ภาคผนวก ก.

# คู่มือการใช้งานระบบผู้เชี่ยวชาญเพื่อช่วยในการวินิจฉัยฟอลท์ในระบบส่งกำลังไฟฟ้าและนำระบบกลับสู่สภาวะเดิม

# การใช้งานระบบผู้เชี่ยวชาญ "EGAT I"

ระบบผู้เชี่ยวชาญ "EGAT I" ถูกพัฒนามาจากระบบเปลือกผู้เชี่ยวชาญ "GES" (General Expert Shell) ที่ทำงานบนเครื่องไมโครคอมพิวเตอร์ที่ใช้ระบบปฏิบัติการ LINUX (ลีนุกซ์ไทย Ziff Desktop 7.0) หรือ LINUX 6.0 ทั่วไป (RedHat LINUX) และเครื่องไมโครคอมพิวเตอร์ที่นำมาใช้จะต้องมี ซีพียู AMD-K6 หรือ Intel Pentium ขึ้นไป หน่วยความจำ 16 MB ขึ้นไป (แนะนำให้มีอย่างน้อย 32 MB) ขนาดเนื้อที่ว่างในฮาร์ดดิสก์ ประมาณ 700 MB – 2 GB และต้องใช้คีบอร์ด กับเมาท์สำหรับใช้งาน X Window

ในการใช้งานเปลือกผู้เชี่ยวชาญ "GES" เพื่อพัฒนาระบบผู้เชี่ยวชาญ "EGAT I" จะใช้ภาษา LISP เป็นส่วนใหญ่ ในการทำงานและเรียกใช้งานโปรแกรม ดังนั้นระบบจำเป็นต้องมีโปรแกรมสำหรับพัฒนา คือ Xlispstat ในระบบด้วย

**ก.1. การใช้งานโปรแกรมระบบเปลือก**

การเริ่มเข้าสู่ระบบเปลือกผู้เชี่ยวชาญ

(1)ในระบบปฏิบัติการ LINUX จะใช้ Shell ซึ่งมีเครื่องหมายที่รับคำสั่งคือ # เป็นตัวรันโปรแกรมเข้ามายัง Shell ให้ทำงานอยู่บน Directory ที่มีโปรแกรมอยู่

```
#cd expert
```

(2)เมื่อต้องการรันโปรแกรมภาษา LISP จะทำได้โดยการพิมพ์คำสั่งที่ Shell ของระบบ คือ

```
#xlispstat
```

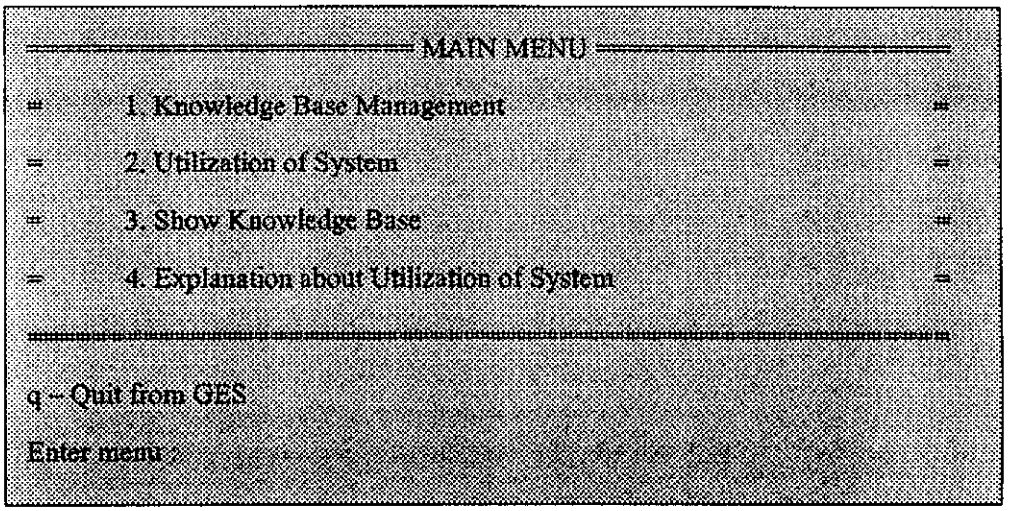
(3)ระบบ LINUX จะทำการรันภาษา LISP ได้ เครื่องหมายที่พร้อมรับคำสั่งในภาษา LISP คือ > จากนั้นทำการโหลดโปรแกรมระบบเปลือกผู้เชี่ยวชาญโดยใช้คำสั่ง

```
>(load "ges.lsp")
```

โปรแกรมจะนำเข้าสู่ระบบเปลือกผู้เชี่ยวชาญ เพื่อให้ผู้ใช้งานระบบทำการสร้างฐานความรู้ แก้ไข ดัดแปลง และทำการอนุมานต่อไป

**ก.2. เมนูหลักระบบเปลือก (Main menu)**

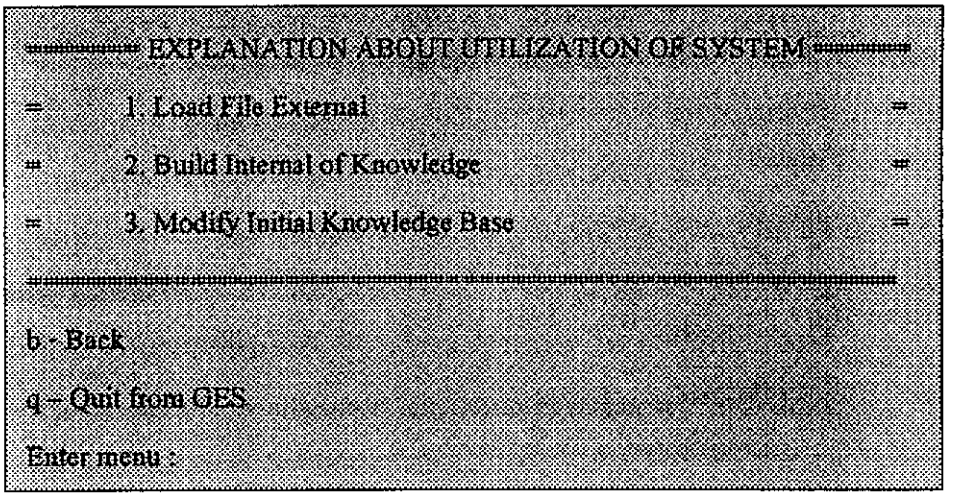
เมื่อเรียกใช้งานระบบเปลือกผู้เชี่ยวชาญ ระบบจะแสดงเมนูหลักดังภาพประกอบ ก.1. เพื่อให้ผู้ใช้เข้าไปพัฒนาในส่วนต่างๆ




ภาพประกอบ ก.1. เมนูหลักในการทำงานของระบบเปลือก

**ก.2.1. Knowledge Base Management**

จากภาพประกอบ ก.2. แสดงส่วนที่ใช้สำหรับสร้างฐานความรู้ ซึ่ง




ภาพประกอบ ก.2. เมนูย่อยของการสร้างฐานความรู้

เมนูย่อยดังกล่าว ประกอบด้วย

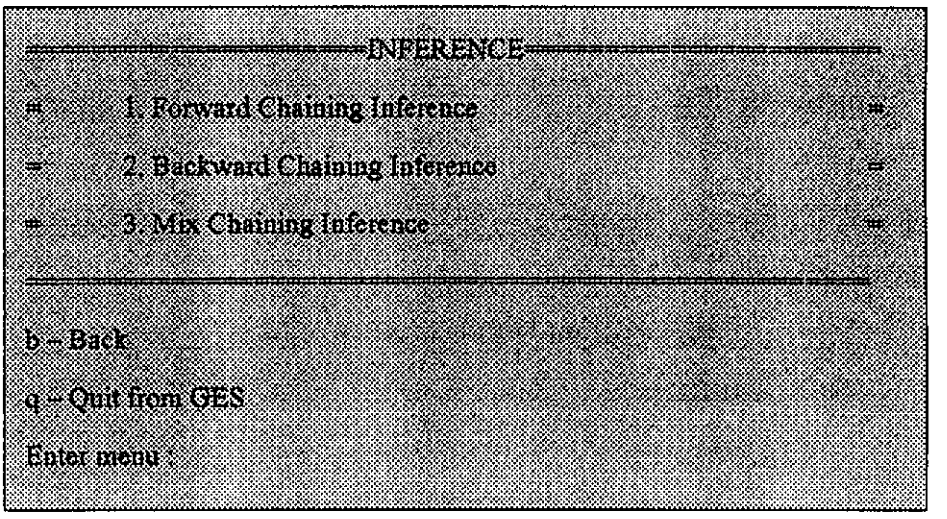
1.Load File External เป็นการสร้างฐานความรู้ให้กับระบบโดยใช้วิธีการโหลดไฟล์ข้อความที่ผู้ใช้เขียนขึ้น

2.Build Internal of Knowledge เป็นการสร้างฐานความรู้ให้กับระบบโดยใช้วิธีการป้อนกฎหรือความจริง ผ่านส่วนช่วยในการเขียนกฎ และความจริงในระบบ

3.Modify Initial Knowledge Base เป็นส่วนที่ใช้สำหรับแก้ไข ดัดแปลง ฐานความรู้ที่มีอยู่ในระบบ

**ก.2.2. Utilization of System**

จาก เมนูหลัก เมื่อผู้ใช้เรียกใช้งานเมนูที่ 2 นี้จะปรากฏเมนูย่อย ดังภาพประกอบ ก.3.




ภาพประกอบ ก.3. เมนูแสดงการเลือกอนุมาน

ซึ่งเมนูย่อยดังกล่าวประกอบด้วย

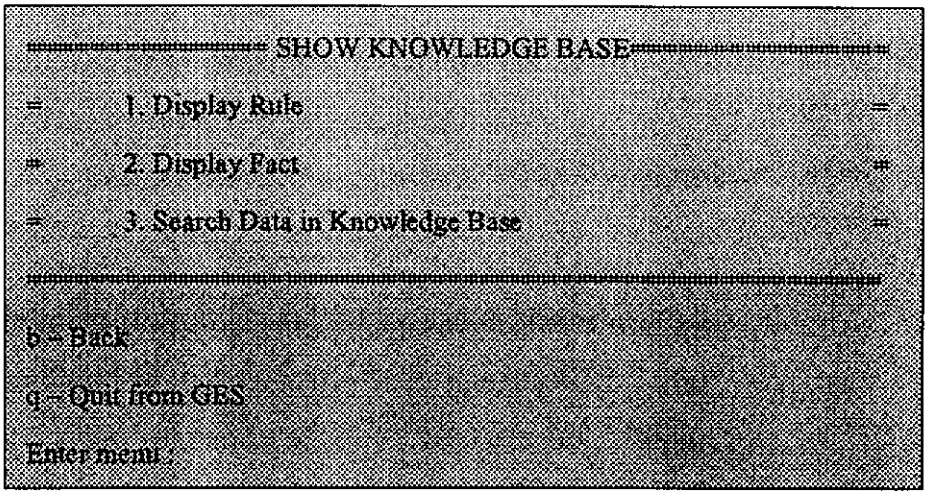
1.Forward Chaining Inference เป็นการนำเอาความจริงที่มีไปทำการอนุมานกับกฎ โดยใช้การอนุมานแบบเดินหน้า

2.Backward Chaining Inference เป็นการนำเอาความจริงที่มีไปทำการอนุมานกับกฎ โดยใช้การอนุมานแบบเดินหน้า

3.Mix Chaining Inference เป็นการนำความจริงที่มีไปทำการอนุมานกับกฎ โดยใช้การอนุมานแบบผสม

**ก.2.3. Show Knowledge Base**

จากเมนูหลัก เมื่อผู้ใช้เลือกเมนูที่ 3 แล้วจะปรากฏเมนูย่อยดังภาพประกอบ ก.4.




ภาพประกอบ ก.4. เมนูแสดงฐานความรู้

เมนูดังกล่าวประกอบไปด้วย

1.Display Rule เป็นส่วนที่ทำการแสดงกฎที่มีอยู่ในระบบ ในรูปแบบต่างๆ

2.Display Fact เป็นส่วนที่ทำการแสดงความจริงที่มีอยู่ในกฎในรูปแบบต่างๆ

3.Search Data in Knowledge Base เป็นส่วนที่ใช้ค้นหาคำตอบที่ต้องการว่าอยู่ส่วนไหนในฐานความรู้ของระบบ

**ก.2.4. Explanation about Utilization of System**

จากเมนูหลักผู้ใช้เลือกเมนูที่ 4 จะปรากฏเมนูย่อยดังภาพประกอบ ก.5.

เมนูดังกล่าวประกอบไปด้วย

1. Explanation about the Types เป็นเมนูที่อธิบายถึง Argument ชนิด Type ที่เป็นองค์ประกอบของกฎและความจริง

2. Explanation about the Names เป็นเมนูที่อธิบายถึง Argument ชนิด Name หรือ Object ที่เป็นองค์ประกอบของกฎและความจริง

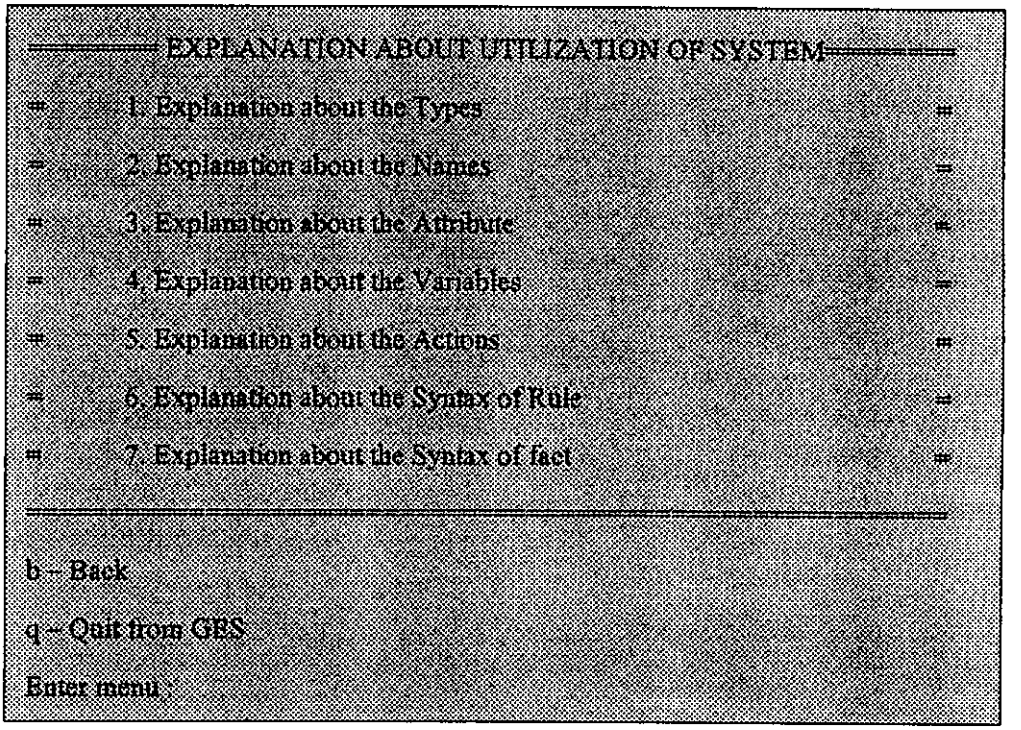
3. Explanation about the Attribute เป็นเมนูที่อธิบายถึง Argument ชนิด Attribute ที่เป็นองค์ประกอบของกฎและความจริง

4. Explanation about the Variables เป็นเมนูที่อธิบายถึง Argument ชนิด Variable ที่เป็นองค์ประกอบของกฎและความจริง

5. Explanation about the Actions เป็นเมนูที่อธิบายถึง Action ในการติดต่อกับภายนอก

6.Explanation about the Syntax of Rule เป็นเมนูที่อธิบายถึงรูปแบบของกฎในฐานความรู้

7.Explanation about the Syntax of fact เป็นเมนูที่อธิบายถึงรูปแบบของความจริงในฐานความรู้




ภาพประกอบ ก.5. ส่วนอธิบาย

**ก.3. การใช้งานระบบผู้เชี่ยวชาญ "EGAT I"**

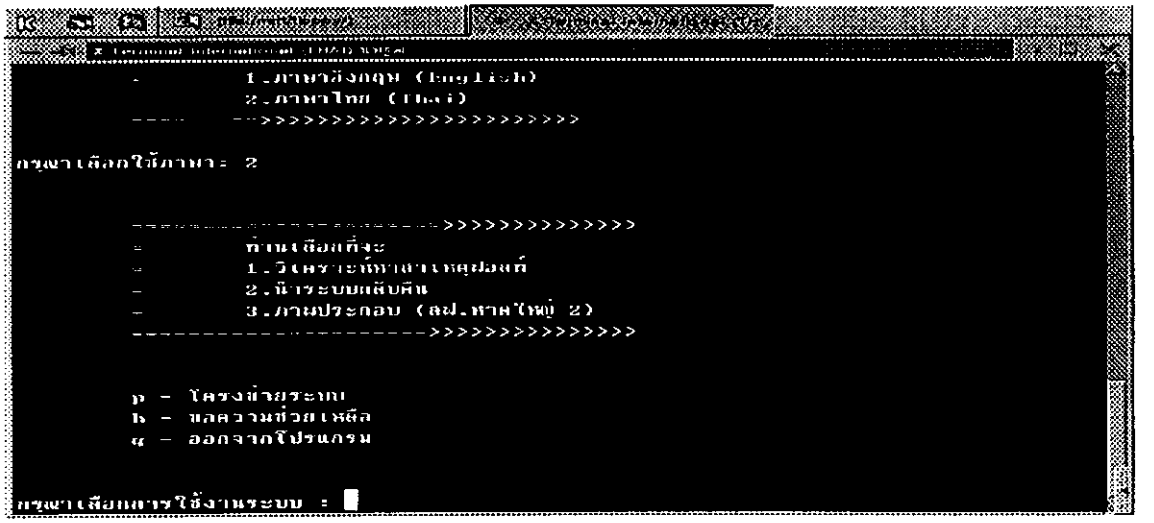
การเริ่มใช้งานระบบผู้เชี่ยวชาญเพื่อวิเคราะห์ฟอลท์และนำระบบกลับคืน จะเริ่มใช้งานได้เมื่ออยู่ในสภาพแวดล้อมของโปรแกรมภาษา LISP โดยการเข้าระบบจากคำสั่งข้างล่าง และต้องอยู่ใน Directory ของ Expert

```
>(load "egat.lsp")
```

ซึ่งระบบจะทำการตรวจสอบฐานความรู้ในระบบว่ามีหรือไม่ และตรวจสอบความถูกต้องก่อนการอนุมานด้วย จากนั้นระบบจะแสดงเมนูเพื่อให้ผู้ใช้เลือกภาษา ซึ่งในกรณีนี้ผู้พัฒนาจะให้ผู้ใช้เลือกใช้ภาษาไทยเท่านั้น ส่วนภาษาอังกฤษนั้นยังคงไม่ได้สร้างเป็นฐานข้อมูลให้

ภาพประกอบ ก.6. หน้าจอเลือกภาษา

หากผู้ใช้ไม่เข้าใจส่วนใดก็สามารถขอคำอธิบายได้จาก Help เพื่อขอความช่วยเหลือ เมื่อผู้ใช้เลือกเมนูย่อยเป็นการเลือกภาษาไทยแล้วระบบจะเข้าสู่เมนูที่จะถามผู้ใช้ว่าให้เลือกที่จะทำอะไรกับระบบดังภาพประกอบ ก.7.




