 (ต่อ) แฟ้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
62	BL-21	2130	4821
63	BL-22	2130	3474
64	BL-23	2130	4951
65	BL-24	2130	3735
66	BL-25	2130	5907
67	BL-26	2130	6384
68	BO-11	2130	5559
69	BO-12	2130	5907
70	BO-13	2130	1911
71	BO-14	2130	2302
72	BO-15	2130	4691
73	BO-16	2130	6341
74	BO-21	2130	7991
75	BO-22	2130	6949
76	BO-23	2130	6080
77	BO-24	2130	6515
78	BO-25	2130	3344
79	BO-26	2130	3388
80	BR-11	2130	3518
81	BR-12	2130	4604
82	BR-13	2130	3214
83	BR-14	2130	4560
84	BR-15	2130	2519
85	BR-21	2130	2736
86	BR-22	2130	3474
87	BR-23	2130	2302
88	BR-24	2130	3040
89	BR-25	2130	3996
90	BR-26	2130	4039
91	BY-11	2130	7296
92	BY-12	2130	1911
93	BY-13	2130	4169
94	BY-16	2130	5646
95	BY-21	2130	6211

ตารางที่ ๗.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
96	BY-22	2130	3909
97	BY-23	2130	3040
98	BY-25	2130	2866
99	BY-26	2130	1824
100	CK-11	2130	1477
101	CK-12	2130	4560
102	CK-13	2130	3909
103	CK-14	2130	5342
104	CK-15	2130	4691
105	CK-16	2130	608
106	CK-17	2130	174
107	CK-21	2130	3952
108	CK-22	2130	5559
109	CK-23	2130	4908
110	CK-24	2130	5125
111	CK-25	2130	3822
112	CK-26	2130	1216
113	CL-11	2130	5255
114	CL-12	2130	3822
115	CL-13	2130	4517
116	CL-14	2130	4647
117	CL-15	2130	4343
118	CL-21	2130	3388
119	CL-22	2130	3301
120	CL-23	2130	6211
121	CL-24	2130	4169
122	CL-25	2130	5255
123	DM-11	2130	6862
124	DM-12	2130	1607
125	DM-13	2130	2345
126	DM-14	2130	3909
127	DM-15	2130	2866
128	DM-16	2130	5429
129	DM-21	2130	5472

ตารางที่ ๒.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
130	DM-22	2130	3040
131	DM-23	2130	4604
132	DM-24	2130	2953
133	DM-25	2130	4560
134	DM-26	2130	3735
135	KJ-11	2130	4864
136	KJ-12	2130	2258
137	KJ-13	2130	5168
138	KJ-14	2130	4995
139	KJ-15	2130	2997
140	KJ-21	2130	6341
141	KJ-23	2130	7340
142	KJ-24	2130	4691
143	KJ-25	2130	4387
144	KJ-31	2130	4430
145	KJ-32	2130	5125
146	KJ-36	2130	5472
147	KN-11	2130	4300
148	KN-12	2130	4430
149	KN-13	2130	5603
150	KN-14	2130	5125
151	KS-12	2130	1781
152	KS-16	2130	3388
153	KS-22	2130	3214
154	KS-24	2130	174
155	KS-31	2130	2128
156	KS-33	2130	2910
157	KS-34	2130	5994
158	KS-35	2130	4256
159	KT-11	2130	5603
160	KT-12	2130	4343
161	KT-13	2130	4256
162	KT-14	2130	3996
163	KT-15	2130	2953



ตารางที่ ๓.1 (ต่อ) เพิ่มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
164	KT-16	2130	4995
165	KT-21	2130	4995
166	KT-22	2130	3952
167	KT-23	2130	2693
168	KT-24	2130	4647
169	KT-25	2130	2823
170	KT-26	2130	1042
171	LK-11	2130	3692
172	LK-12	2130	3692
173	LN-11	2130	3301
174	LN-12	2130	5038
175	LN-13	2130	3388
176	LN-14	2130	3214
177	LN-15	2130	4560
178	LN-16	2130	3214
179	LN-21	2130	5342
180	LN-22	2130	4169
181	LN-23	2130	3474
182	LN-24	2130	3692
183	LN-25	2130	4691
184	LN-26	2130	2997
185	LN-31	2130	3388
186	LN-32	2130	3735
187	LN-33	2130	2866
188	LN-34	2130	3648
189	LN-35	2130	4343
190	LN-36	2130	1998
191	LP-11	2130	3127
192	LP-12	2130	3909
193	LP-21	2130	5385
194	LP-22	2130	2562
195	MA-11	2130	1737
196	MA-12	2130	1564
197	MA-13	2130	4083

ตารางที่ ๓.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
198	MA-14	2130	5776
199	MA-15	2130	4083
200	MA-21	2130	3692
201	MA-22	2130	2606
202	MA-23	2130	3518
203	MA-24	2130	5038
204	MA-25	2130	5994
205	MA-26	2130	4864
206	MC-11	2130	4039
207	MC-12	2130	3735
208	MC-13	2130	3084
209	MC-14	2130	1737
210	MC-15	2130	4604
211	MC-17	2130	5299
212	MC-21	2130	3344
213	MC-22	2130	3518
214	MC-23	2130	4647
215	MC-24	2130	4995
216	MC-26	2130	4430
217	MM-11	2130	4951
218	MM-12	2130	4126
219	MM-13	2130	4039
220	MM-14	2130	6775
221	MM-15	2130	3996
222	MM-17	2130	5472
223	MM-21	2130	4213
224	MM-22	2130	5559
225	MM-23	2130	5168
226	MM-24	2130	3648
227	MM-26	2130	4734
228	MM-28	2130	3431
229	MN-11	2130	2910
230	MN-12	2130	2258
231	MN-13	2130	4864

ตารางที่ ๒.1 (ต่อ) เพิ่มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
232	MN-14	2130	5212
233	MS-11	2130	3344
234	MS-12	2130	4560
235	MS-13	2130	4951
236	MS-14	2130	3214
237	MS-15	2130	4126
238	MS-21	2130	5950
239	MS-22	2130	3952
240	MS-23	2130	3170
241	MS-24	2130	5776
242	MS-26	2130	3822
243	NK-12	2130	5733
244	NK-13	2130	4300
245	NK-21	2130	3996
246	NK-23	2130	3909
247	NK-24	2130	1694
248	NR-12	2130	3474
249	NR-14	2130	2258
250	NR-16	2130	4821
251	NR-18	2130	6602
252	NR-22	2130	4083
253	NR-24	2130	6037
254	NR-26	2130	4213
255	NR-31	2130	4560
256	NR-32	2130	3735
257	NR-33	2130	174
258	NR-34	2130	1824
259	NR-35	2130	4560
260	NR-36	2130	2041
261	PA-11	2130	4864
262	PA-12	2130	5299
263	PA-14	2130	6428
264	PA-16	2130	4691
265	PA-21	2130	5081

ตารางที่ ข.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
266	PA-22	2130	5776
267	PA-23	2130	4039
268	PA-24	2130	4691
269	PA-25	2130	5559
270	PA-26	2130	5429
271	PC-11	2130	2606
272	PC-12	2130	2953
273	PC-13	2130	4126
274	PC-14	2130	3170
275	PC-16	2130	3257
276	PC-21	2130	5038
277	PC-22	2130	5429
278	PC-23	2130	3518
279	PC-25	2130	5559
280	PD-11	2130	5559
281	PD-12	2130	4604
282	PD-13	2130	4691
283	PD-14	2130	4126
284	PD-15	2130	3257
285	PD-16	2130	5125
286	PD-21	2130	5168
287	PD-22	2130	3170
288	PD-23	2130	4083
289	PD-24	2130	2389
290	PD-25	2130	6384
291	PD-26	2130	4126
292	PD-31	2130	4343
293	PD-32	2130	5907
294	PD-33	2130	5907
295	PD-34	2130	2823
296	PD-35	2130	3996
297	PD-36	2130	5603
298	PE-11	2130	4083
299	PE-12	2130	6254

ตารางที่ ๒.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
300	PE-13	2130	608
301	PE-14	2130	174
302	PJ-11	2130	5038
303	PJ-12	2130	5212
304	PJ-13	2130	3127
305	PJ-14	2130	2780
306	PJ-15	2130	5646
307	PJ-21	2130	3431
308	PJ-22	2130	4169
309	PJ-23	2130	4083
310	PJ-24	2130	6341
311	PJ-25	2130	5994
312	PJ-26	2130	6775
313	PK-11	2130	4691
314	PK-12	2130	4213
315	PK-13	2130	5776
316	PK-14	2130	4560
317	PK-21	2130	3735
318	PK-22	2130	2172
319	PK-23	2130	4864
320	PK-24	2130	4777
321	PK-26	2130	3170
322	PK-28	2130	2736
323	PM-11	2130	5429
324	PM-12	2130	4995
325	PM-13	2130	4169
326	PM-14	2130	4691
327	PM-15	2130	3388
328	PM-16	2130	3692
329	PM-21	2130	3084
330	PM-22	2130	1390
331	PM-23	2130	5081
332	PM-24	2130	4951
333	PM-25	2130	4734

ตารางที่ ๒.1 (ต่อ) แฟ้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
334	PM-26	2130	5994
335	PO-11	2130	5081
336	PO-12	2130	5038
337	PO-13	2130	3127
338	PO-14	2130	3779
339	PO-15	2130	3518
340	PO-16	2130	5863
341	PO-21	2130	4126
342	PO-22	2130	3779
343	PO-23	2130	3431
344	PO-24	2130	5342
345	PO-25	2130	434
346	PO-26	2130	1781
347	PS-11	2130	5733
348	PS-12	2130	4777
349	PS-13	2130	5472
350	PS-15	2130	1998
351	PS-16	2130	7166
352	PS-21	2130	7036
353	PS-23	2130	5603
354	PS-25	2130	4169
355	PS-33	2130	4083
356	PS-35	2130	3605
357	PS-37	2130	4387
358	RH-11	2130	5429
359	RH-12	2130	4256
360	RH-13	2130	4169
361	RH-14	2130	4604
362	RN-12	2130	5516
363	RN-13	2130	4083
364	RN-14	2130	6298
365	RN-15	2130	3561
366	RN-16	2130	3518
367	RN-22	2130	2606

ตารางที่ ข.1 (ต่อ) เพิ่มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
368	RN-23	2130	6211
369	RN-24	2130	5342
370	RN-25	2130	5255
371	RN-26	2130	5299
372	RN-31	2130	2172
373	RN-32	2130	6471
374	RN-33	2130	2780
375	RN-34	2130	4430
376	RN-35	2130	4300
377	RN-36	2130	6862
378	SD-11	2130	4387
379	SD-12	2130	4083
380	SD-13	2130	4604
381	SD-14	2130	1477
382	SD-15	2130	3084
383	SD-21	2130	4126
384	SD-22	2130	3084
385	SD-23	2130	3996
386	SD-24	2130	3561
387	SD-32	2130	3909
388	SD-34	2130	1216
389	SD-41	2130	3735
390	SD-42	2130	1129
391	SD-43	2130	2172
392	SD-46	2130	1129
393	SK-11	2130	5212
394	SK-13	2130	5299
395	SK-21	2130	4864
396	SK-23	2130	2302
397	SL-11	2130	3170
398	SL-12	2130	4951
399	SL-13	2130	2823
400	SL-14	2130	1998
401	SL-15	2130	1781

ตารางที่ ๕.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
402	SL-16	2130	3431
403	SL-21	2130	5299
404	SL-22	2130	3648
405	SL-23	2130	1911
406	SL-24	2130	3084
407	SL-25	2130	4734
408	SL-26	2130	1390
409	SM-11	2130	5776
410	SM-12	2130	2258
411	SM-13	2130	3084
412	SM-14	2130	3996
413	SM-16	2130	3301
414	SM-21	2130	3170
415	SM-22	2130	4691
416	SM-23	2130	3301
417	SM-24	2130	4908
418	SM-25	2130	2345
419	SN-11	2130	1911
420	SN-12	2130	2736
421	SN-13	2130	4908
422	SN-14	2130	5429
423	SN-15	2130	4213
424	SN-16	2130	2736
425	SN-21	2130	4126
426	SN-22	2130	5255
427	SN-23	2130	3518
428	SN-24	2130	3909
429	SN-25	2130	3865
430	SN-26	2130	4560
431	SP-11	2130	3040
432	SP-12	2130	5177
433	SP-13	2130	4604
434	SP-14	2130	4039
435	SR-11	2130	3692



ตารางที่ ข.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
436	SR-12	2130	3474
437	SR-13	2130	6471
438	SR-14	2130	5385
439	SR-15	2130	5385
440	SR-17	2130	4821
441	SR-21	2130	3084
442	SR-22	2130	4734
443	SR-23	2130	2780
444	SR-24	2130	6645
445	SR-26	2130	4560
446	SR-28	2130	5994
447	SS-11	2130	3648
448	SS-12	2130	4039
449	SS-13	2130	2258
450	SS-14	2130	6080
451	SS-15	2130	4169
452	SS-16	2130	4473
453	SS-21	2130	3822
454	SS-22	2130	4039
455	SS-23	2130	2562
456	SS-24	2130	3996
457	SS-25	2130	3865
458	SS-26	2130	4777
459	SY-11	2130	5342
460	SY-12	2130	5125
461	SY-13	2130	4343
462	SY-15	2130	3648
463	SY-16	2130	2041
464	SY-21	2130	4039
465	SY-22	2130	4995
466	SY-23	2130	4039
467	SY-24	2130	4864
468	SY-25	2130	4647
469	TB-11	2130	5559

