



Palau Public Utilities Corporation

Honesty, Integrity, Respect

Integration of 34.5 kV switching station to facilitate uptake of renewable energy

30th Pacific Power Association Conference

25-28 September 2023

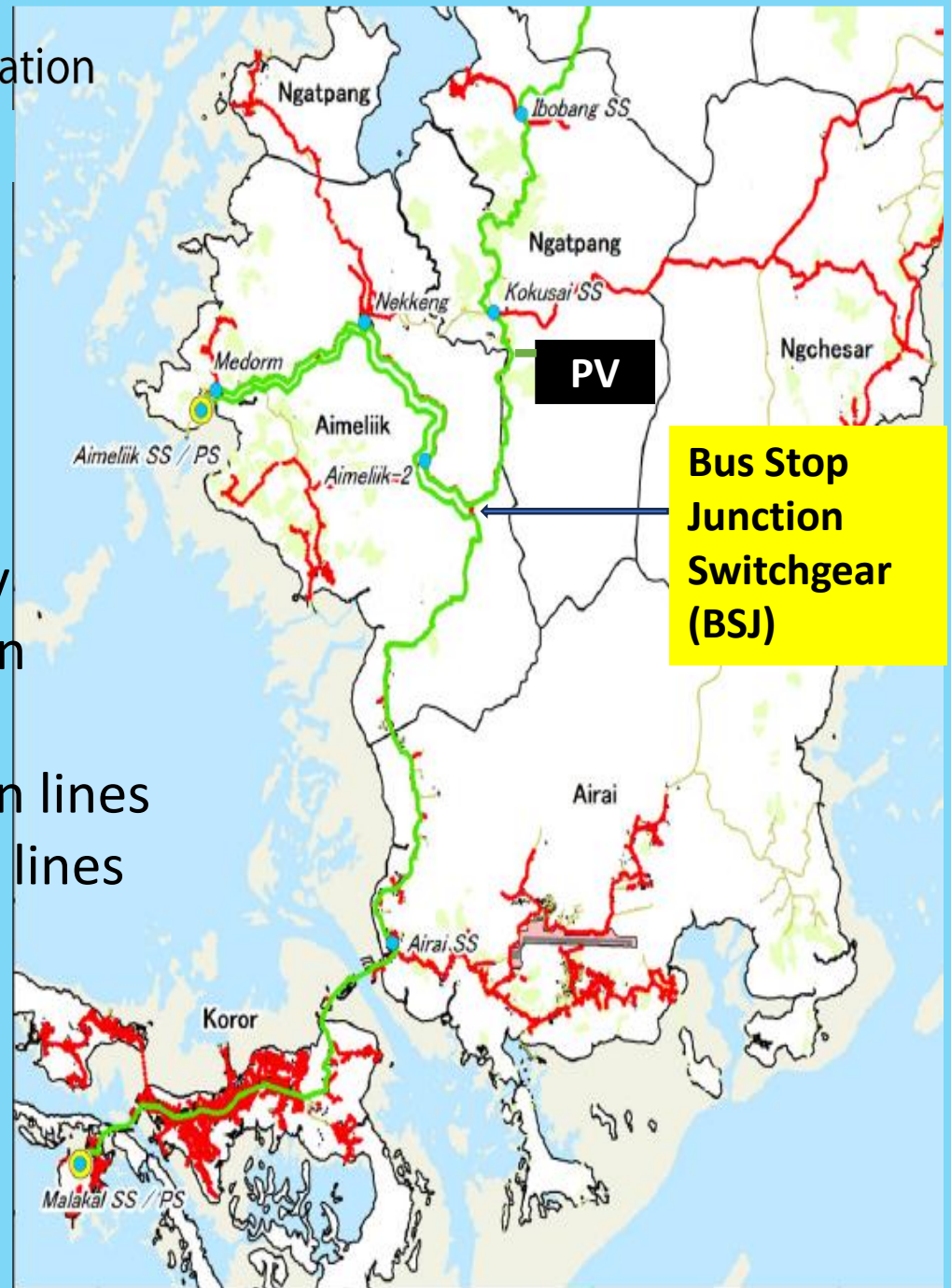
Saipan, CNMI



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13 MW	Peak load
80%	Load factor
24 MW	Generation capacity
~80 GWh	Annual consumption
40%	Capacity factor
75 km	34.5 kV transmission lines
182 km	13.8 kV distribution lines