ภาพประกอบ ก.7. เมนูเลือกการทำงาน

โดยมีส่วนประกอบดังนี้

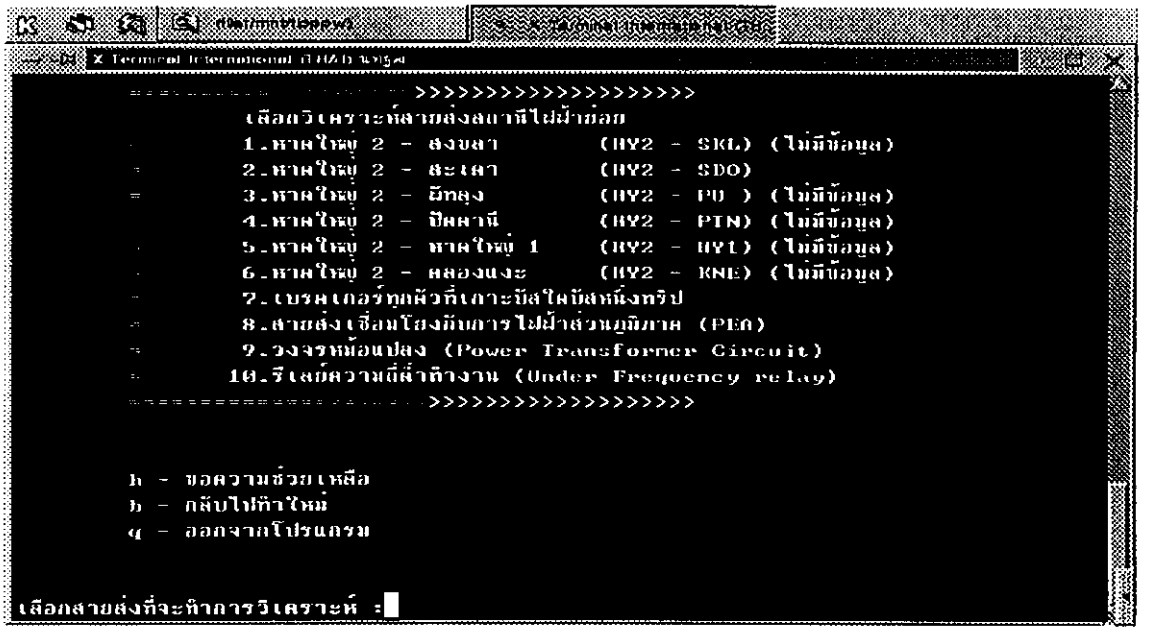
1.ส่วนของการวิเคราะห์ฟอลท์ ให้ผู้ใช้เลือก เพื่อหาสาเหตุของฟอลท์โดยตอบคำถามเมื่อระบบถามมาตามคำตอบที่มีให้เลือกตอบ จนได้เป้าประสงค์ที่ต้องการ คำตอบที่มีให้เลือกตอบก็จะเป็นปัจจัยสภาพแวดล้อมต่างๆ นั้นเอง

2.ส่วนการนำระบบกลับคืน ให้ผู้ใช้เลือก เพื่อขอคำแนะนำในการนำระบบกลับคืนขั้นพื้นฐาน

3.ส่วนภาพประกอบของสถานีไฟฟ้าแรงสูงหาดใหญ่ 2 เป็นส่วนที่ใช้เพื่อศึกษาเพิ่มเติมส่วนต่างๆ ของ สถานีไฟฟ้าแรงสูงหาดใหญ่ 2

### ก.3.1. วิเคราะห์สาเหตุของฟอลท์

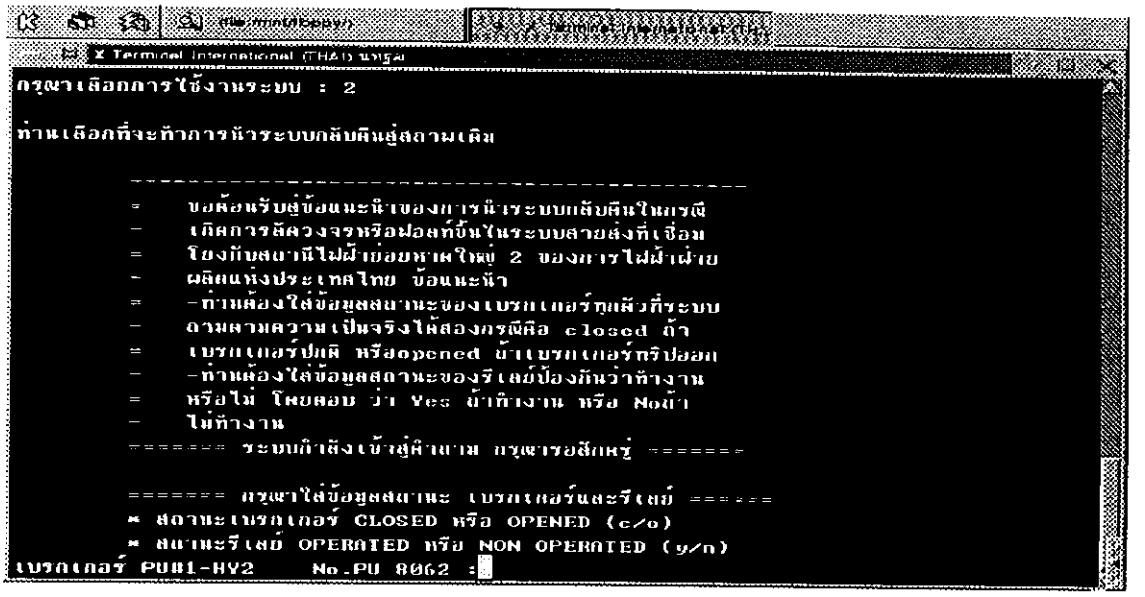
จากเมนูหลักของระบบผู้เชี่ยวชาญ "EGAT I" ดังภาพประกอบ ก.8. เมื่อเลือกที่จะวิเคราะห์หมายเลข 1 ก็จะปรากฏเมนูย่อยดังภาพประกอบ ก.9.




ภาพประกอบ ก.9. ตัวเลือกให้ผู้ใช้เลือกที่จะวิเคราะห์

### ก.3.2. การนำระบบกลับคืน

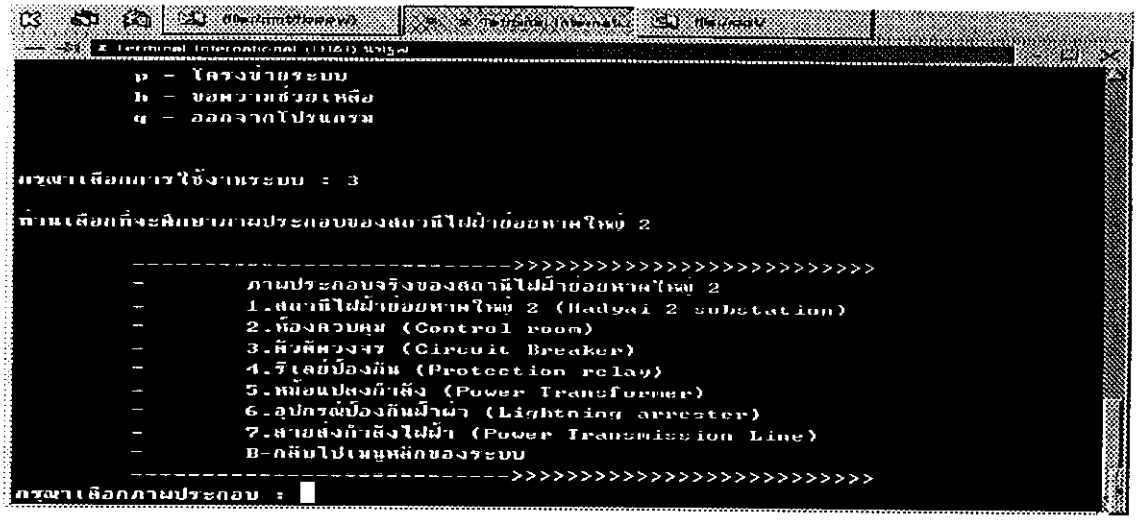
จากเมนูหลักดังภาพประกอบ ก.8. เมื่อเลือกที่จะนำระบบกลับคืน หมายเลข 2 จะปรากฏ คำอธิบายต่างๆ และให้ผู้ใช้ป้อนสถานะของเซอร์กิตเบรกเกอร์และรีเลย์ ดังภาพประกอบ ก.10.




ภาพประกอบ ก.10. การเข้าสู่การนำระบบกลับคืน

### ก.3.3. ภาพประกอบสถานีไฟฟ้าแรงสูงหาดใหญ่ 2

จากเมนูหลักภาพประกอบ ก.8. เมื่อเลือกที่จะศึกษาจากภาพประกอบของสถานีไฟฟ้าแรงสูงหาดใหญ่ 2 ก็จะเลือกหมายเลข 3 ซึ่งจะปรากฏเมนูย่อยดังภาพประกอบ ก.11.




ภาพประกอบ ก.11. การเข้าสู่ภาพประกอบของสถานีไฟฟ้าแรงสูงหาดใหญ่ 2

การใช้งานระบบผู้เชี่ยวชาญนี้จะง่ายเนื่องจากระบบจะเป็นผู้ถาม เพื่อให้ผู้ใช้ตอบจนไปถึงเป้าประสงค์เท่านั้น ดังนั้นในคู่มือการใช้นี้จึงไม่มีอะไรซับซ้อนมากนัก เพียงแต่ผู้ใช้ต้องเข้าในส่วนเริ่มต้นของโปรแกรมก่อนเท่านั้น ก็สามารถที่จะใช้ระบบได้อย่างถูกต้อง อีกทั้งยังต้องเข้าใจการพัฒนาเพิ่มเติมในส่วนของฐานความรู้บ้างในกรณีที่ต้องการแก้ไข ดัดแปลง เพิ่มเติมส่วนของฐานความรู้เท่านั้นก็เพียงพอสำหรับการใช้งานระบบแล้ว

เมื่อการใช้งานสิ้นสุดผู้ใช้สามารถออกจากการใช้งานระบบได้โดยการใช้คำสั่ง Exit หรือ (Exit) ในโปรแกรมภาษา LISP ระบบก็จะรับคำสั่งและออกจากสภาพแวดล้อมของ LISP ทันที ซึ่งเมื่อออกจากระบบไปแล้วฐานความรู้เริ่มต้นจะไม่เปลี่ยนแปลง

# ภาคผนวก ข

## ตัวอย่างกฎในฐานความรู้ของระบบ

```
IDENTIFY 1
MENU_LOGO
IF
((SHOW LOGO) (PICTURE) = (ATOMIC TRUE))
THEN
(@ logo1)
((SELECT MENU) (FAULT DIAGNOSIS OR RESTORATION) = (ATOMIC
TRUE))
(@ fun#1)
((SELECT LG)(? LG))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 2
SELECT_MENU
IF
((SELECT MENU) (FAULT DIAGNOSIS OR RESTORATION) = (ATOMIC
TRUE))
((SELECT LG)(2)=(ATOMIC TRUE))
THEN
(@ fun#2)
((SELECT MENU)((? NUM_MENU)) = (ATOMIC TRUE))
END-OF-RULE
IDENTIFY 3
SELECT_MENU
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
THEN
(@ fun#3)
((SELECT_DIAGNOSIS TRANSMISSION_LINE) ((? LINE)) = (ATOMIC TRUE))
END-OF-RULE
IDENTIFY4
SELECT_RELAY/SDO
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (2) = (ATOMIC TRUE))
THEN
(@ fun#4)
((SELECT_RELAY PROTECTION)((? SDO_RELAY))=(ATOMIC OPERATED))
END-OF-RULE
IDENTIFY 5
SELECT_RELAY/SDO/LA
IF
((SELECT_RELAY PROTECTION)(1)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(LIGHTNING)=(ATOMIC OPERATED))
THEN
(@ fun#5)
((STATUS_BKR SDO)(? SDO_BKR))=(ATOMIC OPERATED))
((BREAKER SDO)(HY2-700812)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 6
CONCLUSION1
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (2) = (ATOMIC TRUE))
((SELECT_RELAY PROTECTION)(1)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(LIGHTNING)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(2)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(TRIP/RECLOSED)=(ATOMIC OPERATED))
THEN
(@ conclusion1)
((CONCLUSION SDO)(NUMBER1)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 7
SELECT_LA/SDO/WEATHER
IF
((STATUS_BKR SDO)(1)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(TRIP)=(ATOMIC OPERATED))
THEN
(@ fun#6)
((SELECT WEATHER_SDO)(? SDO_WEATHER))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 8
SELECT_LA/SDO/WEATHER
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (2) = (ATOMIC TRUE))
((SELECT_RELAY PROTECTION)(1)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(LIGHTNING)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(1)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(TRIP)=(ATOMIC OPERATED))
((SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(NORMAL)=(ATOMIC TRUE))
THEN
(@ fun#7)
((SELECT PEOPLE_SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 9
SELECT_LA/SDO/WEATHER
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (2) = (ATOMIC TRUE))
((SELECT_RELAY PROTECTION)(1)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(LIGHTNING)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(1)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(TRIP)=(ATOMIC OPERATED))
((SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(RAINY)=(ATOMIC TRUE))
THEN
(@ conclusion2)
((CONCLUSION SDO)(NUMBER2)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 10
SELECT_LA/SDO/WEATHER
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (2) = (ATOMIC TRUE))
((SELECT_RELAY PROTECTION)(1)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(LIGHTNING)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(1)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(TRIP)=(ATOMIC OPERATED))
((SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(RAINY AND LIGHTNING)=(ATOMIC TRUE))
THEN
(@ conclusion3)
((CONCLUSION SDO)(NUMBER3)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 11
SELECT_LA/SDO/WEATHER/CONCLUSION
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (2) = (ATOMIC TRUE))
((SELECT_RELAY PROTECTION)(1)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(LIGHTNING)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(1)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(TRIP)=(ATOMIC OPERATED))
((SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion4)
((CONCLUSION SDO)(NUMBER4)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 12
SELECT_LA/SDO/WEATHER/CONCLUSION
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (2) = (ATOMIC TRUE))
((SELECT_RELAY PROTECTION)(1)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(LIGHTNING)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(1)=(ATOMIC OPERATED))
((STATUS_BKR SDO)(TRIP)=(ATOMIC OPERATED))
((SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(HAVE NOT)=(ATOMIC TRUE))
THEN
(@ conclusion5)
((CONCLUSION SDO)(NUMBER5)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 13
SELECT_SDO/21-21N
IF
((SELECT_RELAY PROTECTION)(2)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(DISTANCE RELAY 21/21N)=(ATOMIC
OPERATED))
THEN
(@ fun#8)
((SELECT_BKR 21/21N_SDO)(? SDO_BKR1))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 14
SELECT_SDO/21-21N/RECLOSED
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (2) = (ATOMIC TRUE))
((SELECT_RELAY PROTECTION)(2)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(DISTANCE RELAY 21/21N)=(ATOMIC
OPERATED))
((SELECT_BKR 21/21N_SDO)(1)=(ATOMIC TRUE))
((SELECT_BKR 21/21N_SDO)(TRIP)=(ATOMIC TRUE))
THEN
(@ fun#9)
((SELECT_PHASE SDO)(? SDO_PHASE1))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 15
SELECT_SDO/21-21N/RECLOSED
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (2) = (ATOMIC TRUE))
((SELECT_RELAY PROTECTION)(2)=(ATOMIC OPERATED))
((SELECT_RELAY PROTECTION)(DISTANCE RELAY 21/21N)=(ATOMIC
OPERATED))
((SELECT_BKR 21/21N_SDO)(2)=(ATOMIC TRUE))
((SELECT_BKR 21/21N_SDO)(TRIP AND RECLOSED)=(ATOMIC TRUE))
THEN
(@ conclusion6)
((CONCLUSION SDO)(NUMBER6)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 16
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(4)=(ATOMIC TRUE))
THEN
(@ fun#10)
((SELECT_WEATHER SDO)(? SDO_WEATHER))=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE TO GROUND)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 17
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(4)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion7)
((CONCLUSION SDO)(NUMBER7)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 18
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(4)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
THEN
(@ conclusion8)
((CONCLUSION SDO)(NUMBER8)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 19
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(4)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
```