ตารางที่ ๕.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
470	TB-12	2130	4387
471	TB-13	2130	4777
472	TB-14	2130	4604
473	TB-16	2130	4517
474	TB-21	2130	5429
475	TB-22	2130	3344
476	TB-23	2130	2649
477	TB-24	2130	4126
478	TB-25	2130	4734
479	TK-11	2130	3474
480	TK-12	2130	1477
481	TK-13	2130	2432
482	TK-15	2130	4604
483	TK-16	2130	4256
484	TK-21	2130	1824
485	TK-22	2130	6732
486	TK-23	2130	2736
487	TK-24	2130	3474
488	TK-25	2130	2953
489	TK-26	2130	1042
490	TS-11	2130	3605
491	TS-12	2130	4734
492	TS-13	2130	5820
493	TS-14	2130	3909
494	TS-16	2130	6037
495	TS-21	2130	5472
496	TS-22	2130	1477
497	TS-23	2130	869
498	TS-24	2130	4430
499	TS-25	2130	4821
500	TS-26	2130	7644
501	WL-11	2130	4126
502	WL-12	2130	3474
503	WL-13	2130	4126

ตารางที่ ข.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
504	WL-14	2130	4126
505	WL-16	2130	2085
506	WL-21	2130	4126
507	WL-22	2130	3561
508	WL-23	2130	3344
509	WL-24	2130	3605
510	WL-25	2130	3301
511	YT-11	2130	4213
512	YT-12	2130	2953
513	YT-13	2130	3040
514	YT-14	2130	1781
515	YT-16	2130	2085
516	YT-21	2130	4039
517	YT-22	2130	3344
518	YT-23	2130	3909
519	YT-24	2130	2953
520	YT-25	2130	3388
521	BP-411	2130	12722
522	BP-412	2130	12804
523	BP-413	2130	8782
524	BP-421	2130	11819
525	BP-422	2130	12476
526	BP-423	2130	12394
527	BP-424	2130	14774
528	BU-411	2130	13379
529	BU-412	2130	6402
530	BU-413	2130	3283
531	BU-421	2130	9849
532	BU-422	2130	6648
533	BU-423	2130	10834
534	KK-411	2130	6895
535	LK-411	2130	9603
536	LK-412	2130	4432
537	MG-411	2130	3776

ตารางที่ ๓.1 (ต่อ) แน้มข้อมูล ณ จุดโหลด เดือนมกราคม ปี พ.ศ.2533

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
538	MG-412	2130	11080
539	MG-413	2130	13297
540	MG-414	2130	2791
541	NK-431	2130	6320
542	NK-432	2130	5910
543	NK-434	2130	1477
544	PN-411	2130	3283
545	PN-412	2130	11737
546	PN-413	2130	10670
547	PN-421	2130	3611
548	PN-422	2130	8126
549	PN-423	2130	11327
550	PR-412	2130	3447
551	PR-413	2130	10998
552	PR-421	2130	7223
553	PR-422	2130	8290
554	PR-423	2130	8044
555	PR-424	2130	14938
556	RK-411	2130	12640
557	RK-412	2130	4432
558	RK-413	2130	8536
559	RK-414	2130	9029
560	RK-421	2130	7305
561	RK-422	2130	9685
562	RK-423	2130	10916
563	RK-424	2130	6320
564	RT-411	2130	5007
565	RT-412	2130	7962
566	RT-413	2130	4678
567	RT-414	2130	10178
568	RT-421	2130	5581
569	RT-422	2130	5663
570	RT-423	2130	10013
571	RT-424	2130	8044

ตารางที่ ๕.2 แน้มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
1	230	BA-11	9.00
2	230	BA-11	20.00
3	020	BA-24	0.00
4	020	BB-14	1.00
5	090	BB-24	0.00
6	090	BB-25	0.00
7	020	BB-34	0.00
8	020	BD-13	0.00
9	350	BD-22	7.00
10	240	BD-22	31.00
11	020	BD-23	0.00
12	110	BG-11	48.00
13	110	BG-11	1.00
14	230	BG-13	9.00
15	131	BG-21	0.00
16	131	BG-21	23.00
17	240	BG-21	34.00
18	440	BK-11	2.00
19	440	BK-12	2.00
20	020	BK-13	3.00
21	440	BK-13	2.00
22	440	BK-14	2.00
23	440	BK-15	2.00
24	440	BK-16	2.00
25	430	BL-11	0.00
26	430	BL-12	0.00
27	430	BL-13	0.00
28	110	BL-13	5.00
29	430	BL-14	0.00
30	430	BL-16	0.00
31	430	BL-21	0.00
32	020	BL-22	1.00
33	040	BL-22	38.00
34	430	BL-23	0.00

ตารางที่ ข.2 (ต่อ) เพิ่มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
35	430	BL-24	0.00
36	430	BL-25	0.00
37	240	BL-26	3.00
38	430	BL-26	0.00
39	170	BL-26	0.00
40	070	BO-15	1.00
41	090	BO-21	1.00
42	020	BO-25	0.00
43	061	BY-11	0.00
44	230	BY-13	1.00
45	020	BY-16	13.00
46	110	BY-16	1.00
47	110	BY-21	49.00
48	110	BY-22	1.00
49	470	CK-11	0.00
50	470	CK-12	0.00
51	020	CK-13	0.00
52	470	CK-13	0.00
53	470	CK-14	0.00
54	470	CK-15	0.00
55	470	CK-16	0.00
56	470	CK-17	0.00
57	470	CK-21	0.00
58	470	CK-22	0.00
59	070	CK-23	3.00
60	110	CK-23	0.00
61	070	CK-23	4.00
62	470	CK-23	0.00
63	470	CK-24	0.00
64	470	CK-25	0.00
65	470	CK-26	0.00
66	061	CL-13	8.00
67	061	CL-14	1.00
68	061	CL-14	1.00

ตารางที่ ๕.2 (ต่อ) แน้มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
69	020	DM-21	0.00
70	090	DM-22	32.00
71	020	DM-24	0.00
72	440	KJ-11	0.00
73	061	KJ-12	39.00
74	440	KJ-13	0.00
75	440	KJ-14	0.00
76	440	KJ-15	0.00
77	440	KJ-21	0.00
78	440	KJ-23	0.00
79	440	KJ-24	0.00
80	440	KJ-25	0.00
81	440	KJ-31	0.00
82	090	KJ-31	3.00
83	440	KJ-32	0.00
84	440	KJ-36	0.00
85	080	KN-11	1.00
86	410	KN-11	0.00
87	120	KN-12	16.00
88	410	KN-12	0.00
89	410	KN-13	0.00
90	410	KN-14	0.00
91	470	KS-12	6.00
92	440	KS-12	0.00
93	470	KS-16	6.00
94	440	KS-16	0.00
95	470	KS-22	6.00
96	440	KS-22	0.00
97	090	KS-22	44.00
98	440	KS-24	0.00
99	470	KS-24	6.00
100	440	KS-31	0.00
101	470	KS-31	6.00
102	470	KS-33	6.00

ตารางที่ ข.2 (ต่อ) แน้มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
103	440	KS-33	0.00
104	440	KS-34	0.00
105	470	KS-34	6.00
106	440	KS-35	0.00
107	470	KS-35	6.00
108	190	KT-13	4.00
109	090	KT-23	33.00
110	240	KT-26	19.00
111	090	KT-26	50.00
112	811	LK-12	65.00
113	090	LN-13	36.00
114	020	LN-14	2.00
115	230	LN-35	15.00
116	020	LP-21	3.00
117	410	MC-11	0.00
118	410	MC-12	0.00
119	090	MC-12	0.00
120	090	MC-12	4.00
121	410	MC-13	0.00
122	410	MC-14	0.00
123	410	MC-15	0.00
124	020	MC-15	0.00
125	410	MC-17	0.00
126	230	MC-17	10.00
127	410	MC-21	0.00
128	410	MC-22	0.00
129	230	MC-22	10.00
130	410	MC-23	0.00
131	410	MC-24	0.00
132	410	MC-26	0.00
133	070	MC-26	2.00
134	020	MM-13	1.00
135	040	MM-15	66.00
136	020	MM-15	1.00



ตารางที่ ๕.2 (ต่อ) แน้ข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
137	410	MN-11	0.00
138	410	MN-12	0.00
139	410	MN-13	0.00
140	410	MN-14	0.00
141	061	MN-14	2.00
142	020	MS-13	0.00
143	040	MS-13	1.00
144	110	MS-14	12.00
145	140	MS-15	0.00
146	153	NK-21	2.00
147	170	NR-12	1.00
148	020	NR-16	1.00
149	020	NR-31	0.00
150	110	NR-36	0.00
151	240	NR-36	54.00
152	090	PA-16	5.00
153	020	PA-16	0.00
154	040	PA-25	0.00
155	040	PA-25	0.00
156	020	PC-11	0.00
157	131	PC-12	0.00
158	131	PC-12	32.00
159	090	PC-14	3.00
160	020	PC-16	5.00
161	020	PC-21	3.00
162	131	PC-22	26.00
163	020	PC-25	0.00
164	230	PD-22	37.00
165	110	PD-31	1.00
166	240	PD-31	11.00
167	020	PD-36	0.00
168	020	PE-11	0.00
169	220	PJ-13	38.00
170	020	PJ-24	3.00

ตารางที่ ข.2 (ต่อ) แน้มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
171	020	PK-23	0.00
172	230	PK-23	47.00
173	020	PK-24	1.00
174	090	PM-24	4.00
175	730	PS-11	2.00
176	240	PS-12	87.00
177	090	PS-12	0.00
178	730	PS-13	2.00
179	730	PS-15	2.00
180	730	PS-16	2.00
181	110	PS-16	1.00
182	020	PS-21	0.00
183	230	PS-25	10.00
184	020	PS-33	6.00
185	440	RH-11	3.00
186	440	RH-12	3.00
187	440	RH-13	3.00
188	440	RH-14	3.00
189	430	RN-22	10.00
190	430	RN-23	10.00
191	430	RN-24	10.00
192	230	RN-24	5.00
193	430	RN-25	10.00
194	430	RN-26	10.00
195	230	RN-26	3.00
196	430	RN-31	10.00
197	020	RN-31	0.00
198	020	RN-31	0.00
199	430	RN-32	10.00
200	430	RN-33	10.00
201	430	RN-34	10.00
202	430	RN-35	10.00
203	430	RN-36	10.00
204	020	SK-11	1.00

ตารางที่ ๒.๒ (ต่อ) แน้มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.๒๕๓๓

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
205	020	SK-21	2.00
206	230	SL-25	8.00
207	061	SM-12	0.00
208	750	SN-11	25.00
209	750	SN-12	24.00
210	750	SN-13	35.00
211	750	SN-14	39.00
212	230	SN-15	11.00
213	750	SN-15	49.00
214	750	SN-16	22.00
215	020	SP-11	0.00
216	020	SP-11	0.00
217	020	SP-11	0.00
218	061	SP-13	0.00
219	240	SP-13	8.00
220	240	SP-14	8.00
221	110	SR-11	7.00
222	090	SR-17	13.00
223	110	SR-28	2.00
224	061	SS-14	4.00
225	020	SS-14	0.00
226	090	SS-15	36.00
227	090	SS-24	20.00
228	190	SY-24	1.00
229	061	TB-12	0.00
230	061	TB-12	0.00
231	061	TB-24	0.00
232	350	TK-21	42.00
233	020	TS-21	29.00
234	190	TS-21	1.00
235	020	TS-22	0.00
236	090	TS-26	1.00
237	070	BP-411	2.00
238	020	BP-411	0.00

ตารางที่ ๒.๒ (ต่อ) แฟ้มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
239	070	BP-412	14.00
240	020	BP-412	0.00
241	020	BP-412	4.00
242	020	BP-412	0.00
243	020	BP-413	56.00
244	020	BP-413	1.00
245	020	BP-421	42.00
246	020	BP-421	24.00
247	070	BP-421	14.00
248	020	BP-422	0.00
249	070	BP-422	3.00
250	110	BP-422	11.00
251	070	BP-423	14.00
252	020	BP-423	2.00
253	020	BP-423	0.00
254	020	BP-423	0.00
255	020	BP-423	0.00
256	020	BP-423	0.00
257	131	BP-424	40.00
258	110	BP-424	40.00
259	020	BP-424	1.00
260	110	BU-411	7.00
261	090	BU-411	23.00
262	090	BU-411	2.00
263	240	BU-411	2.00
264	090	BU-411	1.00
265	070	BU-412	4.00
266	020	BU-412	0.00
267	730	BU-421	0.00
268	730	BU-422	0.00
269	110	BU-423	1.00
270	020	BU-423	0.00
271	020	BU-423	0.00
272	730	BU-423	0.00