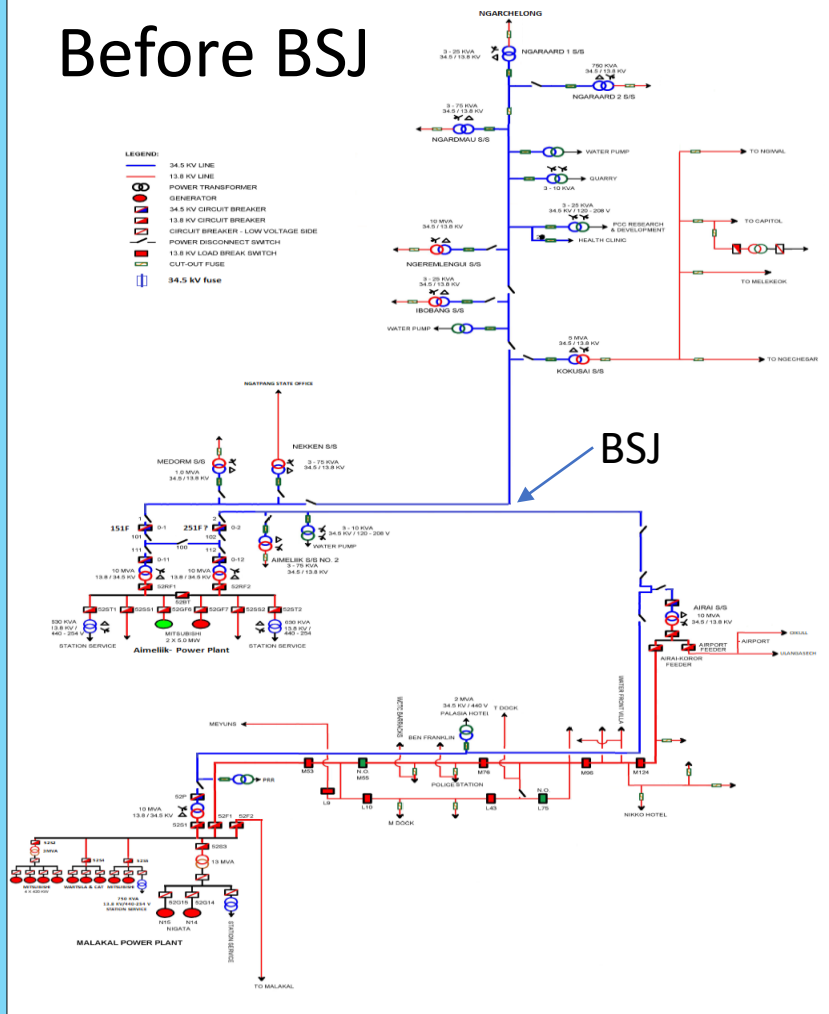
Source: The Project for Study on Upgrading and Maintenance Improvement of National Power Grid in the Republic of Palau Draft Final Report, page 5-2. Japan International Cooperation Agency (2019)