((SELECT_WEATHER $DO)(OVERCLOUDED AND WINDY)=(ATOMIC TRUE))
THEN
(@ conclusion9)
((CONCLUSION $DO)(NUMBER9)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 20
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(4)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(1 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(4)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(RAINY)=(ATOMIC TRUE))
THEN
(@ conclusion10)
((CONCLUSION $DO)(NUMBER10)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 21
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(4)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(1 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(RAINY AND LIGHTNING)=(ATOMIC TRUE))
THEN
(@ conclusion11)
((CONCLUSION $DO)(NUMBER11)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 22
SELECT_$DO/22/21N/PHASE
IF
((SELECT_PHASE $DO)(4)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(1 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(6)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(FOG)=(ATOMIC TRUE))
THEN
(@ conclusion12)
((CONCLUSION $DO)(NUMBER12)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 23
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(5)=(ATOMIC TRUE))
THEN
(@ fault10)
((SELECT_WEATHER $DO)(? $DO_WEATHER))=(ATOMIC TRUE))
((SELECT_PHASE $DO)(2 PHASE TO GROUND)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 24
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(5)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(2 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion13)
((CONCLUSION $DO)(NUMBER13)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 25
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(5)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(2 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(OVERCLOUDED)=(ATOMIC TRUE))
THEN
(@ conclusion14)
((CONCLUSION $DO)(NUMBER14)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 26
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(5)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(2 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(OVERCLOUDED AND WINDY)=(ATOMIC TRUE))
THEN
(@ conclusion15)
((CONCLUSION $DO)(NUMBER15)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 27
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(5)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(2 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(4)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(RAINY)=(ATOMIC TRUE))
THEN
(@ conclusion16)
((CONCLUSION $DO)(NUMBER16)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 28
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(5)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(2 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(5)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(RAINY AND LIGHTNING)=(ATOMIC TRUE))
THEN
(@ conclusion17)
((CONCLUSION $DO)(NUMBER17)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 29
SELECT_$DO/22/21N/PHASE
IF
((SELECT_PHASE $DO)(5)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(2 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(6)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(FOG)=(ATOMIC TRUE))
THEN
(@ conclusion18)
((CONCLUSION $DO)(NUMBER18)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 30
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(6)=(ATOMIC TRUE))
THEN
(@ fault10)
((SELECT_WEATHER $DO)(? $DO_WEATHER))=(ATOMIC TRUE))
((SELECT_PHASE $DO)(3 PHASE TO GROUND)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 31
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(6)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(3 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion19)
((CONCLUSION $DO)(NUMBER19)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 32
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(6)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(3 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(OVERCLOUDED)=(ATOMIC TRUE))
THEN
(@ conclusion20)
((CONCLUSION $DO)(NUMBER20)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 33
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(6)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(3 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(OVERCLOUDED AND WINDY)=(ATOMIC TRUE))
THEN
(@ conclusion21)
((CONCLUSION $DO)(NUMBER21)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 34
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(6)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(3 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(4)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(RAINY)=(ATOMIC TRUE))
THEN
(@ conclusion22)
((CONCLUSION $DO)(NUMBER22)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 35
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(6)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(3 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(5)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(RAINY AND LIGHTNING)=(ATOMIC TRUE))
THEN
(@ conclusion23)
((CONCLUSION $DO)(NUMBER23)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 36
SELECT_$DO/22/21N/PHASE
IF
((SELECT_PHASE $DO)(6)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(3 PHASE TO GROUND)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(6)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(FOG)=(ATOMIC TRUE))
THEN
(@ conclusion24)
((CONCLUSION $DO)(NUMBER24)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 37
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(1)=(ATOMIC TRUE))
THEN
(@ fault10)
((SELECT_WEATHER $DO)(? $DO_WEATHER))=(ATOMIC TRUE))
((SELECT_PHASE $DO)(1 PHASE FAULT)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 38
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(1)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(NORMAL)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME $DO)(? $DO_TIME))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 39
SELECT_$DO/21-21N/PHASE
IF
((SELECT_PHASE $DO)(1)=(ATOMIC TRUE))
((SELECT_PHASE $DO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER $DO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME $DO)(1)=(ATOMIC TRUE))
((SELECT_TIME $DO)(04:00:00 AM)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE $DO)(? $DO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 40

SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(04.00-08.00AM.)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion25)
((CONCLUSION SDO)(NUMBER25)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 41
SELECT_SDO/21-21N/PHASE
IF
((PSU ADD)(A)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)(? SDO_TIME))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 42
SELECT_SDO/21-21N/PHASE
IF
((PSU ADD)(A)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(04.00-08.00AM.)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 43
SELECT_SDO/21-21N/PHASE
IF
((ADD PSU)(GOOD)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(04.00-08.00AM.)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion25)
((CONCLUSION SDO)(NUMBER25)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 44
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(04.00-08.00AM.)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion26)
((CONCLUSION SDO)(NUMBER26)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 45
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08.00-16.00Am-Pm)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 46
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08.00-16.00Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion27)
((CONCLUSION SDO)(NUMBER27)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 47
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08.00-16.00Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion28)
((CONCLUSION SDO)(NUMBER28)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 48
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 49
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion29)
((CONCLUSION SDO)(NUMBER29)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 50
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion30)
((CONCLUSION SDO)(NUMBER30)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 51
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 52
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion31)
((CONCLUSION SDO)(NUMBER31)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 53
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion32)
((CONCLUSION SDO)(NUMBER32)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 54
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)(? SDO_TIME))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 55
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(04.00-08.00AM.)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 56

```
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(1)=(ATOMIC TRUE))
 (SELECT_TIME SDO(04:00-08:00AM.)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion33)
 (CONCLUSION SDO(NUMBER33)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 57
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(1)=(ATOMIC TRUE))
 (SELECT_TIME SDO(04:00-08:00AM.)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion34)
 (CONCLUSION SDO(NUMBER34)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 58
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(3)=(ATOMIC TRUE))
 (SELECT_TIME SDO(08:00-16:00Am-Pm)=(ATOMIC TRUE))
THEN
 (@ fault12)
 (SELECT_PEOPLE SDO(!SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 59
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(3)=(ATOMIC TRUE))
 (SELECT_TIME SDO(08:00-16:00Am-Pm)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion35)
 (CONCLUSION SDO(NUMBER35)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 60
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(3)=(ATOMIC TRUE))
 (SELECT_TIME SDO(08:00-16:00Am-Pm)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion36)
 (CONCLUSION SDO(NUMBER36)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 61
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(3)=(ATOMIC TRUE))
 (SELECT_TIME SDO(16:00-20:00 PM)=(ATOMIC TRUE))
THEN
 (@ fault12)
 (SELECT_PEOPLE SDO(!SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 62
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(3)=(ATOMIC TRUE))
 (SELECT_TIME SDO(16:00-20:00 PM)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion37)
 (CONCLUSION SDO(NUMBER37)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 63
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(3)=(ATOMIC TRUE))
 (SELECT_TIME SDO(16:00-20:00 PM)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion38)
 (CONCLUSION SDO(NUMBER38)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 64
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(4)=(ATOMIC TRUE))
 (SELECT_TIME SDO(20:00-04:00 PM-AM)=(ATOMIC TRUE))
THEN
 (@ fault12)
 (SELECT_PEOPLE SDO(!SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 65
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(4)=(ATOMIC TRUE))
 (SELECT_TIME SDO(20:00-04:00 PM-AM)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion39)
 (CONCLUSION SDO(NUMBER39)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 66
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
 (SELECT_TIME SDO(4)=(ATOMIC TRUE))
 (SELECT_TIME SDO(20:00-04:00 PM-AM)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion40)
 (CONCLUSION SDO(NUMBER40)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 67
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
THEN
 (@ fault11)
 (SELECT_TIME SDO(!SDO_TIME))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 68
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
 (SELECT_TIME SDO(1)=(ATOMIC TRUE))
 (SELECT_TIME SDO(04:00-08:00AM.)=(ATOMIC TRUE))
THEN
 (@ fault12)
 (SELECT_PEOPLE SDO(!SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 69
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
 (SELECT_TIME SDO(1)=(ATOMIC TRUE))
 (SELECT_TIME SDO(04:00-08:00AM.)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion41)
 (CONCLUSION SDO(NUMBER41)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 70
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
 (SELECT_TIME SDO(1)=(ATOMIC TRUE))
 (SELECT_TIME SDO(04:00-08:00AM.)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
 (SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
 (@ conclusion42)
 (CONCLUSION SDO(NUMBER42)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 71
SELECT_SDO/21-21N/PHASE
IF
 (SELECT_PHASE SDO(1)=(ATOMIC TRUE))
 (SELECT_PHASE SDO(1 PHASE FAULT)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
 (SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
 (SELECT_TIME SDO(2)=(ATOMIC TRUE))
```

((SELECT_TIME SDO)(08.00-16.00 Am-Pm)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 72
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08.00-16.00 Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion43)
((CONCLUSION SDO)(NUMBER43)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 73
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08.00-16.00 Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion44)
((CONCLUSION SDO)(NUMBER44)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 74
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 75
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion45)
((CONCLUSION SDO)(NUMBER45)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 76
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion46)
((CONCLUSION SDO)(NUMBER46)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 77
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 78
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion47)
((CONCLUSION SDO)(NUMBER47)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 79
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion48)
((CONCLUSION SDO)(NUMBER48)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 80
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(4)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(RAINY)=(ATOMIC TRUE))
THEN
(@ conclusion49)
((CONCLUSION SDO)(NUMBER49)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 81
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(5)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(RAINY AND LIGHTNING)=(ATOMIC TRUE))
THEN
(@ conclusion50)
((CONCLUSION SDO)(NUMBER50)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 82
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(1)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(1 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(6)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(FOG)=(ATOMIC TRUE))
THEN
(@ conclusion51)
((CONCLUSION SDO)(NUMBER51)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 83
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(2)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(2 PHASE FAULT)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 84
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(2)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(2 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion52)
((CONCLUSION SDO)(NUMBER52)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 85
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(2)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(2 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion53)
((CONCLUSION SDO)(NUMBER53)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 86
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
THEN
(@ fault10)
((SELECT_WEATHER SDO)(? SDO_WEATHER))=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 87
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)(? SDO_TIME))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 88
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(04.00-08.00 AM)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))

```
END-OF-RULE
IDENTIFY 89
SELECT_SDO/21-21IN/PHASE
IF
(SELECT_PHASE SDO(3)=(ATOMIC TRUE))
(SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
(SELECT_TIME SDO(1)=(ATOMIC TRUE))
(SELECT_TIME SDO(04.00-08.00AM )=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion54)
(CONCLUSION SDO(NUMBER54)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 90
SELECT_SDO/21-21IN/PHASE
IF
(SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
(SELECT_TIME SDO(1)=(ATOMIC TRUE))
(SELECT_TIME SDO(04.00-08.00AM )=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion55)
(CONCLUSION SDO(NUMBER55)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 91
SELECT_SDO/21-21IN/PHASE
IF
(SELECT_PHASE SDO(3)=(ATOMIC TRUE))
(SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
(SELECT_TIME SDO(2)=(ATOMIC TRUE))
(SELECT_TIME SDO(08.00-16.00Am-Pm)=(ATOMIC TRUE))
THEN
(@ fact12)
(SELECT_PEOPLE SDO((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 92
SELECT_SDO/21-21IN/PHASE
IF
(SELECT_PHASE SDO(3)=(ATOMIC TRUE))
(SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
(SELECT_TIME SDO(2)=(ATOMIC TRUE))
(SELECT_TIME SDO(09.00-16.00Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion56)
(CONCLUSION SDO(NUMBER56)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 93
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO(2)=(ATOMIC TRUE))
((SELECT_TIME SDO(08.00-16.00Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion57)
((CONCLUSION SDO(NUMBER57)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 94
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO(3)=(ATOMIC TRUE))
((SELECT_TIME SDO(16.00-20.00 PM)=(ATOMIC TRUE))
THEN
(@ fact12)
((SELECT_PEOPLE SDO((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 95
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO(3)=(ATOMIC TRUE))
((SELECT_TIME SDO(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion58)
((CONCLUSION SDO(NUMBER58)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 96
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO(3)=(ATOMIC TRUE))
((SELECT_TIME SDO(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion59)
((CONCLUSION SDO(NUMBER59)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 97
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO(4)=(ATOMIC TRUE))
((SELECT_TIME SDO(20.00-04.00 PM-AM)=(ATOMIC TRUE))
THEN
(@ fact12)
((SELECT_PEOPLE SDO((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 98
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO(4)=(ATOMIC TRUE))
((SELECT_TIME SDO(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion60)
((CONCLUSION SDO(NUMBER60)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 98
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(1)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(NORMAL)=(ATOMIC TRUE))
((SELECT_TIME SDO(4)=(ATOMIC TRUE))
((SELECT_TIME SDO(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion61)
((CONCLUSION SDO(NUMBER61)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 99
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
THEN
(@ fact11)
((SELECT_TIME SDO((? SDO_TIME))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 100
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO(1)=(ATOMIC TRUE))
((SELECT_TIME SDO(04.00-08.00AM )=(ATOMIC TRUE))
THEN
(@ fact12)
((SELECT_PEOPLE SDO((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 101
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO(1)=(ATOMIC TRUE))
((SELECT_TIME SDO(04.00-08.00AM )=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion62)
((CONCLUSION SDO(NUMBER62)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 102
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO(1)=(ATOMIC TRUE))
((SELECT_TIME SDO(04.00-08.00AM.)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion63)
((CONCLUSION SDO(NUMBER63)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 103
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO(2)=(ATOMIC TRUE))
((SELECT_TIME SDO(08.00-16.00Am-Pm)=(ATOMIC TRUE))
THEN
(@ fact12)
```

((SELECT_PEOPLE SDO)((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 104
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08 00-16.00Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion64)
((CONCLUSION SDO)(NUMBER64)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 105
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08 00-16.00Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion65)
((CONCLUSION SDO)(NUMBER65)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 106
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 107
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion67)
((CONCLUSION SDO)(NUMBER67)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 108
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20 00-04.00 PM-AM)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 109
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion68)
((CONCLUSION SDO)(NUMBER68)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 110
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(2)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDED)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion69)
((CONCLUSION SDO)(NUMBER69)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 111
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)((? SDO_TIME))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 112
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(04.00-08.00AM)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 113
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(04.00-08.00AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion70)
((CONCLUSION SDO)(NUMBER70)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 114
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(04.00-08.00AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion71)
((CONCLUSION SDO)(NUMBER71)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 115
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08 00-16 00Am-Pm)=(ATOMIC TRUE))
THEN
(@ fault12)
((SELECT_PEOPLE SDO)((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 116
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08.00-16.00Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion72)
((CONCLUSION SDO)(NUMBER72)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 117
SELECT_SDO/21-21IN/PHASE
IF
((SELECT_PHASE SDO)(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO)(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO)(OVERCLOUDEAD AND WINDY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO)(08 00-16 00Am-Pm)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion73)
((CONCLUSION SDO)(NUMBER73)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 118
SELECT_SDO/21-21IN/PHASE
IF

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(SELECT_PHASE SDO(3)=(ATOMIC TRUE))
(SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC
TRUE))
(SELECT_TIME SDO(3)=(ATOMIC TRUE))
(SELECT_TIME SDO(16 00-20 :0 PM)=(ATOMIC TRUE))
THEN
(@ fault12)
(SELECT_PEOPLE SDO((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 119
SELECT_SDO/21-21N/PHASE
IF
(SELECT_PHASE SDO(3)=(ATOMIC TRUE))
(SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC
TRUE))
(SELECT_TIME SDO(3)=(ATOMIC TRUE))
(SELECT_TIME SDO(16 00-20 :0 PM)=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion74)
(CONCLUSION SDO(NUMBER 74 =(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 120
SELECT_SDO/21-21N/PHASE
IF
(SELECT_PHASE SDO(3)=(ATOMIC TRUE))
(SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC
TRUE))
(SELECT_TIME SDO(3)=(ATOMIC TRUE))
(SELECT_TIME SDO(16 00-20 :0 PM)=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion75)
(CONCLUSION SDO(NUMBER75 =(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 121
SELECT_SDO/21-21N/PHASE
IF
(SELECT_PHASE SDO(3)=(ATOMIC TRUE))
(SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC
TRUE))
(SELECT_TIME SDO(4)=(ATOMIC TRUE))
(SELECT_TIME SDO(20 00-04 00 PM-AM)=(ATOMIC TRUE))
THEN
(@ fault12)
(SELECT_PEOPLE SDO((? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 121
SELECT_SDO/21-21N/PHASE
IF
(SELECT_PHASE SDO(3)=(ATOMIC TRUE))
(SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
(SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC
TRUE))
(SELECT_TIME SDO(4)=(ATOMIC TRUE))
(SELECT_TIME SDO(20 00-04 00 PM-AM)=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(1)=(ATOMIC TRUE))
(SELECT_PEOPLE SDO(NOT HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion76)
(CONCLUSION SDO(NUMBER76)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 122
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(3)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(OVERCLOUDEAD AND WINDY)=(ATOMIC
TRUE))
((SELECT_TIME SDO(4)=(ATOMIC TRUE))
((SELECT_TIME SDO(20 00-04 00 PM-AM)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO(HAVE)=(ATOMIC TRUE))
THEN
(@ conclusion77)
((CONCLUSION SDO(NUMBER77)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 123
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(4)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(RAINY)=(ATOMIC TRUE))
THEN
(@ conclusion78)
((CONCLUSION SDO(NUMBER78)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 124
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(5)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(RAINY AND LIGHTNING)=(ATOMIC TRUE))
THEN
(@ conclusion79)
((CONCLUSION SDO(NUMBER79)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 125
SELECT_SDO/21-21N/PHASE
IF
((SELECT_PHASE SDO(3)=(ATOMIC TRUE))
((SELECT_PHASE SDO(3 PHASE FAULT)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(6)=(ATOMIC TRUE))
((SELECT_WEATHER SDO(FOG)=(ATOMIC TRUE))
THEN
(@ conclusion80)
((CONCLUSION SDO(NUMBER80)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 126
SELECT_SDO/TRIP-ALL-BKR
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
THEN
(@ fault13)
((SELECT BUS_TRIP)(? BUS_TRIP))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 127
SELECT_SDO/TRIP-RELAY
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
THEN
(@ fault14)
((SELECT TRIP_PROTECT)(? TRIP_PROTECT))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 128
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
THEN
(@ fault15)
((SELECT FREQ1)(? FRE_METER1))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 129
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(1)=(ATOMIC TRUE))
((SELECT FREQ1)(NORMAL)=(ATOMIC TRUE))
THEN
(@ fault16)
((SELECT DEMAND)(? LOAD_DEMAND))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 130
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(1)=(ATOMIC TRUE))
((SELECT FREQ1)(NORMAL)=(ATOMIC TRUE))
((SELECT DEMAND)(1)=(ATOMIC TRUE))
((SELECT DEMAND)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion81)
((CONCLUSION BUS)(NUMBER81)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 131
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(1)=(ATOMIC TRUE))
((SELECT FREQ1)(NORMAL)=(ATOMIC TRUE))
((SELECT DEMAND)(2)=(ATOMIC TRUE))
((SELECT DEMAND)(STEP1)=(ATOMIC TRUE))
THEN
(@ conclusion82)
((CONCLUSION BUS)(NUMBER82)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 132
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(1)=(ATOMIC TRUE))
((SELECT FREQ1)(NORMAL)=(ATOMIC TRUE))
((SELECT DEMAND)(3)=(ATOMIC TRUE))
((SELECT DEMAND)(STEP2)=(ATOMIC TRUE))
THEN
(@ conclusion83)
((CONCLUSION BUS)(NUMBER83)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 133
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
```

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((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(1)=(ATOMIC TRUE))
((SELECT FREQ1)(NORMAL)=(ATOMIC TRUE))
((SELECT DEMAND)(4)=(ATOMIC TRUE))
((SELECT DEMAND)(STEP3)=(ATOMIC TRUE))
THEN
(@ conclusion54
((CONCLUSION BUS)(NUMBER84)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 133
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(1)=(ATOMIC TRUE))
((SELECT FREQ1)(NORMAL)=(ATOMIC TRUE))
((SELECT DEMAND)(5)=(ATOMIC TRUE))
((SELECT DEMAND)(STEP4)=(ATOMIC TRUE))
THEN
(@ conclusion55
((CONCLUSION BUS)(NUMBER85)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 134
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(2)=(ATOMIC TRUE))
((SELECT FREQ1)(LOW)=(ATOMIC TRUE))
THEN
(@ fault5)
((SELECT DEMAND)((? LOAD_DEMAND))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 135
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(2)=(ATOMIC TRUE))
((SELECT FREQ1)(LOW)=(ATOMIC TRUE))
((SELECT DEMAND)(1)=(ATOMIC TRUE))
((SELECT DEMAND)(NORMAL1)=(ATOMIC TRUE))
THEN
(@ conclusion86)
((CONCLUSION BUS)(NUMBER86)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 136
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(2)=(ATOMIC TRUE))
((SELECT FREQ1)(LOW)=(ATOMIC TRUE))
((SELECT DEMAND)(2)=(ATOMIC TRUE))
((SELECT DEMAND)(STEP1)=(ATOMIC TRUE))
THEN
(@ conclusion87)
((CONCLUSION BUS)(NUMBER87)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 137
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(2)=(ATOMIC TRUE))
((SELECT FREQ1)(LOW)=(ATOMIC TRUE))
((SELECT DEMAND)(3)=(ATOMIC TRUE))
((SELECT DEMAND)(STEP2)=(ATOMIC TRUE))
THEN
(@ conclusion88)
((CONCLUSION BUS)(NUMBER88)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 138
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(2)=(ATOMIC TRUE))
((SELECT FREQ1)(LOW)=(ATOMIC TRUE))
((SELECT DEMAND)(4)=(ATOMIC TRUE))
((SELECT DEMAND)(STEP3)=(ATOMIC TRUE))
THEN
(@ conclusion89)
((CONCLUSION BUS)(NUMBER89)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 139
SELECT_SDO/TRIP-U/F
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(2)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(UNDER FREQ)=(ATOMIC TRUE))
((SELECT FREQ1)(2)=(ATOMIC TRUE))
((SELECT FREQ1)(LOW)=(ATOMIC TRUE))
((SELECT DEMAND)(5)=(ATOMIC TRUE))
((SELECT DEMAND)(STEP4)=(ATOMIC TRUE))
THEN
(@ conclusion90)
((CONCLUSION BUS)(NUMBER90)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 140
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
THEN
(@ fault7)
((SELECT BKR)(? BKR_FAIL)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 141
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(1)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)(? SDO_TIME))=(ATOMIC TRUE))
(@ fault12)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 142
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(1)=(ATOMIC TRUE))
((SELECT BKR)(NO FAIL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM) = (ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO) (NOT HAVE) = (ATOMIC TRUE))
THEN
(@ conclusion91)
((CONCLUSION BUS)(NUMBER91)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 143
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(1)=(ATOMIC TRUE))
((SELECT BKR)(NO FAIL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM) = (ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO) (HAVE) = (ATOMIC TRUE))
THEN
(@ conclusion92)
((CONCLUSION BUS)(NUMBER92)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 144
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(1)=(ATOMIC TRUE))
((SELECT BKR)(NO FAIL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08:00-16:00AM-PM) = (ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO) (NOT HAVE) = (ATOMIC TRUE))
THEN
(@ conclusion93)
((CONCLUSION BUS)(NUMBER93)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 145
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU) (1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (?) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
```

