

Developments in O3 Compliance Monitoring

OTC/MANE-VU Fall Meeting

Wednesday, November 15, 2017

Melrose Georgetown Hotel

(Potomac I & II)

2430 Pennsylvania Avenue NW

Washington, DC 20037

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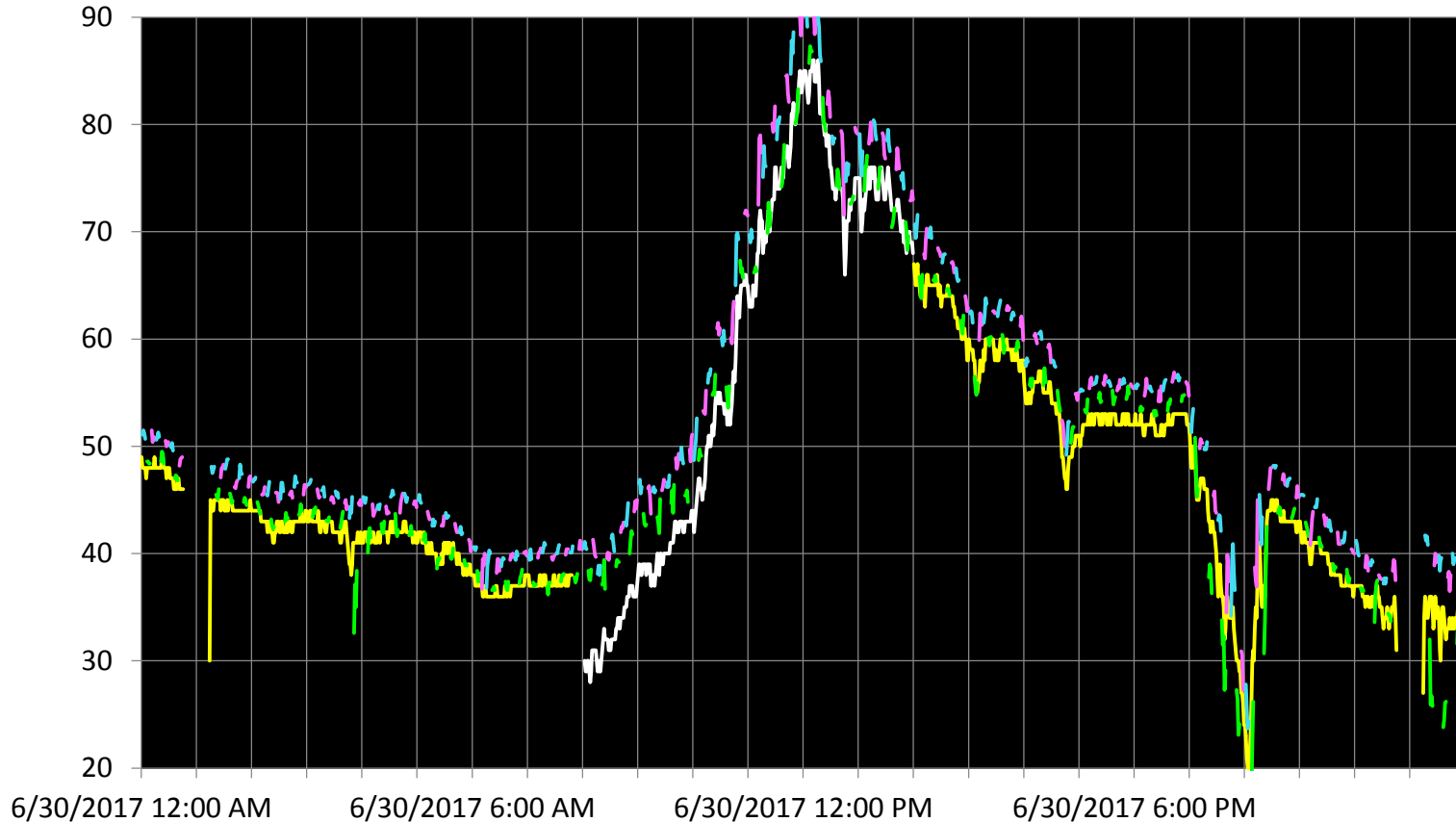
O₃ Monitoring Developments

- *Significant near-ground (2-10m) ozone gradients were measured at Westport, CT this summer during elevated O₃ concentrations when conventional wisdom holds that unstable daytime conditions should prevent such gradients.*
- *Lowering monitor inlet heights where feasible to 2m, within the allowable 2-15m range, better represents actual population outdoor exposures and improves O₃ NAAQS compliance.*

2m, 6.2m & 10m Inlet Height Array and 10m Ambient T/RH Sensors



Rolling 1 Minute Average O₃ Time-Series at Westport, CT Site



— 1min DEEP O₃ 6.2m
 — 1min Deleted DEEP O₃ 6.2m
 — 1min API 4min O₃-2m
— 1min API 4min O₃-6.2m
 — 1min API 4min O₃-10m

4 Highest MD8h O₃ Values WP June 29-Sept 30, 2017

- Conventional DEEP T400 at 6.2 m: **89**, **74**, **73**, and **70** ppb
- Sequential T400 array at 2 m: **85**, **73**, **69**, and **66** ppb
- Sequential T400 array at 6.2 m: **91**, **76**, **74**, and **70** ppb
- Sequential T400 array at 10 m: **93**, **75**, **74**, and **69** ppb.

Recommendations

- Ozone NAAQS compliance would benefit from upgrading current O₃ network photometer scrubbers or deploying new “interference-free” monitors (TAPI 265 NO-CL or 2B 211).
- Mandated deployments of improved network O₃ monitors should be funded by EPA to improve NAAQS compliance, risk assessments, and validations of related air quality models.
- Lowering network inlets, where feasible, to 2 meters would further improve O₃ NAAQS compliance and better represent actual outdoor exposures.