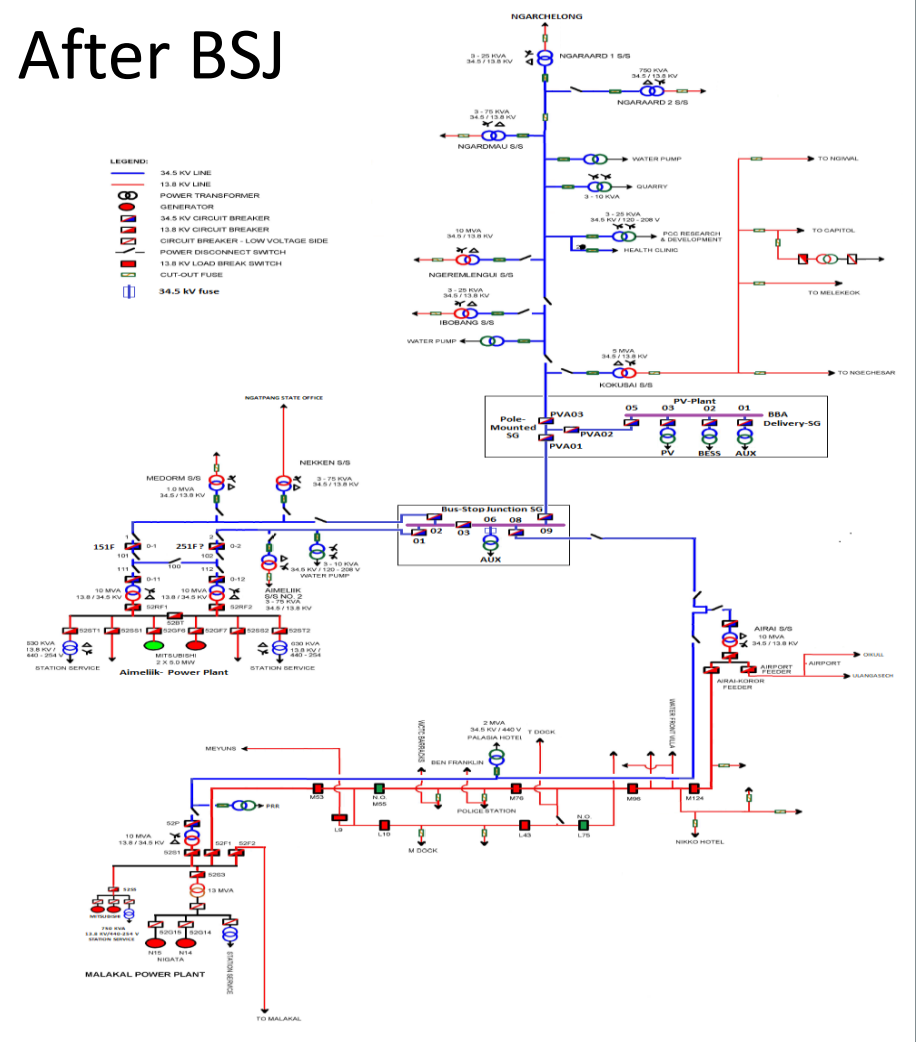
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Before BSJ