((SELECT BKR)(1)=(ATOMIC TRUE))
((SELECT BKR)(NO FAIL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08:00-16:00AM-PM) = (ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO) (HAVE) = (ATOMIC TRUE))
THEN
(@ conclusion94)
((CONCLUSION BUS)(NUMBER94)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 145
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(1)=(ATOMIC TRUE))
((SELECT BKR)(NO FAIL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO) (16:00-20:00 PM) = (ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO) (NOT HAVE) = (ATOMIC TRUE))
THEN
(@ conclusion95)
((CONCLUSION BUS)(NUMBER95)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 147
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(1)=(ATOMIC TRUE))
((SELECT BKR)(NO FAIL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO) (16:00-20:00 PM) = (ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO) (HAVE) = (ATOMIC TRUE))
THEN
(@ conclusion96)
((CONCLUSION BUS)(NUMBER96)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 148
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(1)=(ATOMIC TRUE))
((SELECT BKR)(NO FAIL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO) (20:00-04:00 PM-AM) = (ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO) (NOT HAVE) = (ATOMIC TRUE))
THEN
(@ conclusion97)
((CONCLUSION BUS)(NUMBER97)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 149
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(1)=(ATOMIC TRUE))
((SELECT BKR)(NO FAIL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion100)
((CONCLUSION TRANSFORMER)(NUMBER100)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 153
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion101)
((CONCLUSION TRANSFORMER)(NUMBER101)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 154
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(1)=(ATOMIC TRUE))
((SELECT BKR)(NO FAIL)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO) (20:00-04:00 PM-AM) = (ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO) (HAVE) = (ATOMIC TRUE))
THEN
(@ conclusion98)
((CONCLUSION BUS)(NUMBER98)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 150
SELECT_SDO/TRIP-BUS-DIFF
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (7) = (ATOMIC TRUE))
((SELECT BUS_TRIP)(1)=(ATOMIC TRUE))
((SELECT BUS_TRIP)(BUS1 115 KV)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(1)=(ATOMIC TRUE))
((SELECT TRIP_PROTECT)(BUS DIFF)=(ATOMIC TRUE))
((SELECT BKR)(2)=(ATOMIC TRUE))
((SELECT BKR)( FAIL)=(ATOMIC TRUE))
THEN
(@ conclusion99)
((CONCLUSION BUS)(NUMBER99)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 151
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
THEN
(@ fact18)
((SELECT TRANSFORMER)(? TR_HY2))=(ATOMIC TRUE))
(@ fact19)
((SELECT RELAY)(? RY_HY2))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 152
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion100)
((CONCLUSION TRANSFORMER)(NUMBER100)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 153
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion101)
((CONCLUSION TRANSFORMER)(NUMBER101)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 154
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08:00-16:00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion102)
((CONCLUSION TRANSFORMER)(NUMBER102)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 155
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08:00-16:00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion103)
((CONCLUSION TRANSFORMER)(NUMBER103)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 156
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16:00-20:00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion104)
((CONCLUSION TRANSFORMER)(NUMBER104)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 157
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16:00-20:00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion105)
((CONCLUSION TRANSFORMER)(NUMBER105)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 158
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20:00-04:00 PM-AM)=(ATOMIC TRUE))

```
  SELECT WEATHER(1)=(ATOMIC TRUE))
  SELECT WEATHER(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion106)
  CONCLUSION TRANSFORMER(NUMBER106)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 159
SELECT_TR
IF
  SELECT MENU)(1) = (ATOMIC TRUE))
  SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
  SELECT TRANSFORMER(1)=(ATOMIC TRUE))
  SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
  SELECT RELAY(1)=(ATOMIC TRUE))
  SELECT RELAY)(DIFF)=(ATOMIC TRUE))
  SELECT_TIME SDO)(4)=(ATOMIC TRUE))
  SELECT_TIME SDO)(20 00-04 00 PM-AM)=(ATOMIC TRUE))
  SELECT WEATHER)(2)=(ATOMIC TRUE))
  SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion107)
  CONCLUSION TRANSFORMER)(NUMBER107)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 160
SELECT_TR
IF
  SELECT MENU)(1) = (ATOMIC TRUE))
  SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
  SELECT TRANSFORMER(2)=(ATOMIC TRUE))
  SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
  SELECT RELAY(1)=(ATOMIC TRUE))
  SELECT RELAY)(DIFF)=(ATOMIC TRUE))
  SELECT_TIME SDO)(1)=(ATOMIC TRUE))
  SELECT_TIME SDO) (04 00-08 00AM ) = (ATOMIC TRUE))
  SELECT WEATHER(1)=(ATOMIC TRUE))
  SELECT WEATHER(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion108)
  CONCLUSION TRANSFORMER)(NUMBER108)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 161
SELECT_TR
IF
  SELECT MENU)(1) = (ATOMIC TRUE))
  SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
  SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
  SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
  SELECT RELAY(1)=(ATOMIC TRUE))
  SELECT RELAY)(DIFF)=(ATOMIC TRUE))
  SELECT_TIME SDO)(1)=(ATOMIC TRUE))
  SELECT_TIME SDO) (04 00-08 00AM ) = (ATOMIC TRUE))
  SELECT WEATHER)(2)=(ATOMIC TRUE))
  SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion109)
  CONCLUSION TRANSFORMER)(NUMBER109)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 162
SELECT_TR
IF
  SELECT MENU)(1) = (ATOMIC TRUE))
  SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
  SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
  SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
  SELECT RELAY(1)=(ATOMIC TRUE))
  SELECT RELAY)(DIFF)=(ATOMIC TRUE))
  SELECT_TIME SDO)(2)=(ATOMIC TRUE))
  SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
  SELECT WEATHER)(1)=(ATOMIC TRUE))
  SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion110)
  CONCLUSION TRANSFORMER)(NUMBER110)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 163
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion111)
((CONCLUSION TRANSFORMER)(NUMBER111)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 164
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion112)
((CONCLUSION TRANSFORMER)(NUMBER112)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 165
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion113)
((CONCLUSION TRANSFORMER)(NUMBER113)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 166
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion114)
((CONCLUSION TRANSFORMER)(NUMBER114)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 167
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20 00-04 00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion115)
((CONCLUSION TRANSFORMER)(NUMBER115)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 168
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04 00-08 00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion116)
((CONCLUSION TRANSFORMER)(NUMBER116)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 169
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04 00-08 00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion117)
((CONCLUSION TRANSFORMER)(NUMBER117)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 170
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion118)
((CONCLUSION TRANSFORMER)(NUMBER118)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 171
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion119)
```

((CONCLUSION TRANSFORMER (NUMBER115)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 172
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16:00-20:00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion120)
((CONCLUSION TRANSFORMER)(NUMBER120)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 173
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16:00-20:00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion121)
((CONCLUSION TRANSFORMER)(NUMBER121)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 174
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20:00-04:00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion122)
((CONCLUSION TRANSFORMER)(NUMBER122)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 175
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20:00-04:00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion123)
((CONCLUSION TRANSFORMER)(NUMBER123)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 176
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion124)
((CONCLUSION TRANSFORMER)(NUMBER124)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 177
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion125)
((CONCLUSION TRANSFORMER)(NUMBER125)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 178
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08:00-16:00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion126)
((CONCLUSION TRANSFORMER)(NUMBER126)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 179
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08:00-16:00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion127)
((CONCLUSION TRANSFORMER)(NUMBER127)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 180
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT1A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16:00-20:00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion128)
((CONCLUSION TRANSFORMER (NUMBER128)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 181
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16:00-20:00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion129)
((CONCLUSION TRANSFORMER)(NUMBER129)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 182
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT1A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20:00-04:00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion130)
((CONCLUSION TRANSFORMER)(NUMBER130)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 183
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT3A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20:00-04:00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion131)
((CONCLUSION TRANSFORMER)(NUMBER131)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 184
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion132)
((CONCLUSION TRANSFORMER)(NUMBER132)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 185
SELECT_TR

IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04 00-08 00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion133)
((CONCLUSION TRANSFORMER)(NUMBER133)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 185
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08 00-16 00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion134)
((CONCLUSION TRANSFORMER)(NUMBER134)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 186
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08 00-16 00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion135)
((CONCLUSION TRANSFORMER)(NUMBER135)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 187
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16 00-20 00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion136)
((CONCLUSION TRANSFORMER)(NUMBER136)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 188
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16 00-20 00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion137)
((CONCLUSION TRANSFORMER)(NUMBER137)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 189
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20 00-04 00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion138)
((CONCLUSION TRANSFORMER)(NUMBER138)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 190
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT4A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20 00-04 00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion139)
((CONCLUSION TRANSFORMER)(NUMBER139)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 191
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04 00-08 00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion140)
((CONCLUSION TRANSFORMER)(NUMBER140)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 192
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04 00-08 00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion141)
((CONCLUSION TRANSFORMER)(NUMBER141)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 193
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08 00-16 00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion142)
((CONCLUSION TRANSFORMER)(NUMBER142)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 194
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08 00-16 00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion143)
((CONCLUSION TRANSFORMER)(NUMBER143)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 195
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16 00-20 00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion144)
((CONCLUSION TRANSFORMER)(NUMBER144)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 196
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16 00-20 00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion145)
((CONCLUSION TRANSFORMER)(NUMBER145)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 197
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))

((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion145)
((CONCLUSION TRANSFORMER)(NUMBER146)=(ATOMIC TRUE
END-OF-RULE
IDENTIFY 198
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(9) = (ATOMIC TRUE
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT TRANSFORMER)(KT5A)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion147)
((CONCLUSION TRANSFORMER)(NUMBER147)=(ATOMIC TRUE
END-OF-RULE
IDENTIFY 199
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE
THEN
(@ fault21)
((SELECT CIRCUIT)(' CIRCUIT_PEA))=(ATOMIC TRUE))
(@ fault22)
((SELECT RELAY)(' RELAY_PEA))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 200
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04.00-08.00AM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion148)
((CONCLUSION PEA)(NUMBER148)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 201
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04.00-08.00AM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion149)
((CONCLUSION PEA)(NUMBER149)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 202
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion150)
((CONCLUSION PEA)(NUMBER150)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 203
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion151)
((CONCLUSION PEA)(NUMBER151)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 204
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion152)
((CONCLUSION PEA)(NUMBER152)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 205
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion153)
((CONCLUSION PEA)(NUMBER153)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 206
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion154)
((CONCLUSION PEA)(NUMBER154)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 207
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion155)
((CONCLUSION PEA)(NUMBER155)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 208
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04.00-08.00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion156)
((CONCLUSION PEA)(NUMBER156)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 209
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04.00-08.00AM ) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion157)
((CONCLUSION PEA)(NUMBER157)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 210
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion158)
((CONCLUSION PEA)(NUMBER158)=(ATOMIC TRUE))

```
END-OF-RULE
IDENTIFY 211
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion159)
((CONCLUSION PEA)(NUMBER159)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 212
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion160)
((CONCLUSION PEA)(NUMBER160)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 213
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion161)
((CONCLUSION PEA)(NUMBER161)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 214
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion162)
((CONCLUSION PEA)(NUMBER162)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 215
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion163)
((CONCLUSION PEA)(NUMBER163)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 216
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04.00-08.00AM.) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion164)
((CONCLUSION PEA)(NUMBER164)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 217
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04.00-08.00AM.) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion165)
((CONCLUSION PEA)(NUMBER165)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 218
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion166)
((CONCLUSION PEA)(NUMBER166)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 219
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08.00-16.00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion167)
((CONCLUSION PEA)(NUMBER167)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 220
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion168)
((CONCLUSION PEA)(NUMBER168)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 221
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16.00-20.00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion169)
((CONCLUSION PEA)(NUMBER169)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 222
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion170)
((CONCLUSION PEA)(NUMBER170)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 223
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20.00-04.00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion171)
((CONCLUSION PEA)(NUMBER171)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 224
PEA_NUMBER1-33KV
IF
```

