MINNESOTA POLLUTION CONTROL AGENCY

National Survey on Modeled Particulate Matter Deposition Practices: Preliminary Findings and Next Steps

[EPA Regional/State/Local Modelers Workshop - May 8, 2019]

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Modeled Particulate Deposition Practices

- MPCA faced with requests to use particulate deposition for regulatory modeling demonstrations
  - Currently, no “best practices” exist for modeled PM deposition
  - Specifically:
    - Best approach
    - Data quality
    - Permit implications
- MPCA conducted a national survey during the Winter of 2019 to better understand how other air management programs address this issue
  - Preliminary results offered
  - Will extend to Canadian Provinces

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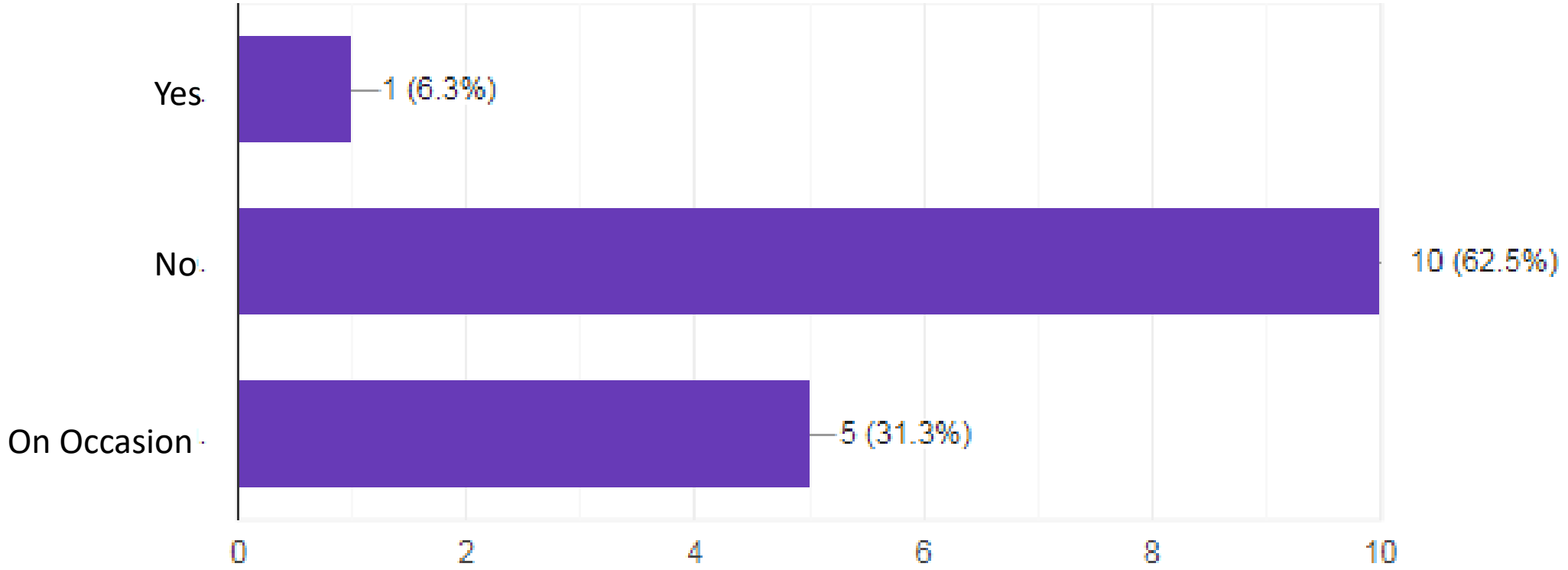
State Responses



