State of Utah
SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-031-23

UTAH AIR QUALITY BOARD MEETING
TENTATIVE AGENDA

Wednesday, May 3, 2023 - 1:30 p.m.
195 North 1950 West, Room 1015
Salt Lake City, Utah 84116

Board members may be participating electronically. Interested persons can participate telephonically by dialing 1-620-392-0071 using access code: 336-801-359#, or via the Internet at meeting link: https: meet.google.com/jen-rojy-pzp

I. Call-to-Order

II. Date of the Next Air Quality Board Meeting: August 2, 2023

III. Approval of the Minutes for the April 5, 2023, Board Meeting.

IV. Propose for Final Adoption: New Rule R307-315. NO_x Emission Controls for Natural Gas-Fired Boilers 2.0-5.0 MMBtu. Presented by Ryan Bares.

V. Propose for Final Adoption: New Rule R307-316. NO_x Emission Controls for Natural Gas-Fired Boilers greater than 5.0 MMBtu. Presented by Ryan Bares.

VI. US Magnesium LLC – Administrative Settlement Agreement. Presented by Harold Burge.

VII. Informational Items.
- A. Ozone Transport Federal Implementation Plan Update. Presented by Becky Close.
- B. Air Toxics. Presented by Leonard Wright.
- C. Compliance. Presented by Harold Burge and Rik Ombach.
- D. Monitoring. Presented by Lucas Bohne.
- E. Other Items to be Brought Before the Board.
- F. Board Meeting Follow-up Items.

In compliance with the Americans with Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact Larene Wyss, Office of Human Resources at (801) 503-5618, TDD (801) 536-4284 or by email at lwyss@utah.gov.

ITEM 4

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DAQ-032-23

M E M O R A N D U M

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

THROUGH: Erica Pryor, Rules Coordinator

FROM: Ryan Bares, Environmental Scientist

DATE: April 20, 2023

SUBJECT: PROPOSE FOR FINAL ADOPTION: New Rule R307-315. NO_x Emission Controls for Natural Gas-Fired Boilers 2.0-5.0 MMBtu.

On August 3, 2018, the U.S. Environmental Protection Agency (EPA) designated Utah's Northern Wasatch Front (NWF) as a marginal nonattainment area (NAA) for the 2015 National Ambient Air Quality Standard for 8-hour ozone concentrations (83 FR 25776). On November 7, 2022, EPA finalized the reclassification of the NWF NAA from marginal to moderate status (87 FR 60897) since the area failed to attain the standard by the attainment date. Monitoring data from the NAA from 2021 and 2022 indicate that the area will not attain the standard under the moderate timeline, and will most likely be reclassified to serious nonattainment status in 2024.

As a result of these designations, the state of Utah must identify and implement reductions of ozone precursor emissions, including volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), in the designated NAA as part of its State Implementation Plan (SIP) obligations under section 172(c)(2) of the Clean Air Act.

R307-315 will reduce NO_x emissions from industrial, commercial, and institutional natural gas-fired boilers in Salt Lake, Weber, Davis, Tooele, and Utah counties by requiring any new boiler, or burner installed on a boiler, in these areas emit no more than 9 parts per million by volume (ppmv) of NO_x while operating. This rule does not require retrofits or replacements of any existing boilers. This rule will help reduce emissions from boilers within the nonattainment and surrounding areas over time as the existing boiler stock is replaced with compliant boilers. Future emissions will also be curbed as the areas continue to grow by requiring new boiler installations to comply.

Staff identified 2,026 boilers in the 2.0 – 5.0 MMBtu range currently operating in the impacted counties, which combine to produce an estimated 1,936 tons per year (tpy) of NO_x emissions. Staff estimates that, once fully implemented, the adoption of R307-315 would result in a reduction of 1,727 tpy of these emissions, representing an 89.2% reduction of current emissions. It is important to note that the definition of natural gas proposed in this rule results in the exclusion of boilers not operating on pipeline quality gas. The Division has examined the potential emissions associated with boilers exempt under this definition and has found that these boilers account for only 1.6 tpy of the identified 1,936 tpy outlined above.

Stakeholder engagement for the development of R307-315 began on September 9, 2022, when UDAQ staff notified stakeholders of an Advanced Notice of Proposed Rulemaking (ANPR) period which ran until October 17, 2022. Feedback received during this time was considered and incorporated into the rule, which the Utah Air Quality Board proposed for public comment on December 7, 2022. The 30-day public comment period began on January 16, 2023, and ended on February 14, 2023. During this time, staff continued ongoing conversations with stakeholders, and received written comments from 7 sets of commenters.

The comments received during this period spanned an array of positions and included commenters in full support of this rulemaking, comments suggesting that the Division should be going further to reduce emissions, as well as detailed technical comments suggesting additional clarifying language and expanding enforcement and compliance requirements.

The Division has reviewed and evaluated all written comments in accordance with Utah Code 63G-3-301(11)(b). All written comments received by the Division have been posted on its webpage where they can be viewed in their entirety. A summary of the comments received and UDAQ responses can be found in Attachment A of this memorandum.

Comments from stakeholders primary focused on:

1) Requests for additional clarifying language and definitions.
2) Additional provisions improving the enforceability of the rule.

After review and consideration of comments, the following changes are proposed:

1) Additional clarifying language, definitions, and exemptions were added where appropriate.
2) Compliance was adjusted from a manufacture certification to reoccurring testing using a variety of methods including low-cost portable combustion analysis.
3) While no direct comment was submitted regarding the implementation timeline of the rule, staff recognizes the condensed compliance schedule, and has proposed to extend the compliance schedule by one year to allow impacted stakeholders additional time to plan appropriately.

Recommendation: Staff recommends the Board adopt new rule R307-315, NO_x Emission Controls for Natural Gas-Fired Boilers 2.0-5.0 MMBtu.

