

Minimal Cut Sets

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Tree : Test_ups.fta

Time : Mon Apr 16 22:40:59 2018

Method : Algebraic

No. of primary events = 35

Minimal cut set order = 1 to 35

Order 1:

Order 2:

- 1) Auto_sw_sub1 UPS_sub1
- 2) CB_Bypass UPS_sub1
- 3) CB_TieBre_NN UPS_sub1

Order 3:

- 1) 1_RH1istic 1_RH2istic UPS_sub1
- 2) 1_RH1istic 2_RH2istic UPS_sub1
- 3) 1_RH1istic 3_RH2istic UPS_sub1
- 4) 1_RH1istic 4_RH2istic UPS_sub1
- 5) 1_RH1istic 5_RH2istic UPS_sub1
- 6) 1_RH1istic Auto_sw_RH2 UPS_sub1
- 7) 1_RH1istic CB_QA_Fail_op UPS_sub1
- 8) 1_RH1istic CB_QB_Fail_cl UPS_sub1
- 9) 1_RH1istic RH2_IT_nap UPS_sub1
- 10) 1_RH1istic RH2_IT_prudQ2 UPS_sub1
- 11) 1_RH1istic RH2hlavnyvyp UPS_sub1
- 12) 1_RH1istic RH2pripojnica UPS_sub1
- 13) 1_RH2istic 2_RH1istic UPS_sub1
- 14) 1_RH2istic 3_RH1istic UPS_sub1
- 15) 1_RH2istic 4_RH1istic UPS_sub1
- 16) 1_RH2istic 5_RH1istic UPS_sub1
- 17) 1_RH2istic Auto_sw_RH1 UPS_sub1
- 18) 1_RH2istic RH1_IT_nap UPS_sub1
- 19) 1_RH2istic RH1_IT_prudQ1 UPS_sub1

- 20) 1_RH2istic RH1hlavnyvyp UPS_sub1
- 21) 1_RH2istic RH1pripojnica UPS_sub1
- 22) 2_RH1istic 2_RH2istic UPS_sub1
- 23) 2_RH1istic 3_RH2istic UPS_sub1
- 24) 2_RH1istic 4_RH2istic UPS_sub1
- 25) 2_RH1istic 5_RH2istic UPS_sub1
- 26) 2_RH1istic Auto_sw_RH2 UPS_sub1
- 27) 2_RH1istic CB_QA_Fail_op UPS_sub1
- 28) 2_RH1istic CB_QB_Fail_cl UPS_sub1
- 29) 2_RH1istic RH2_IT_nap UPS_sub1
- 30) 2_RH1istic RH2_IT_prudQ2 UPS_sub1
- 31) 2_RH1istic RH2hlavnyvyp UPS_sub1
- 32) 2_RH1istic RH2pripojnica UPS_sub1
- 33) 2_RH2istic 3_RH1istic UPS_sub1
- 34) 2_RH2istic 4_RH1istic UPS_sub1
- 35) 2_RH2istic 5_RH1istic UPS_sub1
- 36) 2_RH2istic Auto_sw_RH1 UPS_sub1
- 37) 2_RH2istic RH1_IT_nap UPS_sub1
- 38) 2_RH2istic RH1_IT_prudQ1 UPS_sub1
- 39) 2_RH2istic RH1hlavnyvyp UPS_sub1
- 40) 2_RH2istic RH1pripojnica UPS_sub1
- 41) 3_RH1istic 3_RH2istic UPS_sub1
- 42) 3_RH1istic 4_RH2istic UPS_sub1
- 43) 3_RH1istic 5_RH2istic UPS_sub1
- 44) 3_RH1istic Auto_sw_RH2 UPS_sub1
- 45) 3_RH1istic CB_QA_Fail_op UPS_sub1
- 46) 3_RH1istic CB_QB_Fail_cl UPS_sub1
- 47) 3_RH1istic RH2_IT_nap UPS_sub1
- 48) 3_RH1istic RH2_IT_prudQ2 UPS_sub1
- 49) 3_RH1istic RH2hlavnyvyp UPS_sub1
- 50) 3_RH1istic RH2pripojnica UPS_sub1
- 51) 3_RH2istic 4_RH1istic UPS_sub1
- 52) 3_RH2istic 5_RH1istic UPS_sub1
- 53) 3_RH2istic Auto_sw_RH1 UPS_sub1
- 54) 3_RH2istic RH1_IT_nap UPS_sub1
- 55) 3_RH2istic RH1_IT_prudQ1 UPS_sub1
- 56) 3_RH2istic RH1hlavnyvyp UPS_sub1
- 57) 3_RH2istic RH1pripojnica UPS_sub1