After BSJ

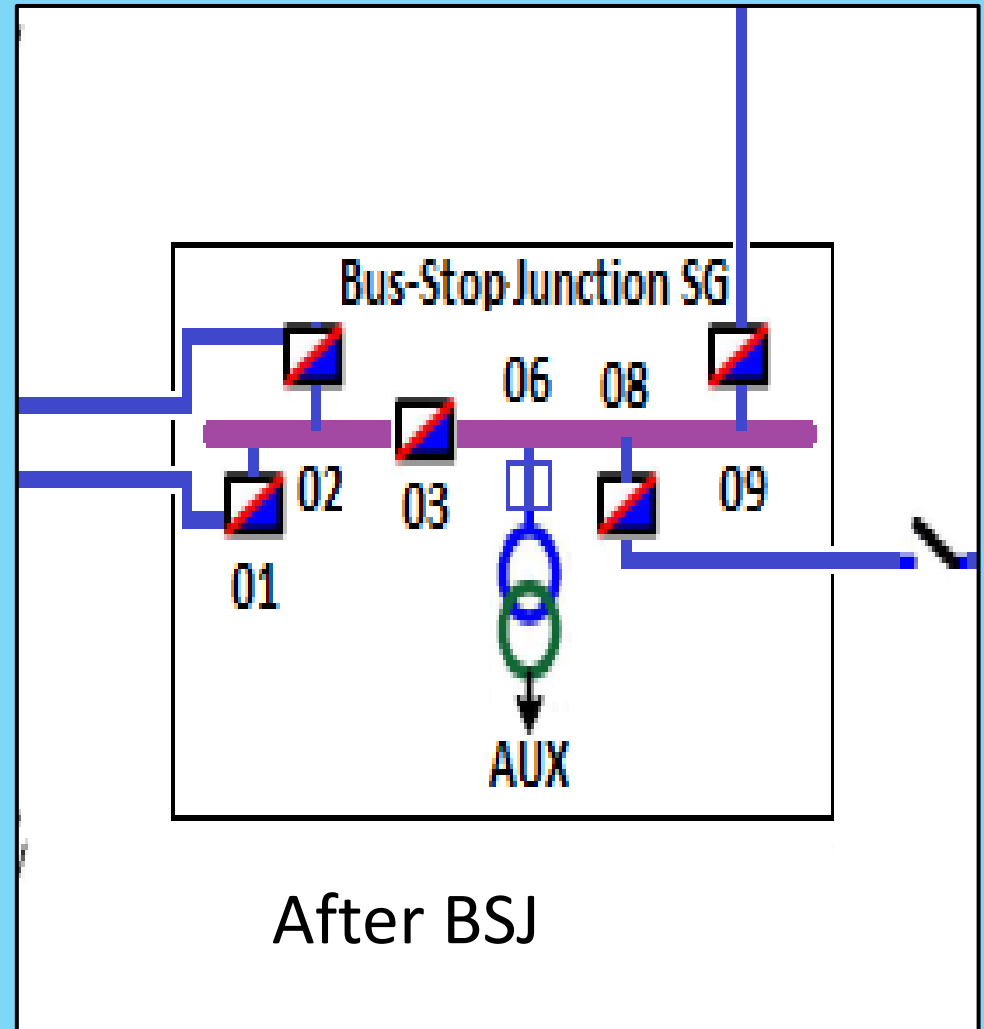
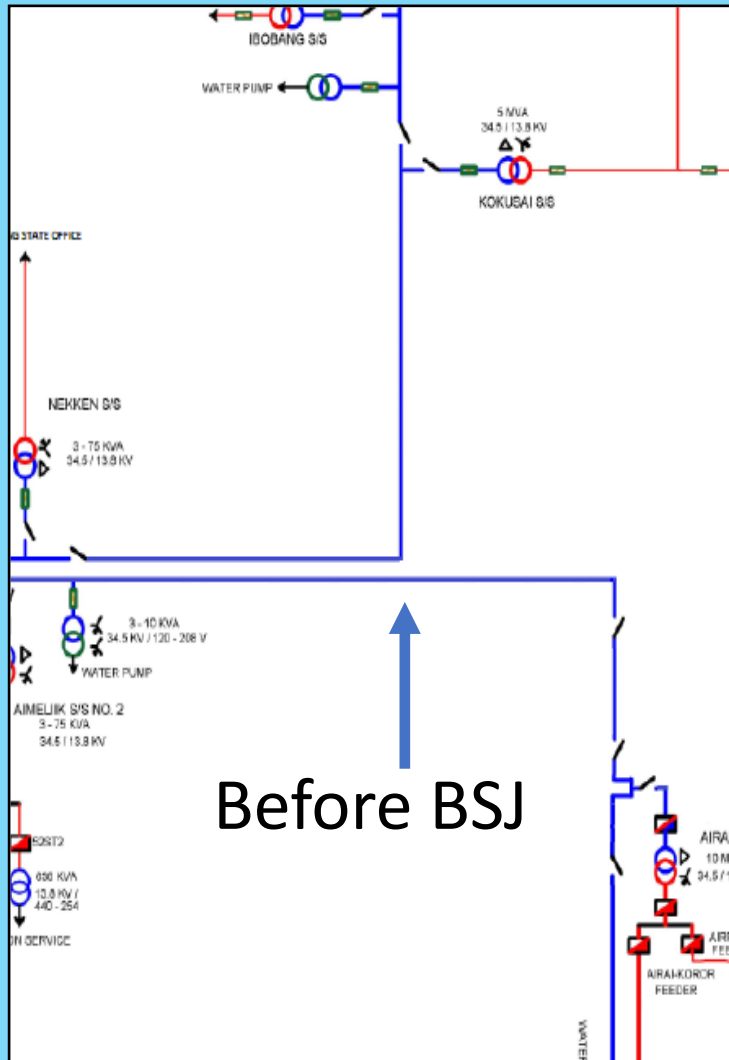


Source: Clarence Kitalong, Jr. (2023)



