

Making the Most of Your Data Acquisition and Handling System (DAHS)

Rex Thompson, David Suess

DSG Solutions, LLC, 804 N 145th St, Suite A, Shoreline, WA 98133

Sean Gregory, Kristen Tran, Elizabeth Clardy

DSG Solutions, LLC, 20 Monadnock Street, Gardner, MA 01440

Data Acquisition and Handling Systems (DAHS) are used to capture, aggregate, validate and store Continuous Emission Monitoring System (CEMS) data from combustion units for real-time monitoring, alarming, recordkeeping and reporting purposes. When fully utilized, a DAHS can be a powerful tool to proactively manage air compliance requirements, maximize air program management efficiency and minimize errors and omissions associated with air compliance reports. New DAHS installations (e.g. due to new State and/or Federal requirement(s), installation of new emission unit(s), a DAHS vendor change) are often completed on a tight schedule/budget which can limit the scope of the configuration. Existing systems are not always updated in a timely fashion to account for new compliance requirements (e.g. NESHAPs, permit amendments) or when software/hardware updates become available. As a result, systems could be better utilized to help demonstrate compliance with applicable air quality regulations and air permit conditions. We will explore how to optimize a DAHS through activities including training, auditing and improving overall DAHS performance through updates to real-time/historical data views, reports, data alarms and channels. We will also review case studies of improved DAHS functionality through advanced configuration updates including tracking of long-term emissions (e.g. 365-day emissions and projections), short-term emissions (e.g. building/predictive/target channels), startup/shutdown emissions and monthly/quarterly data availability requirements.



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Making the Most of your DAHS

Presented by:

**Rex Thompson
DSG Solutions, LLC**

Contributing Authors:

**Dave Suess, Ph.D. | Sean Gregory, P.E.
Elizabeth Clardy, EIT | Kristen Tran, EPI**

www.dsgsol.com



Shoreline, WA
(206) 393-0572

Gardner, MA
(978) 730-9977

About Us

DSG Solutions, LLC supports the energy industry with air management services focusing on air emissions monitoring, testing, recordkeeping and reporting requirements related to 40 CFRs 60, 63, 64, 75 and 98 as well as State and local air quality regulations.

- Audits
- Training
- Report Preparation
- New Regulations
- As-Needed Support

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DAHS Overview

Optimization

Case Studies

Other Examples

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Data Acquisition and Handling System (DAHS)

- Monitoring, Alarming, Recordkeeping & Reporting
- Used by:
 - Environmental Managers
 - Control Room Operators
 - Instrument Technicians
- Many vendors, one purpose
- Can be a very powerful tool



DAHS Overview

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Limitations

- Initial configuration
- Updates for:
 - New requirements
 - New hardware
 - New software
- User abilities
- Utilization



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Training

- Types:
 - Regulatory
 - DAHS Software
- Providers
 - DAHS Vendors
 - Consultants
 - In-house experts



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Audit/Review

- Is your system:
 - Comprehensive?
 - Correct?
 - Up-to-date?
 - Understood?
 - Utilized?
- Could your system be doing more for you?

See extended abstract for DSG's 2013 A&WMA ACE presentation [here](#)



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DAHS Configuration

- Data views
- Reports
- Alarms
- Channels
- Data processing rules



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Case Study 1: 365-Day Limit Compliance

- Two CC gas turbines
- 365-day PM_{10} ton per year (TPY) limits
- Compliance stack test yielded elevated emission factors
- Natural disaster
- At risk of exceeding TPY emission limits