ตารางที่ ๕.2 (ต่อ) แน้มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
273	110	BU-423	3.00
274	020	BU-423	5.00
275	020	KK-411	0.00
276	020	KK-411	0.00
277	020	LK-411	0.00
278	110	MG-412	0.00
279	240	MG-412	6.00
280	020	MG-412	0.00
281	020	MG-412	4.00
282	070	MG-413	2.00
283	020	MG-413	0.00
284	020	MG-413	0.00
285	020	MG-413	0.00
286	020	MG-413	0.00
287	020	MG-414	0.00
288	020	MG-414	10.00
289	020	NK-432	1.00
290	020	NK-432	0.00
291	020	NK-434	0.00
292	240	NK-434	4.00
293	350	NK-434	5.00
294	240	PN-412	1.00
295	061	PN-412	0.00
296	110	PN-412	21.00
297	190	PN-413	41.00
298	080	PN-413	46.00
299	190	PN-413	1.00
300	020	PN-413	1.00
301	190	PN-421	6.00
302	020	PN-421	0.00
303	020	PN-422	0.00
304	020	PN-422	0.00
305	110	PN-422	7.00
306	020	PN-422	0.00

ตารางที่ ข.2 (ต่อ) แน้มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
307	020	PN-422	0.00
308	020	PN-423	22.00
309	020	PN-423	0.00
310	020	PN-423	0.00
311	190	PR-413	9.00
312	020	PR-413	0.00
313	020	PR-413	2.00
314	020	PR-413	6.00
315	020	PR-413	0.00
316	020	PR-421	16.00
317	020	PR-421	0.00
318	020	PR-424	0.00
319	110	RK-411	60.00
320	020	RK-411	1.00
321	140	RK-412	1.00
322	140	RK-412	19.00
323	020	RK-413	1.00
324	020	RK-413	1.00
325	020	RK-413	8.00
326	240	RK-413	8.00
327	020	RK-421	1.00
328	110	RK-421	92.00
329	090	RK-422	1.00
330	110	RK-423	8.00
331	020	RK-423	4.00
332	020	RK-423	2.00
333	040	RT-411	2.00
334	020	RT-411	0.00
335	020	RT-411	0.00
336	020	RT-411	0.00
337	020	RT-411	0.00
338	020	RT-411	0.00
339	020	RT-411	0.00
340	070	RT-412	1.00

## ตารางที่ ข.2 (ต่อ) แน้มข้อมูลการเกิดการขัดจังหวะ เดือนมกราคม ปี พ.ศ.2533

Record#	INTERRUPT	LOAD_NAME	DURATION (minute)
341	020	RT-413	4.00
342	040	RT-423	7.00
343	140	RT-423	3.00
344	020	RT-424	0.00
345	020	RT-424	0.00
346	040	RT-424	8.00
347	020	RT-424	0.00
348	020	RT-424	0.00



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

ภาคผนวก ค

แนบข้อมูลที่ใช้ในการประเมินความเชื่อถือในส่วนของการทำนาค่าความเชื่อถือของระบบ

ตารางที่ ค.1 แนบข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
1	LOAD.2	BUS.1			
2	LOAD.2	BUS.2			
3	LOAD.2	HV.CB.2	HV.CB.3		
4	LOAD.2	HV.CB.2	LINE1_2		
5	LOAD.2	HV.CB.2	TRANSFORMER		
6	LOAD.2	HV.CB.2	LV.CB.2		
7	LOAD.2	LINE1_2	HV.CB.3		
8	LOAD.2	LINE1_2	LINE1_2		
9	LOAD.2	LINE1_2	TRANSFORMER		
10	LOAD.2	LINE1_2	LV.CB.2		
11	LOAD.2	TRANSFORMER	HV.CB.3		
12	LOAD.2	TRANSFORMER	LINE1_2		
13	LOAD.2	TRANSFORMER	TRANSFORMER		
14	LOAD.2	TRANSFORMER	LV.CB.2		
15	LOAD.2	LV.CB.1	HV.CB.3		
16	LOAD.2	LV.CB.1	LINE1_2		
17	LOAD.2	LV.CB.1	TRANSFORMER		
18	LOAD.2	LV.CB.1	LV.CB.2		
19	LOAD.5	BUS.1			
20	LOAD.5	BUS.5			
21	LOAD.5	BUS.3	BUS.4		
22	LOAD.5	BUS.3	HV.CB.15		
23	LOAD.5	BUS.3	LINE4_5		
24	LOAD.5	BUS.3	TRANSFORMER		
25	LOAD.5	BUS.3	LV.CB.4		
26	LOAD.5	HV.CB.14	BUS.4		



ตารางที่ ค.1 (ต่อ) เพิ่มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
27	LOAD.5	HV.CB.14	HV.CB.15		
28	LOAD.5	HV.CB.14	LINE4_5		
29	LOAD.5	HV.CB.14	TRANSFORMER		
30	LOAD.5	HV.CB.14	LV.CB.4		
31	LOAD.5	LINE3_5	BUS.4		
32	LOAD.5	LINE3_5	HV.CB.15		
33	LOAD.5	LINE3_5	LINE4_5		
34	LOAD.5	LINE3_5	TRANSFORMER		
35	LOAD.5	LINE3_5	LV.CB.4		
36	LOAD.5	TRANSFORMER	BUS.4		
37	LOAD.5	TRANSFORMER	HV.CB.15		
38	LOAD.5	TRANSFORMER	LINE4_5		
39	LOAD.5	TRANSFORMER	TRANSFORMER		
40	LOAD.5	TRANSFORMER	LV.CB.4		
41	LOAD.5	LV.CB.3	BUS.4		
42	LOAD.5	LV.CB.3	HV.CB.15		
43	LOAD.5	LV.CB.3	LINE4_5		
44	LOAD.5	LV.CB.3	TRANSFORMER		
45	LOAD.5	LV.CB.3	LV.CB.4		
46	LOAD.5	HV.CB.4	HV.CB.5		
47	LOAD.5	HV.CB.4	LINE1_4		
48	LOAD.5	HV.CB.4	HV.CB.13		
49	LOAD.5	HV.CB.4	BUS.4		
50	LOAD.5	LINE1_3	HV.CB.5		
51	LOAD.5	LINE1_3	LINE1_4		
52	LOAD.5	LINE1_3	HV.CB.13		
53	LOAD.5	LINE1_3	BUS.4		
54	LOAD.5	HV.CB.12	HV.CB.5		
55	LOAD.5	HV.CB.12	LINE1_4		
56	LOAD.5	HV.CB.12	HV.CB.13		
57	LOAD.5	HV.CB.12	BUS.4		
58	LOAD.5	BUS.3	HV.CB.5		
59	LOAD.5	BUS.3	LINE1_4		

ตารางที่ ค.1 (ต่อ) **เพิ่มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาขึ้นล้มเหลว (F33\_11KV.DBF)**

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
60	LOAD.5	BUS.3	HV.CB.13		
61	LOAD.5	HV.CB.4	HV.CB.16	HV.CB.15	
62	LOAD.5	HV.CB.4	HV.CB.16	LINE4_5	
63	LOAD.5	HV.CB.4	HV.CB.16	TRANSFORMER	
64	LOAD.5	HV.CB.4	HV.CB.16	LV.CB.4	
65	LOAD.5	LINE1_3	HV.CB.16	HV.CB.15	
66	LOAD.5	LINE1_3	HV.CB.16	LINE4_5	
67	LOAD.5	LINE1_3	HV.CB.16	TRANSFORMER	
68	LOAD.5	LINE1_3	HV.CB.16	LV.CB.4	
69	LOAD.5	HV.CB.12	HV.CB.16	HV.CB.15	
70	LOAD.5	HV.CB.12	HV.CB.16	LINE4_5	
71	LOAD.5	HV.CB.12	HV.CB.16	TRANSFORMER	
72	LOAD.5	HV.CB.12	HV.CB.16	LV.CB.4	
73	LOAD.5	HV.CB.5	HV.CB.16	HV.CB.14	
74	LOAD.5	HV.CB.5	HV.CB.16	LINE3_5	
75	LOAD.5	HV.CB.5	HV.CB.16	TRANSFORMER	
76	LOAD.5	HV.CB.5	HV.CB.16	LV.CB.3	
77	LOAD.5	LINE1_4	HV.CB.16	HV.CB.14	
78	LOAD.5	LINE1_4	HV.CB.16	LINE3_5	
79	LOAD.5	LINE1_4	HV.CB.16	TRANSFORMER	
80	LOAD.5	LINE1_4	HV.CB.16	LV.CB.3	
81	LOAD.5	HV.CB.13	HV.CB.16	HV.CB.14	
82	LOAD.5	HV.CB.13	HV.CB.16	LINE3_5	
83	LOAD.5	HV.CB.13	HV.CB.16	TRANSFORMER	
84	LOAD.5	HV.CB.13	HV.CB.16	LV.CB.3	
85	LOAD.8	BUS.1			
86	LOAD.8	BUS.8			
87	LOAD.8	BUS.6	BUS.7		
88	LOAD.8	BUS.6	HV.CB.20		
89	LOAD.8	BUS.6	LINE7_8		
90	LOAD.8	BUS.6	TRANSFORMER.8		
91	LOAD.8	BUS.6	LV.CB.6		
92	LOAD.8	HV.CB.19	BUS.7		

ตารางที่ ค.1 (ต่อ) แน้มีข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
93	LOAD.8	HV.CB.19	HV.CB.20		
94	LOAD.8	HV.CB.19	LINE7_8		
95	LOAD.8	HV.CB.19	TRANSFORMER.8		
96	LOAD.8	HV.CB.19	LV.CB.6		
97	LOAD.8	LINE6_8	BUS.7		
98	LOAD.8	LINE6_8	HV.CB.20		
99	LOAD.8	LINE6_8	LINE7_8		
100	LOAD.8	LINE6_8	TRANSFORMER.8		
101	LOAD.8	LINE6_8	LV.CB.6		
102	LOAD.8	TRANSFORMER.8	BUS.7		
103	LOAD.8	TRANSFORMER.8	HV.CB.20		
104	LOAD.8	TRANSFORMER.8	LINE7_8		
105	LOAD.8	TRANSFORMER.8	TRANSFORMER.8		
106	LOAD.8	TRANSFORMER.8	LV.CB.6		
107	LOAD.8	LV.CB.5	BUS.7		
108	LOAD.8	LV.CB.5	HV.CB.20		
109	LOAD.8	LV.CB.5	LINE7_8		
110	LOAD.8	LV.CB.5	TRANSFORMER.8		
111	LOAD.8	LV.CB.5	LV.CB.6		
112	LOAD.8	HV.CB.6	HV.CB.7		
113	LOAD.8	HV.CB.6	LINE1_7		
114	LOAD.8	HV.CB.6	HV.CB.18		
115	LOAD.8	HV.CB.6	BUS.7		
116	LOAD.8	LINE1_6	HV.CB.7		
117	LOAD.8	LINE1_8	LINE1_7		
118	LOAD.8	LINE1_6	HV.CB.18		
119	LOAD.8	LINE1_6	BUS.7		
120	LOAD.8	HV.CB.17	HV.CB.7		
121	LOAD.8	HV.CB.17	LINE1_7		
122	LOAD.8	HV.CB.17	HV.CB.18		
123	LOAD.8	HV.CB.17	BUS.7		
124	LOAD.8	BUS.6	HV.CB.7		
125	LOAD.8	BUS.6	LINE1_7		

ตารางที่ ค.1 (ต่อ) แน้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
126	LOAD.8	BUS.6	HV.CB.18		
127	LOAD.8	HV.CB.6	HV.CB.21	HV.CB.20	
128	LOAD.8	HV.CB.6	HV.CB.21	LINE7_8	
129	LOAD.8	HV.CB.6	HV.CB.21	TRANSFORMER.8	
130	LOAD.8	HV.CB.6	HV.CB.21	LV.CB.6	
131	LOAD.8	LINE1_6	HV.CB.21	HV.CB.20	
132	LOAD.8	LINE1_6	HV.CB.21	LINE7_8	
133	LOAD.8	LINE1_6	HV.CB.21	TRANSFORMER.8	
134	LOAD.8	LINE1_6	HV.CB.21	LV.CB.6	
135	LOAD.8	HV.CB.17	HV.CB.21	HV.CB.20	
136	LOAD.8	HV.CB.17	HV.CB.21	LINE7_8	
137	LOAD.8	HV.CB.17	HV.CB.21	TRANSFORMER.8	
138	LOAD.8	HV.CB.17	HV.CB.21	LV.CB.6	
139	LOAD.8	HV.CB.7	HV.CB.21	HV.CB.19	
140	LOAD.8	HV.CB.7	HV.CB.21	LINE6_8	
141	LOAD.8	HV.CB.7	HV.CB.21	TRANSFORMER.8	
142	LOAD.8	HV.CB.7	HV.CB.21	LV.CB.5	
143	LOAD.8	LINE1_7	HV.CB.21	HV.CB.19	
144	LOAD.8	LINE1_7	HV.CB.21	LINE6_8	
145	LOAD.8	LINE1_7	HV.CB.21	TRANSFORMER.8	
146	LOAD.8	LINE1_7	HV.CB.21	LV.CB.5	
147	LOAD.8	HV.CB.18	HV.CB.21	HV.CB.19	
148	LOAD.8	HV.CB.18	HV.CB.21	LINE6_8	
149	LOAD.8	HV.CB.18	HV.CB.21	TRANSFORMER.8	
150	LOAD.8	HV.CB.18	HV.CB.21	LV.CB.5	
151	LOAD.8	BRANCH.1	HV.CB.7		
152	LOAD.8	BRANCH.1	LINE1_7		
153	LOAD.8	BRANCH.1	HV.CB.18		
154	LOAD.8	BRANCH.1	BUS.7		
155	LOAD.8	BRANCH.2	HV.CB.6		
156	LOAD.8	BRANCH.2	LINE1_6		
157	LOAD.8	BRANCH.2	HV.CB.17		
158	LOAD.8	BRANCH.2	BUS.6		