APPENDIX A

Below is a summary of comments received and responses from the UDAQ for both R307-315 and R307-316. While these rules are independent, they were developed and proposed in parallel and are highly similar in their applicability and impacts. Comments received during the public comment process were often made in reference to both rules simultaneously, and thus when considering comments, the UDAQ applied any resulting changes to both rules where appropriate. Thus, responses to comments for both R307-315 and R307-316 are done so in parallel.

1) **Public Comment**: One commenter wrote in full support of the proposed rules, stating "it is essential that Utah start making substantial reductions in precursor emissions as soon as possible".

   UDAQ Response: The Division greatly appreciates commenter support of both R307-315 and R307-316 and the engagement of all stakeholders in the rulemaking process. The Division agrees with the commenter that it is necessary for the NWF NAA to begin the implementation of both NO_x and VOC emission reductions in order for the NAA to attain the NAAQS as expeditiously as practicable.

2) **Public Comment**: A second stakeholder wrote in support of both R307-315 and R307-316, however commented on the fact that the timeline for the full realization of emission reductions associated with the rules is considerable as they do not require retrofits or replacement of existing boilers within the NAA. The commenter noted, "A 10- to 20-year timeframe to reduce nitrogen oxides (NO_x) emissions is not reasonable to comply with the National Ambient Air Quality Standards (NAAQS) and achieve cleaner air… We encourage Utah to revise these proposed rules to include existing boilers or to propose another rule limiting NO_x emissions on existing boilers so that NO_x reductions are realized on a more reasonable timeline."

   UDAQ Response: The Division appreciates the support of R307-315 and R307-316 and ongoing efforts to reduce NO_x emissions as part of its State Implementation Planning aimed at reducing ozone concentrations in the NWF NAA. However, when implementing an emission reduction strategy, especially one aimed at reducing emissions from a diverse set of emission points like those found in the area source category, the economic feasibility of that strategy must be balanced against the emission reductions. The UDAQ examined the economic feasibility of requiring ultra low-NO_x burners on new and modified boilers as well as retrofit requirements for existing boilers within the NAA. This analysis found that when applied to existing boilers, the cost effectiveness per ton of pollutant removed far exceeded established thresholds for Reasonably Available Control Measures (RACM), or even that of the more stringent Best Available Control Measures (BACM). Therefore, the Division has determined that the wide-scale application of this emission reduction technology applied to a broad swath of stakeholders, which includes small business and schools to name a few, is not economically feasible at this time. However, the requirement for installation of this technology as retrofits or replacements may be required in some case-specific instances where large single point emission reductions would be associated, determined through Reasonably Available Control Technology (RACT) (or similar) analysis as applicable to major point sources within the NAA.

3) **Public Comment**: One stakeholder writing in support of the rules also requested that the Division, "including an inventory of overall NO_x emissions in the region so significant source categories are transparent for the public".

UDAQ Response: The Division appreciates this comment and would like to note that multiple emission inventories were developed for the NWF NAA in parallel with the for the moderate ozone SIP. These inventories were used in support of this rulemaking process. Those inventories, as well as the UDAQs tri-annual emission inventories, are available to the public for use and can be accessed through the Division's website. Additionally, the UDAQ has made public the underlying data, calculations, and emission estimates associated with this rulemaking, all of which are publicly available and can be used to develop independent emission estimates specifically associated with emissions of NO_x in the state of Utah.

4) **Public Comment**: The Division received two sets of comments from stakeholders regarding the need to add definitions for commercial boilers, industrial boilers, and institutional boilers to the proposed language. Additionally, it was noted by each of these commenters that language around residential inclusions or exemptions was needed.

   UDAQ Response: The Division is thankful to the commenters for identifying the need for this additional language and agrees with the commenters. Definitions for commercial, institutional, and industrial boilers were added, as well as language surrounding the definitions and applicability for residential boilers.

5) **Public Comment**: Two comments submitted by industry stakeholders commented on potential challenges with complying with the rule if boiler or burner manufacturer's specification sheets do not include averaging periods, especially as it relates to boilers in the lower MMBtu range like those included in R307-315. These commenters requested that the averaging period be removed, requesting "that UDAQ remove the listed averaging period from its compliance requirements in R307-315-4(2)".

   UDAQ Response: The UDAQ also agrees with these comments that the inclusion of a 24-hour averaging period for demonstrating compliance with the standard adds an unnecessary potential hurdle to compliance. Thus, the UDAQ has removed instances of the language "averaged over a 24-hour period" from both R307-315 and R307-316.

6) **Public Comment**: One stakeholder also provided comment on the compliance schedule for both R307-315 and R307-316, suggesting that "this timeline be connected to a permitting activity or milestone to assist with the permitting of future boiler/burner projects."

   UDAQ Response: The UDAQ appreciates this suggestion for ways of improving the compliance schedule associated with both rules. However, as a significant number of the boilers included in this rulemaking activity fall below the size required for permitting activities to apply, the Division believes that the originally proposed language is appropriate.

   However, the Division would like to note that the originally proposed timeline for the implementation of the compliance schedule for both R307-315 and R307-316 was May 1, 2023. While no comments were submitted to the Division during the public comment period regarding this timeline, due to the extended rulemaking timeline these rules have undergone, the UDAQ is proposing a modification to the compliance schedule, extending the date from May 1, 2023 to May 1, 2024. The added time to comply with this rule will allow greater certainty to impacted stakeholders as the procurement, engineering and manufacturing process for some projects covered under these rules can require a substantial amount of lead time. Additionally, this added time will give impacted stakeholders time to appropriately plan for unplanned interruptions or maintenance to existing boilers.