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((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM ) = (ATOMIC TRUE
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion172)
((CONCLUSION PEA)(NUMBER172)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 225
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT_TIME SDO) (04:00-08:00AM ) = (ATOMIC TRUE
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion173)
((CONCLUSION PEA)(NUMBER173)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 226
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08:00-16:00AM-PM) = (ATOMIC TRUE
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion174)
((CONCLUSION PEA)(NUMBER174)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 227
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT_TIME SDO) (08:00-16:00AM-PM) = (ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion175)
((CONCLUSION PEA)(NUMBER175)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 228
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16:00-20:00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion176)
((CONCLUSION PEA)(NUMBER176)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 229
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT_TIME SDO)(16:00-20:00 PM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion177)
((CONCLUSION PEA)(NUMBER177)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 23:
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20:00-04:00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT WEATHER)(NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion178)
((CONCLUSION PEA)(NUMBER178)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 231
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT_TIME SDO)(20:00-04:00 PM-AM)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT WEATHER)(NO NORMAL)=(ATOMIC TRUE))
THEN
(@ conclusion179)
((CONCLUSION PEA)(NUMBER179)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 232
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(DIFF)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)(? SDO_TIME))=(ATOMIC TRUE))
(@ fault20)
((SELECT WEATHER)(? WEATHER_HY2))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 233
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(O/C)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)(? SDO_TIME))=(ATOMIC TRUE))
(@ fault20)
((SELECT WEATHER)(? WEATHER_HY2))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 234
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
THEN
(@ fault6)
((SELECT WEATHER_SDO)(? SDO_WEATHER))=(ATOMIC TRUE))
(@ fault7)
((SELECT PEOPLE_SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 235
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion180)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 236
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion181)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 237
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion182)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 238
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
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(@ conclusion183)
((CONCLUSION TR(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 239
SELECT_TR
IF
 (SELECT MENU)(1) = (ATOMIC TRUE))
 (SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
 (SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
 (SELECT RELAY)(3)=(ATOMIC TRUE))
 (SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
 (SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
 (SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion184)
((CONCLUSION TR(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 240
SELECT_TR
IF
 (SELECT MENU)(1) = (ATOMIC TRUE))
 (SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
 (SELECT TRANSFORMER)(1)=(ATOMIC TRUE))
 (SELECT RELAY)(3)=(ATOMIC TRUE))
 (SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
 (SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
 (SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion185)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 241
SELECT_TR
IF
 (SELECT MENU)(1) = (ATOMIC TRUE))
 (SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
 (SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
 (SELECT RELAY)(3)=(ATOMIC TRUE))
 (SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
 (SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
 (SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion186)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 242
SELECT_TR
IF
 (SELECT MENU)(1) = (ATOMIC TRUE))
 (SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
 (SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
 (SELECT RELAY)(3)=(ATOMIC TRUE))
 (SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
 (SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
 (SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion187)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 243
SELECT_TR
IF
 (SELECT MENU)(1) = (ATOMIC TRUE))
 (SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
 (SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
 (SELECT RELAY)(3)=(ATOMIC TRUE))
 (SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
 (SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
 (SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion188)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 244
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion189)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 245
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion190)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 246
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(2)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion191)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 247
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion192)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 248
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion193)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 249
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion194)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 250
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion195)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 251
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion196)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 251
SELECT_TR
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (9) = (ATOMIC TRUE))
((SELECT TRANSFORMER)(3)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT RELAY)(LIGHTNING)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion197)
((CONCLUSION TR)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 252
SELECT_PEA
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT RELAY)(1)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)(? SDO_TIME))=(ATOMIC TRUE))
(@ fault20)
((SELECT WEATHERX(? WEATHER_HY2))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 253
SELECT_PEA
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT RELAY)(2)=(ATOMIC TRUE))
((SELECT RELAY)(OVER CURRENT AND GROUND O/C)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)(? SDO_TIME))=(ATOMIC TRUE))
(@ fault20)
((SELECT WEATHERX)(? WEATHER_HY2))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 254
SELECT_PEA
```

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IF
(SELECT MENU)(1) = (ATOMIC TRUE))
(SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
(SELECT RELAY)(3)=(ATOMIC TRUE
THEN
(@ fault6)
(SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
(@ fault7)
(SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 255
SELECT_PEA
IF
(SELECT MENU)(1) = (ATOMIC TRUE)
(SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
(SELECT CIRCUIT)(1)=(ATOMIC TRUE)
(SELECT RELAY)(3)=(ATOMIC TRUE
(SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
(SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion198)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 256
SELECT_PEA
IF
(SELECT MENU)(1) = (ATOMIC TRUE
(SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
(SELECT CIRCUIT)(1)=(ATOMIC TRUE)
(SELECT RELAY)(3)=(ATOMIC TRUE
(SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
(SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion199)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 257
SELECT_PEA
IF
(SELECT MENU)(1) = (ATOMIC TRUE
(SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
(SELECT CIRCUIT)(1)=(ATOMIC TRUE
(SELECT RELAY)(3)=(ATOMIC TRUE)
(SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
(SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion200)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 258
SELECT_PEA
IF
(SELECT MENU)(1) = (ATOMIC TRUE
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE
((SELECT RELAY)(3)=(ATOMIC TRUE)
((SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion201)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 259
SELECT_PEA
IF
((SELECT MENU)(1) = (ATOMIC TRUE
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE)
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion202)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 260
SELECT_PEA
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE)
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion203)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 260
SELECT_PEA
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion204)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 261
SELECT_PEA
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(1)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion205)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 262
SELECT_PEA
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion206)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 263
SELECT_PEA
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(2)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion207)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 264
SELECT_PEA
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion208)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 265
SELECT_PEA
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT RELAY)(3)=(ATOMIC TRUE))
((SELECT WEATHER_SDO)(3)=(ATOMIC TRUE))
((SELECT PEOPLE_SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion209)
((CONCLUSION PEA)(NUMBER)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 266
SELECT_UF
IF
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(10) = (ATOMIC TRUE))
THEN
(@ fault23)
((UF RELAY)(? uf_relay))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 267
SELECT_UF
IF
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(10) = (ATOMIC TRUE))
((UF RELAY)(1)=(ATOMIC TRUE))
THEN
(@ conclusion234)
((CONCLUSION UF)(NUMBER234)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 268
SELECT_UF
IF
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(10) = (ATOMIC TRUE))
((UF RELAY)(2)=(ATOMIC TRUE))
THEN
(@ conclusion235)
((CONCLUSION UF)(NUMBER235)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 269
SELECT_UF
IF
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(10) = (ATOMIC TRUE))
((UF RELAY)(3)=(ATOMIC TRUE))
THEN
(@ conclusion236)
((CONCLUSION UF)(NUMBER236)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 270
SELECT_UF
IF
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(10) = (ATOMIC TRUE))
((UF RELAY)(4)=(ATOMIC TRUE))
THEN
(@ conclusion237)
((CONCLUSION UF)(NUMBER237)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 271
PEA_NUMBER(1-3)KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
THEN
(@ fault11)
((SELECT_TIME SDO)(? SDO_TIME))=(ATOMIC TRUE))
(@ fault20)
((SELECT WEATHER)(? WEATHER_HY2))=(ATOMIC TRUE))
(@ fault12)
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((SELECT_PEOPLE SDO)(? SDO_PEOPLE))=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 271
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHERX)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion246)
((CONCLUSION DIFF)(NUMBER246)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 272
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHERX)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion247)
((CONCLUSION DIFF)(NUMBER247)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 273
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHERX)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion248)
((CONCLUSION DIFF)(NUMBER248)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 274
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHERX)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion249)
((CONCLUSION DIFF)(NUMBER249)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 275
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT WEATHERX)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion250)
((CONCLUSION DIFF)(NUMBER250)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 276
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT WEATHERX)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion251)
((CONCLUSION DIFF)(NUMBER251)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 277
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT WEATHERX)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion252)
((CONCLUSION DIFF)(NUMBER252)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 278
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)= ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT WEATHERX)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion253)
((CONCLUSION DIFF)(NUMBER253)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 279
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT WEATHERX)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion254)
((CONCLUSION DIFF)(NUMBER254)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 280
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT WEATHERX)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion255)
((CONCLUSION DIFF)(NUMBER255)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 281
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT WEATHERX)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion256)
((CONCLUSION DIFF)(NUMBER256)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 282
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT WEATHERX)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion257)
((CONCLUSION DIFF)(NUMBER257)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 283
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT WEATHERX)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion258)
((CONCLUSION DIFF)(NUMBER258)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 284
PEA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE) (8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT WEATHERX)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion259)
((CONCLUSION DIFF)(NUMBER259)=(ATOMIC TRUE))

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END-OF-RULE
IDENTIFY 285
PBA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT WEATHERR)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion260)
((CONCLUSION DIFF)(NUMBER260)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 286
PBA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(1)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER1 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT WEATHERR)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion261)
((CONCLUSION DIFF)(NUMBER261)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 287
PBA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
THEN
(@ rule11)
((SELECT_TIME SDO)(? SDO_TIME1)=(ATOMIC TRUE))
(@ rule1)
((SELECT WEATHER)(? WEATHER_HY1)=(ATOMIC TRUE))
(@ rule11)
((SELECT_PEOPLE SDO)(? SDO_PEOPLE1)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 288
PBA_NUMBER1-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHERR)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion262)
((CONCLUSION DIFF)(NUMBER262)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 289
PBA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT WEATHERR)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion263)
((CONCLUSION DIFF)(NUMBER263)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 290
PBA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHERR)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion264)
((CONCLUSION DIFF)(NUMBER264)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 291
PBA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(1)=(ATOMIC TRUE))
((SELECT WEATHERR)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion265)
((CONCLUSION DIFF)(NUMBER265)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 292
PBA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT WEATHERR)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion267)
((CONCLUSION DIFF)(NUMBER267)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 294
PBA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT WEATHERR)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion268)
((CONCLUSION DIFF)(NUMBER268)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 295
PBA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(2)=(ATOMIC TRUE))
((SELECT WEATHERR)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion269)
((CONCLUSION DIFF)(NUMBER269)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 296
PBA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT WEATHERR)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion270)
((CONCLUSION DIFF)(NUMBER270)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 297
PBA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT WEATHERR)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion271)
((CONCLUSION DIFF)(NUMBER271)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 298
PBA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE))
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PBA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT WEATHERR)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion272)
((CONCLUSION DIFF)(NUMBER272)=(ATOMIC TRUE))
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END-OF-RULE
IDENTIFY 299
PEA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(3)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion275)
((CONCLUSION DIFF)(NUMBER275)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 300
PEA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion274)
((CONCLUSION DIFF)(NUMBER274)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 301
PEA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT WEATHER)(1)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(3)=(ATOMIC TRUE))
THEN
(@ conclusion275)
((CONCLUSION DIFF)(NUMBER275)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 302
PEA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(1)=(ATOMIC TRUE))
THEN
(@ conclusion276)
((CONCLUSION DIFF)(NUMBER276)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 303
PEA_NUMBER2-33KV
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT_DIAGNOSIS TRANSMISSION_LINE)(8) = (ATOMIC TRUE
((SELECT CIRCUIT)(2)=(ATOMIC TRUE))
((SELECT CIRCUIT)(PEA NUMBER2 33KV)=(ATOMIC TRUE))
((SELECT RELAY)(4)=(ATOMIC TRUE))
((SELECT RELAY)(DIFFERENTIAL RELAY)=(ATOMIC TRUE))
((SELECT_TIME SDO)(4)=(ATOMIC TRUE))
((SELECT WEATHER)(2)=(ATOMIC TRUE))
((SELECT_PEOPLE SDO)(2)=(ATOMIC TRUE))
THEN
(@ conclusion277)
((CONCLUSION DIFF)(NUMBER277)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 400
SELECT_RESTORATION
IF
((SELECT MENU)(1) = (ATOMIC TRUE))
((SELECT MENU)(RESTORATION)=(ATOMIC TRUE))
THEN
(@ logo2)
((LOGO SYSTEM)(RESTORATION)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 401
SELECT_RESTORATION
IF
((SELECT MENU)(2) = (ATOMIC TRUE))
((SELECT MENU)(RESTORATION)=(ATOMIC TRUE))
((LOGO SYSTEM)(RESTORATION)=(ATOMIC TRUE))
THEN
(@ restoration1)
((STATUS BKR_PU#1-HY2)(PU 8062)=(ATOMIC (? BKR1)))
((STATUS BKR_HY2-PU#1)(HY2 8032)=(ATOMIC (? BKR2)))
((STATUS BKR_PU#2-HY2)(PU 8042)=(ATOMIC (? BKR3)))
((STATUS BKR_HY2-PU#2)(HY2 80062)=(ATOMIC (? BKR4)))
((STATUS BKR_HY1#1-HY2)(HY1 7062)=(ATOMIC (? BKR5)))
((STATUS BKR_HY1-HY1#1)(HY2 700612)=(ATOMIC (? BKR6)))
((STATUS BKR_HY1#2-HY2)(HY1 7042)=(ATOMIC (? BKR7)))
((STATUS BKR_HY1-HY1#2)(HY2 700722)=(ATOMIC (? BKR8)))
((STATUS BKR_SKL#1-HY2)(SKL 70042)=(ATOMIC (? BKR9)))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC (? BKR10)))
((STATUS BKR_SKL#2-HY2)(SKL 70062)=(ATOMIC (? BKR11)))
((STATUS BKR_HY2-SKL#2)(HY2 701222)=(ATOMIC (? BKR12)))
((STATUS BKR_PTN#1-HY2)(PTN 7072)=(ATOMIC (? BKR13)))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC (? BKR14)))
((STATUS BKR_PTN#2-HY2)(PTN 7082)=(ATOMIC (? BKR15)))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC (? BKR16)))
((STATUS BKR_SDO-HY2)(SDO 7022)=(ATOMIC (? BKR17)))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC (? BKR18)))
((STATUS RY_PU#1-HY2)(PU 8062)=(ATOMIC (? RY1)))
((STATUS RY_HY2-PU#1)(HY2 8032)=(ATOMIC (? RY2)))
((STATUS RY_PU#2-HY2)(PU 8042)=(ATOMIC (? RY3)))
((STATUS RY_HY2-PU#2)(HY2 80062)=(ATOMIC (? RY4)))
((STATUS RY_HY1#1-HY2)(HY1 7062)=(ATOMIC (? RY5)))
((STATUS RY_HY1-HY1#1)(HY2 700612)=(ATOMIC (? RY6)))
((STATUS RY_HY1#2-HY2)(HY1 7042)=(ATOMIC (? RY7)))
((STATUS RY_HY1-HY1#2)(HY2 700722)=(ATOMIC (? RY8)))
((STATUS RY_SKL#1-HY2)(SKL 70042)=(ATOMIC (? RY9)))
((STATUS RY_HY2-SKL#1)(HY2 701112)=(ATOMIC (? RY10)))
((STATUS RY_SKL#2-HY2)(SKL 70062)=(ATOMIC (? RY11)))
((STATUS RY_HY2-SKL#2)(HY2 701222)=(ATOMIC (? RY12)))
((STATUS RY_PTN#1-HY2)(PTN 7072)=(ATOMIC (? RY13)))
((STATUS RY_HY2-PTN#1)(HY2 700312)=(ATOMIC (? RY14)))
((STATUS RY_PTN#2-HY2)(PTN 7082)=(ATOMIC (? RY15)))
((STATUS RY_HY2-PTN#2)(HY2 700222)=(ATOMIC (? RY16)))
((STATUS RY_SDO-HY2)(SDO 7022)=(ATOMIC (? RY17)))
((STATUS RY_HY2-SDO)(HY2 700812)=(ATOMIC (? RY18)))
(@ restoration2)
((TABLE CONCLUSION)(STATUS)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 402
SELECT_RESTORATION
IF
((STATUS BKR_PU#1-HY2)(PU 8062)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PU#1)(HY2 8032)=(ATOMIC CLOSED))
((STATUS BKR_PU#2-HY2)(PU 8042)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PU#2)(HY2 80062)=(ATOMIC CLOSED))
((STATUS BKR_HY1#1-HY2)(HY1 7062)=(ATOMIC CLOSED))
((STATUS BKR_HY1-HY1#1)(HY2 700612)=(ATOMIC CLOSED))
((STATUS BKR_HY1#2-HY2)(HY1 7042)=(ATOMIC CLOSED))
((STATUS BKR_HY1-HY1#2)(HY2 700722)=(ATOMIC CLOSED))
((STATUS BKR_SKL#1-HY2)(SKL 70042)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC CLOSED))
((STATUS BKR_SKL#2-HY2)(SKL 70062)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#2)(HY2 701222)=(ATOMIC CLOSED))
((STATUS BKR_PTN#1-HY2)(PTN 7072)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC CLOSED))
((STATUS BKR_PTN#2-HY2)(PTN 7082)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC CLOSED))
((STATUS BKR_SDO-HY2)(SDO 7022)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC CLOSED))
((STATUS RY_PU#1-HY2)(PU 8062)=(ATOMIC NO))
((STATUS RY_HY2-PU#1)(HY2 8032)=(ATOMIC NO))
((STATUS RY_PU#2-HY2)(PU 8042)=(ATOMIC NO))
((STATUS RY_HY2-PU#2)(HY2 80062)=(ATOMIC NO))
((STATUS RY_HY1#1-HY2)(HY1 7062)=(ATOMIC NO))
((STATUS RY_HY2-HY1#1)(HY2 700612)=(ATOMIC NO))
((STATUS RY_HY1#2-HY2)(HY1 7042)=(ATOMIC NO))
((STATUS RY_HY2-HY1#2)(HY2 700722)=(ATOMIC NO))
((STATUS RY_SKL#1-HY2)(SKL 70042)=(ATOMIC NO))
((STATUS RY_HY2-SKL#1)(HY2 701112)=(ATOMIC NO))
((STATUS RY_SKL#2-HY2)(SKL 70062)=(ATOMIC NO))
((STATUS RY_HY2-SKL#2)(HY2 701222)=(ATOMIC NO))
((STATUS RY_PTN#1-HY2)(PTN 7072)=(ATOMIC NO))
((STATUS RY_HY2-PTN#1)(HY2 700312)=(ATOMIC NO))
((STATUS RY_PTN#2-HY2)(PTN 7082)=(ATOMIC NO))
((STATUS RY_HY2-PTN#2)(HY2 700222)=(ATOMIC NO))
((STATUS RY_SDO-HY2)(SDO 7022)=(ATOMIC NO))
((STATUS RY_HY2-SDO)(HY2 700812)=(ATOMIC NO))
THEN
(@ conclusion1000)
((NTW RESTORATION)(CONCLUSION1000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 403
SELECT_RESTORATION
IF
((STATUS BKR_PU#1-HY2)(PU 8062)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PU#1)(HY2 8032)=(ATOMIC OPENED*))
((STATUS RY_PU#1-HY2)(PU 8062)=(ATOMIC YES))
((STATUS RY_HY2-PU#1)(HY2 8032)=(ATOMIC YES))
THEN
(@ conclusion1001)
((NTW RESTORATION)(CONCLUSION1001)=(ATOMIC TRUE))
(@ conclusion2001)
((SYS RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
(@ restoration3)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2000)
((NTW RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 404
SELECT_RESTORATION
IF
((STATUS BKR_PU#2-HY2)(PU 8042)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PU#2)(HY2 80062)=(ATOMIC OPENED*))
((STATUS RY_PU#2-HY2)(PU 8042)=(ATOMIC YES))
((STATUS RY_HY2-PU#2)(HY2 80062)=(ATOMIC YES))
THEN
(@ conclusion1002)
((NTW RESTORATION)(CONCLUSION1002)=(ATOMIC TRUE))
(@ conclusion2002)
((SYS RESTORATION)(CONCLUSION2002)=(ATOMIC TRUE))
(@ restoration3)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2000)
((NTW RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 405
SELECT_RESTORATION
IF
((STATUS BKR_HY1#1-HY2)(HY1 7062)=(ATOMIC OPENED*))
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*))
((STATUS RY_HY1#1-HY2)(HY1 7062)=(ATOMIC YES))
((STATUS RY_HY2-HY1#1)(HY2 700612)=(ATOMIC YES))
```