ตารางที่ ค.1 (ต่อ) แน้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นนั้นจะทำได้ความสามารถ  
ในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
159	LOAD.8	BRANCH.3	BUS.7		
160	LOAD.8	BRANCH.3	HV.CB.20		
161	LOAD.8	BRANCH.3	LINE7_8		
162	LOAD.8	BRANCH.3	TRANSFORMER.8		
163	LOAD.8	BRANCH.3	LV.CB.6		
164	LOAD.8	BRANCH.3	BUS.6		
165	LOAD.8	BRANCH.3	HV.CB.19		
166	LOAD.8	BRANCH.3	LINE6_8		
167	LOAD.8	BRANCH.3	TRANSFORMER.8		
168	LOAD.8	BRANCH.3	LV.CB.5		
169	LOAD.8	BRANCH.1	HV.CB.21	HV.CB.20	
170	LOAD.8	BRANCH.1	HV.CB.21	LINE7_8	
171	LOAD.8	BRANCH.1	HV.CB.21	TRANSFORMER.8	
172	LOAD.8	BRANCH.1	HV.CB.21	LV.CB.6	
173	LOAD.8	BRANCH.2	HV.CB.21	HV.CB.19	
174	LOAD.8	BRANCH.2	HV.CB.21	LINE6_8	
175	LOAD.8	BRANCH.2	HV.CB.21	TRANSFORMER.8	
176	LOAD.8	BRANCH.2	HV.CB.21	LV.CB.5	
177	LOAD.8	BRANCH.3	HV.CB.21	HV.CB.7	
178	LOAD.8	BRANCH.3	HV.CB.21	LINE1_7	
179	LOAD.8	BRANCH.3	HV.CB.21	HV.CB.18	
180	LOAD.8	BRANCH.4	HV.CB.21	HV.CB.6	
181	LOAD.8	BRANCH.4	HV.CB.21	LINE1_6	
182	LOAD.8	BRANCH.4	HV.CB.21	HV.CB.17	
183	LOAD.11	BUS.1			
184	LOAD.11	BUS.11			
185	LOAD.11	BUS.9	BUS.10		
186	LOAD.11	BUS.9	HV.CB.25		
187	LOAD.11	BUS.9	LINE10_11		
188	LOAD.11	BUS.9	TRANSFORMER		
189	LOAD.11	BUS.9	LV.CB.8		
190	LOAD.11	HV.CB.24	BUS.10		
191	LOAD.11	HV.CB.24	HV.CB.25		

ตารางที่ ค.1 (ต่อ) **แนบข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาขึ้นล้มเหลว (F33\_11KV.DBF)**

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
192	LOAD.11	HV.CB.24	LINE10_11		
193	LOAD.11	HV.CB.24	TRANSFORMER		
194	LOAD.11	HV.CB.24	LV.CB.8		
195	LOAD.11	LINE9_11	BUS.10		
196	LOAD.11	LINE9_11	HV.CB.25		
197	LOAD.11	LINE9_11	LINE10_11		
198	LOAD.11	LINE9_11	TRANSFORMER		
199	LOAD.11	LINE9_11	LV.CB.8		
200	LOAD.11	TRANSFORMER	BUS.10		
201	LOAD.11	TRANSFORMER	HV.CB.25		
202	LOAD.11	TRANSFORMER	LINE10_11		
203	LOAD.11	TRANSFORMER	TRANSFORMER		
204	LOAD.11	TRANSFORMER	LV.CB.8		
205	LOAD.11	LV.CB.7	BUS.10		
206	LOAD.11	LV.CB.7	HV.CB.25		
207	LOAD.11	LV.CB.7	LINE10_11		
208	LOAD.11	LV.CB.7	TRANSFORMER		
209	LOAD.11	LV.CB.7	LV.CB.8		
210	LOAD.11	HV.CB.8	HV.CB.9		
211	LOAD.11	HV.CB.8	LINE1_10		
212	LOAD.11	HV.CB.8	HV.CB.23		
213	LOAD.11	HV.CB.8	BUS.10		
214	LOAD.11	LINE1_9	HV.CB.9		
215	LOAD.11	LINE1_9	LINE1_10		
216	LOAD.11	LINE1_9	HV.CB.23		
217	LOAD.11	LINE1_9	BUS.10		
218	LOAD.11	HV.CB.22	HV.CB.9		
219	LOAD.11	HV.CB.22	LINE1_10		
220	LOAD.11	HV.CB.22	HV.CB.23		
221	LOAD.11	HV.CB.22	BUS.10		
222	LOAD.11	BUS.9	HV.CB.9		
223	LOAD.11	BUS.9	LINE1_10		
224	LOAD.11	BUS.9	HV.CB.23		

ตารางที่ ค.1 (ต่อ) แน้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นนั้นจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
225	LOAD.11	HV.CB.8	HV.CB.26	HV.CB.25	
226	LOAD.11	HV.CB.8	HV.CB.26	LINE10_11	
227	LOAD.11	HV.CB.8	HV.CB.26	TRANSFORMER	
228	LOAD.11	HV.CB.8	HV.CB.26	LV.CB.8	
229	LOAD.11	LINE1_9	HV.CB.26	HV.CB.25	
230	LOAD.11	LINE1_9	HV.CB.26	LINE10_11	
231	LOAD.11	LINE1_9	HV.CB.26	TRANSFORMER	
232	LOAD.11	LINE1_9	HV.CB.26	LV.CB.8	
233	LOAD.11	HV.CB.22	HV.CB.26	HV.CB.25	
234	LOAD.11	HV.CB.22	HV.CB.26	LINE10_11	
235	LOAD.11	HV.CB.22	HV.CB.26	TRANSFORMER	
236	LOAD.11	HV.CB.22	HV.CB.26	LV.CB.8	
237	LOAD.11	HV.CB.9	HV.CB.26	HV.CB.24	
238	LOAD.11	HV.CB.9	HV.CB.26	LINE9_11	
239	LOAD.11	HV.CB.9	HV.CB.26	TRANSFORMER	
240	LOAD.11	HV.CB.9	HV.CB.26	LV.CB.7	
241	LOAD.11	LINE1_10	HV.CB.26	HV.CB.24	
242	LOAD.11	LINE1_10	HV.CB.26	LINE9_11	
243	LOAD.11	LINE1_10	HV.CB.26	TRANSFORMER	
244	LOAD.11	LINE1_10	HV.CB.26	LV.CB.7	
245	LOAD.11	HV.CB.23	HV.CB.26	HV.CB.24	
246	LOAD.11	HV.CB.23	HV.CB.26	LINE9_11	
247	LOAD.11	HV.CB.23	HV.CB.26	TRANSFORMER	
248	LOAD.11	HV.CB.23	HV.CB.26	LV.CB.7	
249	LOAD.11	HV.CB.1A			
250	LOAD.11	HV.CB.2A			
251	LOAD.11	HV.CB.3A			
252	LOAD.11	HV.CB.4A			
253	LOAD.11	HV.CB.5A			
254	LOAD.11	HV.CB.6A			
255	LOAD.11	HV.CB.7A			
256	LOAD.11	HV.CB.8A			
257	LOAD.11	HV.CB.9A			

ตารางที่ ค.1 (ต่อ) แน้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
258	LOAD.11	HV.CB.10A			
259	LOAD.11	HV.CB.11A			
260	LOAD.11	HV.CB.26A			
261	LOAD.11	LV.CB.7A			
262	LOAD.11	LV.CB.8A			
263	LOAD.11	HV.CB.22A	HV.CB.25		
264	LOAD.11	HV.CB.22A	LINE10_11		
265	LOAD.11	HV.CB.22A	TRANSFORMER		
266	LOAD.11	HV.CB.22A	LV.CB.8		
267	LOAD.11	HV.CB.23A	HV.CB.28		
268	LOAD.11	HV.CB.23A	LINE9_11		
269	LOAD.11	HV.CB.23A	TRANSFORMER		
270	LOAD.11	HV.CB.23A	LV.CB.7		
271	LOAD.11	HV.CB.24A	HV.CB.9		
272	LOAD.11	HV.CB.24A	LINE1_10		
273	LOAD.11	HV.CB.24A	HV.CB.23		
274	LOAD.11	HV.CB.25A	HV.CB.8		
275	LOAD.11	HV.CB.25A	LINE1_9		
276	LOAD.11	HV.CB.25A	HV.CB.22		
277	LOAD.11	HCB.27A+HCB.1S			
278	LOAD.11	L1_12A+HCB.1S			
279	LOAD.11	LCB.1A+HCB.2S			
280	LOAD.11	TR.A+HCB.2S			
281	LOAD.11	L1_2A+HCB.2S			
282	LOAD.11	LCB.2A+HCB.3S			
283	LOAD.11	TR.A+HCB.3S			
284	LOAD.11	L1_2A+HCB.3S			
285	LOAD.11	HCB.12A+HCB.4S			
286	LOAD.11	L1_3A+HCB.4S			
287	LOAD.11	HCB.13A+HCB.5S			
288	LOAD.11	L1_4A+HCB.5S			
289	LOAD.11	HCB.17A+HCB.6S			
290	LOAD.11	L1_6A+HCB.6S			



ตารางที่ ค.1 (ต่อ) แผนภูมิข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาในนั้นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
291	LOAD.11	HCB.18A+HCB.7S			
292	LOAD.11	L1_7A+HCB.7S			
293	LOAD.11	HCB.32A+HCB.10S			
294	LOAD.11	L1_15A+HCB.10S			
295	LOAD.11	HCB.33A+HCB.11S			
296	LOAD.11	L1_16A+HCB.11S			
297	LOAD.11	L1_9A+HCB.8S			
298	LOAD.11	HCB.22A+HCB.8S			
299	LOAD.11	L1_10A+HCB.9S			
300	LOAD.11	HCB.23A+HCB.9S			
301	LOAD.11	BUS.9A+HCB.26S			
302	LOAD.11	BUS.10A+HCB.26S			
303	LOAD.11	HCB.24A+LCB.7S			
304	LOAD.11	L9_11A+LCB.7S			
305	LOAD.11	TR.A+LCB.7S			
306	LOAD.11	HCB.25A+LCB.8S			
307	LOAD.11	L10_11A+LCB.8S			
308	LOAD.11	TR.A+LCB.8S			
309	LOAD.11	HCB.22A+HCB.26S			
310	LOAD.11	HCB.23A+HCB.26S			
311	LOAD.11	HCB.24A+HCB.26S			
312	LOAD.11	HCB.25A+HCB.26S			
313	LOAD.11	L1_9A+HCB.22S	HV.CB.25		
314	LOAD.11	L1_9A+HCB.22S	LINE10_11		
315	LOAD.11	L1_9A+HCB.22S	TRANSFORMER		
316	LOAD.11	L1_9A+HCB.22S	LV.CB.8		
317	LOAD.11	L1_10A+HCB.23S	HV.CB.24		
318	LOAD.11	L1_10A+HCB.23S	LINE9_11		
319	LOAD.11	L1_10A+HCB.23S	TRANSFORMER		
320	LOAD.11	L1_10A+HCB.23S	LV.CB.7		
321	LOAD.11	L9_11A+HCB.24S	HV.CB.9		
322	LOAD.11	L9_11A+HCB.24S	LINE1_10		
323	LOAD.11	L9_11A+HCB.24S	HV.CB.23		

ตารางที่ ค.1 (ต่อ) แนบข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
324	LOAD.11	TR.A	HV.CB.9		
325	LOAD.11	TR.A	LINE1_10		
326	LOAD.11	TR.A	HV.CB.23		
327	LOAD.11	L10_11A+HCB.25S	HV.CB.8		
328	LOAD.11	L10_11A+HCB.25S	LINE1_9		
329	LOAD.11	L10_11A+HCB.25S	HV.CB.22		
330	LOAD.11	TR.A	HV.CB.8		
331	LOAD.11	TR.A	LINE1_9		
332	LOAD.11	TR.A	HV.CB.22		
333	LOAD.14	BUS.1			
334	LOAD.14	BUS.14			
335	LOAD.14	BUS.12	BUS.13		
336	LOAD.14	BUS.12	HV.CB.29		
337	LOAD.14	BUS.12	LINE13_14		
338	LOAD.14	BUS.12	TRANSFORMER		
339	LOAD.14	BUS.12	LV.CB.10		
340	LOAD.14	HV.CB.28	BUS.13		
341	LOAD.14	HV.CB.28	HV.CB.29		
342	LOAD.14	HV.CB.28	LINE13_14		
343	LOAD.14	HV.CB.28	TRANSFORMER		
344	LOAD.14	HV.CB.28	LV.CB.10		
345	LOAD.14	LINE12_14	BUS.13		
346	LOAD.14	LINE12_14	HV.CB.29		
347	LOAD.14	LINE12_14	LINE13_14		
348	LOAD.14	LINE12_14	TRANSFORMER		
349	LOAD.14	LINE12_14	LV.CB.10		
350	LOAD.14	TRANSFORMER	BUS.13		
351	LOAD.14	TRANSFORMER	HV.CB.29		
352	LOAD.14	TRANSFORMER	LINE13_14		
353	LOAD.14	TRANSFORMER	TRANSFORMER		
354	LOAD.14	TRANSFORMER	LV.CB.10		
355	LOAD.14	LV.CB.9	BUS.13		
356	LOAD.14	LV.CB.9	HV.CB.29		