7) **Public Comment**: One commenter wrote regarding concern with the proposed emission threshold of 9 ppmv, noting that 1) a 9ppmv limit could result in difficult burner startup and balance situations, 2) that oxygen content associated with the elevation of the NAA could be problematic, 3) that there is a possibility that the startup will fail, on flame failure, as a result of the velocity of air going across the ignitor, and burner, and 4) and that the overall costs to the owner and customers / consumers will be increased. The commenter ended by recommending that a 20 ppmv NO_x limit be selected instead of the proposed 9 ppmv.

   UDAQ Response: The Division appreciates each of the concerns raised by the commenter. The division has engaged with a variety of boiler manufacturers and distributors and has concluded that a threshold of 9 ppmv is appropriate as the technology is widely available for an array of different applications, that the oxygen content observed across the NAA resulting from the areas elevation is sufficient to operate at 9 ppmv, that the current technologies are robust and reliable, and that the additional cost of ownership is well within acceptable RACT fiscal ranges when applied to new or modified boilers. Thus, the division has determined that the 9 ppmv threshold is the most appropriate to demonstrate attainment of the NAAQS as expeditiously as possible. Further, by implementing a 9 ppmv threshold as opposed to a 20 ppmv threshold, the division anticipates an additional 2.3 tpd (846.9 tpy) of NO_x emissions removed from the counties this rule applies to.

8) **Public Comment**: Three commenters representing a wide array of stakeholders including the EPA, a boiler manufacturer, and industry, provided comment on the need for additional clarification and language around the monitoring and enforcement aspects of the rules. In particular, the EPA provided comment that the proposed language for "R307-315 and R307-316 does not contain an adequate certification process or testing protocols for sources to show compliance with the rule," going further to note, "additional development of language found within R307-315 and R307-316 is required for federal approval".

   In addition to the comment provided by the EPA, comments submitted by industry stakeholder provided additional suggestions for potential clarifications to the certification process including: applying the certification process to only single burner boilers, clarifying that certification is based on assumptions of typically normal operating conditions, and suggesting a definition to be added to defining "certify".

   UDAQ Response: As these rules are intended to be incorporated as part of Utah's SIP, and thus are needed to comply with federal statutory requirements for an ozone NAA under the CAA, federal approvability of the proposed rules is a critical aspect to consider. Additionally, regulatory certainty is critical for industry impacted by these proposed rules. Thus, the Division greatly appreciates the significant amount of feedback and proposed solutions received through the public comment process.

   In efforts to address the shortcomings of the originally proposed language, the division has incorporated the following changes into the proposed rules:

   a) The certification requirements have been removed from the rule. While it was the intent of the Division to allow sources to comply with these rules by demonstrating manufacture certifications, the Division recognizes that a certification program for impacted equipment does not currently exist at the proposed emission thresholds. Therefore, the ease of complying with the 9 ppmv threshold through manufacturer certification cannot be implemented without the development of and implementation of a certification program. The development and

implementation of a program of this magnitude is outside of the resources available to the Division at this time.

b) With the removal of compliance through demonstration of manufacturer certification, the Division has included a recurring testing schedule for all boilers and burners covered under the extent of these rules. This testing is to be performed every 3 or 5 years depending on the size of the boiler and its burners, using several methods including EPA Reference Method 7E or using portable combustion analyzers as part of regularly scheduled maintenance.

c) As noted in response to comment #5, the 24-hour averaging period has been removed from testing requirements

The Division believes that the addition of the portable combustion analyzer testing requirements improves the enforceability and compliance provisions of the rule in efforts to meet requirements for a federally enforceable rule, while simultaneously not overburdening impacted stakeholders with compliance costs. This is especially important given the broad range of stakeholders covered under these rules.

9) **Public Comment**: One stakeholder provided comment requesting flexibility in order to "accommodate situations where a facility cannot comply instantaneously upon triggering the requirements… For example, if an unexpected situation results in damage to burners or other need to replace burners quickly, refineries need the time to conduct engineering analyses, design the required changes, procure equipment, and install the changes". The commenter concluded by requesting language be added "allowing in-kind or temporary repairs or replacements in the interim until the final design can be installed during a planned outage."

UDAQ Response: The Division appreciates this comment and wants to note that the Division will always work with stakeholders as they strive to comply with regulatory requirements. The commenter raises an interesting point relative to boiler and burner availability and the need for temporary replacements and emergency coverage. While these rules are meant to address boilers and the replacement of burners generally, UDAQ recognizes that situations arise where a source may need to replace damaged equipment or temporarily utilize alternative equipment while repairs are being made.

This is already covered by the proposed rules. The language found in R307-316-4(7) allows a source to apply to the Director for an alternative control method. This language was specifically added for those circumstances which may fall slightly outside the norm. It is not UDAQ's intention that this language be used as a means of circumventing the normal process of reporting breakdowns under R307-107, nor as a mechanism of avoiding the process outlined in R307-316-4(2) through R307-316-4(6).

Additionally, it is the responsibility of all facilities to be able to anticipate future maintenance needs that comply with regulatory requirements. Thus, no additional language was added to the proposed rules allowing for in-kind or temporary installments. The Division does also want to note that the rules have explicit exemptions for temporary boilers which can generally be used to provide flexibility during unanticipated maintenance situations. Further, it is important to note that the proposed rules only apply to boilers utilizing pipeline quality natural gas, and thus many of the larger boilers in the NAA where unanticipated maintenance requirements would be of concern are not covered under these rules. Lastly, the Division would like to note that, as described in response to comment #6, the Division is proposing to extend the compliance schedule of these rules to May

1, 2024. This additional time should give impacted stakeholders sufficient time to plan future maintenance requirements that conform with these rules where applicable.

10) **Public Comment**: One commenter representing industry stakeholders requested that the terminology used for the alternative method of compliance found in R307-316-4(6) be further clarified, noting ""The phrase "best achievable level of control available" ("BALOCA") needs to have appropriate boundaries drawn around it. As written, it has no clear regulatory meaning. We recommend replacing BALOCA with the term "Best Available Control Technology" ("BACT")".