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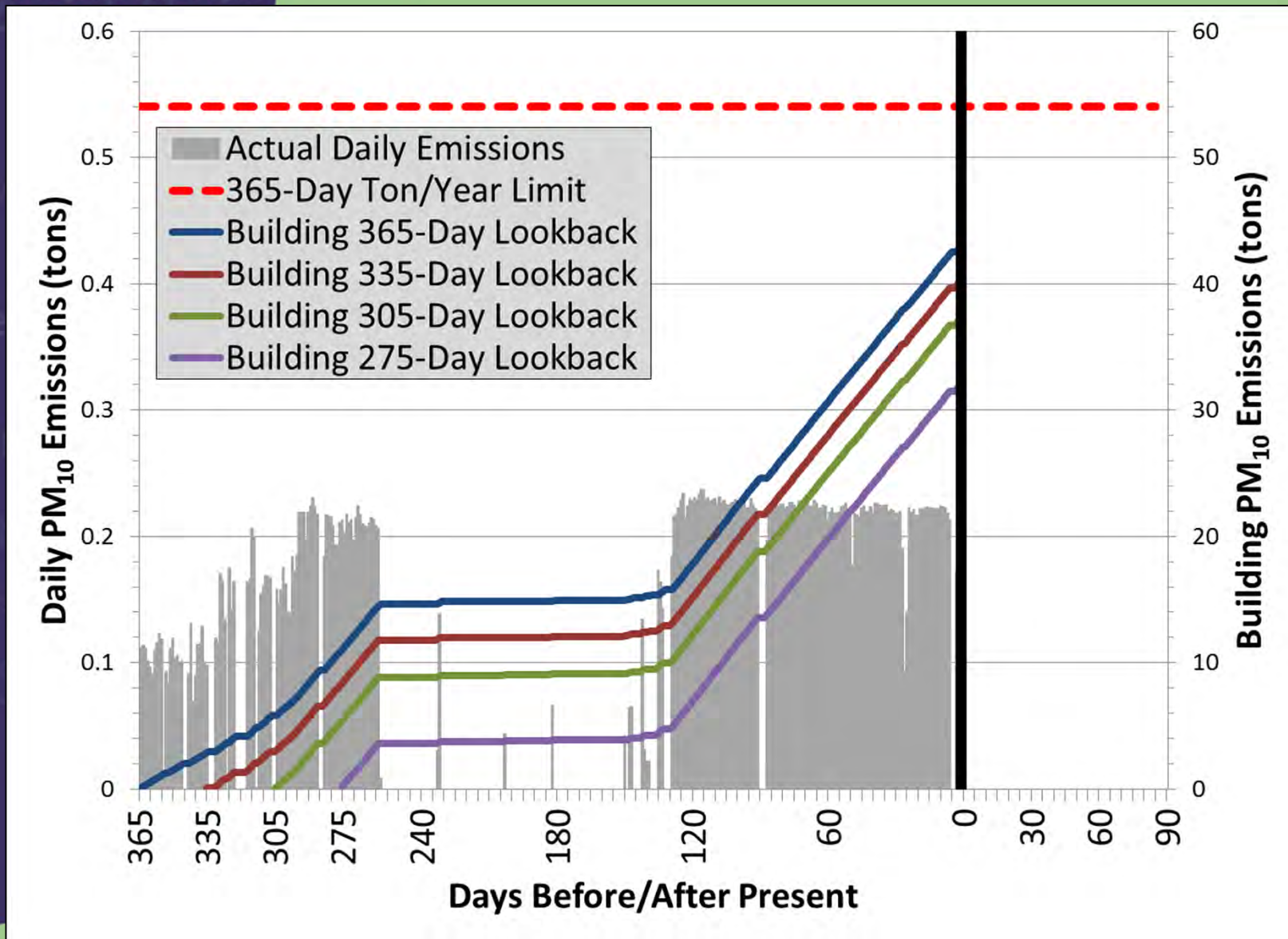
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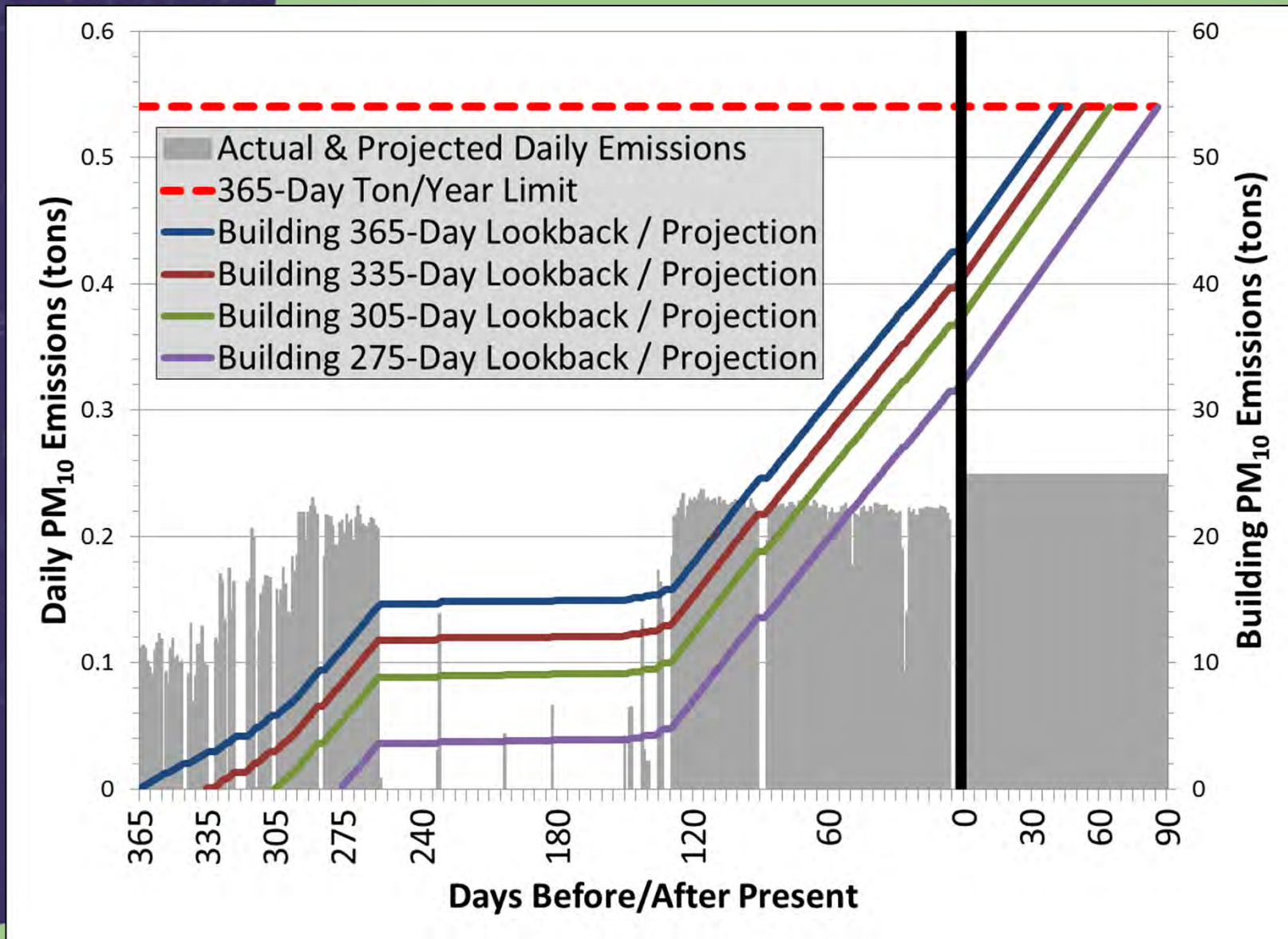
Case Study 1: 365-Day Limit Compliance