THEN
((@ conclusion1003)
((NTW RESTORATION)(CONCLUSION1003)=(ATOMIC TRUE))
((@ conclusion2003)
((SYS RESTORATION)(CONCLUSION2003)=(ATOMIC TRUE))
((@ restoration5)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2000)
((NTW RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 406
SELECT_RESTORATION
IF
((STATUS BKR_HY1#2-HY2)(HY1 7042)=(ATOMIC OPENED*))
((STATUS BKR_HY2-HY1#2)(HY2 700722)=(ATOMIC OPENED*))
((STATUS RY_HY1#2-HY2)(HY1 7042)=(ATOMIC YES))
((STATUS RY_HY2-HY1#2)(HY2 700722)=(ATOMIC YES))
THEN
((@ conclusion1004)
((NTW RESTORATION)(CONCLUSION1004)=(ATOMIC TRUE))
((@ conclusion2004)
((SYS RESTORATION)(CONCLUSION2004)=(ATOMIC TRUE))
((@ restoration5)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2000)
((NTW RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 407
SELECT_RESTORATION
IF
((STATUS BKR_SKL#1-HY2)(SKL 70042)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*))
((STATUS RY_SKL#1-HY2)(SKL 70042)=(ATOMIC YES))
((STATUS RY_HY2-SKL#1)(HY2 701112)=(ATOMIC YES))
THEN
((@ conclusion1005)
((NTW RESTORATION)(CONCLUSION1005)=(ATOMIC TRUE))
((@ conclusion2005)
((SYS RESTORATION)(CONCLUSION2005)=(ATOMIC TRUE))
((@ restoration6)
((NTW RESTORATION)(RESTORATION6)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2000)
((NTW RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 408
SELECT_RESTORATION
IF
((STATUS BKR_SKL#2-HY2)(SKL 70062)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SKL#2)(HY2 701222)=(ATOMIC OPENED*))
((STATUS RY_SKL#2-HY2)(SKL 70062)=(ATOMIC YES))
((STATUS RY_HY2-SKL#2)(HY2 701222)=(ATOMIC YES))
THEN
((@ conclusion1006)
((NTW RESTORATION)(CONCLUSION1006)=(ATOMIC TRUE))
((@ conclusion2006)
((SYS RESTORATION)(CONCLUSION2006)=(ATOMIC TRUE))
((@ restoration5)
((NTW RESTORATION)(RESTORATION6)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2000)
((NTW RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 409
SELECT_RESTORATION
IF
((STATUS BKR_PTN#1-HY2)(PTN 7072)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*))
((STATUS RY_PTN#1-HY2)(PTN 7072)=(ATOMIC YES))
((STATUS RY_HY2-PTN#1)(HY2 700312)=(ATOMIC YES))
THEN
((@ conclusion1007)
((NTW RESTORATION)(CONCLUSION1007)=(ATOMIC TRUE))
((@ conclusion2007)
((SYS RESTORATION)(CONCLUSION2007)=(ATOMIC TRUE))
((@ restoration6)
((NTW RESTORATION)(RESTORATION6)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2000)
((NTW RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 410
SELECT_RESTORATION
IF
((STATUS BKR_PTN#2-HY2)(PTN 7082)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*))
((STATUS RY_PTN#2-HY2)(PTN 7082)=(ATOMIC YES))
((STATUS RY_HY2-PTN#2)(HY2 700222)=(ATOMIC YES))
THEN
((@ conclusion1008)
((NTW RESTORATION)(CONCLUSION1008)=(ATOMIC TRUE))
((@ conclusion2008)
((SYS RESTORATION)(CONCLUSION2008)=(ATOMIC TRUE))
((@ restoration6)
((NTW RESTORATION)(RESTORATION6)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2000)
((NTW RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 411
SELECT_RESTORATION
IF
((STATUS BKR_SDO-HY2)(SDO 7022)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*))
((STATUS RY_SDO-HY2)(SDO 7022)=(ATOMIC YES))
((STATUS RY_HY2-SDO)(HY2 700812)=(ATOMIC YES))
THEN
((@ conclusion1009)
((NTW RESTORATION)(CONCLUSION1009)=(ATOMIC TRUE))
((@ conclusion2009)
((SYS RESTORATION)(CONCLUSION2009)=(ATOMIC TRUE))
((@ restoration6)
((NTW RESTORATION)(RESTORATION6)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2000)
((NTW RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 412
SELECT_RESTORATION
IF
((STATUS BKR_FU#1-HY2)(FU 8062)=(ATOMIC CLOSED))
((STATUS BKR_HY2-FU#1)(HY2 8032)=(ATOMIC OPENED*))
((STATUS RY_FU#1-HY2)(FU 8062)=(ATOMIC YES))
((STATUS RY_HY2-FU#1)(HY2 8032)=(ATOMIC YES))
THEN
((@ conclusion1010)
((NTW RESTORATION)(CONCLUSION1010)=(ATOMIC TRUE))
((@ conclusion2001)
((SYS RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
((@ restoration3)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2010)
((NTW RESTORATION)(CONCLUSION2010)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 413
SELECT_RESTORATION
IF
((STATUS BKR_FU#1-HY2)(FU 8062)=(ATOMIC OPENED*))
((STATUS BKR_HY2-FU#1)(HY2 8032)=(ATOMIC CLOSED))
((STATUS RY_FU#1-HY2)(FU 8062)=(ATOMIC YES))
((STATUS RY_HY2-FU#1)(HY2 8032)=(ATOMIC YES))
THEN
((@ conclusion1011)
((NTW RESTORATION)(CONCLUSION1011)=(ATOMIC TRUE))
((@ conclusion2001)
((SYS RESTORATION)(CONCLUSION2000)=(ATOMIC TRUE))
((@ restoration3)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2010)
((NTW RESTORATION)(CONCLUSION2010)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 414
SELECT_RESTORATION
IF
((STATUS BKR_FU#1-HY2)(FU 8062)=(ATOMIC CLOSED))
((STATUS BKR_HY2-FU#1)(HY2 8032)=(ATOMIC CLOSED))
((STATUS RY_FU#1-HY2)(FU 8062)=(ATOMIC YES))
((STATUS RY_HY2-FU#1)(HY2 8032)=(ATOMIC YES))
THEN
((@ conclusion1012)
((NTW RESTORATION)(CONCLUSION1012)=(ATOMIC TRUE))
((@ conclusion2001)
((SYS RESTORATION)(CONCLUSION2001)=(ATOMIC TRUE))
((@ restoration3)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2011)
((NTW RESTORATION)(CONCLUSION2011)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 415
SELECT_RESTORATION
IF
((STATUS BKR_FU#2-HY2)(FU 8042)=(ATOMIC CLOSED))
((STATUS BKR_HY2-FU#2)(HY2 80062)=(ATOMIC OPENED*))
((STATUS RY_FU#2-HY2)(FU 8042)=(ATOMIC YES))
((STATUS RY_HY2-FU#2)(HY2 80062)=(ATOMIC YES))
THEN
((@ conclusion1014)
((NTW RESTORATION)(CONCLUSION1014)=(ATOMIC TRUE))
((@ conclusion2002)
((SYS RESTORATION)(CONCLUSION2002)=(ATOMIC TRUE))
((@ restoration7)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2010)
((NTW RESTORATION)(CONCLUSION2010)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 416
SELECT_RESTORATION
IF
((STATUS BKR_FU#2-HY2)(FU 8042)=(ATOMIC OPENED*))
((STATUS BKR_HY2-FU#2)(HY2 80062)=(ATOMIC CLOSED))
((STATUS RY_FU#2-HY2)(FU 8042)=(ATOMIC YES))
((STATUS RY_HY2-FU#2)(HY2 80062)=(ATOMIC YES))
THEN
((@ conclusion1015)
((NTW RESTORATION)(CONCLUSION1015)=(ATOMIC TRUE))
((@ conclusion2002)
((SYS RESTORATION)(CONCLUSION2002)=(ATOMIC TRUE))
((@ restoration3)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
((@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
((@ conclusion2010)
((NTW RESTORATION)(CONCLUSION2010)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 417
SELECT_RESTORATION
IF
((STATUS BKR_FU#2-HY2)(FU 8042)=(ATOMIC CLOSED))

((STATUS BKR_HY2-PU#2(HY2 80062)=(ATOMIC CLOSED
((STATUS RY_PU#2-HY2(PU 8042)=(ATOMIC YES))
((STATUS RY_HY2-PU#2)(HY2 80062)=(ATOMIC YES))
THEN
(@ conclusion1016)
((NTW RESTORATION)(CONCLUSION1016)=(ATOMIC TRUE
(@ conclusion2002)
((SYS RESTORATION)(CONCLUSION2002)=(ATOMIC TRUE
(@ restoration3)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE
(@ conclusion2011)
((NTW RESTORATION)(CONCLUSION2011)=(ATOMIC TRUE
END-OF-RULE
IDENTIFY 418
SELECT_RESTORATION
IF
((STATUS BKR_HY1#1-HY2)(HY1 7062)=(ATOMIC CLOSED
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*
((STATUS RY_HY1#1-HY2)(HY1 7062)=(ATOMIC YES))
((STATUS RY_HY2-HY1#1)(HY2 700612)=(ATOMIC YES))
THEN
(@ conclusion1017)
((NTW RESTORATION)(CONCLUSION1017)=(ATOMIC TRUE
(@ conclusion2003)
((SYS RESTORATION)(CONCLUSION2003)=(ATOMIC TRUE
(@ restoration6)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE
(@ conclusion2010)
((NTW RESTORATION)(CONCLUSION2010)=(ATOMIC TRUE
END-OF-RULE
IDENTIFY 419
SELECT_RESTORATION
IF
((STATUS BKR_HY1#1-HY2)(HY1 7062)=(ATOMIC OPENED*
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC CLOSED
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*
((STATUS RY_HY1#1-HY2)(HY1 7062)=(ATOMIC YES))
((STATUS RY_HY2-HY1#1)(HY2 700612)=(ATOMIC YES))
THEN
(@ conclusion1018)
((NTW RESTORATION)(CONCLUSION1018)=(ATOMIC TRUE
(@ conclusion2003)
((SYS RESTORATION)(CONCLUSION2003)=(ATOMIC TRUE
(@ restoration6)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE
(@ conclusion2012)
((NTW RESTORATION)(CONCLUSION2012)=(ATOMIC TRUE
END-OF-RULE
IDENTIFY 420
SELECT_RESTORATION
IF
((STATUS BKR_HY1#1-HY2)(HY1 7062)=(ATOMIC CLOSED
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC CLOSED
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*)
((STATUS RY_HY1#1-HY2)(HY1 7062)=(ATOMIC YES))
((STATUS RY_HY2-HY1#1)(HY2 700612)=(ATOMIC YES))
THEN
(@ conclusion1019)
((NTW RESTORATION)(CONCLUSION1019)=(ATOMIC TRUE
(@ conclusion2003)
((SYS RESTORATION)(CONCLUSION2003)=(ATOMIC TRUE
(@ restoration5)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4
NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2013
((NTW RESTORATION)(CONCLUSION2013)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 421
SELECT_RESTORATION
IF
((STATUS BKR_HY1#2-HY2)(HY1 7042)=(ATOMIC CLOSED))
((STATUS BKR_HY2-HY1#2)(HY2 700722)=(ATOMIC OPENED*))
((STATUS RY_HY1#2-HY2)(HY1 7042)=(ATOMIC YES))
((STATUS RY_HY2-HY1#2)(HY2 700722)=(ATOMIC YES))
THEN
(@ conclusion1020)
((NTW RESTORATION)(CONCLUSION1020)=(ATOMIC TRUE))
(@ conclusion2004)
((SYS RESTORATION)(CONCLUSION2004)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2014)
((NTW RESTORATION)(CONCLUSION2014)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 422
SELECT_RESTORATION
IF
((STATUS BKR_HY1#2-HY2)(HY1 7042)=(ATOMIC CLOSED))
((STATUS BKR_HY2-HY1#2)(HY2 700722)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#2)(HY2 701222)=(ATOMIC OPENED*))
((STATUS RY_HY1#2-HY2)(HY1 7042)=(ATOMIC YES))
((STATUS RY_HY2-HY1#2)(HY2 700722)=(ATOMIC YES))
THEN
(@ conclusion1021)
((NTW RESTORATION)(CONCLUSION1021)=(ATOMIC TRUE))
(@ conclusion2004)
((SYS RESTORATION)(CONCLUSION2004)=(ATOMIC TRUE))
(@ restoration6
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2014)
((NTW RESTORATION)(CONCLUSION2014)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 423
SELECT_RESTORATION
IF
((STATUS BKP_HY1#2-HY2)(HY1 7042)=(ATOMIC CLOSED))
((STATUS BKR_HY2-HY1#2)(HY2 700722)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#2)(HY2 701222)=(ATOMIC OPENED*))
((STATUS RY_HY1#2-HY2)(HY1 7042)=(ATOMIC YES))
((STATUS RY_HY2-HY1#2)(HY2 700722)=(ATOMIC YES))
THEN
(@ conclusion1022)
((NTW RESTORATION)(CONCLUSION1022)=(ATOMIC TRUE))
(@ conclusion2004)
((SYS RESTORATION)(CONCLUSION2004)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2015)
((NTW RESTORATION)(CONCLUSION2015)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 424
SELECT_RESTORATION
IF
((STATUS BKR_SKL#1-HY2)(SKL 70042)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*))
((STATUS RY_SKL#1-HY2)(SKL 70042)=(ATOMIC YES))
((STATUS RY_HY2-SKL#1)(HY2 701112)=(ATOMIC YES))
THEN
(@ conclusion1023)
((NTW RESTORATION)(CONCLUSION1023)=(ATOMIC TRUE))
(@ conclusion2005)
((SYS RESTORATION)(CONCLUSION2005)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2016)
((NTW RESTORATION)(CONCLUSION2016)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 425
SELECT_RESTORATION
IF
((STATUS BKR_SKL#1-HY2)(SKL 70042)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC CLOSED))
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*))
((STATUS RY_SKL#1-HY2)(SKL 70042)=(ATOMIC YES))
((STATUS RY_HY2-SKL#1)(HY2 701112)=(ATOMIC YES))
THEN
(@ conclusion1024)
((NTW RESTORATION)(CONCLUSION1024)=(ATOMIC TRUE))
(@ conclusion2005)
((SYS RESTORATION)(CONCLUSION2005)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2012)
((NTW RESTORATION)(CONCLUSION2012)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 426
SELECT_RESTORATION
IF
((STATUS BKR_SKL#1-HY2)(SKL 70042)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC CLOSED))
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*))
((STATUS RY_SKL#1-HY2)(SKL 70042)=(ATOMIC YES))
((STATUS RY_HY2-SKL#1)(HY2 701112)=(ATOMIC YES))
THEN
(@ conclusion1025)
((NTW RESTORATION)(CONCLUSION1025)=(ATOMIC TRUE))
(@ conclusion2005)
((SYS RESTORATION)(CONCLUSION2005)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2013)
((NTW RESTORATION)(CONCLUSION2013)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 427
SELECT_RESTORATION
IF
((STATUS BKR_SKL#2-HY2)(SKL 70062)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#2)(HY2 701222)=(ATOMIC OPENED*))
((STATUS RY_SKL#2-HY2)(SKL 70062)=(ATOMIC YES))
((STATUS RY_HY2-SKL#2)(HY2 701222)=(ATOMIC YES))
THEN
(@ conclusion1026)
((NTW RESTORATION)(CONCLUSION1026)=(ATOMIC TRUE))
(@ conclusion2006)
((SYS RESTORATION)(CONCLUSION2006)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION3)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2016)
((NTW RESTORATION)(CONCLUSION2016)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 429
SELECT_RESTORATION

IF
((STATUS BKR_SKL#2-HY2)(SKL 70062)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SKL#2)(HY2 701222)=(ATOMIC CLOSED))
((STATUS BKR_HY2-HY1#2)(HY2 700722)=(ATOMIC OPENED*))
((STATUS RY_SKL#2-HY2)(SKL 70062)=(ATOMIC YES))
((STATUS RY_HY2-SKL#2)(HY2 701222)=(ATOMIC YES))
THEN
(@ conclusion1027)
((NTW RESTORATION)(CONCLUSION1027)=(ATOMIC TRUE))
(@ conclusion2006)
((SYS RESTORATION)(CONCLUSION2006)=(ATOMIC TRUE))
(@ restoration5)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2014)
((NTW RESTORATION)(CONCLUSION2014)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 430
SELECT_RESTORATION
IF
((STATUS BKR_SKL#2-HY2)(SKL 70062)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#2)(HY2 701222)=(ATOMIC CLOSED))
((STATUS BKR_HY2-HY1#2)(HY2 700722)=(ATOMIC OPENED*))
((STATUS RY_SKL#2-HY2)(SKL 70062)=(ATOMIC YES))
((STATUS RY_HY2-SKL#2)(HY2 701222)=(ATOMIC YES))
THEN
(@ conclusion1028)
((NTW RESTORATION)(CONCLUSION1028)=(ATOMIC TRUE))
(@ conclusion2006)
((SYS RESTORATION)(CONCLUSION2006)=(ATOMIC TRUE))
(@ restoration5)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2015)
((NTW RESTORATION)(CONCLUSION2015)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 431
SELECT_RESTORATION
IF
((STATUS BKR_PTN#1-HY2)(PTN 7072)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*))
((STATUS RY_PTN#1-HY2)(PTN 7072)=(ATOMIC YES))
((STATUS RY_HY2-PTN#1)(HY2 700312)=(ATOMIC YES))
THEN
(@ conclusion1029)
((NTW RESTORATION)(CONCLUSION1029)=(ATOMIC TRUE))
(@ conclusion2007)
((SYS RESTORATION)(CONCLUSION2007)=(ATOMIC TRUE))
(@ restoration5)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2016)
((NTW RESTORATION)(CONCLUSION2016)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 432
SELECT_RESTORATION
IF
((STATUS BKR_PTN#1-HY2)(PTN 7072)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*))
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*))
((STATUS RY_PTN#1-HY2)(PTN 7072)=(ATOMIC YES))
((STATUS RY_HY2-PTN#1)(HY2 700312)=(ATOMIC YES))
THEN
(@ conclusion1030)
((NTW RESTORATION)(CONCLUSION1030)=(ATOMIC TRUE))
(@ conclusion2007)
((SYS RESTORATION)(CONCLUSION2007)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2013)
((NTW RESTORATION)(CONCLUSION2013)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 433
SELECT_RESTORATION
IF
((STATUS BKR_PTN#1-HY2)(PTN 7072)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*))
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*))
((STATUS RY_PTN#1-HY2)(PTN 7072)=(ATOMIC YES))
((STATUS RY_HY2-PTN#1)(HY2 700312)=(ATOMIC YES))
THEN
(@ conclusion1031)
((NTW RESTORATION)(CONCLUSION1031)=(ATOMIC TRUE))
(@ conclusion2007)
((SYS RESTORATION)(CONCLUSION2007)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2013)
((NTW RESTORATION)(CONCLUSION2013)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 434
SELECT_RESTORATION
IF
((STATUS BKR_PTN#2-HY2)(PTN 7082)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*))
((STATUS RY_PTN#2-HY2)(PTN 7082)=(ATOMIC YES))
((STATUS RY_HY2-PTN#2)(HY2 700222)=(ATOMIC YES))
THEN
(@ conclusion1032)
((NTW RESTORATION)(CONCLUSION1032)=(ATOMIC TRUE))
(@ conclusion2008)
((SYS RESTORATION)(CONCLUSION2008)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2016)
((NTW RESTORATION)(CONCLUSION2016)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 435
SELECT_RESTORATION
IF
((STATUS BKR_PTN#2-HY2)(PTN 7082)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*))
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*))
((STATUS RY_PTN#2-HY2)(PTN 7082)=(ATOMIC YES))
((STATUS RY_HY2-PTN#2)(HY2 700222)=(ATOMIC YES))
THEN
(@ conclusion1033)
((NTW RESTORATION)(CONCLUSION1033)=(ATOMIC TRUE))
(@ conclusion2008)
((SYS RESTORATION)(CONCLUSION2008)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2012)
((NTW RESTORATION)(CONCLUSION2012)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 436
SELECT_RESTORATION
IF
((STATUS BKR_PTN#2-HY2)(PTN 7082)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*))
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*))
((STATUS RY_PTN#2-HY2)(PTN 7082)=(ATOMIC YES))
((STATUS RY_HY2-PTN#2)(HY2 700222)=(ATOMIC YES))
THEN
(@ conclusion1034)
((NTW RESTORATION)(CONCLUSION1034)=(ATOMIC TRUE))
(@ conclusion2008)
((SYS RESTORATION)(CONCLUSION2008)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2013)
((NTW RESTORATION)(CONCLUSION2013)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 437
SELECT_RESTORATION
IF
((STATUS BKR_SDO-HY2)(SDO 7022)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC OPENED*))
((STATUS RY_SDO-HY2)(SDO 7022)=(ATOMIC YES))
((STATUS RY_HY2-SDO)(HY2 700812)=(ATOMIC YES))
THEN
(@ conclusion1035)
((NTW RESTORATION)(CONCLUSION1035)=(ATOMIC TRUE))
(@ conclusion2009)
((SYS RESTORATION)(CONCLUSION2009)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2016)
((NTW RESTORATION)(CONCLUSION2016)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 438
SELECT_RESTORATION
IF
((STATUS BKR_SDO-HY2)(SDO 7022)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*))
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*))
((STATUS RY_SDO-HY2)(SDO 7022)=(ATOMIC YES))
((STATUS RY_HY2-SDO)(HY2 700812)=(ATOMIC YES))
THEN
(@ conclusion1036)
((NTW RESTORATION)(CONCLUSION1036)=(ATOMIC TRUE))
(@ conclusion2009)
((SYS RESTORATION)(CONCLUSION2009)=(ATOMIC TRUE))
(@ restoration6)
((NTW RESTORATION)(RESTORATION5)=(ATOMIC TRUE))
(@ restoration4)
((NTW RESTORATION)(RESTORATION4)=(ATOMIC TRUE))
(@ conclusion2012)
((NTW RESTORATION)(CONCLUSION2012)=(ATOMIC TRUE))
END-OF-RULE
IDENTIFY 439
SELECT_RESTORATION
IF
((STATUS BKR_SDO-HY2)(SDO 7022)=(ATOMIC CLOSED))
((STATUS BKR_HY2-SDO)(HY2 700812)=(ATOMIC CLOSED))
((STATUS BKR_HY2-PTN#2)(HY2 700222)=(ATOMIC OPENED*))
((STATUS BKR_HY2-PTN#1)(HY2 700312)=(ATOMIC OPENED*))
((STATUS BKR_HY2-SKL#1)(HY2 701112)=(ATOMIC OPENED*))
((STATUS BKR_HY2-HY1#1)(HY2 700612)=(ATOMIC OPENED*))
((STATUS RY_SDO-HY2)(SDO 7022)=(ATOMIC YES))
((STATUS RY_HY2-SDO)(HY2 700812)=(ATOMIC YES))
THEN
(@ conclusion1037)
((NTW RESTORATION)(CONCLUSION1037)=(ATOMIC TRUE))
(@ conclusion2009)