- 58) 4_RH1istic 4_RH2istic UPS_sub1
- 59) 4_RH1istic 5_RH2istic UPS_sub1
- 60) 4_RH1istic Auto_sw_RH2 UPS_sub1
- 61) 4_RH1istic CB_QA_Fail_op UPS_sub1
- 62) 4_RH1istic CB_QB_Fail_cl UPS_sub1
- 63) 4_RH1istic RH2_IT_nap UPS_sub1
- 64) 4_RH1istic RH2_IT_prudQ2 UPS_sub1
- 65) 4_RH1istic RH2hlavnyvyp UPS_sub1
- 66) 4_RH1istic RH2pripojnica UPS_sub1
- 67) 4_RH2istic 5_RH1istic UPS_sub1
- 68) 4_RH2istic Auto_sw_RH1 UPS_sub1
- 69) 4_RH2istic RH1_IT_nap UPS_sub1
- 70) 4_RH2istic RH1_IT_prudQ1 UPS_sub1
- 71) 4_RH2istic RH1hlavnyvyp UPS_sub1
- 72) 4_RH2istic RH1pripojnica UPS_sub1
- 73) 5_RH1istic 5_RH2istic UPS_sub1
- 74) 5_RH1istic Auto_sw_RH2 UPS_sub1
- 75) 5_RH1istic CB_QA_Fail_op UPS_sub1
- 76) 5_RH1istic CB_QB_Fail_cl UPS_sub1
- 77) 5_RH1istic RH2_IT_nap UPS_sub1
- 78) 5_RH1istic RH2_IT_prudQ2 UPS_sub1
- 79) 5_RH1istic RH2hlavnyvyp UPS_sub1
- 80) 5_RH1istic RH2pripojnica UPS_sub1
- 81) 5_RH2istic Auto_sw_RH1 UPS_sub1
- 82) 5_RH2istic RH1_IT_nap UPS_sub1
- 83) 5_RH2istic RH1_IT_prudQ1 UPS_sub1
- 84) 5_RH2istic RH1hlavnyvyp UPS_sub1
- 85) 5_RH2istic RH1pripojnica UPS_sub1
- 86) Auto_sw_RH1 Auto_sw_RH2 UPS_sub1
- 87) Auto_sw_RH1 CB_QA_Fail_op UPS_sub1
- 88) Auto_sw_RH1 CB_QB_Fail_cl UPS_sub1
- 89) Auto_sw_RH1 RH2_IT_nap UPS_sub1
- 90) Auto_sw_RH1 RH2_IT_prudQ2 UPS_sub1
- 91) Auto_sw_RH1 RH2hlavnyvyp UPS_sub1
- 92) Auto_sw_RH1 RH2pripojnica UPS_sub1
- 93) Auto_sw_RH2 RH1_IT_nap UPS_sub1
- 94) Auto_sw_RH2 RH1_IT_prudQ1 UPS_sub1
- 95) Auto_sw_RH2 RH1hlavnyvyp UPS_sub1

- 96) Auto_sw_RH2 RH1pripojnica UPS_sub1
- 97) CB_QA_Fail_op RH1_IT_nap UPS_sub1
- 98) CB_QA_Fail_op RH1_IT_prudQ1 UPS_sub1
- 99) CB_QA_Fail_op RH1hlavnyvyp UPS_sub1
- 100) CB_QA_Fail_op RH1pripojnica UPS_sub1
- 101) CB_QB_Fail_cl RH1_IT_nap UPS_sub1
- 102) CB_QB_Fail_cl RH1_IT_prudQ1 UPS_sub1
- 103) CB_QB_Fail_cl RH1hlavnyvyp UPS_sub1
- 104) CB_QB_Fail_cl RH1pripojnica UPS_sub1
- 105) RH1_IT_nap RH2_IT_nap UPS_sub1
- 106) RH1_IT_nap RH2_IT_prudQ2 UPS_sub1
- 107) RH1_IT_nap RH2hlavnyvyp UPS_sub1
- 108) RH1_IT_nap RH2pripojnica UPS_sub1
- 109) RH1_IT_prudQ1 RH2_IT_nap UPS_sub1
- 110) RH1_IT_prudQ1 RH2_IT_prudQ2 UPS_sub1
- 111) RH1_IT_prudQ1 RH2hlavnyvyp UPS_sub1
- 112) RH1_IT_prudQ1 RH2pripojnica UPS_sub1
- 113) RH1hlavnyvyp RH2_IT_nap UPS_sub1
- 114) RH1hlavnyvyp RH2_IT_prudQ2 UPS_sub1
- 115) RH1hlavnyvyp RH2hlavnyvyp UPS_sub1
- 116) RH1hlavnyvyp RH2pripojnica UPS_sub1
- 117) RH1pripojnica RH2_IT_nap UPS_sub1
- 118) RH1pripojnica RH2_IT_prudQ2 UPS_sub1
- 119) RH1pripojnica RH2hlavnyvyp UPS_sub1
- 120) RH1pripojnica RH2pripojnica UPS_sub1

