South Dakota 111(d) Forum: Review of EPA's Building Block 2

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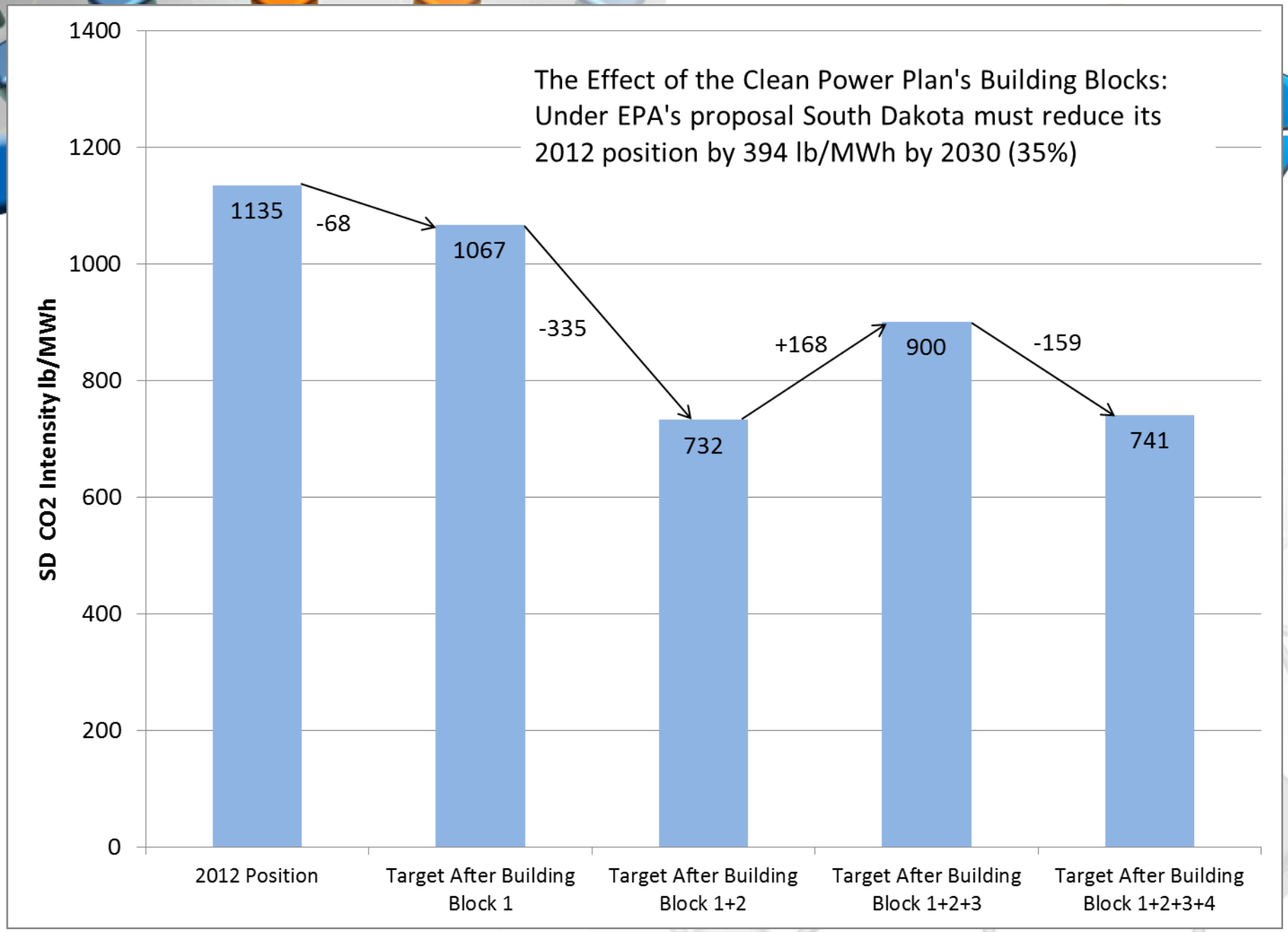
The Effect of the Clean Power Plan's Building Blocks: Under EPA's proposal South Dakota must reduce its 2012 position by 394 lb/MWh by 2030 (35%)
SD CO2 Intensity lb/MWh
1400
1200
1000
800
600
400
200
0
1135
-68
1067
-335
732
+168
900
-159
741
2012 Position
Target After Building Block 1
Target After Building Block 1+2
Target After Building Block 1+2+3
Target After Building Block 1+2+3+4

Building Block 2:

EPA Envisioned Result for SD:

2012:

Coal Net Gen MWh	**NGCC** Net Gen MWh
2,923,000	27,096 (1% CF)

2030:

Coal Net Gen MWh	**NGCC** Net Gen MWh
958,000	1,992,000 (70% CF)

- 958,000 MWh's is equivalent to a 23% capacity factor for Big Stone Plant.
- South Dakota's one NGCC plant, Deer Creek Station, commenced operation in late 2012.
  - The 1% capacity factor is clearly unrepresentative, and South Dakota was the only state that had a less than 10% NGCC capacity factor applied in EPA's building block 2 calculation.

Building Block 2: Key Facts

Big Stone Plant

- Each of the co-owners rely on the capacity and energy from BSP for all 12-months of the year to reliably and economically serve load.
- Since the minimum operating load of BSP is approximately 40% of max output, a 23% capacity factor would require the unit to be offline at least half the year.
- The unit operates within the MISO centralized market.

Deer Creek Station

- The unit serves the capacity and energy needs of Basin Electric.
- The unit operates in the Integrated System (IS) and will join the Southwest Power Pool centralized market in 2015.

Building Block 2: Key Facts

- Re-dispatch between two units is achievable if owned by the same party, serve the same load, or are within the same commitment and dispatch processes (i.e. the same RTO).
- Re-dispatch can be accomplished by adding an economic penalty factor to the unit costs.
- However, none of those conditions apply to the scenario in South Dakota. In fact, BSP and BEPC:
  - Have no contractual relationship.
  - Serve unique loads and no firm transmission rights exist from Deer Creek to BSP owner loads.
  - Are committed and dispatched by two separate entities with unique commitment and dispatch processes.

Big Stone Plant Position – Building Block 2

- We are unaware of a methodology that would allow for an inter-company, inter-RTO dispatch.
- Building Block 2 is technically infeasible and should not be applied to South Dakota.
- Notwithstanding the dispatch concerns above, Building Block 2 is flawed by Deer Creek not beginning operation until late 2012, resulting in an unrepresentative 1% capacity factor.
  - In this case, Deer Creek should have been considered an “under construction” unit in the SD target calculation.

Summary of Big Stone Plant Position

- EPA's generic national formula does not work with South Dakota's unique circumstances, which has one coal-fired EGU and one NGCC.
- EPA's proposed methodology, as applied to South Dakota, produces flawed targets that must be adjusted.
- Adjusting South Dakota's target will have negligible impact on EPA's overall national goal.
  - SD only represents 0.15% of the total United States power sector CO2 emissions affected by the Clean Power Plan – the fifth lowest state in the nation.

Thank you