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[10] RESTORATION(CONCLUSION205)=(ATOMIC TRUE))
(2 <action6>)
(NOT(= RESTORATION(RESTORATION) (ATOMIC TRUE))
(2 <action4>)
(NOT(= RESTORATION(RESTORATION4 = ATOMIC TRUE))
(2 <action3>)
(NOT(= RESTORATION(CONCLUSION213)=(ATOMIC TRUE))
)(NOT (= 3 RULE
(= ENTITY 44)
(SELECT(_SECOND_LINE RECLOSED
(=
 (SELECT(MENU (1 = (ATOMIC TRUE))
 (SELECT(_DIAGNOSIS TRANSMISSION_LINE)(2) = (ATOMIC TRUE))
 (SELECT(_RELAY PROTECTION(3)=(ATOMIC OPERATED))
THEN)
(2 <action4>
 (SELECT(WEATHER(1) WEATHER_HY)=(ATOMIC TRUE))
END (= 3 RULE
(= ENTITY 44)
(SELECT(_SECOND_LINE RECLOSED
(=
 (SELECT(MENU(1) = (ATOMIC TRUE))
 (SELECT(_DIAGNOSIS TRANSMISSION_LINE)(2) = (ATOMIC TRUE))
 (SELECT(_RELAY PROTECTION(3)=(ATOMIC OPERATED))
 (SELECT(WEATHER(1)=(ATOMIC TRUE))
THEN)
(2 <action278>
 (NOT(= RESTORATION(CONCLUSION275)=(ATOMIC TRUE))
END (= 3 RULE
(= ENTITY 44)
(SELECT(_SECOND_LINE RECLOSED
(=
((SELECT(MENU(1) = (ATOMIC TRUE))
((SELECT(_DIAGNOSIS TRANSMISSION_LINE)(2) = (ATOMIC TRUE))
((SELECT(_RELAY PROTECTION(3)=(ATOMIC OPERATED))
((SELECT(WEATHER(2)=(ATOMIC TRUE))
THEN)
(2 <action279>
((NOT(= RESTORATION(CONCLUSION279)=(ATOMIC TRUE))
END (= 3 RULE
```

**ภาคผนวก ค.**

**บทความทางวิชาการที่นำเสนอใน**

**การสัมมนาทางวิชาการสายงานธุรกิจระบบส่ง ประจำปี 2545**

**19-20 มิถุนายน พ.ศ. 2545**

**ณ ห้องประชุม กฟผ.1-3**

**การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย จ.นนทบุรี**

# ระบบผู้เชี่ยวชาญเพื่อช่วยในการวินิจฉัยฟอลท์ในระบบส่งกำลังไฟฟ้า และช่วยนำระบบกลับสู่สภาพเดิม

# Expert System for Fault Diagnosis and Assistance with Recovery from Faults in Electrical Transmission Systems.

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บทคัดย่อ

บทความนี้เป็นการนำเสนอระบบผู้เชี่ยวชาญเพื่อใช้ในการวิเคราะห์หาสาเหตุการเกิดฟอลท์ในระบบส่งกำลังไฟฟ้าและช่วยนำระบบกลับสู่สภาพเดิม ซึ่งระบบเปลือกผู้เชี่ยวชาญที่ใช้ในงานวิจัยนี้ถูกพัฒนาขึ้นโดยใช้ภาษา LISP วิธีการวิเคราะห์จะอาศัยสภาวะและปัจจัยแวดล้อมขณะเกิดฟอลท์มาใช้ในการค้นหาสาเหตุการเกิดฟอลท์ และอาศัยข้อมูลจากสถานะของเซอร์กิตเบรกเกอร์และรีเลย์ป้องกันในระบบส่งเพื่อนำมาประเมินผล โดยระบบจะเสนอหรือแนะนำข้อปฏิบัติให้กับผู้ปฏิบัติงานหรือโอเปอร์เรเตอร์ที่เป็นผู้ดูแลระบบ การใช้ระบบผู้เชี่ยวชาญจะช่วยเพิ่มความมั่นใจในการตัดสินใจให้กับผู้ปฏิบัติงานในสถานีไฟฟ้าย่อย อีกทั้งยังสามารถนำมาใช้สำหรับการอบรมเพื่อให้ผู้ปฏิบัติงานในสถานีไฟฟ้าย่อยนั้นๆมีความพร้อมและเข้าใจถึงหลักในการทำงานของอุปกรณ์ป้องกันในระบบอีกด้วย

**Abstract**

This paper presents an expert system both for fault diagnosis and for assistance with recovery from faults in electrical transmission systems. The expert system has been developed

using the LISP computer language. The expert system operates using the circuit conditions and the environmental factors when a fault occurs for finding the cause of the fault, and uses the status of the circuit breakers and relays for evaluating the information and for giving practical advice to the operator at the substation about the restoration of systems. The operational role for the expert system at the substation is to assist the operator, giving them more confidence in their work. The expert system can also be used in training role, ensuring the operators understand the principle of protection equipment in electrical transmission systems and are ready for whatever happens.

## 1. บทนำ

โดยปกติระบบส่งกำลังไฟฟ้าของการไฟฟ้าฝ่ายผลิตแห่งประเทศไทย จะประกอบด้วยส่วนหลักๆ คือ สถานีไฟฟ้าย่อย และสายส่งกำลังไฟฟ้า ซึ่งทั้งสองส่วนนี้มักจะประสบปัญหาในระหว่างการใช้งานอันเนื่องมาจากการเกิดฟอลท์ขึ้นในส่วนของระบบส่งด้วยสาเหตุต่างๆ ซึ่งเป็นผลให้อุปกรณ์ที่ทำหน้าที่ป้องกันในส่วนของระบบส่งทำงาน เช่น เซอร์กิตเบรกเกอร์ รีเลย์ เป็นต้น เป็นเหตุให้สายส่งที่เกิดเหตุขัดข้องถูกตัดออกจากระบบอันเนื่องมาจากการทำงานของอุปกรณ์ป้องกันดังกล่าวทำงานสั่งตัดวงจรของสายส่งที่มีปัญหาออก ซึ่งหากฟอลท์ที่เกิดขึ้นส่งผลให้สายส่งหลายส่วนถูกตัดขาดออกจากระบบ สภาวะเช่นนี้อาจจะนำปัญหามาสู่ระบบส่งกำลังไฟฟ้ารวมของระบบได้ และหากการแก้ไขปัญหาที่เกิดขึ้นเป็นไปด้วยความล่าช้าหรือไม่ทันอาจส่งผลให้เกิดไฟฟ้าดับทั้งเมืองหรือทั้งประเทศได้ (Blackout) ซึ่งจะเห็นว่าหากการแก้ไขปัญหาเป็นไปด้วยความล่าช้า จะทำให้การไฟฟ้าฝ่ายผลิตแห่งประเทศไทยต้องเสียค่าใช้จ่ายเพิ่มมากขึ้นโดยไม่จำเป็นจากปัญหาดังกล่าว ดังนั้นหากมีการหาสาเหตุของการเกิดฟอลท์ แล้วสามารถนำระบบกลับคืนได้เร็วที่สุด ก็จะช่วยลดปัญหาและค่าใช้จ่ายที่ไม่จำเป็นลงได้ แต่ในปัจจุบันในการที่จะทราบถึงสาเหตุที่ทำให้เกิดฟอลท์ได้อย่างรวดเร็ว ผู้ปฏิบัติงานในห้องควบคุมของแต่ละสถานีไฟฟ้าย่อยนั้นๆ จำเป็นต้องจดจำเหตุการณ์หรือสภาวะและปัจจัยแวดล้อมต่างๆ ที่จะนำไปสู่สาเหตุที่ทำให้เกิดฟอลท์แต่ละชนิดได้ ซึ่งจะต้องขึ้นอยู่กับความชำนาญของแต่ละบุคคลด้วย นอกจากนี้สาเหตุที่ทำให้เกิดฟอลท์นั้นมีมากมายหลายสาเหตุ และแต่ละสาเหตุก็อยู่ในสภาวะและปัจจัยแวดล้อมที่แตกต่างกันออกไป และบางสาเหตุก็เกิดขึ้นไม่บ่อยครั้งนัก ดังนั้นจะเห็นได้ว่า ผู้ปฏิบัติงานในแต่ละสถานีไฟฟ้าย่อยจะต้องหาสาเหตุให้ได้เพื่อความรวดเร็วในการเข้าไปเคลียร์ฟอลท์ออกให้หมดก่อนที่จะเข้าสู่วิธีการนำระบบไฟฟ้ากำลังกลับคืน ซึ่งส่วนนี้เป็นส่วนที่สำคัญซึ่งต้องอาศัยทักษะและประสบการณ์ของผู้ปฏิบัติงานในสถานีไฟฟ้าย่อยเอง อีกทั้งจะต้องทำงานด้วยความแม่นยำและรวดเร็ว ซึ่งหากว่าผู้ปฏิบัติงานไม่มีประสบการณ์ในการแก้ไขปัญหาหรือทำงานล่าช้า ขาดความมั่นใจ อาจทำให้เกิดผลเสียอย่างอื่นตาม

มาก็ได้ ดังนั้นระบบผู้เชี่ยวชาญนี้จึงเป็นระบบช่วยวิเคราะห์หาสาเหตุ ช่วยเพิ่มความมั่นใจ และเสนอแนะการปฏิบัติงานเพื่อนำระบบกลับคืนด้วยความมั่นใจยิ่งขึ้น

ระบบผู้เชี่ยวชาญที่สร้างขึ้นใช้โปรแกรมระบบเปลือกผู้เชี่ยวชาญที่พัฒนาขึ้นโดยใช้ภาษา LISP บนระบบปฏิบัติการ LINUX ซึ่งระบบไฟฟ้าที่ทำการศึกษาเพื่อสร้างฐานความรู้ต่างๆ เพื่อใช้ในการวิเคราะห์หาสาเหตุของฟอลท์และช่วยนำระบบกลับคืนจะเป็นทั้งระบบ 230 เควี และ 115 เควี ของการไฟฟ้าฝ่ายผลิตแห่งประเทศไทย โดยมีสถานีไฟฟ้าย่อยหาดใหญ่ 2 เป็นศูนย์กลาง และเป็นสถานีไฟฟ้าย่อยหลักในการนำระบบกลับคืน ซึ่งหลักการทำงานของระบบชำนาญการจะใช้ข้อมูลที่เป็นทั้งสถานะของเซอร์กิตเบรกเกอร์ รีเลย์ และสภาวะอากาศ หรือปัจจัยแวดล้อม มาเป็นอินพุทของระบบ และจะใช้ความรู้เกี่ยวกับหลักการวิเคราะห์ฟอลท์และวิธีการทำงานของอุปกรณ์ปลดสับและรีเลย์ต่างๆเพื่อนำระบบกลับคืนได้อย่างถูกต้อง

## 2. ระบบผู้เชี่ยวชาญ

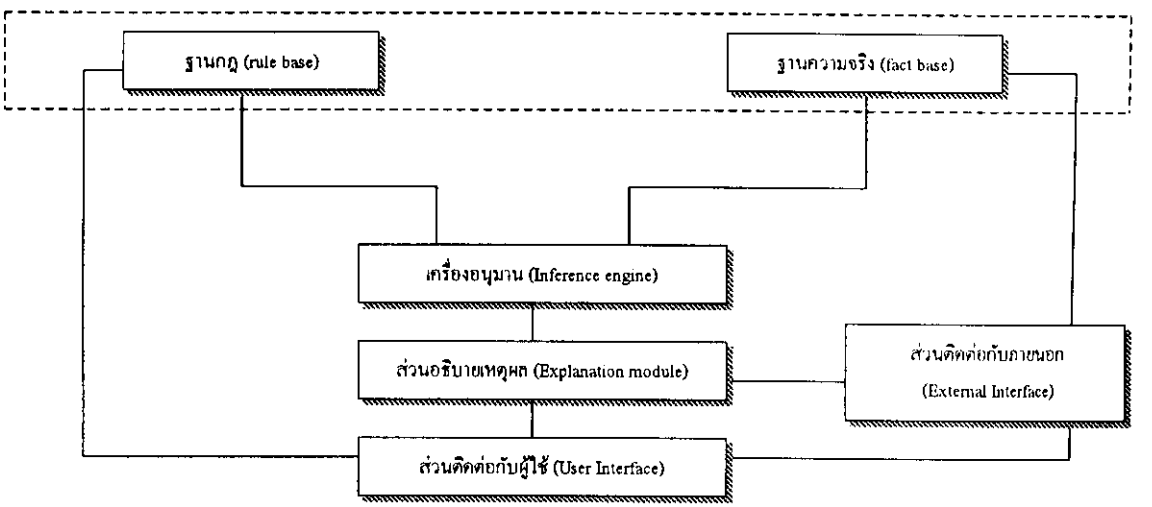
ระบบผู้เชี่ยวชาญ คือโปรแกรมคอมพิวเตอร์ที่เก็บรวบรวมความรู้ที่เกี่ยวกับปัญหาที่จะทำการแก้และกระบวนการอนุมาน (Inference Procedure) เพื่อที่จะนำไปสู่เป้าหมายหรือคำตอบของปัญหานั้นโดยมีกรรมวิธีที่จะนำไปสู่เป้าหมายของผู้เชี่ยวชาญ [2]

### 2.1 โครงสร้างของระบบผู้เชี่ยวชาญ

โครงสร้างของระบบผู้เชี่ยวชาญในการวิเคราะห์หาสาเหตุของฟอลท์และการนำระบบกลับคืนอีกครั้งเป็นดังรูปที่ 1 โดยมีส่วนของเครื่องอนุมาน (Inference Engine) ทำหน้าที่เป็นกลไกที่ใช้ในการควบคุมระบบและส่วนที่ใช้ในการหาข้อสรุป ซึ่งจะแบ่งการทำงานเป็น 3 แบบ คือ การอนุมานแบบเดินหน้า การอนุมานแบบถอยหลัง และการอนุมานแบบผสม นอกจากนั้นระบบผู้เชี่ยวชาญนี้ยังมีส่วนที่เป็นฐานความรู้เพื่อใช้เก็บความรู้ที่เกี่ยวกับระบบส่ง บัสบาร์ และส่วนอื่นๆของระบบ ซึ่งความรู้นี้จะอยู่ในรูปของกฎ และความจริง เครื่องอนุมานจะทำการตรวจสอบเงื่อนไขต่างๆของกฎว่าเป็นจริงตามข้อมูลความจริงที่ได้รับมาหรือไม่ ซึ่งถ้าเงื่อนไขเป็นจริงข้อสรุปต่างๆในการวิเคราะห์ฟอลท์และการทำให้ระบบกลับคืนก็จะถูกเสนอแนะต่อผู้ปฏิบัติการ ซึ่งความจริงของระบบที่ทำการศึกษาจะมีรูปแบบของไวยากรณ์ดังนี้

**((TYPE OBJECT) ATTRIBUTE COMPARATOR (TYPE-OF-VALUE VALUE))**

จากไวยากรณ์ข้างต้น จะแทนส่วนของ TYPE เป็นชนิดของ OBJECT ดังนั้นถ้าเราแทน OBJECT เป็นวัตถุที่อ้างถึง เช่น แทนเป็น Relay เราก็จะต้องแทน TYPE เป็นชนิดของ Relay ที่อ้างถึง เช่น เป็น Distance relay หรือ Under frequency relay เป็นต้น ต่อมาก็จะเป็น ATTRIBUTE ซึ่งจะแทนด้วยสถานะของวัตถุที่อ้างถึง เช่น Opened หรือ Closed สำหรับ COMPARATOR คือการเปรียบเทียบค่า VALUE กับสิ่งที่ถูกอ้างถึง เช่น เครื่องหมายเท่ากับหรือน้อยกว่า เป็นต้น ส่วน TYPE-OF-VALUE มี 2 แบบคือ ATOMIC ซึ่งเป็นชนิดของ VALUE ที่เป็นคำหรือไม่มีค่าทางคณิตศาสตร์ และ NUMERICAL ซึ่งเป็นชนิดของ VALUE ที่มีค่าทางคณิตศาสตร์ ซึ่งการเขียนกฎจะต้องอยู่ในรูปแบบที่มีส่วนของ IF ซึ่งเป็นส่วนเงื่อนไข และตามด้วย THEN ซึ่งเป็นส่วนของผลสรุปที่ตามมาเมื่อเงื่อนไขเป็นจริง ซึ่งในการอ้างความรู้ภายในกฎอาจมีการเรียก Action ในกรณีที่ต้องการติดต่อกับภายนอกหรือภายในระบบ เช่นการเรียก Action เมื่อต้องการคำนวณ สั่งพิมพ์ โดยโปรแกรมจากภายนอกเพื่อใช้ในการคำนวณต่างๆ สามารถเขียนด้วยภาษา C หรือภาษาอื่นๆ ได้




