Table 3 The optimal solution to the PPSR problem on IEEE-118 Bus System

BS	CAP	RT	Buses in the island
21	12.36	20.0	33, 34, 35, 36, 37, 39, 40, 41, 42, 43, 44, 49, 18, 19, 20, 21
22	8.87	1.0	22, 23
25	32.39	20.0	5, 8, 9, 10, 25, 26, 27, 30, 32, 38, 60, 61, 62, 64, 65, 66, 67, 68, 79, 80, 81, 97, 98, 113, 114, 115, 116
28	15.05	19.0	1, 2, 3, 4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 117, 28, 29, 31
45	48.49	20.0	24, 45, 46, 47, 48, 63, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 118
51	15.13	20.0	50, 51, 52, 53, 54, 55, 56, 57, 58, 59

Note: The BS column shows the BS generator buses. The CAP column shows the capacity (MW) of the BS generators. RT is the restoration time of the island in periods. The overall restoration time is 20 periods or 1 hour 40 minutes.

Appendix: More about IEEE-118

In Section 5.1.2, we assume that the BS generators supply their full capacity of power immediately after a blackout. The capacity of a BS generator is set to be total load minus critical load of the bus, assuming that it supplies the critical load of the bus and supplies other buses with the remaining capacity in case of a large blackout (it is assumed to be installed to supply total load in case of local blackout). Since bus 25 has only an NBS generator, the BS capacity of the bus is assumed to equal the cranking power of the NBS generator (it is assumed to be installed to supply the NBS generator in case of local blackout). The optimal solution to the PPSR problem on the IEEE-118 bus system is shown in Table 3.