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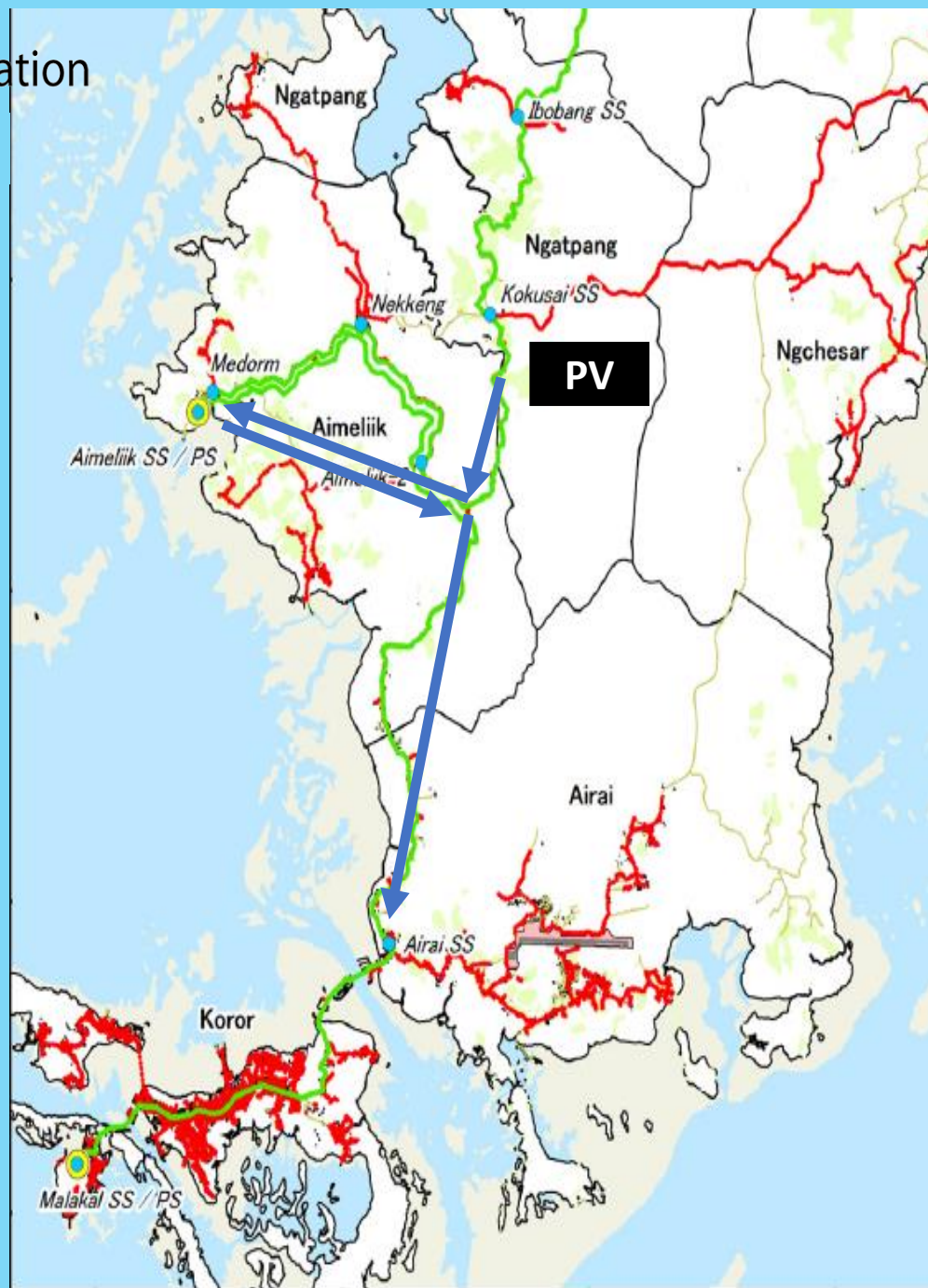


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Before BSJ

Source: The Project for Study on Upgrading and Maintenance Improvement of National Power Grid in the Republic of Palau Draft Final Report, page 5-2.
JICA (2019)