ตารางที่ ค.1 (ต่อ) **แนบข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)**

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
357	LOAD.14	LV.CB.9	LINE13_14		
358	LOAD.14	LV.CB.9	TRANSFORMER		
359	LOAD.14	LV.CB.9	LV.CB.10		
360	LOAD.14	HV.CB.1	HV.CB.10	HV.CB.11	
361	LOAD.14	HV.CB.1	HV.CB.10	LINE1_16	
362	LOAD.14	HV.CB.1	HV.CB.10	HV.CB.33	
363	LOAD.14	HV.CB.1	LINE1_15	HV.CB.11	
364	LOAD.14	HV.CB.1	LINE1_15	LINE1_16	
365	LOAD.14	HV.CB.1	LINE1_15	HV.CB.33	
366	LOAD.14	HV.CB.1	HV.CB.32	HV.CB.11	
367	LOAD.14	HV.CB.1	HV.CB.32	LINE1_16	
368	LOAD.14	HV.CB.1	HV.CB.32	HV.CB.33	
369	LOAD.14	HV.CB.1	BUS.15	HV.CB.11	
370	LOAD.14	HV.CB.1	BUS.15	LINE1_16	
371	LOAD.14	HV.CB.1	BUS.15	HV.CB.33	
372	LOAD.14	HV.CB.1	HV.CB.38	HV.CB.11	
373	LOAD.14	HV.CB.1	HV.CB.38	LINE1_16	
374	LOAD.14	HV.CB.1	HV.CB.38	HV.CB.33	
375	LOAD.14	HV.CB.1	BUS.16		
376	LOAD.14	HV.CB.1	HV.CB.34		
377	LOAD.14	HV.CB.1	LINE13_16		
378	LOAD.14	HV.CB.1	HV.CB.30		
379	LOAD.14	HV.CB.1	BUS.13		
380	LOAD.14	LINE1_12	HV.CB.10	HV.CB.11	
381	LOAD.14	LINE1_12	HV.CB.10	LINE1_16	
382	LOAD.14	LINE1_12	HV.CB.10	HV.CB.33	
383	LOAD.14	LINE1_12	LINE1_15	HV.CB.11	
384	LOAD.14	LINE1_12	LINE1_15	LINE1_16	
385	LOAD.14	LINE1_12	LINE1_15	HV.CB.33	
386	LOAD.14	LINE1_12	HV.CB.32	HV.CB.11	
387	LOAD.14	LINE1_12	HV.CB.32	LINE1_16	
388	LOAD.14	LINE1_12	HV.CB.32	HV.CB.33	
389	LOAD.14	LINE1_12	BUS.15	HV.CB.11	

ตารางที่ ค.1 (ต่อ) เพิ่มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
390	LOAD.14	LINE1_12	BUS.15	LINE1_16	
391	LOAD.14	LINE1_12	BUS.15	HV.CB.33	
392	LOAD.14	LINE1_12	HV.CB.38	HV.CB.11	
393	LOAD.14	LINE1_12	HV.CB.38	LINE1_16	
394	LOAD.14	LINE1_12	HV.CB.38	HV.CB.33	
395	LOAD.14	LINE1_12	BUS.16		
396	LOAD.14	LINE1_12	HV.CB.34		
397	LOAD.14	LINE1_12	LINE13_16		
398	LOAD.14	LINE1_12	HV.CB.30		
399	LOAD.14	LINE1_12	BUS.13		
400	LOAD.14	HV.CB.27	HV.CB.10	HV.CB.11	
401	LOAD.14	HV.CB.27	HV.CB.10	LINE1_16	
402	LOAD.14	HV.CB.27	HV.CB.10	HV.CB.33	
403	LOAD.14	HV.CB.27	LINE1_15	HV.CB.11	
404	LOAD.14	HV.CB.27	LINE1_15	LINE1_16	
405	LOAD.14	HV.CB.27	LINE1_15	HV.CB.33	
406	LOAD.14	HV.CB.27	HV.CB.32	HV.CB.11	
407	LOAD.14	HV.CB.27	HV.CB.32	LINE1_16	
408	LOAD.14	HV.CB.27	HV.CB.32	HV.CB.33	
409	LOAD.14	HV.CB.27	BUS.15	HV.CB.11	
410	LOAD.14	HV.CB.27	BUS.15	LINE1_16	
411	LOAD.14	HV.CB.27	BUS.15	HV.CB.33	
412	LOAD.14	HV.CB.27	HV.CB.38	HV.CB.11	
413	LOAD.14	HV.CB.27	HV.CB.38	LINE1_16	
414	LOAD.14	HV.CB.27	HV.CB.38	HV.CB.33	
415	LOAD.14	HV.CB.27	BUS.16		
416	LOAD.14	HV.CB.27	HV.CB.34		
417	LOAD.14	HV.CB.27	LINE13_16		
418	LOAD.14	HV.CB.27	HV.CB.30		
419	LOAD.14	HV.CB.27	BUS.13		
420	LOAD.14	BUS.12	HV.CB.10	HV.CB.11	
421	LOAD.14	BUS.12	HV.CB.10	LINE1_16	
422	LOAD.14	BUS.12	HV.CB.10	HV.CB.33	

ตารางที่ ค.1 (ต่อ) แน้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
423	LOAD.14	BUS.12	LINE1_15	HV.CB.11	
424	LOAD.14	BUS.12	LINE1_15	LINE1_16	
425	LOAD.14	BUS.12	LINE1_15	HV.CB.33	
426	LOAD.14	BUS.12	HV.CB.32	HV.CB.11	
427	LOAD.14	BUS.12	HV.CB.32	LINE1_16	
428	LOAD.14	BUS.12	HV.CB.32	HV.CB.33	
429	LOAD.14	BUS.12	BUS.15	HV.CB.11	
430	LOAD.14	BUS.12	BUS.15	LINE1_16	
431	LOAD.14	BUS.12	BUS.15	HV.CB.33	
432	LOAD.14	BUS.12	HV.CB.38	HV.CB.11	
433	LOAD.14	BUS.12	HV.CB.38	LINE1_16	
434	LOAD.14	BUS.12	HV.CB.38	HV.CB.33	
435	LOAD.14	BUS.12	BUS.16		
436	LOAD.14	BUS.12	HV.CB.34		
437	LOAD.14	BUS.12	LINE13_16		
438	LOAD.14	BUS.12	HV.CB.30		
439	LOAD.14	HV.CB.1	HV.CB.31	HV.CB.29	
440	LOAD.14	HV.CB.1	HV.CB.31	LINE13_14	
441	LOAD.14	HV.CB.1	HV.CB.31	TRANSFORMER	
442	LOAD.14	HV.CB.1	HV.CB.31	LV.CB.10	
443	LOAD.14	LINE1_12	HV.CB.31	HV.CB.29	
444	LOAD.14	LINE1_12	HV.CB.31	LINE13_14	
445	LOAD.14	LINE1_12	HV.CB.31	TRANSFORMER	
446	LOAD.14	LINE1_12	HV.CB.31	LV.CB.10	
447	LOAD.14	HV.CB.27	HV.CB.31	HV.CB.29	
448	LOAD.14	HV.CB.27	HV.CB.31	LINE13_14	
449	LOAD.14	HV.CB.27	HV.CB.31	TRANSFORMER	
450	LOAD.14	HV.CB.27	HV.CB.31	LV.CB.10	
451	LOAD.14	HV.CB.10	HV.CB.11	HV.CB.31	HV.CB.28
452	LOAD.14	HV.CB.10	HV.CB.11	HV.CB.31	LINE12_14
453	LOAD.14	HV.CB.10	HV.CB.11	HV.CB.31	TRANSFORMER
454	LOAD.14	HV.CB.10	HV.CB.11	HV.CB.31	LV.CB.9
455	LOAD.14	HV.CB.10	LINE1_16	HV.CB.31	HV.CB.28

ตารางที่ ค.1 (ต่อ) บันทึกข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาขึ้นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
456	LOAD.14	HV.CB.10	LINE1_16	HV.CB.31	LINE12_14
457	LOAD.14	HV.CB.10	LINE1_16	HV.CB.31	TRANSFORMER
458	LOAD.14	HV.CB.10	LINE1_16	HV.CB.31	LV.CB.9
459	LOAD.14	HV.CB.10	HV.CB.33	HV.CB.31	HV.CB.28
460	LOAD.14	HV.CB.10	HV.CB.33	HV.CB.31	LINE12_14
461	LOAD.14	HV.CB.10	HV.CB.33	HV.CB.31	TRANSFORMER
462	LOAD.14	HV.CB.10	HV.CB.33	HV.CB.31	LV.CB.9
463	LOAD.14	LINE1_15	HV.CB.11	HV.CB.31	HV.CB.28
464	LOAD.14	LINE1_15	HV.CB.11	HV.CB.31	LINE12_14
465	LOAD.14	LINE1_15	HV.CB.11	HV.CB.31	TRANSFORMER
466	LOAD.14	LINE1_15	HV.CB.11	HV.CB.31	LV.CB.9
467	LOAD.14	LINE1_15	LINE1_16	HV.CB.31	HV.CB.28
468	LOAD.14	LINE1_15	LINE1_16	HV.CB.31	LINE12_14
469	LOAD.14	LINE1_15	LINE1_16	HV.CB.31	TRANSFORMER
470	LOAD.14	LINE1_15	LINE1_16	HV.CB.31	LV.CB.9
471	LOAD.14	LINE1_15	HV.CB.33	HV.CB.31	HV.CB.28
472	LOAD.14	LINE1_15	HV.CB.33	HV.CB.31	LINE12_14
473	LOAD.14	LINE1_15	HV.CB.33	HV.CB.31	TRANSFORMER
474	LOAD.14	LINE1_15	HV.CB.33	HV.CB.31	LV.CB.9
475	LOAD.14	HV.CB.32	HV.CB.11	HV.CB.31	HV.CB.28
476	LOAD.14	HV.CB.32	HV.CB.11	HV.CB.31	LINE12_14
477	LOAD.14	HV.CB.32	HV.CB.11	HV.CB.31	TRANSFORMER
478	LOAD.14	HV.CB.32	HV.CB.11	HV.CB.31	LV.CB.9
479	LOAD.14	HV.CB.32	LINE1_16	HV.CB.31	HV.CB.28
480	LOAD.14	HV.CB.32	LINE1_16	HV.CB.31	LINE12_14
481	LOAD.14	HV.CB.32	LINE1_16	HV.CB.31	TRANSFORMER
482	LOAD.14	HV.CB.32	LINE1_16	HV.CB.31	LV.CB.9
483	LOAD.14	HV.CB.32	HV.CB.33	HV.CB.31	HV.CB.28
484	LOAD.14	HV.CB.32	HV.CB.33	HV.CB.31	LINE12_14
485	LOAD.14	HV.CB.32	HV.CB.33	HV.CB.31	TRANSFORMER
486	LOAD.14	HV.CB.32	HV.CB.33	HV.CB.31	LV.CB.9
487	LOAD.14	HV.CB.38	HV.CB.11	HV.CB.31	HV.CB.28
488	LOAD.14	HV.CB.38	HV.CB.11	HV.CB.31	LINE12_14