State Response Demographic

East	6
West	6
Midwest	4

3 Western States “On Occasion”

2 Mid-Western States “On Occasion”

1 Mid-Western States “Yes”

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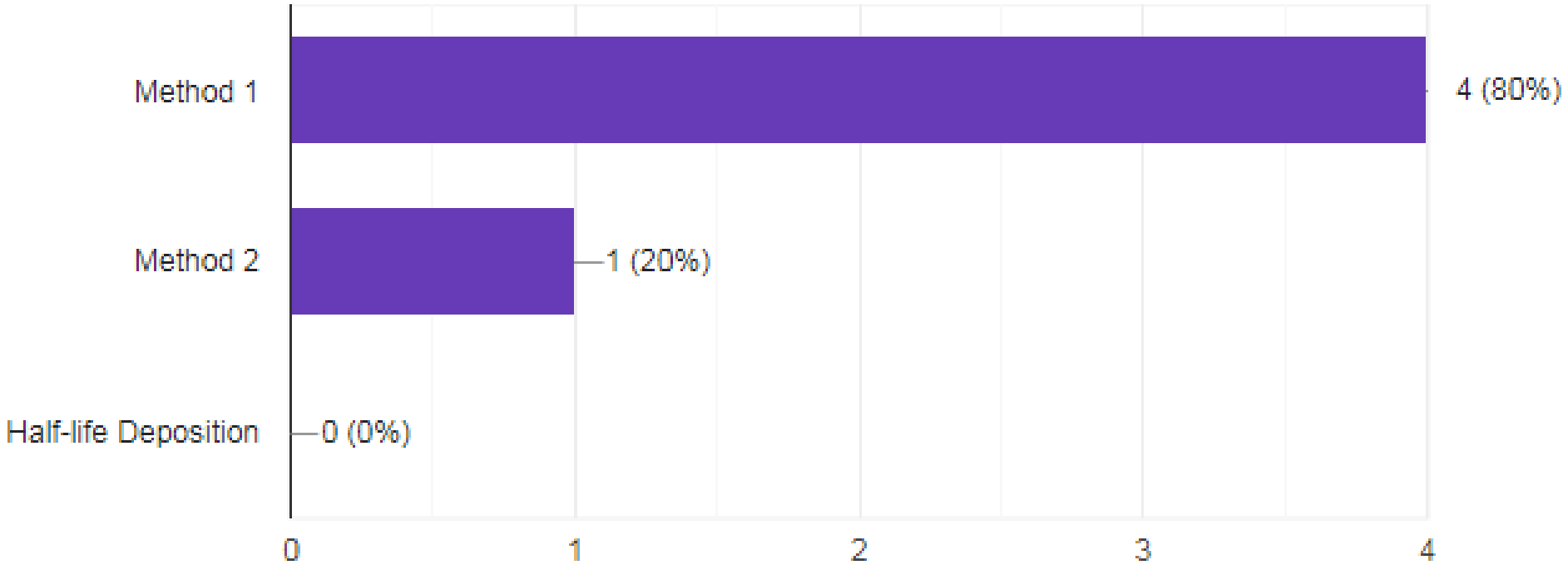
Particulate Matter Deposition Method



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Operational definition of "*known reasonably well*" for Method 1/Method 2 determination

- "Weight of evidence" approach, within the context of other components in the analyses.
- How much of a compliance difference plume depletion makes - what are the impacts without accounting for plume depletion.
- Case-by-case decision. Need some form of test data showing the distribution of particle sizes.
- We do not have any pre-defined criteria for what would be acceptable.
- Data from a study
- Legitimate documentation
- A significant fraction (>10%) of the PM10 has a diameter of 10ug or larger
- The data collected/used must come from the manufacturer, sister facility, or facility with the same or similar equipment.
- Please note, there are other methods for adjusting particle emissions. The District is looking into research based on new/old research that may lend itself to creating hourly emissions rate files that are adjusted using meteorological parameters. The District has done this for ammonia in the passed and is considering it for PM10/PM2.5."

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Next Steps

- Ongoing literature and report review
- Discussion with Canadian Provinces
- May include blasting activities as a source of interest
- Modeling runs to evaluate *de minimis* input values to ease/enhance multiple modeling set-up and data evaluation
  - Otherwise – two separate runs need to be combined to create final demonstration
- Draft “Best Practices” document available for review in the Summer of 2019
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