- New channels
- New real-time screens
- New alarms
- New reports

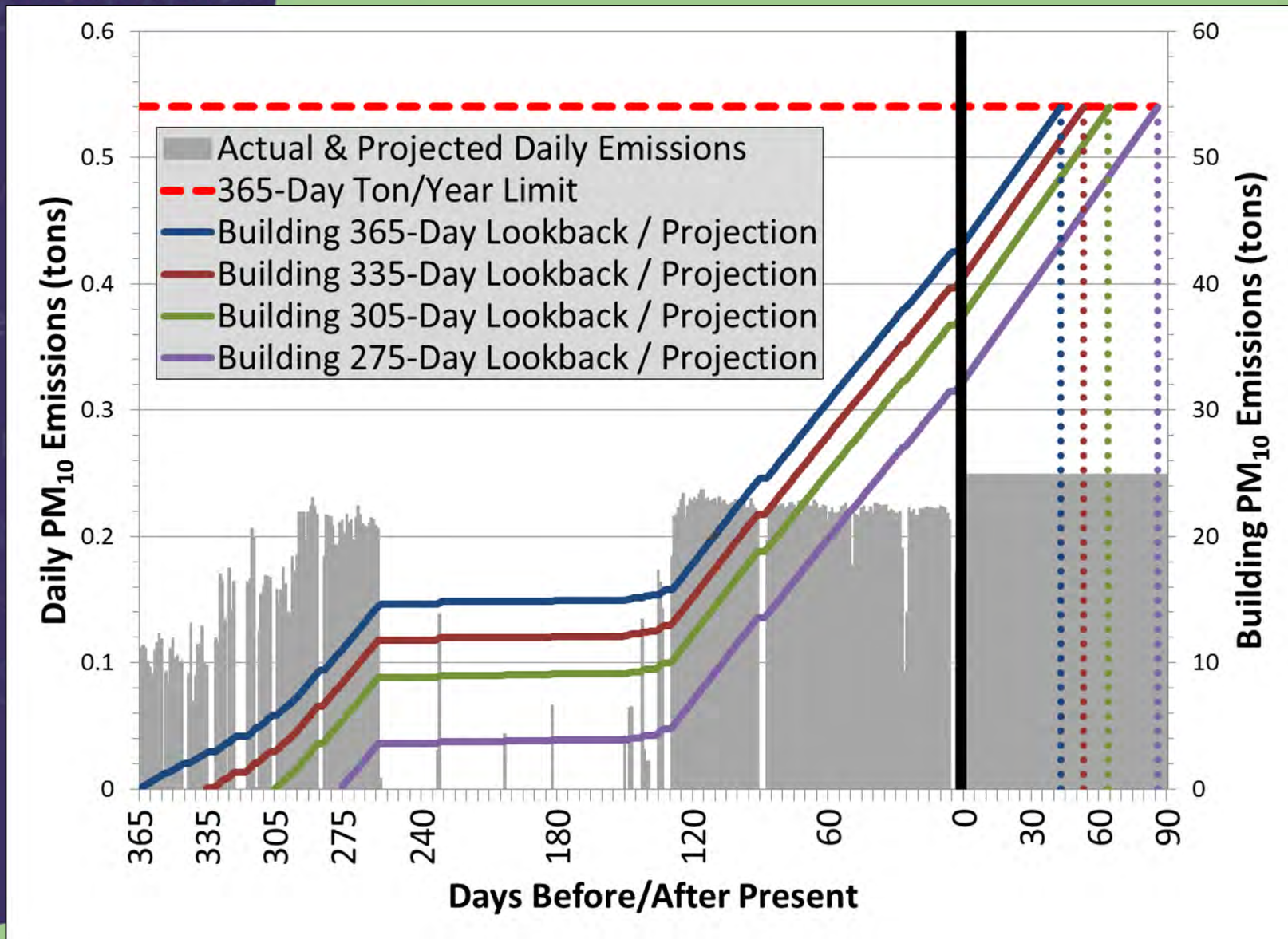
Case Study 1: 365-Day Limit Compliance



Case Study 1: 365-Day Limit Compliance



Case Study 1: 365-Day Limit Compliance





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Case Study 2: Building/Predictive/Target