    UDAQ Response: The Division appreciates this comment, and agrees with the commenter that further clarification is warranted. The Division has modified the language in that provision to now read "produces an equal air quality benefit as required by Subsection R307-316-4(2) or that meets Best Available Control Technology thresholds."

11) **Public Comment**: One stakeholder also commented that, "The economic analysis for the rules significantly underestimates costs in some situations and these substantially higher costs need to be acknowledged."

    UDAQ Response: The Division appreciates this comment and would like to note that this point was raised early on during the development of the proposed rules during the Division's stakeholder engagement resulting from its ANPR process. As a result of this early engagement, the Division has included an alternative method of compliance, as discussed in response to comment #10, in the originally proposed language and in the final language. This alternative method of compliance allows impacted stakeholders flexibility depending on the case-specific fiscal impacts of complying with the rule.

12) **Public Comment**: One commenter proposed an alternative definition for natural gas, narrowing the definition to pipeline quality gas and bringing the definition more in line with those used by other air agencies with low-NO_x requirements for natural gas boilers. The commenter also proposed adding propane-fired boilers to the scope of the rule.

    UDAQ Response: The Division greatly appreciates this comment and agrees that definition provided by the commenter is more appropriate for the scope of these rules and has incorporated them into the final proposed language. The Division would also like to note that while the original definition of natural gas which was proposed included propane, by incorporating the commenter's suggestion and directly specifying propane within the rule has added clarity to the applicability of the rule, and thus greatly appreciates the added benefits of incorporating these suggestions.

13) **Public Comment**: One commenter suggested that the rules should have explicit language exempting Carbon Monoxide (CO) boilers.

    UDAQ Response: The Division agrees that the addition of language explicitly exempting CO boilers from the rules is helpful in providing clarification to the applicability of the rules and providing regulatory certainty. A definition and exemptions for CO boilers was added to both R307-315 and R307-316.

14) **Public Comment**: One commenter reiterated a suggestion submitted during the ANPR period that the definition of boiler should be narrowed as it currently relies on a Subpart JJJJJJ reference, which may not be the most appropriate application for rules targeted at NO_x emission reductions. The commenter provided changing the definition to a modified MACT definitions and further

suggested adding definitions and exemptions for Process Heaters and Waste Heat Boilers to add clarity to the applicability of the rules.

UDAQ Response: The Division would like to thank the commenter for providing the suggestions to the definition of "boiler" and agrees that the proposed modifications to the language provide clarity to the applicability of the rule. The Division has replaced the originally proposed definition with the majority of that proposed by the commenter. In regards to the commenter's suggestion to include definitions and exemptions for process heaters and waste heat boilers, the Division agrees that the addition of these definitions and exemptions clarify the applicability of the rules and has thus added the suggested definitions, and added exemptions for both process heaters and waste heat boilers into the applicability sections of both R307-315 and R307-316.

15) **Public Comment**: Two commenters provided suggested edits to the definitions of "construction" and "modification" as originally proposed. While the proposed edits from the two commenters differed in exact text, the intent was similar in that the newly proposed language would narrow the scope of the language, with one commenter recommending, "a revision of the language found under "Modification" from "planned change" to "physical or operation change."

UDAQ Response: The Division would once again like to thank the commenters for providing meaningful and helpful suggestions for ways of improving the language of the proposed rules. However, the Division thinks that the definitions for both construction and modification are appropriate as originally proposed. Additionally, the definitions as originally proposed are consistent with the definitions used elsewhere in existing Utah Administrative Rules, and thus provides consistency across rules.

State of Utah
Administrative Rule Analysis
Revised June 2022

NOTICE OF CHANGE IN PROPOSED RULE		
Title No. - Rule No. - Section No.		
Rule or Section Number:	**R307-315**	**Filing ID: Office Use Only**
Date of Previous Publication:	**01/15/2023**	

Agency Information

1. Department:	Environmental Quality	
Agency:	Air Quality	
Room number:		
Building:	MASOB	
Street address:	195 N. 1950 W.	
City, state and zip:	Salt Lake City, Utah 84116	
Mailing address:	PO Box 144820	
City, state and zip:	Salt Lake City, Utah 84114-4820	
Contact persons:		
Name:	**Phone:**	**Email:**
Erica Pryor	385-499-3416	epryor1@utah.gov
Ryan Bares	385-536-4216	rbares@utah.gov
Please address questions regarding information on this notice to the agency.		

General Information

2. Rule or section catchline:

R307-315. NOx Emission Controls for Natural Gas-Fired Boilers 2.0-5.0 MMBtu

3. Reason for this change (Why is the agency submitting this filing?)**:**

Changes were made to the proposed rules after comments received during public comment period.

4. Summary of this change (What does this filing do?)**:**

1) Clarifying language was added, 2) the compliance schedule was extended from May 1, 2023 to May 1, 2024, 3) the testing and compliance methods were changed to allow for portable gas analyzers to be used to verify compliance with requirements in the rule.

Fiscal Information

5. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:

A) State budget:

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts to the state budget.

The fiscal impact of this rule on state budgets is unknown. This rule will eventually impact all boilers between 2.0 and 5.0MMBtu in impacted counties, a portion of which are owned and operated by the state. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 2,026 boilers in the 2.0- 5.0MMBtu range located in the impacted counties, but the proportion owned and operated by state government is not known. DAQ estimates a cost difference of approximately $19,000 for replacing a 3.34MMBtu standard boiler with an Ultra-Low NOx boiler rated at 9ppmv. However, the timing of replacements is unknown and therefore the fiscal impact cannot be accurately estimated.