Order 4:

- 1) 1_RH1istic CB_Q2_Fail_cl RH1_NN UPS_sub1
- 2) 1_RH1istic CB_Q2_Fail_cl RH_QT_Fail_cl UPS_sub1
- 3) 1_RH1istic NoEnergyToQB RH2_CB_Diesel UPS_sub1
- 4) 1_RH1istic NoEnergyToQB RH2_diesel UPS_sub1
- 5) 1_RH2istic NoEnergyToQA RH1_CB_Diesel UPS_sub1
- 6) 1_RH2istic NoEnergyToQA RH1_diesel UPS_sub1
- 7) 2_RH1istic CB_Q2_Fail_cl RH1_NN UPS_sub1
- 8) 2_RH1istic CB_Q2_Fail_cl RH_QT_Fail_cl UPS_sub1
- 9) 2_RH1istic NoEnergyToQB RH2_CB_Diesel UPS_sub1
- 10) 2_RH1istic NoEnergyToQB RH2_diesel UPS_sub1
- 11) 2_RH2istic NoEnergyToQA RH1_CB_Diesel UPS_sub1

- 12) 2_RH2istic NoEnergyToQA RH1_diesel UPS_sub1
- 13) 3_RH1istic CB_Q2_Fail_cl RH1_NN UPS_sub1
- 14) 3_RH1istic CB_Q2_Fail_cl RH_QT_Fail_cl UPS_sub1
- 15) 3_RH1istic NoEnergyToQB RH2_CB_Diesel UPS_sub1
- 16) 3_RH1istic NoEnergyToQB RH2_diesel UPS_sub1
- 17) 3_RH2istic NoEnergyToQA RH1_CB_Diesel UPS_sub1
- 18) 3_RH2istic NoEnergyToQA RH1_diesel UPS_sub1
- 19) 4_RH1istic CB_Q2_Fail_cl RH1_NN UPS_sub1
- 20) 4_RH1istic CB_Q2_Fail_cl RH_QT_Fail_cl UPS_sub1
- 21) 4_RH1istic NoEnergyToQB RH2_CB_Diesel UPS_sub1
- 22) 4_RH1istic NoEnergyToQB RH2_diesel UPS_sub1
- 23) 4_RH2istic NoEnergyToQA RH1_CB_Diesel UPS_sub1
- 24) 4_RH2istic NoEnergyToQA RH1_diesel UPS_sub1
- 25) 5_RH1istic CB_Q2_Fail_cl RH1_NN UPS_sub1
- 26) 5_RH1istic CB_Q2_Fail_cl RH_QT_Fail_cl UPS_sub1
- 27) 5_RH1istic NoEnergyToQB RH2_CB_Diesel UPS_sub1
- 28) 5_RH1istic NoEnergyToQB RH2_diesel UPS_sub1
- 29) 5_RH2istic NoEnergyToQA RH1_CB_Diesel UPS_sub1
- 30) 5_RH2istic NoEnergyToQA RH1_diesel UPS_sub1
- 31) Auto_sw_RH1 CB_Q2_Fail_cl RH1_NN UPS_sub1
- 32) Auto_sw_RH1 CB_Q2_Fail_cl RH_QT_Fail_cl UPS_sub1
- 33) Auto_sw_RH1 NoEnergyToQB RH2_CB_Diesel UPS_sub1
- 34) Auto_sw_RH1 NoEnergyToQB RH2_diesel UPS_sub1
- 35) Auto_sw_RH2 NoEnergyToQA RH1_CB_Diesel UPS_sub1
- 36) Auto_sw_RH2 NoEnergyToQA RH1_diesel UPS_sub1
- 37) CB_Q2_Fail_cl RH1_IT_nap RH1_NN UPS_sub1
- 38) CB_Q2_Fail_cl RH1_IT_nap RH_QT_Fail_cl UPS_sub1
- 39) CB_Q2_Fail_cl RH1_IT_prudQ1 RH1_NN UPS_sub1
- 40) CB_Q2_Fail_cl RH1_IT_prudQ1 RH_QT_Fail_cl
UPS_sub1
- 41) CB_Q2_Fail_cl RH1_NN RH1hlavnyvyp UPS_sub1
- 42) CB_Q2_Fail_cl RH1_NN RH1pripojnica UPS_sub1
- 43) CB_Q2_Fail_cl RH1hlavnyvyp RH_QT_Fail_cl UPS_sub1
- 44) CB_Q2_Fail_cl RH1pripojnica RH_QT_Fail_cl
UPS_sub1
- 45) CB_QA_Fail_op NoEnergyToQA RH1_CB_Diesel UPS_sub1
- 46) CB_QA_Fail_op NoEnergyToQA RH1_diesel UPS_sub1
- 47) CB_QB_Fail_cl NoEnergyToQA RH1_CB_Diesel UPS_sub1