- Turbines w/ short-term (hourly) emission limits
- Three types of channels set up to help the units stay in compliance:
 - Building
 - Predictive
 - Target



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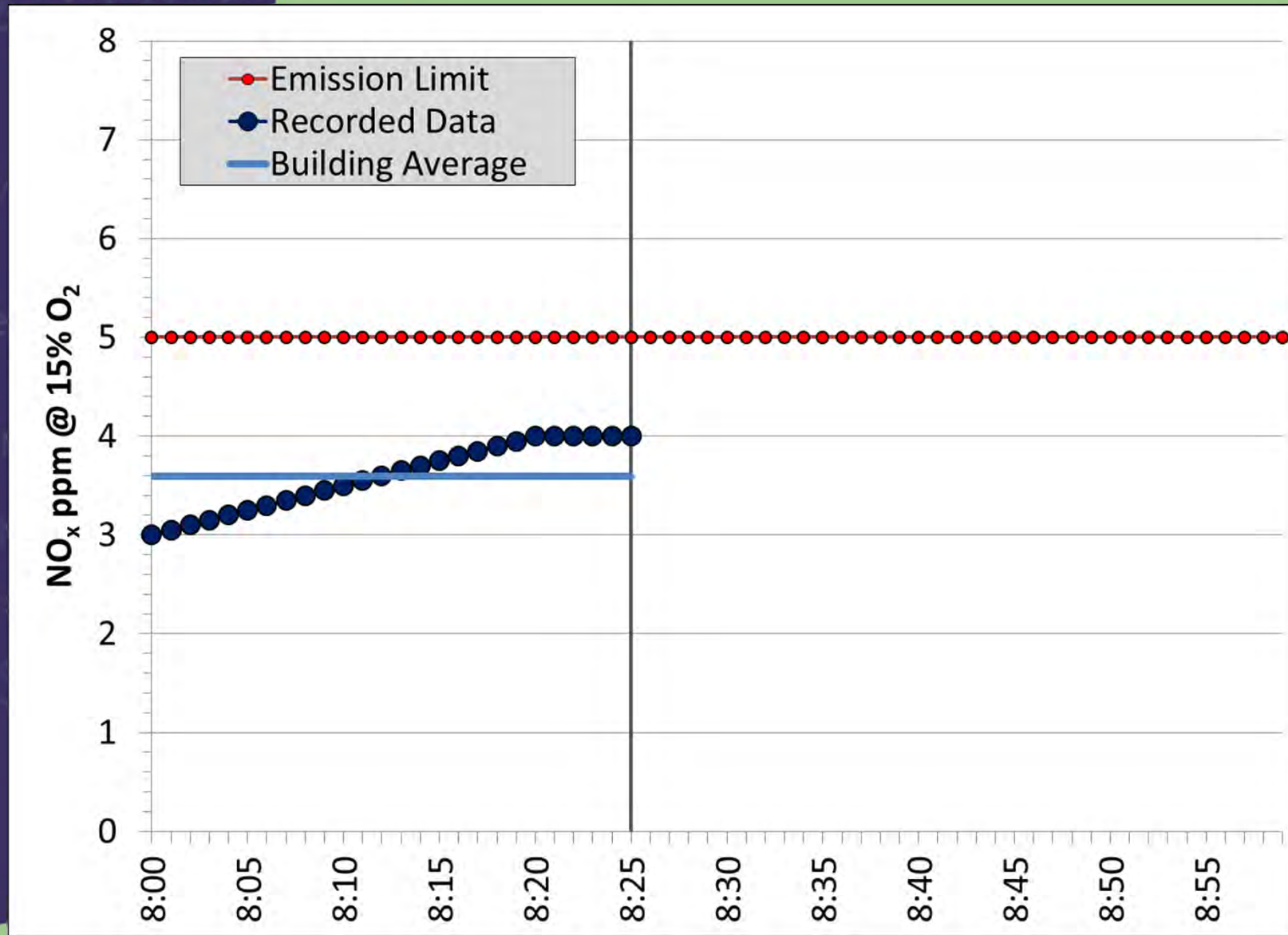
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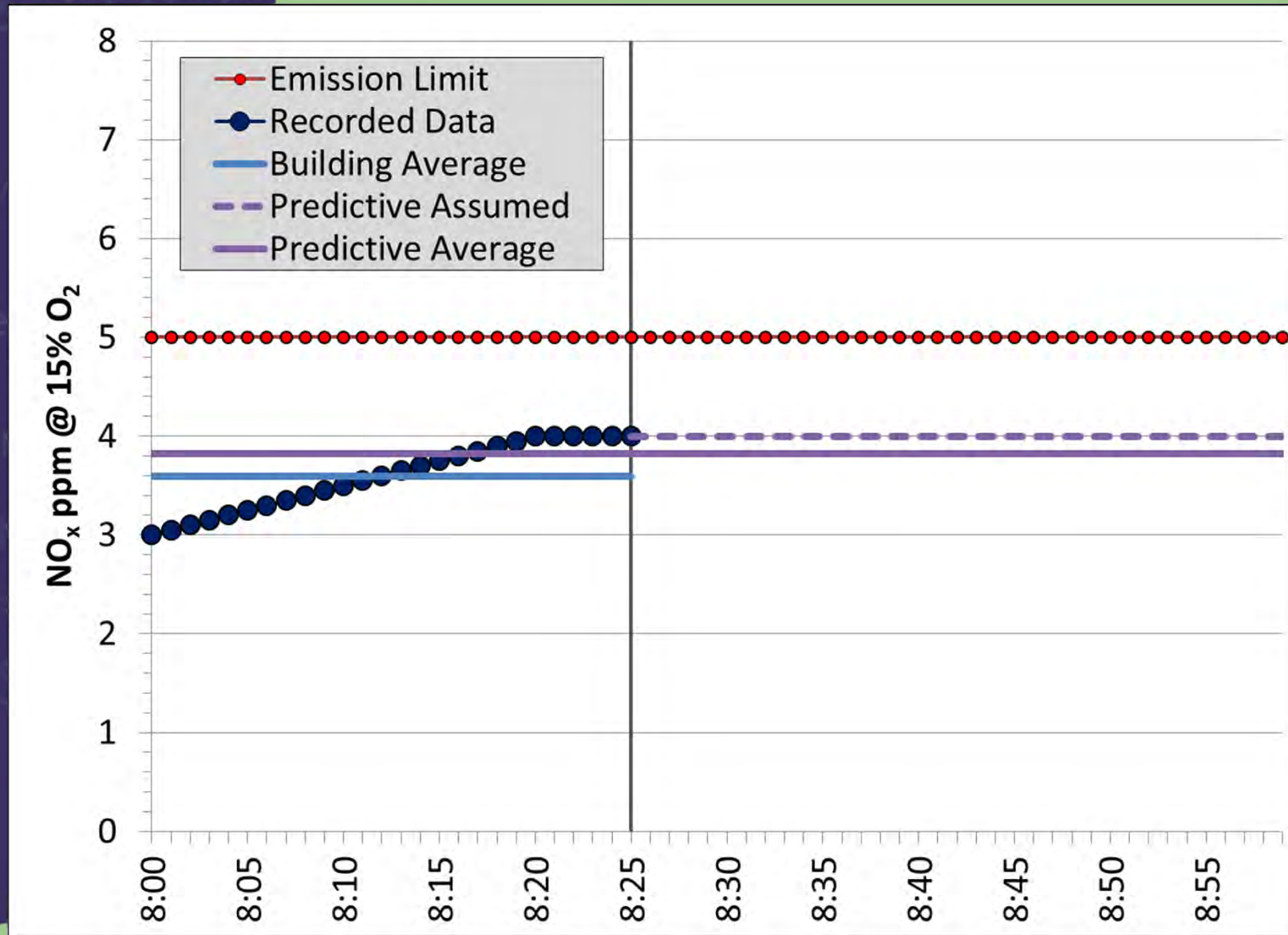
Case Study 2: Building/Predictive/Target

