

## The worth of a CBA (cost benefit analysis) of the SBTACFR

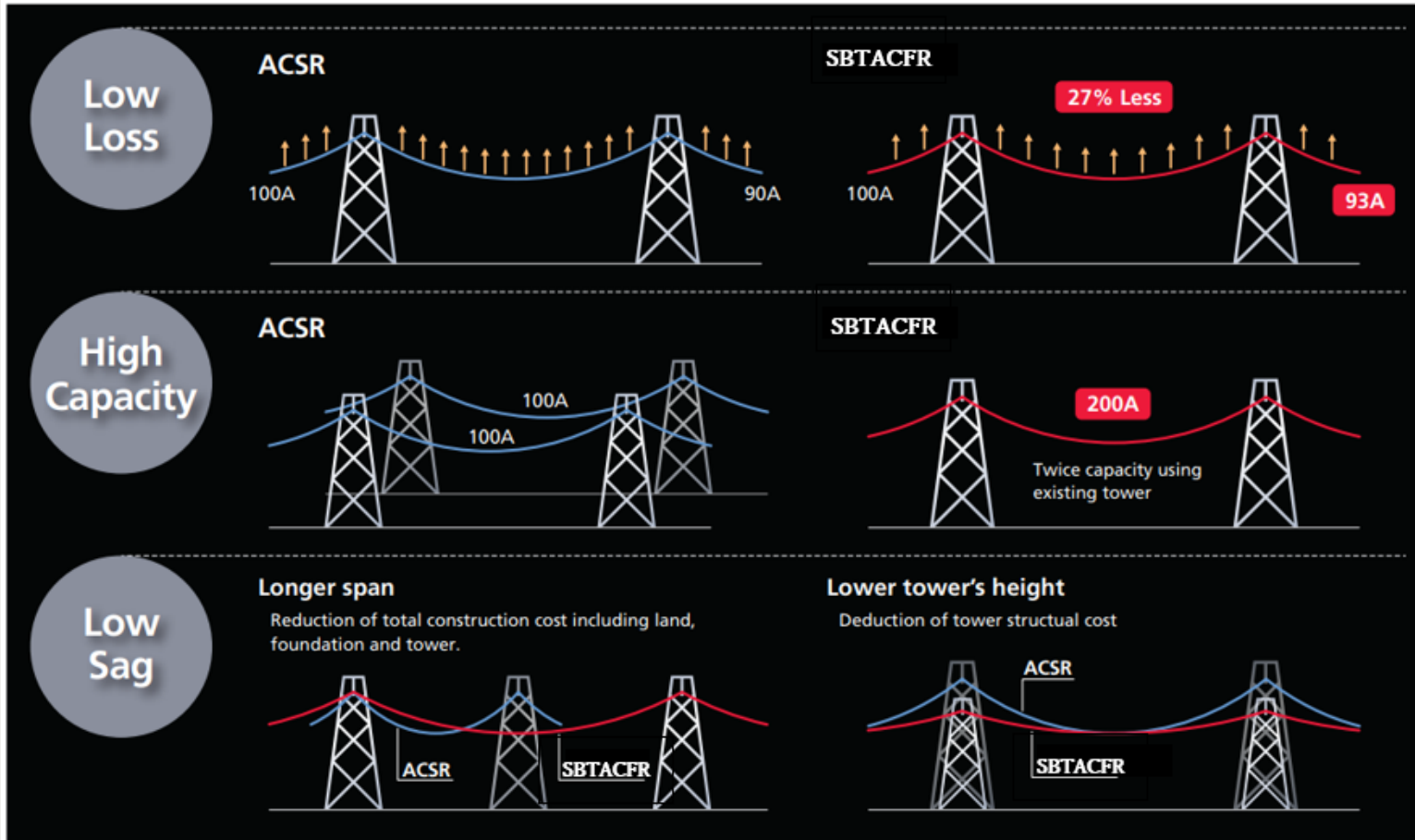
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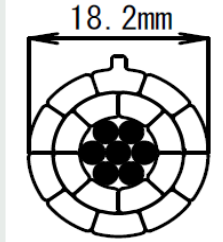
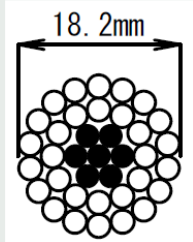
PS2 / Question 2.5