ตารางที่ ค.1 (ต่อ) แน้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นนั้นจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
489	LOAD.14	HV.CB.38	HV.CB.11	HV.CB.31	TRANSFORMER
490	LOAD.14	HV.CB.38	HV.CB.11	HV.CB.31	LV.CB.9
491	LOAD.14	HV.CB.38	LINE1_16	HV.CB.31	HV.CB.28
492	LOAD.14	HV.CB.38	LINE1_16	HV.CB.31	LINE12_14
493	LOAD.14	HV.CB.38	LINE1_16	HV.CB.31	TRANSFORMER
494	LOAD.14	HV.CB.38	LINE1_16	HV.CB.31	LV.CB.9
495	LOAD.14	HV.CB.38	HV.CB.33	HV.CB.31	HV.CB.28
496	LOAD.14	HV.CB.38	HV.CB.33	HV.CB.31	LINE12_14
497	LOAD.14	HV.CB.38	HV.CB.33	HV.CB.31	TRANSFORMER
498	LOAD.14	HV.CB.38	HV.CB.33	HV.CB.31	LV.CB.9
499	LOAD.14	BUS.16	HV.CB.31	HV.CB.28	
500	LOAD.14	BUS.16	HV.CB.31	LINE12_14	
501	LOAD.14	BUS.16	HV.CB.31	TRANSFORMER	
502	LOAD.14	BUS.16	HV.CB.31	LV.CB.9	
503	LOAD.14	LINE13_16	HV.CB.31	HV.CB.28	
504	LOAD.14	LINE13_16	HV.CB.31	LINE12_14	
505	LOAD.14	LINE13_16	HV.CB.31	TRANSFORMER	
506	LOAD.14	LINE13_16	HV.CB.31	LV.CB.9	
507	LOAD.14	HV.CB.30	HV.CB.31	HV.CB.28	
508	LOAD.14	HV.CB.30	HV.CB.31	LINE12_14	
509	LOAD.14	HV.CB.30	HV.CB.31	TRANSFORMER	
510	LOAD.14	HV.CB.30	HV.CB.31	LV.CB.9	
511	LOAD.17	BUS.1			
512	LOAD.17	BUS.17			
513	LOAD.17	BUS.15	BUS.16		
514	LOAD.17	BUS.15	HV.CB.37		
515	LOAD.17	BUS.15	LINE16_17		
516	LOAD.17	BUS.15	TRANSFORMER		
517	LOAD.17	BUS.15	LV.CB.13		
518	LOAD.17	HV.CB.35	HV.CB.36	BUS.16	
519	LOAD.17	HV.CB.35	HV.CB.36	HV.CB.37	
520	LOAD.17	HV.CB.35	HV.CB.36	LINE16_17	
521	LOAD.17	HV.CB.35	HV.CB.36	TRANSFORMER	

ตารางที่ ค.1 (ต่อ)    เพิ่มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
522	LOAD.17	HV.CB.35	HV.CB.36	LV.CB.13	
523	LOAD.17	HV.CB.35	LINE15_17	BUS.16	
524	LOAD.17	HV.CB.35	LINE15_17	HV.CB.37	
525	LOAD.17	HV.CB.35	LINE15_17	LINE16_17	
526	LOAD.17	HV.CB.35	LINE15_17	TRANSFORMER	
527	LOAD.17	HV.CB.35	LINE15_17	LV.CB.13	
528	LOAD.17	HV.CB.35	TRANSFORMER	BUS.16	
529	LOAD.17	HV.CB.35	TRANSFORMER	HV.CB.37	
530	LOAD.17	HV.CB.35	TRANSFORMER	LINE16_17	
531	LOAD.17	HV.CB.35	TRANSFORMER	TRANSFORMER	
532	LOAD.17	HV.CB.35	TRANSFORMER	LV.CB.13	
533	LOAD.17	HV.CB.35	LV.CB.12	BUS.16	
534	LOAD.17	HV.CB.35	LV.CB.12	HV.CB.37	
535	LOAD.17	HV.CB.35	LV.CB.12	LINE16_17	
536	LOAD.17	HV.CB.35	LV.CB.12	TRANSFORMER	
537	LOAD.17	HV.CB.35	LV.CB.12	LV.CB.13	
538	LOAD.17	LINE15_17	HV.CB.36	BUS.16	
539	LOAD.17	LINE15_17	HV.CB.36	HV.CB.37	
540	LOAD.17	LINE15_17	HV.CB.36	LINE16_17	
541	LOAD.17	LINE15_17	HV.CB.36	TRANSFORMER	
542	LOAD.17	LINE15_17	HV.CB.36	LV.CB.13	
543	LOAD.17	LINE15_17	LINE15_17	BUS.16	
544	LOAD.17	LINE15_17	LINE15_17	HV.CB.37	
545	LOAD.17	LINE15_17	LINE15_17	LINE16_17	
546	LOAD.17	LINE15_17	LINE15_17	TRANSFORMER	
547	LOAD.17	LINE15_17	LINE15_17	LV.CB.13	
548	LOAD.17	LINE15_17	TRANSFORMER	BUS.16	
549	LOAD.17	LINE15_17	TRANSFORMER	HV.CB.37	
550	LOAD.17	LINE15_17	TRANSFORMER	LINE16_17	
551	LOAD.17	LINE15_17	TRANSFORMER	TRANSFORMER	
552	LOAD.17	LINE15_17	TRANSFORMER	LV.CB.13	
553	LOAD.17	LINE15_17	LV.CB.12	BUS.16	
554	LOAD.17	LINE15_17	LV.CB.12	HV.CB.37	



ตารางที่ ค.1 (ต่อ) แน้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาณันล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
555	LOAD.17	LINE15_17	LV.CB.12	LINE16_17	
556	LOAD.17	LINE15_17	LV.CB.12	TRANSFORMER	
557	LOAD.17	LINE15_17	LV.CB.12	LV.CB.13	
558	LOAD.17	TRANSFORMER	HV.CB.36	BUS.16	
559	LOAD.17	TRANSFORMER	HV.CB.36	HV.CB.37	
560	LOAD.17	TRANSFORMER	HV.CB.36	LINE16_17	
561	LOAD.17	TRANSFORMER	HV.CB.36	TRANSFORMER	
562	LOAD.17	TRANSFORMER	HV.CB.36	LV.CB.13	
563	LOAD.17	TRANSFORMER	LINE15_17	BUS.16	
564	LOAD.17	TRANSFORMER	LINE15_17	HV.CB.37	
565	LOAD.17	TRANSFORMER	LINE15_17	LINE16_17	
566	LOAD.17	TRANSFORMER	LINE15_17	TRANSFORMER	
567	LOAD.17	TRANSFORMER	LINE15_17	LV.CB.13	
568	LOAD.17	TRANSFORMER	TRANSFORMER	BUS.16	
569	LOAD.17	TRANSFORMER	TRANSFORMER	HV.CB.37	
570	LOAD.17	TRANSFORMER	TRANSFORMER	LINE16_17	
571	LOAD.17	TRANSFORMER	TRANSFORMER	TRANSFORMER	
572	LOAD.17	TRANSFORMER	TRANSFORMER	LV.CB.13	
573	LOAD.17	TRANSFORMER	LV.CB.12	BUS.16	
574	LOAD.17	TRANSFORMER	LV.CB.12	HV.CB.37	
575	LOAD.17	TRANSFORMER	LV.CB.12	LINE16_17	
576	LOAD.17	TRANSFORMER	LV.CB.12	TRANSFORMER	
577	LOAD.17	TRANSFORMER	LV.CB.12	LV.CB.13	
578	LOAD.17	LV.CB.11	HV.CB.36	BUS.16	
579	LOAD.17	LV.CB.11	HV.CB.36	HV.CB.37	
580	LOAD.17	LV.CB.11	HV.CB.36	LINE16_17	
581	LOAD.17	LV.CB.11	HV.CB.36	TRANSFORMER	
582	LOAD.17	LV.CB.11	HV.CB.36	LV.CB.13	
583	LOAD.17	LV.CB.11	LINE15_17	BUS.16	
584	LOAD.17	LV.CB.11	LINE15_17	HV.CB.37	
585	LOAD.17	LV.CB.11	LINE15_17	LINE16_17	
586	LOAD.17	LV.CB.11	LINE15_17	TRANSFORMER	
587	LOAD.17	LV.CB.11	LINE15_17	LV.CB.13	

ตารางที่ ค.1 (ต่อ) แน้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
588	LOAD.17	LV.CB.11	TRANSFORMER	BUS.16	
589	LOAD.17	LV.CB.11	TRANSFORMER	HV.CB.37	
590	LOAD.17	LV.CB.11	TRANSFORMER	LINE16_17	
591	LOAD.17	LV.CB.11	TRANSFORMER	TRANSFORMER	
592	LOAD.17	LV.CB.11	TRANSFORMER	LV.CB.13	
593	LOAD.17	LV.CB.11	LV.CB.12	BUS.16	
594	LOAD.17	LV.CB.11	LV.CB.12	HV.CB.37	
595	LOAD.17	LV.CB.11	LV.CB.12	LINE16_17	
596	LOAD.17	LV.CB.11	LV.CB.12	TRANSFORMER	
597	LOAD.17	LV.CB.11	LV.CB.12	LV.CB.13	
598	LOAD.17	HV.CB.1	HV.CB.10	HV.CB.11	
599	LOAD.17	HV.CB.1	HV.CB.10	LINE1_16	
600	LOAD.17	HV.CB.1	HV.CB.10	HV.CB.33	
601	LOAD.17	HV.CB.1	LINE1_15	HV.CB.11	
602	LOAD.17	HV.CB.1	LINE1_15	LINE1_16	
603	LOAD.17	HV.CB.1	LINE1_15	HV.CB.33	
604	LOAD.17	HV.CB.1	HV.CB.32	HV.CB.11	
605	LOAD.17	HV.CB.1	HV.CB.32	LINE1_16	
606	LOAD.17	HV.CB.1	HV.CB.32	HV.CB.33	
607	LOAD.17	HV.CB.1	BUS.15	HV.CB.11	
608	LOAD.17	HV.CB.1	BUS.15	LINE1_16	
609	LOAD.17	HV.CB.1	BUS.15	HV.CB.33	
610	LOAD.17	LINE1_12	HV.CB.10	HV.CB.11	
611	LOAD.17	LINE1_12	HV.CB.10	LINE1_16	
612	LOAD.17	LINE1_12	HV.CB.10	HV.CB.33	
613	LOAD.17	LINE1_12	LINE1_15	HV.CB.11	
614	LOAD.17	LINE1_12	LINE1_15	LINE1_16	
615	LOAD.17	LINE1_12	LINE1_15	HV.CB.33	
616	LOAD.17	LINE1_12	HV.CB.32	HV.CB.11	
617	LOAD.17	LINE1_12	HV.CB.32	LINE1_16	
618	LOAD.17	LINE1_12	HV.CB.32	HV.CB.33	
619	LOAD.17	LINE1_12	BUS.15	HV.CB.11	
620	LOAD.17	LINE1_12	BUS.15	LINE1_16	

ตารางที่ ค.1 (ต่อ) แนบข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นนั้นจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
621	LOAD.17	LINE1_12	BUS.15	HV.CB.33	
622	LOAD.17	HV.CB.27	HV.CB.10	HV.CB.11	
623	LOAD.17	HV.CB.27	HV.CB.10	LINE1_16	
624	LOAD.17	HV.CB.27	HV.CB.10	HV.CB.33	
625	LOAD.17	HV.CB.27	LINE1_15	HV.CB.11	
626	LOAD.17	HV.CB.27	LINE1_15	LINE1_16	
627	LOAD.17	HV.CB.27	LINE1_15	HV.CB.33	
628	LOAD.17	HV.CB.27	HV.CB.32	HV.CB.11	
629	LOAD.17	HV.CB.27	HV.CB.32	LINE1_16	
630	LOAD.17	HV.CB.27	HV.CB.32	HV.CB.33	
631	LOAD.17	HV.CB.27	BUS.15	HV.CB.11	
632	LOAD.17	HV.CB.27	BUS.15	LINE1_16	
633	LOAD.17	HV.CB.27	BUS.15	HV.CB.33	
634	LOAD.17	BUS.12	HV.CB.10	HV.CB.11	
635	LOAD.17	BUS.12	HV.CB.10	LINE1_16	
636	LOAD.17	BUS.12	HV.CB.10	HV.CB.33	
637	LOAD.17	BUS.12	LINE1_15	HV.CB.11	
638	LOAD.17	BUS.12	LINE1_15	LINE1_16	
639	LOAD.17	BUS.12	LINE1_15	HV.CB.33	
640	LOAD.17	BUS.12	HV.CB.32	HV.CB.11	
641	LOAD.17	BUS.12	HV.CB.32	LINE1_16	
642	LOAD.17	BUS.12	HV.CB.32	HV.CB.33	
643	LOAD.17	BUS.12	BUS.15	HV.CB.11	
644	LOAD.17	BUS.12	BUS.15	LINE1_16	
645	LOAD.17	BUS.12	BUS.15	HV.CB.33	
646	LOAD.17	HV.CB.31	HV.CB.10	HV.CB.11	
647	LOAD.17	HV.CB.31	HV.CB.10	LINE1_16	
648	LOAD.17	HV.CB.31	HV.CB.10	HV.CB.33	
649	LOAD.17	HV.CB.31	LINE1_15	HV.CB.11	
650	LOAD.17	HV.CB.31	LINE1_15	LINE1_16	
651	LOAD.17	HV.CB.31	LINE1_15	HV.CB.33	
652	LOAD.17	HV.CB.31	HV.CB.32	HV.CB.11	
653	LOAD.17	HV.CB.31	HV.CB.32	LINE1_16	