- **Building Average:** What is the current average from the start of the period through the present?
- **Predictive Average:** What will the final average be if the current value is held through the end of the period?
- **Target Value:** What average must be achieved during the remainder of the period in order to stay in compliance with the limit?

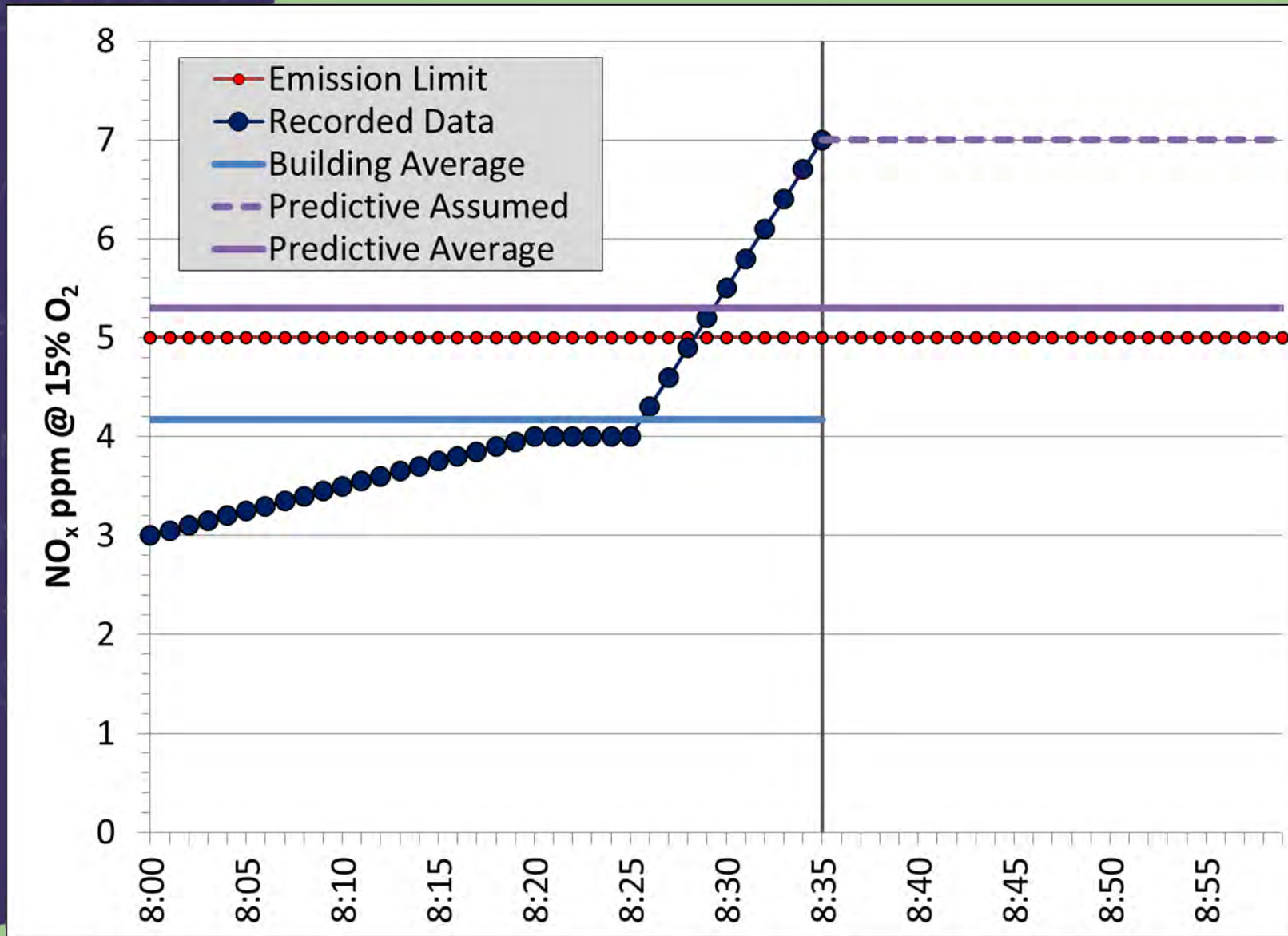
Case Study 2: Building/Predictive/Target



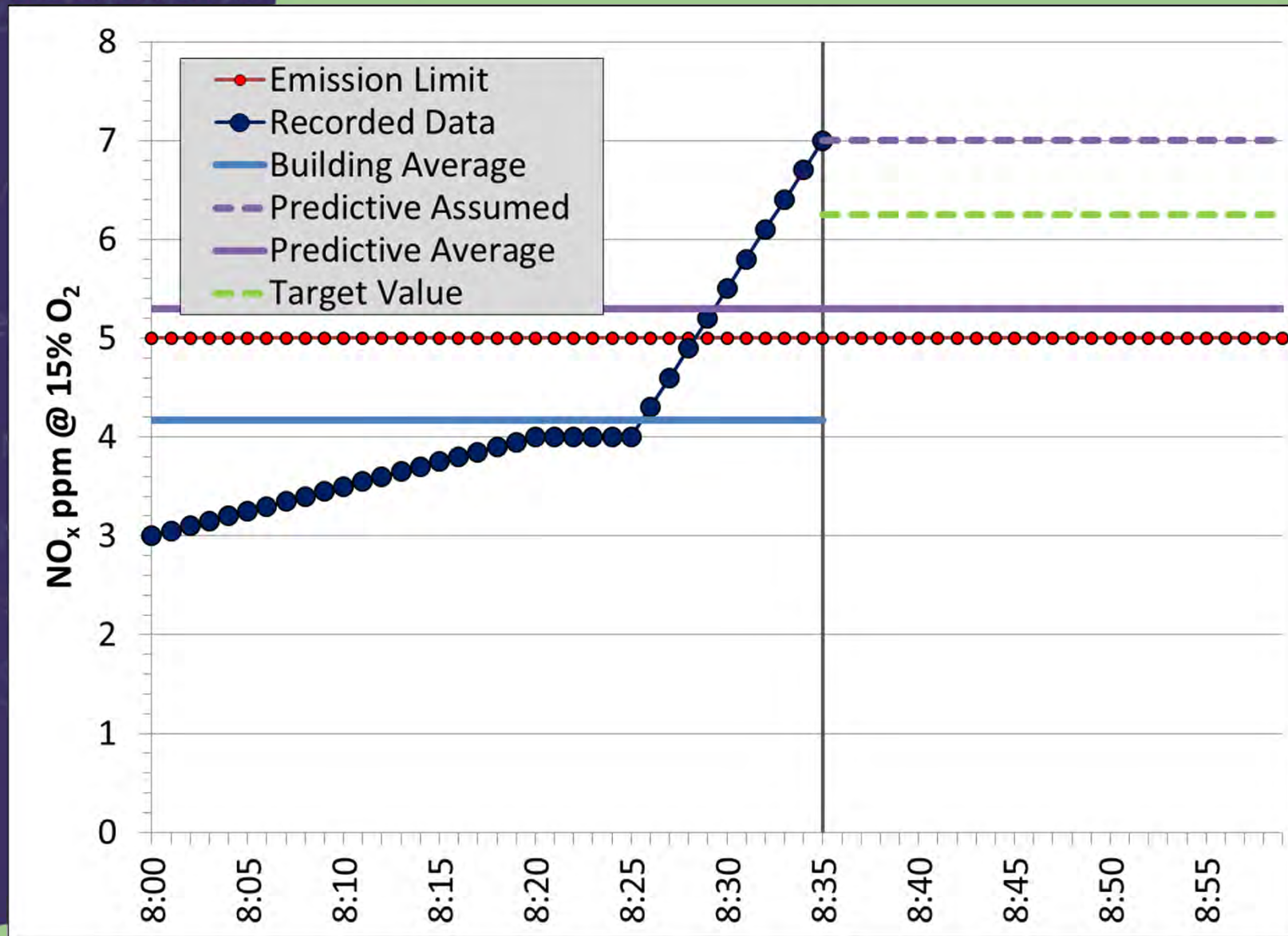
Case Study 2: Building/Predictive/Target