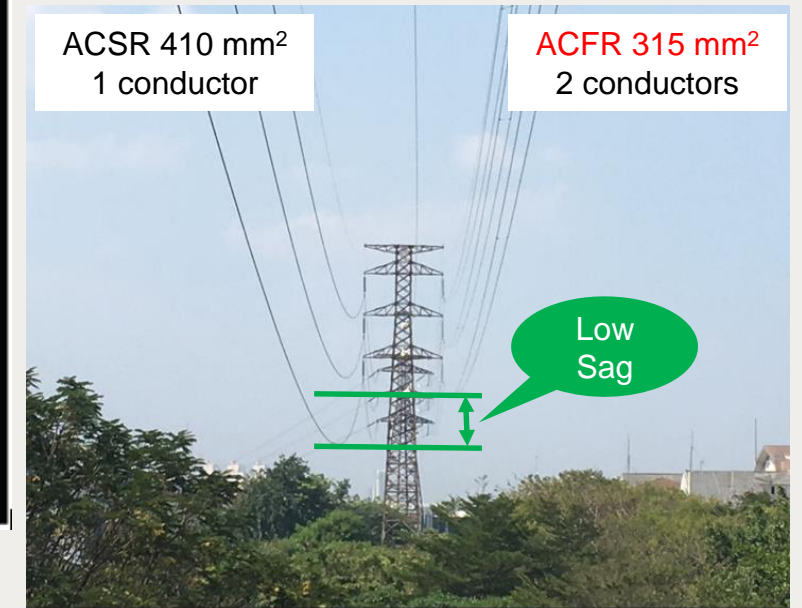
It is worth to make a CBA (cost-benefit analysis) regarding the proposed SBTACFR conductor by including the capital expenditure, installation costs, and transmission capacity gain regarding conventional conductors?

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# Characteristics of SBTACFR



SBTACFR 190mm <sup>2</sup>	TACSR 160mm <sup>2</sup>	ACSR 160mm <sup>2</sup>
800 A	705 A	454 A
		



Group Discussion Meeting

# In case of reconductoring SBTACFR on existing transmission lines

- Using existing structures **without improvement**

<b>Advantages</b>	<ul style="list-style-type: none"><li>▪ Increase transmission capacity</li><li>▪ Reduce transmission loss</li><li>▪ Lower sag / Increased clearance</li><li>▪ Construction period is minimum</li></ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"><li>▪ Increase in conductor and fitting prices</li></ul>

Replacement of ACSR to ACFR



- Using existing structures **with improvement**

<b>Advantages</b>	<ul style="list-style-type: none"><li>▪ Transmission capacity can be further increased without constructing a new transmission line</li></ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"><li>▪ Additional cost for tower reinforcement (design and development of structural members, tower loading test, installation of reinforcing members)</li><li>▪ Increase in conductor and fitting prices</li></ul>

## In case of building new transmission line : SBTACFR vs ACSR

<b>Advantages</b>	<ul style="list-style-type: none"><li>▪ Reduction in the number of towers or downsizing the towers<ul style="list-style-type: none"><li>➔ Lower structure costs</li><li>➔ Lower ROW acquisition costs</li><li>➔ Shorter construction period</li></ul></li></ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"><li>▪ Increase in conductor and fitting prices</li></ul>

### Conclusion

- Characteristics of SBTACFR are lighter weight, increased aluminum, high temperature operatability and its resistancy to thermal energy.
- Various cost-impacting factors are existed depending on the case of using SBTACFR.
- The utility need to conduct a CBA for each project to find the most beneficial scenario for operating the transmission line efficiently.