ตารางที่ ค.1 (ต่อ) แน้มีข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นนั้นจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
654	LOAD.17	HV.CB.31	HV.CB.32	HV.CB.33	
655	LOAD.17	HV.CB.31	BUS.15	HV.CB.11	
656	LOAD.17	HV.CB.31	BUS.15	LINE1_16	
657	LOAD.17	HV.CB.31	BUS.15	HV.CB.33	
658	LOAD.17	BUS.13	HV.CB.10	HV.CB.11	
659	LOAD.17	BUS.13	HV.CB.10	LINE1_16	
660	LOAD.17	BUS.13	HV.CB.10	HV.CB.33	
661	LOAD.17	BUS.13	LINE1_15	HV.CB.11	
662	LOAD.17	BUS.13	LINE1_15	LINE1_16	
663	LOAD.17	BUS.13	LINE1_15	HV.CB.33	
664	LOAD.17	BUS.13	HV.CB.32	HV.CB.11	
665	LOAD.17	BUS.13	HV.CB.32	LINE1_16	
666	LOAD.17	BUS.13	HV.CB.32	HV.CB.33	
667	LOAD.17	BUS.13	BUS.15	HV.CB.11	
668	LOAD.17	BUS.13	BUS.15	LINE1_16	
669	LOAD.17	BUS.13	BUS.15	HV.CB.33	
670	LOAD.17	HV.CB.30	HV.CB.10	HV.CB.11	
671	LOAD.17	HV.CB.30	HV.CB.10	LINE1_16	
672	LOAD.17	HV.CB.30	HV.CB.10	HV.CB.33	
673	LOAD.17	HV.CB.30	LINE1_15	HV.CB.11	
674	LOAD.17	HV.CB.30	LINE1_15	LINE1_16	
675	LOAD.17	HV.CB.30	LINE1_15	HV.CB.33	
676	LOAD.17	HV.CB.30	HV.CB.32	HV.CB.11	
677	LOAD.17	HV.CB.30	HV.CB.32	LINE1_16	
678	LOAD.17	HV.CB.30	HV.CB.32	HV.CB.33	
679	LOAD.17	HV.CB.30	BUS.15	HV.CB.11	
680	LOAD.17	HV.CB.30	BUS.15	LINE1_16	
681	LOAD.17	HV.CB.30	BUS.15	HV.CB.33	
682	LOAD.17	LINE13_16	HV.CB.10	HV.CB.11	
683	LOAD.17	LINE13_16	HV.CB.10	LINE1_16	
684	LOAD.17	LINE13_16	HV.CB.10	HV.CB.33	
685	LOAD.17	LINE13_16	LINE1_15	HV.CB.11	
686	LOAD.17	LINE13_16	LINE1_15	LINE1_16	

ตารางที่ ค.1 (ต่อ) **แนบข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นอันจะทำให้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (F33\_11KV.DBF)**

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
687	LOAD.17	LINE13_16	LINE1_15	HV.CB.33	
688	LOAD.17	LINE13_16	HV.CB.32	HV.CB.11	
689	LOAD.17	LINE13_16	HV.CB.32	LINE1_16	
690	LOAD.17	LINE13_16	HV.CB.32	HV.CB.33	
691	LOAD.17	LINE13_16	BUS.15	HV.CB.11	
692	LOAD.17	LINE13_16	BUS.15	LINE1_16	
693	LOAD.17	LINE13_16	BUS.15	HV.CB.33	
694	LOAD.17	HV.CB.34	HV.CB.10	HV.CB.11	
695	LOAD.17	HV.CB.34	HV.CB.10	LINE1_16	
696	LOAD.17	HV.CB.34	HV.CB.10	HV.CB.33	
697	LOAD.17	HV.CB.34	LINE1_15	HV.CB.11	
698	LOAD.17	HV.CB.34	LINE1_15	LINE1_16	
699	LOAD.17	HV.CB.34	LINE1_15	HV.CB.33	
700	LOAD.17	HV.CB.34	HV.CB.32	HV.CB.11	
701	LOAD.17	HV.CB.34	HV.CB.32	LINE1_16	
702	LOAD.17	HV.CB.34	HV.CB.32	HV.CB.33	
703	LOAD.17	HV.CB.34	BUS.15	HV.CB.11	
704	LOAD.17	HV.CB.34	BUS.15	LINE1_16	
705	LOAD.17	HV.CB.34	BUS.15	HV.CB.33	
706	LOAD.17	BUS.16	HV.CB.10		
707	LOAD.17	BUS.16	LINE1_15		
708	LOAD.17	BUS.16	HV.CB.32		
709	LOAD.17	HV.CB.10	HV.CB.38	HV.CB.37	
710	LOAD.17	HV.CB.10	HV.CB.38	LINE16_17	
711	LOAD.17	HV.CB.10	HV.CB.38	TRANSFORMER	
712	LOAD.17	HV.CB.10	HV.CB.38	LV.CB.13	
713	LOAD.17	LINE1_15	HV.CB.38	HV.CB.37	
714	LOAD.17	LINE1_15	HV.CB.38	LINE16_17	
715	LOAD.17	LINE1_15	HV.CB.38	TRANSFORMER	
716	LOAD.17	LINE1_15	HV.CB.38	LV.CB.13	
717	LOAD.17	HV.CB.32	HV.CB.38	HV.CB.37	
718	LOAD.17	HV.CB.32	HV.CB.38	LINE16_17	
719	LOAD.17	HV.CB.32	HV.CB.38	TRANSFORMER	
720	LOAD.17	HV.CB.32	HV.CB.38	LV.CB.13	

ตารางที่ ค.2    เพิ่มข้อมูลแสดงค่าอัตราความขัดข้องและช่วงเวลาขัดข้อง  
โดยเหตุชนิดต่างๆของอุปกรณ์ไฟฟ้า (R33\_11KV.DBF)

Record#	COMPONENT	PR (f/yr)	PT (h)	MR (f/yr)	MT (h)	TR (f/yr)	TT (h)
1	BUS.1	0.00500	5.00	0.25	8.00	0.00	0.00
2	BUS.2	0.00200	5.00	0.25	8.00	0.00	0.00
3	BUS.3	0.00500	5.00	0.25	8.00	0.00	0.00
4	BUS.4	0.00500	5.00	0.25	8.00	0.00	0.00
5	BUS.5	0.00200	5.00	0.25	8.00	0.00	0.00
6	BUS.6	0.00500	5.00	0.25	8.00	0.00	0.00
7	BUS.7	0.00500	5.00	0.25	8.00	0.00	0.00
8	BUS.8	0.00200	5.00	0.25	8.00	0.00	0.00
9	BUS.9	0.00500	5.00	0.25	8.00	0.00	0.00
10	BUS.10	0.00500	5.00	0.25	8.00	0.00	0.00
11	BUS.11	0.00200	5.00	0.25	8.00	0.00	0.00
12	BUS.12	0.00500	5.00	0.25	8.00	0.00	0.00
13	BUS.13	0.00500	5.00	0.25	8.00	0.00	0.00
14	BUS.14	0.00200	5.00	0.25	8.00	0.00	0.00
15	BUS.15	0.00500	5.00	0.25	8.00	0.00	0.00
16	BUS.16	0.00500	5.00	0.25	8.00	0.00	0.00
17	BUS.17	0.00200	5.00	0.25	8.00	0.00	0.00
18	HV.CB.1	0.00500	75.00	0.25	8.00	1.00	0.25
19	HV.CB.2	0.00500	75.00	0.25	8.00	1.00	0.25
20	HV.CB.3	0.00500	75.00	0.25	8.00	1.00	0.25
21	HV.CB.4	0.00500	75.00	0.25	8.00	1.00	0.25
22	HV.CB.5	0.00500	75.00	0.25	8.00	1.00	0.25
23	HV.CB.6	0.00500	75.00	0.00	0.00	1.00	0.25
24	HV.CB.7	0.00500	75.00	0.00	0.00	1.00	0.25
25	HV.CB.8	0.00500	75.00	0.25	8.00	1.00	0.25
26	HV.CB.9	0.00500	75.00	0.25	8.00	1.00	0.25
27	HV.CB.10	0.00500	75.00	0.25	8.00	1.00	0.25
28	HV.CB.11	0.00500	75.00	0.25	8.00	1.00	0.25
29	HV.CB.12	0.00500	75.00	0.25	8.00	1.00	0.25
30	HV.CB.13	0.00500	75.00	0.25	8.00	1.00	0.25
31	HV.CB.14	0.00500	75.00	0.25	8.00	1.00	0.25
32	HV.CB.15	0.00500	75.00	0.25	8.00	1.00	0.25
33	HV.CB.16	0.00500	75.00	0.25	8.00	1.00	0.25

ตารางที่ ค.2 (ต่อ) แน้มข้อมูลแสดงค่าอัตราความขัดข้องและช่วงเวลาขัดข้อง  
โดยเทคนิคต่างๆของอุปกรณ์ไฟฟ้า (R33\_11KV.DBF)

Record#	COMPONENT	PR	PT	MR	MT	TR	TT
34	HV.CB.17	0.00500	75.00	0.00	0.00	1.00	0.25
35	HV.CB.18	0.00500	75.00	0.00	0.00	1.00	0.25
36	HV.CB.19	0.00500	75.00	0.00	0.00	1.00	0.25
37	HV.CB.20	0.00500	75.00	0.00	0.00	1.00	0.25
38	HV.CB.21	0.00500	75.00	0.00	0.00	1.00	0.25
39	HV.CB.22	0.00500	75.00	0.25	8.00	1.00	0.25
40	HV.CB.23	0.00500	75.00	0.25	8.00	1.00	0.25
41	HV.CB.24	0.00500	75.00	0.25	8.00	1.00	0.25
42	HV.CB.25	0.00500	75.00	0.25	8.00	1.00	0.25
43	HV.CB.26	0.00500	75.00	0.25	8.00	1.00	0.25
44	HV.CB.27	0.00500	75.00	0.25	8.00	1.00	0.25
45	HV.CB.28	0.00500	75.00	0.25	8.00	1.00	0.25
46	HV.CB.29	0.00500	75.00	0.25	8.00	1.00	0.25
47	HV.CB.30	0.00500	75.00	0.25	8.00	1.00	0.25
48	HV.CB.31	0.00500	75.00	0.25	8.00	1.00	0.25
49	HV.CB.32	0.00500	75.00	0.25	8.00	1.00	0.25
50	HV.CB.33	0.00500	75.00	0.25	8.00	1.00	0.25
51	HV.CB.34	0.00500	75.00	0.25	8.00	1.00	0.25
52	HV.CB.35	0.00500	75.00	0.25	8.00	1.00	0.25
53	HV.CB.36	0.00500	75.00	0.25	8.00	1.00	0.25
54	HV.CB.37	0.00500	75.00	0.25	8.00	1.00	0.25
55	HV.CB.38	0.00500	75.00	0.25	8.00	1.00	0.25
56	LV.CB.1	0.00200	18.00	0.25	8.00	1.00	0.20
57	LV.CB.2	0.00200	18.00	0.25	8.00	1.00	0.20
58	LV.CB.3	0.00200	18.00	0.25	8.00	1.00	0.20
59	LV.CB.4	0.00200	18.00	0.25	8.00	1.00	0.20
60	LV.CB.5	0.00200	18.00	0.00	0.00	1.00	0.20
61	LV.CB.6	0.00200	18.00	0.00	0.00	1.00	0.20
62	LV.CB.7	0.00200	18.00	0.25	8.00	1.00	0.20
63	LV.CB.8	0.00200	18.00	0.25	8.00	1.00	0.20
64	LV.CB.9	0.00200	18.00	0.25	8.00	1.00	0.20
65	LV.CB.10	0.00200	18.00	0.25	8.00	1.00	0.20
66	LV.CB.11	0.00200	18.00	0.25	8.00	1.00	0.20

ตารางที่ ค.2 (ต่อ) แน้มข้อมูลแสดงค่าอัตราความขัดข้องและช่วงเวลาขัดข้อง  
โดยเหตุนิตต่างๆของอุปกรณ์ไฟฟ้า (R33\_11KV.DBF)

Record#	COMPONENT	PR	PT	MR	MT	TR	TT
67	LV.CB.12	0.00200	18.00	0.25	8.00	1.00	0.20
68	LV.CB.13	0.00200	18.00	0.25	8.00	1.00	0.20
69	LINE1_2	0.06250	212.00	0.25	8.00	2.00	0.10
70	LINE1_3	0.04900	212.00	0.25	8.00	2.00	0.10
71	LINE1_4	0.04900	212.00	0.25	8.00	2.00	0.10
72	LINE1_6	0.04900	212.00	0.00	0.00	2.00	0.10
73	LINE1_7	0.04900	212.00	0.00	0.00	2.00	0.10
74	LINE1_9	0.04900	212.00	0.25	8.00	2.00	0.10
75	LINE1_10	0.04900	212.00	0.25	8.00	2.00	0.10
76	LINE1_12	0.15100	212.00	0.25	8.00	2.00	0.10
77	LINE1_15	0.11600	212.00	0.25	8.00	2.00	0.10
78	LINE1_16	0.11600	212.00	0.25	8.00	2.00	0.10
79	LINE3_5	0.01250	212.00	0.25	8.00	2.00	0.10
80	LINE4_5	0.01250	212.00	0.25	8.00	2.00	0.10
81	LINE6_8	0.01250	212.00	0.00	0.00	2.00	0.10
82	LINE7_8	0.01250	212.00	0.00	0.00	2.00	0.10
83	LINE9_11	0.01250	212.00	0.25	8.00	2.00	0.10
84	LINE10_11	0.01250	212.00	0.25	8.00	2.00	0.10
85	LINE12_14	0.05000	212.00	0.25	8.00	2.00	0.10
86	LINE13_14	0.05000	212.00	0.25	8.00	2.00	0.10
87	LINE13_16	0.11300	212.00	0.25	8.00	2.00	0.10
88	LINE15_17	0.05000	212.00	0.25	8.00	2.00	0.10
89	LINE16_17	0.05000	212.00	0.25	8.00	2.00	0.10
90	TRANSFORMER	0.02000	343.00	0.25	20.00	1.00	0.50
91	TRANSFORMER.8	0.02000	343.00	0.00	0.00	1.00	0.50
92	BRANCH.1	0.00000	0.00	0.25	8.00	0.00	0.00
93	BRANCH.2	0.00000	0.00	0.25	8.00	0.00	0.00
94	BRANCH.3	0.00000	0.00	0.25	8.00	0.00	0.00
95	BRANCH.4	0.00000	0.00	0.25	8.00	0.00	0.00
96	HV.CB.1A	0.02500	1.00	0.00	0.00	0.00	0.00
97	HV.CB.2A	0.02500	1.00	0.00	0.00	0.00	0.00
98	HV.CB.3A	0.02500	1.00	0.00	0.00	0.00	0.00
99	HV.CB.4A	0.02500	1.00	0.00	0.00	0.00	0.00



