

Submitted by email, 4.3.2024:

1. For extreme events – A polar vortex at night would stress the transmission system the most. There are a lot of factors at play:
 1. Western Slope generation mix in the future is likely to be primarily solar, some battery and gas, and no wind. Solar at night is not producing and the installed battery and gas generation is insufficient to meet Western Slope load. Imports are needed from TOT 1A (Utah) and TOT 2A (New Mexico/Arizona). The imports across both TOT 1A and TOT 2A may be sufficient to support only Western Slope load and as a result TOT 5 (Continental Divide) floats to approximately 0 MW (i.e. no import to Colorado Front Range via Western Slope).
 2. Front Range generation mix will be primarily wind, solar, gas, battery. Solar again is offline. Wind generation may be high, but high wind generation has an interesting interaction with TOT 3 (Wyoming). High Eastern Colorado wind has the affect of de-rating TOT 3 in real-time (see attached PowerPoint for an explanation).
 3. Between TOT 5 floating near 0 MW and TOT 3 being de-rated in real-time due to high wind, import capacity to the Colorado Front Range may be less than 1000 MW.
 4. Under these conditions, if the Front Range generation experiences gas system failures or wind droughts, loadshedding is likely the only recourse.

I've attached the CCPG Western Slope 2022 Study that discusses the problem under 'Study 1'.

2. Check PSCo, Tri-State, WAPA OATT pages for their interconnection requests. They will list both generation type/technology and relative location. Tri-State has never received a request for a wind interconnection in the Western Slope. Commercial interest roughly follows:
 1. Eastern Colorado: Lots of wind with some solar
 2. South/Southeastern Colorado: Lots of solar with some wind (more wind as you move south and east)
 3. North/Northeast Colorado: Mix of wind and solar (more solar as you move west towards I-25 corridor)
 4. Western Slope: Lots of solar with some gas and no wind
 5. San Luis Valley: Lots of solar, no wind
 6. Batteries can be put anywhere

Attachments

1. [TOT3 Eastern Colorado Generation Impacts CCPG](#)
2. [CCPG Western Slope 2023 Study Report](#)

Thanks,

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