- 48) CB_QB_Fail_cl NoEnergyToQA RH1_diesel UPS_sub1
- 49) NoEnergyToQA RH1_CB_Diesel RH2_IT_nap UPS_sub1
- 50) NoEnergyToQA RH1_CB_Diesel RH2_IT_prudQ2 UPS_sub1
- 51) NoEnergyToQA RH1_CB_Diesel RH2hlavnyvyp UPS_sub1
- 52) NoEnergyToQA RH1_CB_Diesel RH2pripojnica UPS_sub1
- 53) NoEnergyToQA RH1_diesel RH2_IT_nap UPS_sub1
- 54) NoEnergyToQA RH1_diesel RH2_IT_prudQ2 UPS_sub1
- 55) NoEnergyToQA RH1_diesel RH2hlavnyvyp UPS_sub1
- 56) NoEnergyToQA RH1_diesel RH2pripojnica UPS_sub1
- 57) NoEnergyToQB RH1_IT_nap RH2_CB_Diesel UPS_sub1
- 58) NoEnergyToQB RH1_IT_nap RH2_diesel UPS_sub1
- 59) NoEnergyToQB RH1_IT_prudQ1 RH2_CB_Diesel UPS_sub1
- 60) NoEnergyToQB RH1_IT_prudQ1 RH2_diesel UPS_sub1
- 61) NoEnergyToQB RH1hlavnyvyp RH2_CB_Diesel UPS_sub1
- 62) NoEnergyToQB RH1hlavnyvyp RH2_diesel UPS_sub1
- 63) NoEnergyToQB RH1pripojnica RH2_CB_Diesel UPS_sub1
- 64) NoEnergyToQB RH1pripojnica RH2_diesel UPS_sub1

Order 5:

- 1) CB_Q2_Fail_cl NoEnergyToQA RH1_CB_Diesel RH1_NN
UPS_sub1
- 2) CB_Q2_Fail_cl NoEnergyToQA RH1_CB_Diesel
RH_QT_Fail_cl UPS_sub1
- 3) CB_Q2_Fail_cl NoEnergyToQA RH1_NN RH1_diesel
UPS_sub1
- 4) CB_Q2_Fail_cl NoEnergyToQA RH1_diesel
RH_QT_Fail_cl UPS_sub1
- 5) NoEnergyToQA NoEnergyToQB RH1_CB_Diesel
RH2_CB_Diesel UPS_sub1
- 6) NoEnergyToQA NoEnergyToQB RH1_CB_Diesel
RH2_diesel UPS_sub1
- 7) NoEnergyToQA NoEnergyToQB RH1_diesel
RH2_CB_Diesel UPS_sub1
- 8) NoEnergyToQA NoEnergyToQB RH1_diesel RH2_diesel
UPS_sub1

Order 6:

Order 7:

Order 8:

Order 9:

Order 10:

Order 11:

Order 12:

Order 13:

Order 14:

Order 15:

Order 16:

Order 17:

Order 18:

Order 19:

Order 20:

Order 21:

Order 22:

Order 23:

Order 24:

Order 25:

Order 26:

Order 27:

Order 28:

Order 29:

Order 30:

Order 31:

Order 32:

Order 33:

Order 34:

Order 35:

Qualitative Importance Analysis:

Order	Number
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1	0
2	3
3	120
4	64
5	8
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0

14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0
32	0
33	0
34	0
35	0
ALL	195