B) Local government:

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts to local governments. The fiscal impact of this rule on local governments is unknown. This rule will eventually impact all boilers between 2.0 and 5.0 MMBtu in impacted counties, a portion of which are owned and operated by local governments. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 2,026 boilers in the 2.0- 5.0MMBtu range located in the

impacted counties, but the proportion owned and operated by local governments is not known. DAQ estimates a cost difference of approximately $19,000 for replacing a 3.34MMBtu standard boiler with an Ultra-Low NOx boiler rated at 9ppmv. However, the timing of replacements is unknown and therefore the fiscal impact cannot be accurately estimated.

C) Small businesses ("small business" means a business employing 1-49 persons)**:**

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts for small businesses. The fiscal impact of this rule on small business is unknown. This rule will eventually impact all boilers between 2.0 and 5.0MMBtu in impacted counties, a portion of which are owned and operated by small businesses. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 2,026 boilers in the 2.0-5.0MMBtu range located in the impacted counties, but the proportion owned and operated by small businesses is not known. DAQ estimates a cost difference of approximately $19,000 for replacing a 3.34MMBtu standard boiler with an Ultra-Low NOx boiler rated at 9ppmv. However, the timing of replacements is unknown and therefore the fiscal impact cannot be accurately estimated.

D) Non-small businesses ("non-small business" means a business employing 50 or more persons)**:**

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts to non-small businesses. The fiscal impact of this rule on non-small business is unknown. This rule will eventually impact all boilers between 2.0 and 5.0MMBtu in impacted counties, a portion of which are owned and operated by non-small businesses. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 2,026 boilers in the 2.0-5.0MMBtu range located in the impacted counties, but the proportion owned and operated by non-small businesses is not known. DAQ estimates a cost difference of approximately $19,000 for replacing a 3.34MMBtu standard boiler with an Ultra-Low NOx boiler rated at 9ppmv. However, the timing of replacements is unknown and therefore the fiscal impact cannot be accurately estimated.

E) Persons other than small businesses, non-small businesses, or state or local government entities ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an ***agency***)**:**

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts to other persons. The fiscal impact of this rule on other persons is unknown. This rule will eventually impact all boilers between 2.0 and 5.0MMBtu in impacted counties, a portion of which are owned and operated persons other than small businesses, non-small businesses, state, or local governments. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 2,026 boilers in the 2.0-5.0MMBtu range located in the impacted counties, but the proportion owned and operated by other persons is not known. DAQ estimates a cost difference of approximately $19,000 for replacing a 3.34MMBtu standard boiler with an Ultra-Low NOx boiler rated at 9ppmv. However, the timing of replacements is unknown and therefore the fiscal impact cannot be accurately estimated.

F) Compliance costs for affected persons:

Based on quotes received from boiler distributors and maintenance companies, compliance costs for affected persons are estimated at $600 once every five years.

G) Regulatory Impact Summary Table (This table only includes fiscal impacts that could be measured. If there are inestimable fiscal impacts, they will not be included in this table. Inestimable impacts will be included in narratives above.)

Regulatory Impact Table

Fiscal Cost	**FY2023**	**FY2024**	**FY2025**
State Government	$0	$0	$0
Local Governments	$0	$0	$0
Small Businesses	$0	$0	$0
Non-Small Businesses	$0	$0	$0
Other Persons	$0	$0	$0
Total Fiscal Cost	**$0**	**$0**	**$0**
Fiscal Benefits	**FY2023**	**FY2024**	**FY2025**
State Government	$0	$0	$0
Local Governments	$0	$0	$0
Small Businesses	$0	$0	$0
Non-Small Businesses	$0	$0	$0
Other Persons	$0	$0	$0
Total Fiscal Benefits	**$0**	**$0**	**$0**
Net Fiscal Benefits	**$0**	**$0**	**$0**

H) Department head comments on fiscal impact and approval of regulatory impact analysis:
The Executive Director of Environmental Quality, Kim D. Shelly, has reviewed and approved this regulatory impact analysis.

Citation Information

6. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:		
Section 19-2-104		

Incorporations by Reference Information

7. Incorporations by Reference (if this rule incorporates more than two items by reference, please include additional tables)**:**	
A) This rule adds, updates, or removes the following title of materials incorporated by references (a copy of materials incorporated by reference must be submitted to the Office of Administrative Rules; *if none, leave blank*)**:**	
Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

B) This rule adds, updates, or removes the following title of materials incorporated by references (a copy of materials incorporated by reference must be submitted to the Office of Administrative Rules; *if none, leave blank*)**:**	
Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

Public Notice Information

8. The public may submit written or oral comments to the agency identified in box 1. (The public may also request a hearing by submitting a written request to the agency. See Section 63G-3-302 and Rule R15-1 for more information.)		
A) Comments will be accepted until:		07/03/2023
B) A public hearing (optional) will be held:		
On (mm/dd/yyyy)**:**	**At** (hh:mm AM/PM)**:**	**At** (place)**:**

9. This rule change MAY become effective on:	07/10/2023
NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.	

Agency Authorization Information

To the agency: Information requested on this form is required by Section 63G-3-303. Incomplete forms will be returned to the agency for completion, possibly delaying publication in the *Utah State Bulletin* and delaying the first possible effective date.			
Agency head or designee and title:	**Bryce C. Bird**	**Date:**	04/18/2023

R307. Environmental Quality, Air Quality.
R307-315. NO_x Emission Controls for Natural Gas-Fired Boilers 2.0-5.0 MMBtu.
R307-315-1. Purpose.

Rule R307-315 establishes maximum emission thresholds for the emissions of oxides of nitrogen (NO_x) for new or modified natural gas-fired boilers with a total rated heat input of at least 2.0 million British Thermal Units per hour (MMBtu/hr) and not more than 5.0 MMBtu/hr.

R307-315-2. Applicability.