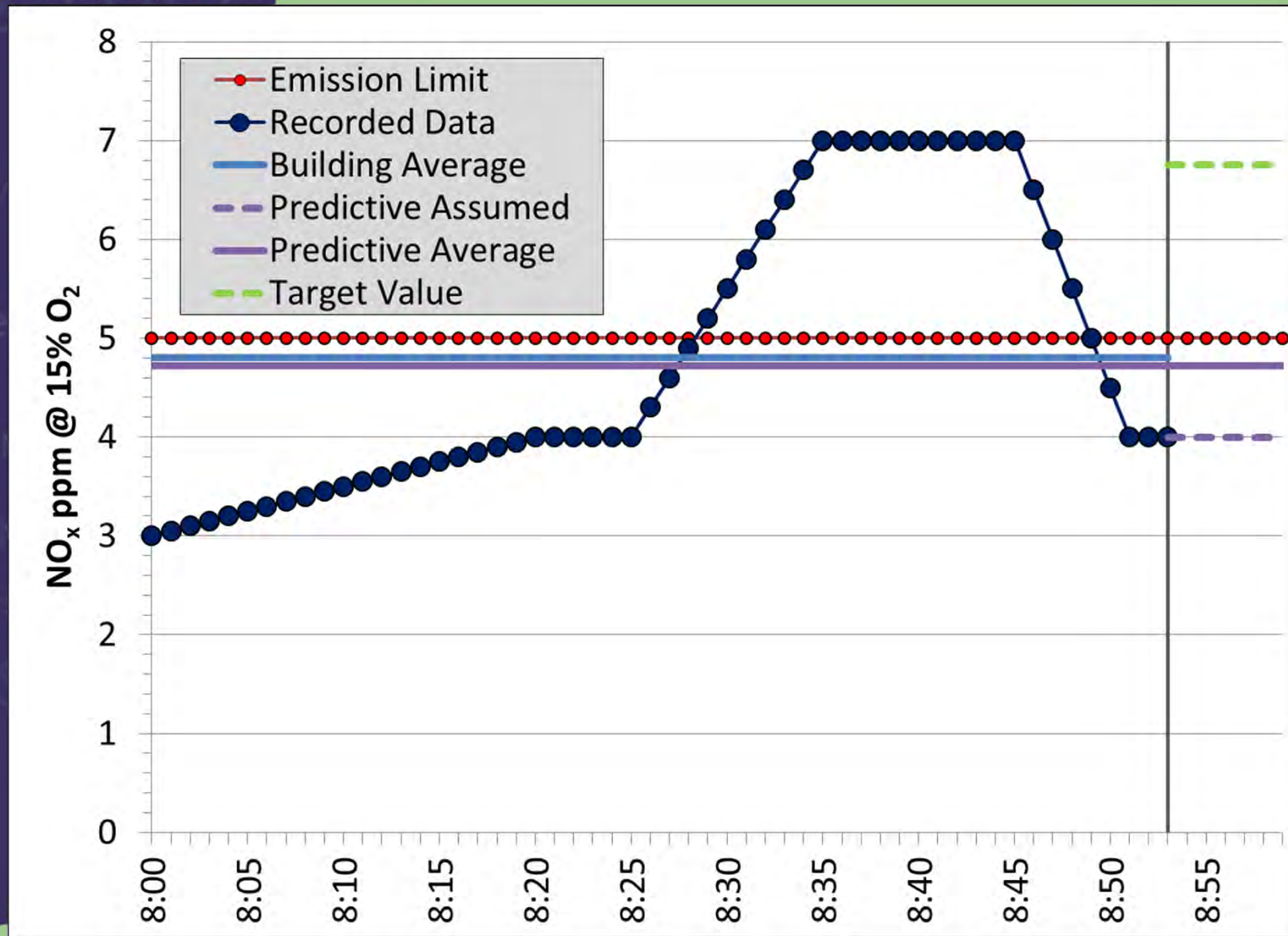
Case Study 2: Building/Predictive/Target



