The Cost and Time to Bury SunZia's Lines Across the Northern Extension of the White Sands Missile Range

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On May 27, 2014 the Department of Defense agreed to accept building SunZia across the northern extension of the White Sands Missile Range if SunZia would bury three segments of the project for a total of five miles (http://www.abqjournal.com/406978/news/deal-struck-on-sunzia-line-at-white-sands.html). SunZia tentatively agreed to do so, and it is important to understand how unrealistic and deceptive this is. Both the cost and time to do so are prohibitive. While the Department of Defense (DoD) appears to be accommodating the project, the conditions that DoD has set are so expensive and time consuming that it is highly unlikely that SunZia can fulfill them despite the company's public statements.

Attached are two crucial diagrams that explain the consequences in time and money for SunZia to comply with DoD's request. The first diagram explains the costs of burying the lines, and the second diagram shows the time required to complete the burial. These are taken from a 2010 study for Alberta's Heartland Project done by Cable Consulting International of Britain. All studies and documents associated with this study are still available online at http://www.aeso.ca/transmission/12079.html.

SunZia's two lines can be buried simultaneously (unstaged) or at separate times (staged). Burying both together is less expensive. The cost of the cable and installation for 10 km (6.2 miles) of two 500-kilovolt lines is CAD$237 million, which prorates to CAD$191 million for 5 miles. (These are Canadian dollars, which in 2010 would have been worth ~$0.90). In addition, the cost of the transition structures at the beginning and end of a buried section is CAD$80 million. If three separate sections of the lines are buried, this would require three separate transition structures at a cost of CAD$240 million. Thus the total cost of burying the lines for five miles would be CAD$431 million (~US$388 million in 2010). This compares with US$10 million if the lines are constructed above ground.

The other critical issue to understand, explained by the second diagram, is the time required to complete burial of the lines. If both lines are buried simultaneously, the time to do so would be 57 months, or almost 5 years. The time to bury one line would be 46 months, or almost 4 years. Two lines composed of three phases (three wires each) above ground requires 12 cables underground. The cables can be buried in either three or four groups.

This means that burying the lines together would increase the time to complete SunZia from 2.5 years to nearly 5 years. This is roughly the same increase in time if the environmental studies are undertaken to reroute the project north of the extension of the White Sands Missile Range. This is to say, essentially no time can be saved by burying the lines over completing the NEPA studies needed to move them. Given the nearly 40-fold increase in cost by burying the lines, SunZia has little choice but to undertake the environmental studies needed to reroute the project if they genuinely want to continue, unless the company does not intend to complete the segment in central New Mexico.

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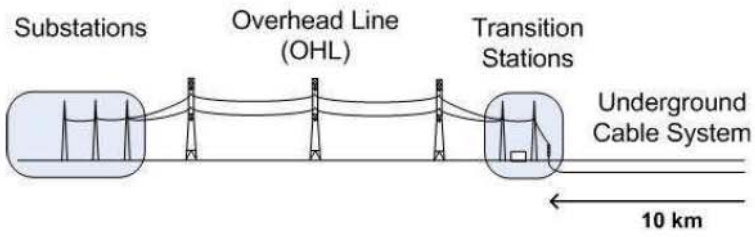
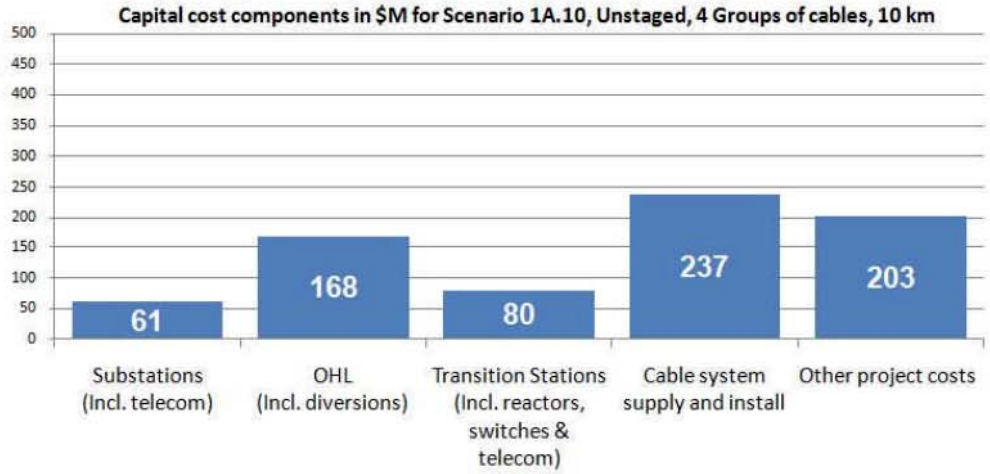
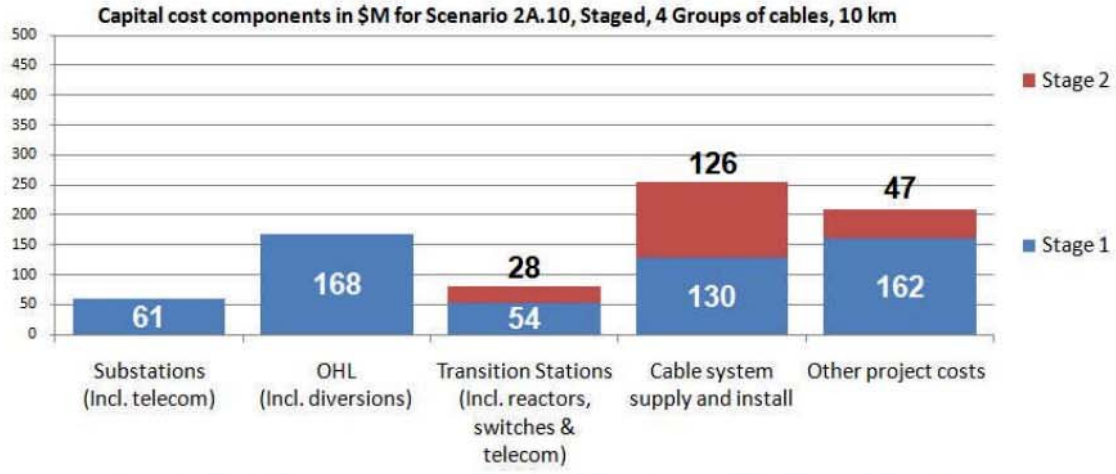
Estimated capital costs for 4 groups of Cables, 10 km long







Stage 1 estimated costs are given in white on blue. Stage 2 estimated costs are given in black above red.
Total estimated costs for each component are the sum of the Stage 1 and Stage 2 costs

Figure 121. Estimated capital cost components in $M for 4 groups of Cables, 10 km long

Project schedule

How long would it take to manufacture and install?

- 10 km, 4 groups
  - Unstaged — 57 months
  - Staged (stage 1 only) — 46 months
- 10 km, 3 groups
  - Unstaged — 57 months
  - Staged (stage 1 only) — 46 months
- 20 km, 4 groups
  - Unstaged — 57 months
  - Staged (stage 1 only) — 57 months
- 20 km, 3 groups
  - Unstaged — 57 months
  - Staged (stage 1 only) — 57 months