(1) Rule R307-315 applies to each boiler that [~~commences~~]begins construction or modification after the compliance date defined in Section R307-315-6 that:

([~~1~~]a) is fueled exclusively by natural gas;

([~~2~~]b) has a total rated heat input greater than 2.0 MMBtu/hr and not more than 5.0 MMBtu/hr;

([~~3~~]c) is [~~operated in~~]an industrial boiler, institutional boiler, or commercial boiler[~~setting~~];

([4]d) is located in Salt Lake, Utah, Davis, Weber, or Tooele County; and

([~~5~~]e) is not a temporary boiler.

(2) Exemptions to this rule include:

(a) residential boilers as defined in this rule;

(b) CO boilers as defined in this rule;

(c) waste heat boilers as defined by this rule; and

(d) process heaters as defined by this rule.

R307-315-3. Definitions.

As used in this rule:

"Boiler" means [~~boiler as defined in 40 CFR 63.11237, Subpart JJJJJJ National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, which is incorporated by reference in Rule R307-210.~~]an enclosed device using controlled flame combustion of natural gas, as defined by this rule, in which water is heated to recover thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel or oxidizer feed rates are controlled.

"Burner" means the functional component of a boiler that provides the heat input by combustion of a fossil fuel, with air or oxygen. Burners are available either as part of the boiler package from the manufacturer, as stand-alone products for custom installations, or as replacement products.

"CO boiler" means a boiler that is fired with gaseous fuel with an integral waste heat recovery system used to oxidize CO-rich waste gases generated by a Fluid Catalytic Cracking Unit.

"Commercial boiler" means a boiler used in commercial establishments such as hotels, restaurants, and laundries to provide electricity, steam, or hot water.

"Construction" means any physical change or change [~~in the method of operation~~]including fabrication, erection, installation, demolition, or modification of a [~~source~~]boiler which would result in [~~a change~~]an increase in actual NO_x emissions.

"Industrial boiler" means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, or electricity.

"Institutional boiler" means a boiler used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, and governmental buildings to provide electricity, steam, or hot water.

"Modification" means any planned change in a [~~source~~]boiler which results in an [~~potential~~] increase of actual NO_x emissions.

"Natural gas" means:

[~~(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane;~~

~~(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835, Section 63.14;~~

~~(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. For example, a temperature of 288 Kelvin, a relative humidity of 60%, and a pressure of 101.3 kilopascals. Additionally, natural gas must either be composed of at least 70% methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or~~

~~(4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C3H8.~~]

(1) a mixture of gaseous hydrocarbons, with at least 80% methane by volume, and of pipeline quality, such as the gas sold or distributed by any utility company regulated by the Utah Division of Public Utilities;

(2) liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835, or propane, propane-derived synthetic natural gas, or mixtures thereof; or

(3) propane or propane-derived synthetic natural gas.

"Process Heater" means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material such as liquid, gas, or solid, or to a heat transfer material such as glycol or a mixture of glycol and water, for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. Process heaters include units that heat water and water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

"Propane" means a colorless gas derived from petroleum and natural gas, with the molecular structure C3H8.

"Residential boiler" means a boiler used to provide heat or hot water or as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility such as a university campus, military base, church grounds, or a commercial, or industrial , such as a farm, used primarily to provide heat or hot water for:

(1) a dwelling containing four or fewer families; or

(2) a single unit residence dwelling that has since been converted or sub-divided into

condominiums or apartments.

"Temporary boiler" means any gaseous or liquid fuel-fired steam generating unit that is designed to, and is capable of, being carried or moved from one location to another by wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

(1) [~~T~~]the equipment is attached to a foundation[~~.~~];

(2) [~~T~~]the steam generating unit or a replacement remains at a location for more than 180 consecutive days[~~.~~] and [~~A~~]any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function [~~will~~]shall be included in calculating the consecutive time period[~~.~~];

(3) [~~T~~]the equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least two years, and operates at that facility for at least three months each year[~~.~~]; or

(4) [~~T~~]the equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

"Waste heat boiler" means a device that recovers normally unused energy such as hot exhaust gas and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial or power equipment such as thermal oxidizers, kilns, furnaces, combustion turbines, and engines. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

R307-315-4. Requirements.

(1) A person that:

(a) [~~commences~~]begins construction, or modification of a boiler;

(b) replaces a burner in a boiler[~~,~~] having only a single burner; or

(c) replaces 50% or more of the burners in a multi-burner boiler for a boiler meeting the requirements of Section R307-315-2 shall[~~:~~] install a burner that meets a NO_x emission rate of nine parts per million by volume (ppmv) or less at 3% volume stack gas oxygen on a dry basis.

[~~(2) Install a burner that is certified to meet a NOx emission rate of nine parts per million by volume (ppmv) or less at 3% volume stack gas oxygen on a dry basis averaged over a 24-hour period.~~]

([~~3~~]2) An owner or operator of a boiler subject to Subsection R307-315-4(1) shall:[~~ operate and maintain the boiler and boiler subsystems, including burner or burners, according to the manufacturer's instructions.~~]

(a) operate and maintain the boiler and boiler subsystems, including burners, according to the manufacturer's instructions;

[~~(4) A manufacturer of a boiler or boiler burner meeting the requirement of Subsection R307-315-4(2) shall certify the boiler or boiler burner as complying with the emission rate in Subsection R307-315-4(2).~~

~~([5]4) Manufacturer's operational specifications, records, and testing of any control system shall use the applicable EPA Reference Methods of 40 CFR Part 60, the most recent EPA test methods, or EPA-approved state methods, to determine the efficiency of the control device.~~]

(b) determine continued compliance based on Section R307-315-6; and

([~~6~~]c) [~~The owner or operator must~~]meet the applicable recordkeeping requirements for any

control device.

R307-315-5. Recordkeeping.