รูปที่ 1 สถาปัตยกรรมของระบบผู้เชี่ยวชาญ

**2.2 สาเหตุของข้อขัดข้องในระบบส่งกำลังไฟฟ้า**

สาเหตุของข้อขัดข้องในระบบส่งกำลังไฟฟ้าแบ่งตามการไฟฟ้าฝ่ายผลิตแห่งประเทศไทยได้ 10 ประการดังนี้ [1]

-สาเหตุที่ 1 จากสภาพอากาศ ซึ่งที่พบกันบ่อยส่วนมากเกิดจากฟ้าผ่าลงบนระบบส่งทั้งหมด

-สาเหตุที่ 2 จากสภาพสิ่งแวดล้อมบริเวณระบบส่ง เช่น ต้นไม้ล้มทับหรือพาดสายไฟฟ้า มีสิ่งแปลกปลอมแตะโดนสายส่ง หรือเกิดไฟไหม้

-สาเหตุที่ 3 จากโรงไฟฟ้าขัดข้อง เช่น เกิดเมื่อเครื่องกำเนิดไฟฟ้าขัดข้องไม่สามารถจ่ายโหลดได้

-สาเหตุที่ 4 จากอุปกรณ์ผิดปกติ เช่น เสาไฟฟ้าล้มหรืออุปกรณ์ภายในระบบส่งหรือบริเวณสถานีไฟฟ้าย่อยเกิดการชำรุด

-สาเหตุที่ 5 จากรีเลย์ป้องกันทำงานผิดพลาด ซึ่งอาจเกิดได้ตลอดเวลา

-สาเหตุที่ 6 จากการกระทำของคน ซึ่งเกิดในช่วงที่มีคนทำงานในบริเวณระบบส่งหรือในบริเวณตู้ควบคุม

-สาเหตุที่ 7 จากการกระทำของสัตว์ ซึ่งที่เห็นได้บ่อยจะเกิดในสถานีไฟฟ้าย่อยเอง ซึ่งส่วนมากเกิดจากสัตว์ประเภท งู แมว และนก เป็นส่วนใหญ่

-สาเหตุที่ 8 จากเหตุขัดข้องหรือเกิดฟอลท์ในระบบจำหน่าย

-สาเหตุที่ 9 จากการซ่อมบำรุงระบบส่งซึ่งมีการวางแผนล่วงหน้ามาก่อน

-สาเหตุที่ 10 จากเหตุขัดข้องเพียงชั่วขณะ

จากสาเหตุทั้ง 10 ประการ เมื่อวิเคราะห์ออกมาเป็นสภาวะและปัจจัยต่างๆ ที่ทำให้เกิดเหตุขัดข้องหรือฟอลท์ทั้ง

10 ประการแล้วก็จะนำไปสร้างเป็นฐานความรู้ให้กับระบบผู้เชี่ยวชาญโดยยึดการทำงานของเบรกเกอร์ รีเลย์ เป็นหลัก และนำเอาสภาวะอากาศและสภาพแวดล้อม เวลา และอื่นๆ มาประกอบการพิจารณาเพื่อหาสาเหตุของข้อขัดข้อง [3]

**2.3 การนำระบบไฟฟ้ากลับคืนเมื่อเคลียร์ฟอลท์ออกหมด**

จากปัญหาที่เกิดขึ้นในการนำระบบไฟฟ้ากลับคืนที่เกิดกับผู้ปฏิบัติงานในสถานีไฟฟ้าย่อยนั้นมีด้วยกันหลายประการ เช่น จะต้องนำระบบกลับคืนให้เร็วที่สุด และแม่นยำ โดยจะต้องคำนึงว่าสถานีไฟฟ้าย่อยแต่ละแห่งนั้นสามารถที่จะจ่ายพลังงานให้ระบบควบคุมและระบบป้องกันภายในสถานีไฟฟ้าย่อยได้ประมาณ 2 ถึง 3 ชั่วโมงเท่านั้น โดยพลังงานที่ใช้มาจากแบตเตอรี่ อีกทั้งก่อนที่จะนำระบบกลับคืนผู้ปฏิบัติงานยังต้องคำนึงถึงความสมดุลของกำลังรีแอกทีฟและกำลังใช้งานจริงของระบบอีกด้วย และบางครั้งหากฟอลท์ที่เกิดถูกเคลียร์ไม่หมดจะทำให้เกิดปัญหาอีก ซึ่งอาจจะกินบริเวณกว้างมากขึ้นกว่าเดิมดังนั้นในการนำสายส่งกลับเข้าสู่ระบบอีกครั้งผู้ปฏิบัติงานในสถานีไฟฟ้าย่อยนั้นๆ ต้องคำนึงถึงสิ่งจำเป็นดังต่อไปนี้ [4]

-จะต้องหาสายส่งเส้นที่เกิดข้อขัดข้องหรือฟอลท์ให้พบก่อนเสมอ

-ต้องพิจารณาว่าสายส่งที่เกิดข้อขัดข้องหรือฟอลท์มีการแยกออกเป็นกลุ่มหรือไม่

-ตรวจสอบความถี่ขณะนั้นของระบบเพื่อการพิจารณาการนำโหลดกลับคืนสู่ระบบ

-ตรวจสอบแรงดันก่อนที่จะนำสายส่งกลับคืนซึ่งแรงดันจะต้องไม่สูงหรือต่ำกว่าแรงดันมาตรฐานของระบบ

-นำระบบกลับคืนโดยต้องรักษาเสถียรภาพการนำระบบกลับคืนให้คงตัวตลอด

**2.4 โครงสร้างของการค้นหาผลลัพธ์ของคำตอบ**

**-วิธีการเรียนรู้ (Learning Method)**

จากข้อเท็จจริงที่ว่าระบบผู้เชี่ยวชาญสามารถที่จะให้ตัวอย่างของการแก้ปัญหาได้ง่ายกว่าที่จะแก้ปัญหาออกมาในรูปของกฎโดยตรง ดังนั้นกระบวนการเรียนรู้จากตัวอย่างจึงเป็นวิธีการที่เหมาะสมในการดึงเอาความรู้จากผู้ชำนาญการ โดยผู้เชี่ยวชาญเพียงแต่ให้ชุดของตัวอย่างที่เป็นการเก็บข้อมูลสภาวะ และปัจจัยต่างๆ เมื่อเกิดฟอลท์ จากนั้นส่วนของการเรียนรู้จะทำการอนุมานกฎจากตัวอย่างเหล่านั้น โดยให้รูปแบบของการอนุมานออกมาเช่นเดียวกันกับต้นไม้สำหรับการตัดสินใจ ดังตารางข้างล่างที่เป็นตัวอย่างบางส่วนของการวิเคราะห์สาเหตุฟอลท์และการนำระบบกลับคืน

| ต.ย | วงจรที่เกิด | รีเลย์อะไร | เบรกเกอร์ใด | เฟสที่แสดง | เวลาที่เกิด | สภาพอากาศ | มีคนปฏิบัติงาน | สาเหตุ |
|---|---|---|---|---|---|---|---|---|
| 1. | สะเดา | Distance | 700812 | 1-G | ทุกเวลา | ฝนตก | ไม่มี | สาเหตุที่ 1 |
| 2. | สะเดา | Distance | 700812 | 3 | เช้า | ปกติ | ไม่มี | สาเหตุที่ 2 |
| 3. | สะเดา | Lightning Arrester | 700812 | 2 | ทุกเวลา | ฝนตกฟ้าคะนอง | ไม่มี | สาเหตุที่1 |
| 4. | สะเดา | Distance & Recloser | 700812 | 3 | ทุกเวลา | ทุกสภาพ | ไม่มี | สาเหตุที่ 10 |

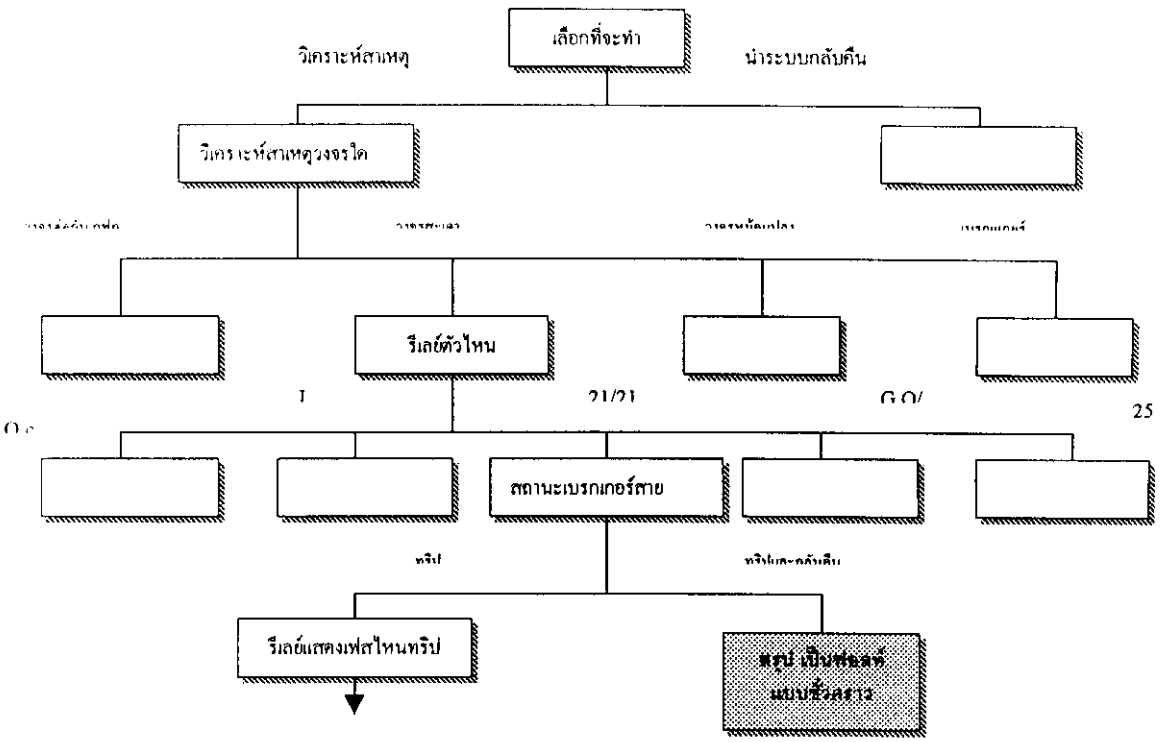
ตารางประกอบที่ 1 การวิเคราะห์หาสาเหตุฟอลท์

| BKR M-O | BKR M-O | BKR M-F | BKR M-F | BKR O | RY M | RY M | Line Fault |
|---|---|---|---|---|---|---|---|
| HY1-7072 | - | - | HY2-700722 | HY2-701222 | YES | YES | LINE HY1#2 |
| SKL-70062 | HY2-701222 | - | - | - | YES | YES | LINE SKL#2 |
| SDO-7022 | HY2-700812 | - | - | - | YES | YES | LINE SDO |

*หมายเหตุ BKR=Breaker, M= Main, O=Opened, F=Fail, RY=Relay

ตารางประกอบที่ 2 การหาสายส่งเส้นที่เกิดฟอลท์เพื่อนำระบบกลับคืน

-ตัวอย่างการสร้างต้นไม้สำหรับตัดสินใจ




รูปที่ 2 การสร้างต้นไม้สำหรับตัดสินใจจากตารางข้อมูลการเรียนรู้

-ตัวอย่างการเขียนกฎ (Rule)

IDENTIFY 125

FAULT-DIAGNOSIS

IF

((SELECT ANALYSIS)( FAULT ANALYSIS)=(ATOMIC TRUE))

((SDAO TRANSMISSION)(FAULT)=(ATOMIC TRUE))

((DISTANCE –SDO RELAY-SDO)(OPERATED)=(ATOMIC YES))

((HY2-700812 BREAKER-TR-SDAO)(OPENED AND RECLOSED)=(ATOMIC TRUE))

THEN

(@ CONCLUSION20)
((CONCLUSION RESULT)(TEMPORARY FAULT)=(ATOMIC TRUE))
(@ SHOW-PICTURE)
((PICTURE SHOW)(LINE FAULT)=(ATOMIC TRUE))
END-OF-RULE

จากข้อมูลที่ได้จากผู้ชำนาญการ ดัง ตารางที่ 1 และ ตารางที่ 2 สามารถนำมาสร้างเป็นรูปแบบต้นไม้สำหรับตัดสินใจได้ ดังรูปที่ 2 ซึ่งการแจกแจงข้อมูลในรูปแบบต้นไม้นี้จะง่ายในการที่จะนำไปเขียนกฎให้ระบบเข้าใจ ดังตัวอย่างของกฎข้างบนนี้ ซึ่งสามารถอธิบายกฎนี้ได้ คือ เมื่อผู้ใช้เลือกที่จะวิเคราะห์สาเหตุการเกิดฟอลท์ในสายส่งไปสถานีไฟฟ้าย่อยสะเดา ซึ่งมีรีเลย์แบบ ระยะทาง (Distance relay) ทำงานสั่งทริปเบรกเกอร์สายส่งรหัส HY2-700812 และมีการ Reclosed เบรกเกอร์เข้าสู่ระบบได้สำเร็จอีกครั้ง เมื่อพิจารณาจากเงื่อนไขทั้งหมดในกฎนี้ระบบก็จะให้คำตอบว่าเป็นฟอลท์ แบบชั่วคราว (Temporary fault) โดยข้อสรุปจะแสดงในส่วนของ Then ซึ่งแต่ละเงื่อนไขนี้จะเป็นจริงได้ก็ต่อเมื่อผู้ใช้ตอบคำถามเกี่ยวกับสถานะของเบรกเกอร์ รีเลย์ และปัจจัยแวดล้อมต่างๆ โดยระบบจะถามผู้ใช้ในกฎก่อนหน้านี้

-การวิเคราะห์หาผลสรุป

ระบบที่ทำการศึกษาเป็นระบบสายส่งที่เป็นทั้ง 230 เควี และ 115 เควี ซึ่งมีสถานีไฟฟ้าย่อย คือ สะเดา คลองแงะ พัทลุง สงขลา หาดใหญ่1 และหาดใหญ่2 โดยสร้างข้อมูลระบบทั้งหมดให้อยู่ในรูปของกฎ (Rule) ต่างๆ เก็บไว้ในฐานความรู้ของระบบเปลือกผู้เชี่ยวชาญ (Expert Shell) โดยให้มีการค้นหาเป้าหมายของคำตอบหรือข้อสรุปแบบเดินหน้า ซึ่งระบบจะอนุมานหาข้อสรุปจากข้อมูลที่ได้รับจากผู้ใช้ (โดยการตอบคำถาม) จากการทดสอบได้กระทำหลายๆ กรณีของการเกิดฟอลท์เพื่อดูว่าระบบผู้เชี่ยวชาญสามารถวิเคราะห์ได้ถูกต้องตามเส้นทางที่ควรจะเป็นหรือไม่ ซึ่งผลการวิเคราะห์เป็นที่น่าพอใจ แต่อย่างไรก็ตามจำเป็นต้องมีการปรับปรุงอีกเนื่องจากกฎต่างๆ ที่เขียนให้กับระบบผู้เชี่ยวชาญยังไม่ครอบคลุมกับอีกหลายๆ กรณี ซึ่งระบบผู้เชี่ยวชาญที่ได้พัฒนาขึ้นได้เปิดโอกาสให้เราสามารถแก้ไขเพิ่มเติมกฎได้ตามต้องการ

## 3. บทสรุป

การพัฒนาระบบผู้เชี่ยวชาญในการวิเคราะห์หาสาเหตุของฟอลท์และการนำระบบกลับคืนสามารถที่จะนำมาใช้ในสถานีไฟฟ้าย่อยได้ ระบบผู้เชี่ยวชาญจะช่วยเพิ่มความมั่นใจในการตัดสินใจให้กับผู้ปฏิบัติงานภายในสถานีไฟฟ้าย่อย ซึ่งในส่วนของโปรแกรมสามารถพัฒนาให้แสดงผลเป็น

กราฟฟิกได้ นอกจากนี้ยังสามารถเรียกใช้งานแฟ้มข้อมูลจากภายนอกได้อีกด้วย ซึ่งถ้าจะพัฒนาระบบนี้ขึ้นมาให้ครอบคลุมปัญหาทั้งหมดจำเป็นต้องเพิ่มอีกหลายๆ ส่วน เช่น ปริมาณกระแสไฟฟ้าในช่วงที่เกิดเหตุขัดข้องในระบบ สภาพแวดล้อมในแนวสายส่ง เป็นต้น นอกจากนี้ ผู้จัดทำคาดว่าหากสถานีไฟฟ้าย่อยต้องการนำระบบผู้เชี่ยวชาญนี้มาใช้เพื่อเพิ่มประสิทธิภาพในการทำงานของผู้ปฏิบัติงาน ระบบนี้ก็สามารถที่จะปรับปรุงให้มีการใช้ภาษาไทยในการเขียนกฎ เพื่อสะดวกในการที่ผู้อื่นจะทำการแก้ไขดัดแปลง เพิ่มเติมกฎต่างๆ ได้

## 4. กิตติกรรมประกาศ

ขอขอบคุณ ดร.แอนดรูร์ ซีการ์ อาจารย์ประจำภาควิชาวิศวกรรมไฟฟ้า มหาวิทยาลัยสงขลานครินทร์ วิทยาเขตหาดใหญ่ ที่กรุณาให้คำแนะนำเกี่ยวกับเทคนิคการเขียนโปรแกรมและระบบไฟฟ้ากำลัง คุณ ก.ณัฐพร ทองสาย คุณ สมบูรณ์ ศรีโสภณ พนักงานประจำสถานีไฟฟ้าย่อยหาดใหญ่ 2 คุณ พันศักดิ์ เจ้ยจู วิศวกร 4 คุณ ภาณุวัตร แก้ววิจิตร วิศวกร 4 การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย ที่ได้ให้ความอนุเคราะห์ข้อมูลและคำแนะนำทางด้านเทคนิค และขอขอบคุณพนักงานการไฟฟ้าฝ่ายผลิตแห่งประเทศไทยทุกท่านที่ให้ความช่วยเหลือจนงานวิจัยสำเร็จลุล่วง

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