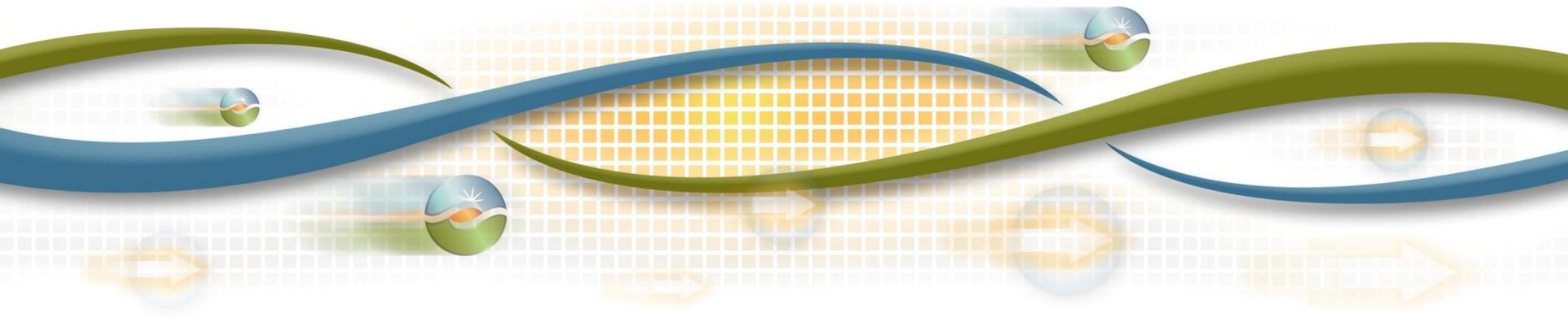




# Decision on accounting of minimum load costs proposal

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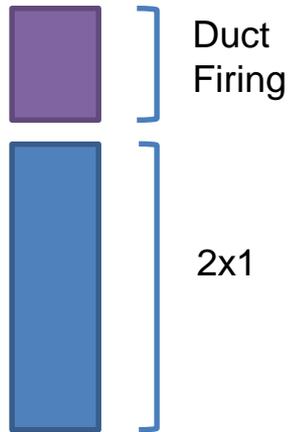
# Current market inefficiency when generator's minimum operating level is increased due to ambient, environmental or mechanical reasons.

- Current methodology to temporarily increase minimum operating level:
  - Generator reports minimum operating level change through ISO's outage management system
  - However, minimum load costs not adjusted
- Results in inefficiencies:
  - Market inefficiently commits generator because \$/MWh minimum load costs are too low
  - Generator's actual costs not reflected in bid cost recovery
  - Problematic for NV Energy combined-cycle units because of large daily summer temperature variations

# Illustration of outage use for temperature impacts on multi-state generator output levels

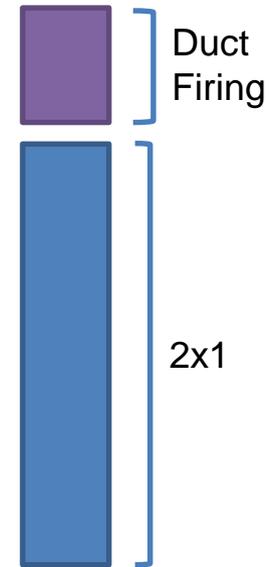
## Hot Temperature

Max output of lower configuration decreases with higher temperature



## Cooler Temperature

Max output of lower configuration increases with cooler temperature



## Adjusting minimum load costs for minimum operating level changes will improve commitment decisions.

- Propose to adjust minimum load costs using default energy bid corresponding to energy above minimum operating level in master file
- Adjustment accounts for generator's change in costs
  - default energy bids are based on each generator's estimated costs plus 10 percent
- Enables improved commitment decisions by reflecting incremental energy costs associated with higher minimum operating level

# Stakeholders support modifying minimum load costs but some prefer alternative methodology

- Broad support for adjusting minimum load costs when minimum operating levels increase
- Some stakeholders prefer scaling minimum load costs as opposed to using default energy bid

Management recommends the Board approve the use of a revised minimum load cost for rerated resources.

- Improves efficiency of commitment decisions by appropriately including incremental energy costs
- As EIM expands in the southwest, ambient conditions drive more frequent minimum operating level updates