(1) The owner or operator of any boiler [~~unit~~] subject to Rule R307-315 shall:

(a) [~~R~~]retain documentation of the unit's emission rate specifications;

(b) [~~R~~]retain a copy of the manufacturer's recommendations for proper operation and maintenance of units covered by Rule R307-315; and

(c) [~~M~~]maintain records showing proper operation and maintenance of units covered by Rule R307-315 following manufacturer's recommendations.[~~; and~~]

[~~(d) Retain a copy of the manufacturer's certification for any replacement burner.~~]

(2) Operation and maintenance records shall be retained for five years and shall be made available to the director upon request.

R307-315-6. Compliance Schedule.

[~~The compliance schedule for this rule shall begin on May 1, 2023.~~]

(1) Compliance with the NO_x emission requirement listed in Subsection R307-315-4(1)(c) shall be determined according to the following procedures:

(a) U.S. EPA Reference Method 7E, Determination of Nitrogen Oxides Emissions from Stationary Sources;

(b) other EPA-approved testing methods acceptable to the Director; or

(c) combustion analysis as part of a regular maintenance schedule.

(2) Compliance Determination shall be conducted once every five years.

(3) The compliance schedule for this rule shall begin on May 1, 2024.

KEY: air pollution, boiler, NO_x, nitrogen oxides
Date of Last Change: 2023
Authorizing, and Implemented or Interpreted Law: 19-2-104

ITEM 5

State of Utah
SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-033-23

M E M O R A N D U M

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

THROUGH: Erica Pryor, Rules Coordinator

FROM: Ryan Bares, Environmental Scientist

DATE: April 20, 2023

SUBJECT: PROPOSE FOR FINAL ADOPTION: New Rule R307-316. NO_x Emission Controls for Natural Gas-Fired Boilers greater than 5.0 MMBtu.

On August 3, 2018, the U.S. Environmental Protection Agency (EPA) designated Utah's Northern Wasatch Front (NWF) as a marginal nonattainment area (NAA) for the 2015 National Ambient Air Quality Standard for 8-hour ozone concentrations (83 FR 25776). On November 7, 2022, EPA finalized the reclassification of the NWF NAA from marginal to moderate status (87 FR 60897) since the area failed to attain the standard by the attainment date. Monitoring data from the NAA from 2021 and 2022 indicate that the area will not attain the standard under the moderate timeline, and will most likely be reclassified to serious nonattainment status in 2024.

As a result of these designations the state of Utah must identify and implement reductions of ozone precursor emissions, including volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), in the designated NAA as part of its State Implementation Plan (SIP) obligations under section 172(c)(2) of the Clean Air Act.

R307-316 will reduce NO_x emissions from industrial, commercial, and institutional natural gas-fired boilers in Salt Lake, Weber, Davis, Tooele, and Utah counties by requiring any new boiler, or burner installed on a boiler, in these areas emit no more than 9 parts per million by volume (ppmv) of NO_x while operating. This rule does not require retrofits or replacements of any existing boilers. This rule will further help reduce emissions from boilers within the nonattainment and surrounding areas over time as the existing boiler stock is replaced with compliant boilers. Future emissions will also be curbed as the areas continue to grow by requiring new boiler installations to comply.

Staff identified 620 natural gas-fired boilers greater than 5.0 MMBtu operating in the impacted counties. These boilers produce an estimated 1,791 tpy of NO_x emissions, of which an estimated 1,298 tpy could be reduced over time with the adoption of a 9 ppmv standard. This represents a 73.0% reduction in emissions with the adoption of R307-316. It is important to note that the definition of natural gas proposed in this rule results in the exclusion of boilers not operating on pipeline quality natural gas. The Division has examined the potential emissions associated with boilers exempt under this definition and has identified 19 out of the 620 originally identified boilers that will be exempt under this definition. These exempt boilers account for 198.6 tpy of the originally identified 1,791 tpy of NO_x emissions.

Stakeholder engagement for the development of R307-316 began on September 9, 2022, when UDAQ staff notified stakeholders of an Advanced Notice of Proposed Rulemaking (ANPR) period which ran until October 17, 2022. Feedback received during this time was considered and incorporated into the rule, which the Utah Air Quality Board proposed for public comment on December 7, 2022. The 30-day public comment period began on January 16, 2023, and ended on February 14, 2023. During this time, staff continued ongoing conversations with stakeholders, and received written comments from 7 sets of commenters.

The comments received during this period spanned an array of positions and included commenters in full support of this rulemaking, comments suggesting that the Division should be going further to reduce emissions, as well as detailed technical comments suggesting additional clarifying language and expanding enforcement and compliance requirements.

The Division has reviewed and evaluated all written comments in accordance with Utah Code 63G-3-301(11)(b). All written comments received by the Division have been posted on its webpage where they can be viewed in their entirety. A summary of the comments received and UDAQ responses can be found in Attachment A of this memorandum.

Comments from stakeholders primary focused on:

1) Requests for additional clarifying language and definitions.
2) Additional provisions improving the enforceability of the rule.

After review and consideration of comments, the following changes are proposed:

1) Additional clarifying language, definitions, and exemptions were added where appropriate.
2) Compliance was adjusted from a manufacture certification to reoccurring testing using a variety of methods including low-cost portable combustion analysis.
3) While no direct comment was submitted regarding the implementation timeline of the rule, staff recognizes the condescend compliance schedule, and has proposed to extend the compliance schedule by one year to allow impacted stakeholders additional time to plan appropriately.

Recommendation: Staff recommends the Board adopt new rule R307-316, NO_x Emission Controls for Natural Gas-fired Boilers greater than 5.0 MMBtu.

APPENDIX A

Below is a summary of comments received and responses from the UDAQ for both R307-315 and R307-316. While these rules are independent, they were developed and proposed in parallel and are highly similar in their applicability and impacts. Comments received during the public comment process were often made in reference to both rules simultaneously, and thus when considering comments, the UDAQ applied any resulting changes to both rules where appropriate. Thus, responses to comments for both R307-315 and R307-316 are done so in parallel.