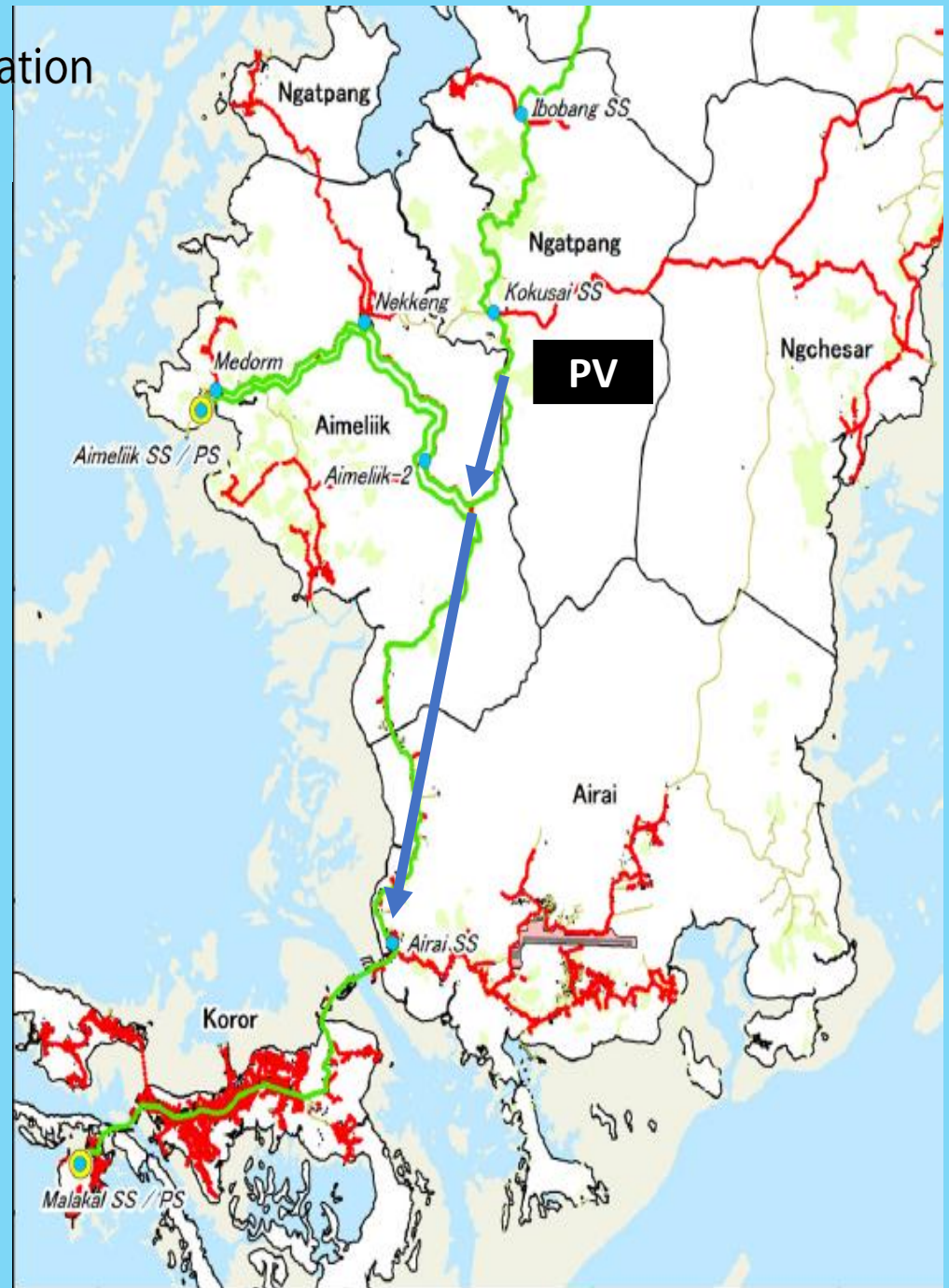




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After BSJ



Source: The Project for Study on Upgrading and Maintenance Improvement of National Power Grid in the Republic of Palau Draft Final Report, page 5-2. JICA (2019)



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Benefits

- Reduce transmission circuit length by ~50%
- Reduce transmission line losses
- Remove transmission corridor prone to transient faults
- Reduce IPP curtailment risk

Challenges

- Increased complexity in protection system
- More protection equipment to coordinate with, operate & maintain



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Mesulang!





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