ตารางที่ ค.2 (ต่อ) แน้มข้อมูลแสดงค่าอัตราความขัดข้องและช่วงเวลาขัดข้อง  
โดยเหตุชนิดต่างๆของอุปกรณ์ไฟฟ้า (R33\_11KV.DBF)

Record#	COMPONENT	PR	PT	MR	MT	TR	TT
100	HV.CB.5A	0.02500	1.00	0.00	0.00	0.00	0.00
101	HV.CB.6A	0.02500	1.00	0.00	0.00	0.00	0.00
102	HV.CB.7A	0.02500	1.00	0.00	0.00	0.00	0.00
103	HV.CB.8A	0.02500	1.00	0.00	0.00	0.00	0.00
104	HV.CB.9A	0.02500	1.00	0.00	0.00	0.00	0.00
105	HV.CB.10A	0.02500	1.00	0.00	0.00	0.00	0.00
106	HV.CB.11A	0.02500	1.00	0.00	0.00	0.00	0.00
107	HV.CB.22A	0.02500	1.00	0.00	0.00	0.00	0.00
108	HV.CB.23A	0.02500	1.00	0.00	0.00	0.00	0.00
109	HV.CB.24A	0.02500	1.00	0.00	0.00	0.00	0.00
110	HV.CB.25A	0.02500	1.00	0.00	0.00	0.00	0.00
111	HV.CB.26A	0.02500	1.00	0.00	0.00	0.00	0.00
112	LV.CB.7A	0.00100	1.00	0.00	0.00	0.00	0.00
113	LV.CB.8A	0.00100	1.00	0.00	0.00	0.00	0.00
114	TR.A	0.02000	1.00	0.00	0.00	0.00	0.00
115	BUS.9A+HCB.26S	0.00030	1.00	0.00	0.00	0.00	0.00
116	BUS.10A+HCB.26S	0.00030	1.00	0.00	0.00	0.00	0.00
117	HCB.12A+HCB.4S	0.00030	1.00	0.00	0.00	0.00	0.00
118	HCB.13A+HCB.5S	0.00030	1.00	0.00	0.00	0.00	0.00
119	HCB.17A+HCB.6S	0.00030	1.00	0.00	0.00	0.00	0.00
120	HCB.18A+HCB.7S	0.00030	1.00	0.00	0.00	0.00	0.00
121	HCB.22A+HCB.26S	0.00030	1.00	0.00	0.00	0.00	0.00
122	HCB.22A+HCB.8S	0.00030	1.00	0.00	0.00	0.00	0.00
123	HCB.23A+HCB.26S	0.00030	1.00	0.00	0.00	0.00	0.00
124	HCB.23A+HCB.9S	0.00030	1.00	0.00	0.00	0.00	0.00
125	HCB.24A+HCB.26S	0.00030	1.00	0.00	0.00	0.00	0.00
126	HCB.24A+LCB.7S	0.00030	1.00	0.00	0.00	0.00	0.00
127	HCB.25A+HCB.26S	0.00030	1.00	0.00	0.00	0.00	0.00
128	HCB.25A+LCB.8S	0.00030	1.00	0.00	0.00	0.00	0.00
129	HCB.27A+HCB.1S	0.00030	1.00	0.00	0.00	0.00	0.00
130	HCB.32A+HCB.10S	0.00030	1.00	0.00	0.00	0.00	0.00
131	HCB.33A+HCB.11S	0.00030	1.00	0.00	0.00	0.00	0.00
132	LCB.1A+HCB.2S	0.00012	1.00	0.00	0.00	0.00	0.00

ตารางที่ ค.2 (ต่อ) แน้มข้อมูลแสดงค่าอัตราความขัดข้องและช่วงเวลาขัดข้อง  
โดยเทคนิคต่างๆของอุปกรณ์ไฟฟ้า (R33\_11KV.DBF)

Record#	COMPONENT	PR	PT	MR	MT	TR	TT
133	LCB.2A+HCB.3S	0.00012	1.00	0.00	0.00	0.00	0.00
134	L1_2A+HCB.2S	0.00375	1.00	0.00	0.00	0.00	0.00
135	L1_2A+HCB.3S	0.00375	1.00	0.00	0.00	0.00	0.00
136	L1_3A+HCB.4S	0.00294	1.00	0.00	0.00	0.00	0.00
137	L1_4A+HCB.5S	0.00294	1.00	0.00	0.00	0.00	0.00
138	L1_6A+HCB.6S	0.00294	1.00	0.00	0.00	0.00	0.00
139	L1_7A+HCB.7S	0.00294	1.00	0.00	0.00	0.00	0.00
140	L1_9A+HCB.22S	0.00294	1.00	0.00	0.00	0.00	0.00
141	L1_9A+HCB.8S	0.00294	1.00	0.00	0.00	0.00	0.00
142	L1_10A+HCB.23S	0.00294	1.00	0.00	0.00	0.00	0.00
143	L1_10A+HCB.9S	0.00294	1.00	0.00	0.00	0.00	0.00
144	L1_12A+HCB.1S	0.00906	1.00	0.00	0.00	0.00	0.00
145	L1_15A+HCB.10S	0.00696	1.00	0.00	0.00	0.00	0.00
146	L1_16A+HCB.11S	0.00696	1.00	0.00	0.00	0.00	0.00
147	L9_11A+HCB.24S	0.00075	1.00	0.00	0.00	0.00	0.00
148	L9_11A+LCB.7S	0.00075	1.00	0.00	0.00	0.00	0.00
149	L10_11A+HCB.25S	0.00075	1.00	0.00	0.00	0.00	0.00
150	L10_11A+LCB.8S	0.00075	1.00	0.00	0.00	0.00	0.00
151	TR.A+HCB.2S	0.00120	1.00	0.00	0.00	0.00	0.00
152	TR.A+HCB.3S	0.00120	1.00	0.00	0.00	0.00	0.00
153	TR.A+LCB.7S	0.00120	1.00	0.00	0.00	0.00	0.00
154	TR.A+LCB.8S	0.00120	1.00	0.00	0.00	0.00	0.00

ตารางที่ ค.3 แน้มข้อมูล ณ จุดโหลด (L33\_11KV.DBF)

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
1	LOAD.2	5200	11400
2	LOAD.5	5450	12000
3	LOAD.8	5450	12000
4	LOAD.11	5450	12000
5	LOAD.14	2300	5200
6	LOAD.17	8200	18000

ตารางที่ ค.4 แฟ้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นนั้นจะทำได้ความสามารถ  
ในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (FMEA.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
1	LOAD.4	BUS.4			
2	LOAD.4	LV.CB.1			
3	LOAD.4	TRANSFORMER			
4	LOAD.4	LINE3_4			
5	LOAD.4	HV.CB.5			
6	LOAD.4	BUS.3			
7	LOAD.4	BUS.1	BUS.2		
8	LOAD.4	BUS.1	HV.CB.2		
9	LOAD.4	BUS.1	LINE2_3		
10	LOAD.4	BUS.1	HV.CB.4		
11	LOAD.4	HV.CB.1	BUS.2		
12	LOAD.4	HV.CB.1	HV.CB.2		
13	LOAD.4	HV.CB.1	LINE2_3		
14	LOAD.4	HV.CB.1	HV.CB.4		
15	LOAD.4	LINE1_3	BUS.2		
16	LOAD.4	LINE1_3	HV.CB.2		
17	LOAD.4	LINE1_3	LINE2_3		
18	LOAD.4	LINE1_3	HV.CB.4		
19	LOAD.4	HV.CB.3	BUS.2		
20	LOAD.4	HV.CB.3	HV.CB.2		
21	LOAD.4	HV.CB.3	LINE2_3		
22	LOAD.4	HV.CB.3	HV.CB.4		
23	LOAD.5	BUS.5			
24	LOAD.5	LV.CB.2			
25	LOAD.5	TRANSFORMER			
26	LOAD.5	LINE3_5			
27	LOAD.5	HV.CB.6			
28	LOAD.5	BUS.3			
29	LOAD.5	BUS.2	BUS.1		
30	LOAD.5	BUS.2	HV.CB.1		
31	LOAD.5	BUS.2	LINE1_3		
32	LOAD.5	BUS.2	HV.CB.3		

ตารางที่ ค.4 (ต่อ) แฟ้มข้อมูลแสดงเหตุการณ์ต่างๆที่มีโอกาสเกิดขึ้นนั้นจะทำได้ความสามารถในการจ่ายไฟไปยังจุดโหลดที่กำลังพิจารณาที่นั่นล้มเหลว (FMEA.DBF)

Record#	LOAD_NAME	COMP_NAME1	COMP_NAME2	COMP_NAME3	COMP_NAME4
33	LOAD.5	HV.CB.2	BUS.1		
34	LOAD.5	HV.CB.2	HV.CB.1		
35	LOAD.5	HV.CB.2	LINE1_3		
36	LOAD.5	HV.CB.2	HV.CB.3		
37	LOAD.5	LINE2_3	BUS.1		
38	LOAD.5	LINE2_3	HV.CB.1		
39	LOAD.5	LINE2_3	LINE1_3		
40	LOAD.5	LINE2_3	HV.CB.3		
41	LOAD.5	HV.CB.4	BUS.1		
42	LOAD.5	HV.CB.4	HV.CB.1		
43	LOAD.5	HV.CB.4	LINE1_3		
44	LOAD.5	HV.CB.4	HV.CB.3		

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

ตารางที่ ค.5 เพิ่มข้อมูลแสดงค่าอัตราความขัดข้องและช่วงเวลาขัดข้อง  
โดยเทคนิคต่างๆของอุปกรณ์ไฟฟ้า (RMEA.DBF)

Record#	COMPONENT	PR (f/yr)	PT (h)	MR (f/yr)	MT (h)	TR (f/yr)	TT (h)
1	BUS.1	0.00500	5.00	0.25	8.00	0.00	0.00
2	BUS.2	0.00500	5.00	0.25	8.00	0.00	0.00
3	BUS.3	0.00500	5.00	0.25	8.00	0.00	0.00
4	BUS.4	0.00200	5.00	0.25	8.00	0.00	0.00
5	BUS.5	0.00200	5.00	0.25	8.00	0.00	0.00
6	HV.CB.1	0.00500	75.00	0.25	8.00	1.00	0.25
7	HV.CB.2	0.00500	75.00	0.25	8.00	1.00	0.25
8	HV.CB.3	0.00500	75.00	0.25	8.00	1.00	0.25
9	HV.CB.4	0.00500	75.00	0.25	8.00	1.00	0.25
10	HV.CB.5	0.00500	75.00	0.25	8.00	1.00	0.25
11	HV.CB.6	0.00500	75.00	0.25	8.00	1.00	0.25
12	LV.CB.1	0.00200	18.00	0.25	8.00	1.00	0.20
13	LV.CB.2	0.00200	18.00	0.25	8.00	1.00	0.20
14	TRANSFORMER	0.02000	348.00	0.25	20.00	1.00	0.50
15	LINE1_3	0.04900	212.00	0.25	8.00	2.00	0.10
16	LINE2_3	0.04900	212.00	0.25	8.00	2.00	0.10
17	LINE3_4	0.01250	212.00	0.25	8.00	2.00	0.10
18	LINE3_5	0.01250	212.00	0.25	8.00	2.00	0.10

ตารางที่ ค.6 เพิ่มข้อมูล ณ จุดโหลด (LMEA.DBF)

Record#	LOAD_NAME	CUSTOMER	AV_LOAD (kW)
1	LOAD.4	5200	11400
2	LOAD.5	5450	12000

## ประวัติผู้เขียน

นายบุญชล ตันศิริตุนสุนทร เกิดวันที่ 13 กันยายน พ.ศ. 2509 ที่กรุงเทพมหานคร สำเร็จการศึกษาปริญญาตรีวิศวกรรมศาสตรบัณฑิต ภาควิชาวิศวกรรมไฟฟ้า คณะวิศวกรรมศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย ในปีการศึกษา 2531 และเข้าศึกษาต่อในหลักสูตรวิศวกรรมศาสตรมหาบัณฑิต ที่จุฬาลงกรณ์มหาวิทยาลัย เมื่อ พ.ศ. 2532



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย