

Energy Plant Modifications; PALs, CHP, Renewable Energy

Michael Zebell, P.E.

ERM, Inc.

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Energy Plant & Modifications Today

- Changes easily trigger NSR/PSD
- Triggering NSR is often not practical as it will cause the need to control sources beyond the modified source (modeling issues)
- Consequently, everything (legal) under the sun is done to avoid NSR/PSD including not doing the project!

ENGO Challenges

- Permit Challenges
 - Process – was the required permitting process followed by the agency and the applicant?
 - Emission estimates/Modeling – were the proper procedures used?
 - BACT Control – was the top-down process used and BACT determined properly?
- Document each of these steps thoroughly.

NSR Wish List

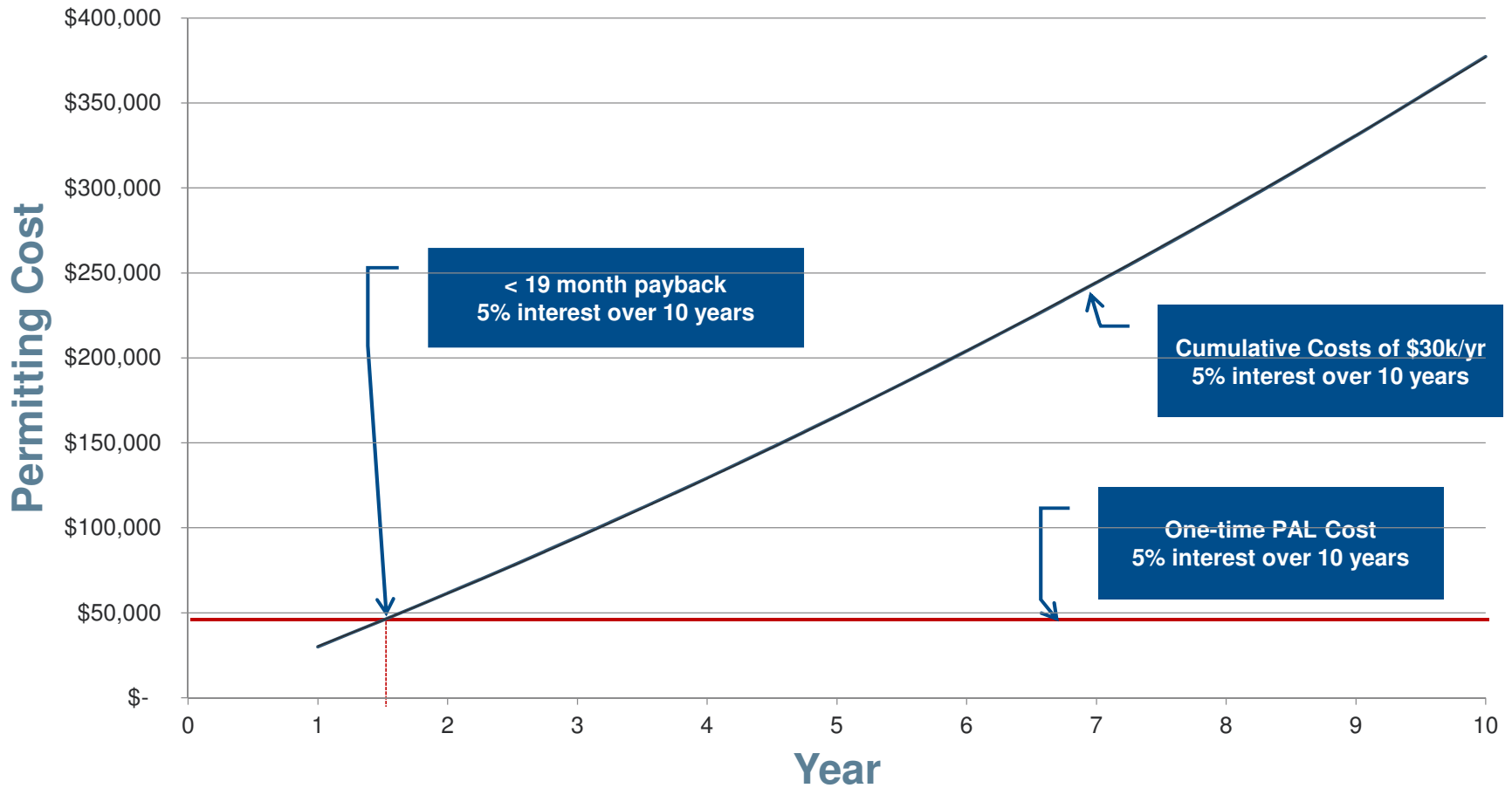
- 10 priority items being considered for action
- About half are policy tweaks
 - Permit application review and appeal time limits
 - Allow non-emitting construction activities to proceed
 - Revise the definition of routine activities not subject to NSR
 - Promote the use of Plant-wide Applicability Limits

PAL

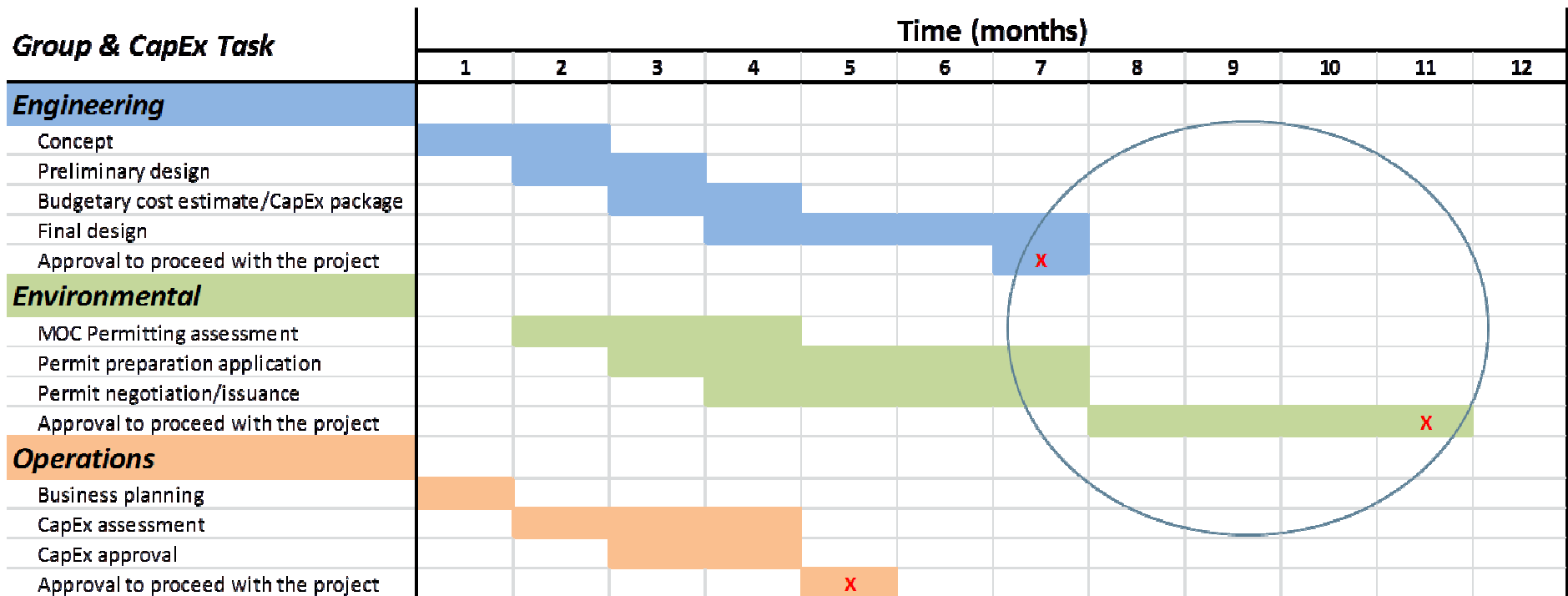
- PAL creates single facility-wide emission cap on NSR triggering Pollutant(s)
- Expedites product to market – individual project air permits not required
- Eliminates government control of production process
- Relax synthetic limits taken to avoid NSR/PSD
- Maintains confidentiality of production methods and processes

PALs Payback

Cumulative Costs of One \$30k Construction Permit per Year



Current Project Planning



PAL Challenges

- PAL set by 10-year lookback
 - Highest, continuous 24-month annual actual average emissions plus NSR SER
- Must account for Start-up, Shutdown and Malfunction emissions (both in look back and under the PAL)
- Must still demonstrate compliance with applicable state and federal rules (and historic BACT/LAER limits)

Renewables

“the whole push for renewable energy is being driven by the wrong motivation, the mistaken belief that global climate change is being caused by carbon emissions. If you don’t buy that – and I don’t – then what we have is really just an expensive way of making the tree-huggers feel good about themselves.”

– *Donald J Trump, Great Again: How to Fix Our Crippled America (2015)*

Renewables Downside

- EIA Case with CPP: US Energy Mix
 - NG overtakes coal in 2025
 - Renewables overtake coal in 2029
- EIA Case without CPP: US Energy Mix
 - NG overtake coal in 2032
 - Renewables grow slowly

Renewables Plus Side

- In December 2015 congress extended the investment tax credit for solar to 2021, and the production tax credit for wind to 2019.
 - These are unlikely to be reduced or repealed by the Trump administration.
- FERC is likely to continue to promote more flexibility in the grid – policies that have helped integrating renewables into the grid.

CHP – the good

- Increased electrification of industrial operations and comfort heating and cooling increases the demand for electricity.
- Increasing the use of renewable energy within corporate energy portfolio lends itself to distributed energy and CHP back-up support.
- Remote energy management and control facilitates maximum efficiency and process, thermal and electric energy integration.
- Natural Gas a fuel of choice for primary thermal, process and renewable energy back up demand promotes CHP flexibility.
- The drive toward valuation of electric grid resilience and support can increase the value of CHP.
- Increasing consideration of Micro Grid applications increases and promotes expanded CHP possibilities.

CHP – the bad

- To maximize the benefits of CHP there must be a thermal load.
- Adding CHP to an existing plant usually triggers NSR/PSD rules.
- The 5 - 20 year Industrial/ Utility project evaluations criterion creates financing complications.
- PURPA - operational control, stranded assets and revenue (\$\$\$).
- The subsidized price of renewable energy setting the value of CHP electricity.
- Citizen challenges to any fossil energy based CHP permit applications