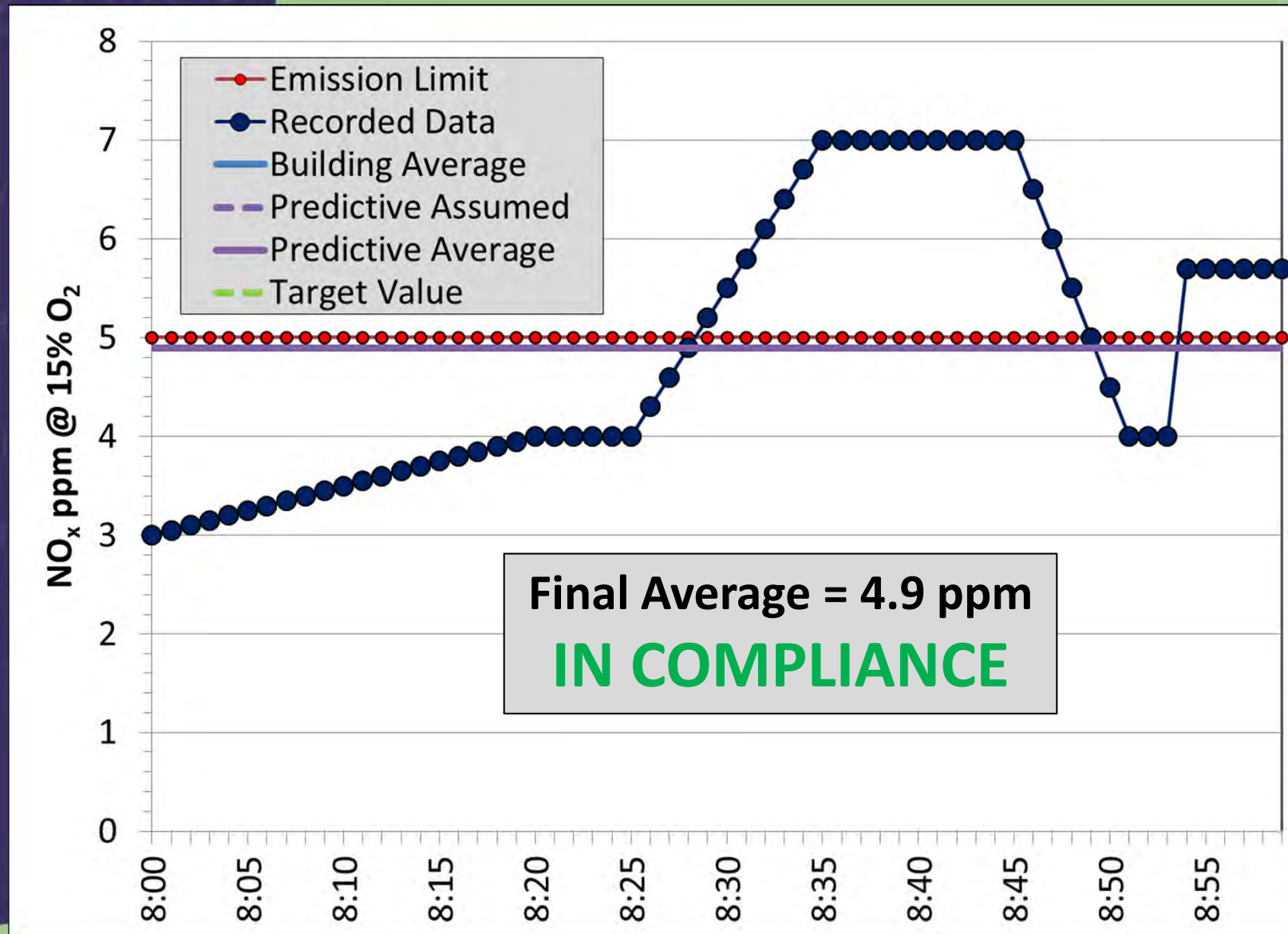
Case Study 2: Building/Predictive/Target



Case Study 2: Building/Predictive/Target



Case Study 2: Building/Predictive/Target





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Data Views

- Real-Time & Historical
- User-specific/shared
 - Operators
 - Technicians
 - Managers
- Consider including:
 - Status indicators
 - Command buttons
 - Advanced channels



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Reports

- Data availability
- RATA parameters
- Annual report data
- Automatic reports
- Quality assurance tests



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Alarms

- Early Warnings
- Compliance
- Eliminate nuisances
- Email notifications
- Cylinder expiration
- Require code entry



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Channels

- Operating scenarios:
 - Startup/shutdown
 - Fuel indicators
- Control status
- Long-term tracking



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Data Processing Rules

- Program-specific data validation rules
- Operating Status
- Exclusions
- Automatically apply reason codes based on status indicators



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- DAHS can be powerful compliance tool
- Must show compliance
- Consider going a little further to put your DAHS to work for you
- If you can dream it, your DAHS can (probably) do it!



Questions?

Rex Thompson
(206) 388-2252
rthompson@dsgsol.com

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