1) **Public Comment**: One commenter wrote in full support of the proposed rules, stating "it is essential that Utah start making substantial reductions in precursor emissions as soon as possible".

   UDAQ Response: The Division greatly appreciates commenter support of both R307-315 and R307-316 and the engagement of all stakeholders in the rulemaking process. The Division agrees with the commenter that it is necessary for the NWF NAA to begin the implementation of both NO_x and VOC emission reductions in order for the NAA to attain the NAAQS as expeditiously as practicable.

2) **Public Comment**: A second stakeholder wrote in support of both R307-315 and R307-316, however commented on the fact that the timeline for the full realization of emission reductions associated with the rules is considerable as they do not require retrofits or replacement of existing boilers within the NAA. The commenter noted, "A 10- to 20-year timeframe to reduce nitrogen oxides (NO_x) emissions is not reasonable to comply with the National Ambient Air Quality Standards (NAAQS) and achieve cleaner air… We encourage Utah to revise these proposed rules to include existing boilers or to propose another rule limiting NO_x emissions on existing boilers so that NO_x reductions are realized on a more reasonable timeline."

   UDAQ Response: The Division appreciates the support of R307-315 and R307-316 and ongoing efforts to reduce NO_x emissions as part of its State Implementation Planning aimed at reducing ozone concentrations in the NWF NAA. However, when implementing an emission reduction strategy, especially one aimed at reducing emissions from a diverse set of emission points like those found in the area source category, the economic feasibility of that strategy must be balanced against the emission reductions. The UDAQ examined the economic feasibility of requiring ultra low-NO_x burners on new and modified boilers as well as retrofit requirements for existing boilers within the NAA. This analysis found that when applied to existing boilers, the cost effectiveness per ton of pollutant removed far exceeded established thresholds for Reasonably Available Control Measures (RACM), or even that of the more stringent Best Available Control Measures (BACM). Therefore, the Division has determined that the wide-scale application of this emission reduction technology applied to a broad swath of stakeholders, which includes small business and schools to name a few, is not economically feasible at this time. However, the requirement for installation of this technology as retrofits or replacements may be required in some case-specific instances where large single point emission reductions would be associated, determined through Reasonably Available Control Technology (RACT) (or similar) analysis as applicable to major point sources within the NAA.

3) **Public Comment**: One stakeholder writing in support of the rules also requested that the Division, "including an inventory of overall NO_x emissions in the region so significant source categories are transparent for the public".

UDAQ Response: The Division appreciates this comment and would like to note that multiple emission inventories were developed for the NWF NAA in parallel with the for the moderate ozone SIP. These inventories were used in support of this rulemaking process. Those inventories, as well as the UDAQs tri-annual emission inventories, are available to the public for use and can be accessed through the Division's website. Additionally, the UDAQ has made public the underlying data, calculations, and emission estimates associated with this rulemaking, all of which are publicly available and can be used to develop independent emission estimates specifically associated with emissions of NO_x in the state of Utah.

4) **Public Comment**: The Division received two sets of comments from stakeholders regarding the need to add definitions for commercial boilers, industrial boilers, and institutional boilers to the proposed language. Additionally, it was noted by each of these commenters that language around residential inclusions or exemptions was needed.

   UDAQ Response: The Division is thankful to the commenters for identifying the need for this additional language and agrees with the commenters. Definitions for commercial, institutional, and industrial boilers were added, as well as language surrounding the definitions and applicability for residential boilers.

5) **Public Comment**: Two comments submitted by industry stakeholders commented on potential challenges with complying with the rule if boiler or burner manufacturer's specification sheets do not include averaging periods, especially as it relates to boilers in the lower MMBtu range like those included in R307-315. These commenters requested that the averaging period be removed, requesting "that UDAQ remove the listed averaging period from its compliance requirements in R307-315-4(2)".

   UDAQ Response: The UDAQ also agrees with these comments that the inclusion of a 24-hour averaging period for demonstrating compliance with the standard adds an unnecessary potential hurdle to compliance. Thus, the UDAQ has removed instances of the language "averaged over a 24-hour period" from both R307-315 and R307-316.

6) **Public Comment**: One stakeholder also provided comment on the compliance schedule for both R307-315 and R307-316, suggesting that "this timeline be connected to a permitting activity or milestone to assist with the permitting of future boiler/burner projects."

   UDAQ Response: The UDAQ appreciates this suggestion for ways of improving the compliance schedule associated with both rules. However, as a significant number of the boilers included in this rulemaking activity fall below the size required for permitting activities to apply, the Division believes that the originally proposed language is appropriate.

   However, the Division would like to note that the originally proposed timeline for the implementation of the compliance schedule for both R307-315 and R307-316 was May 1, 2023. While no comments were submitted to the Division during the public comment period regarding this timeline, due to the extended rulemaking timeline these rules have undergone, the UDAQ is proposing a modification to the compliance schedule, extending the date from May 1, 2023 to May 1, 2024. The added time to comply with this rule will allow greater certainty to impacted stakeholders as the procurement, engineering and manufacturing process for some projects covered under these rules can require a substantial amount of lead time. Additionally, this added time will give impacted stakeholders time to appropriately plan for unplanned interruptions or maintenance to existing boilers.

7) **Public Comment**: One commenter wrote regarding concern with the proposed emission threshold of 9 ppmv, noting that 1) a 9ppmv limit could result in difficult burner startup and balance situations, 2) that oxygen content associated with the elevation of the NAA could be problematic, 3) that there is a possibility that the startup will fail, on flame failure, as a result of the velocity of air going across the ignitor, and burner, and 4) and that the overall costs to the owner and customers / consumers will be increased. The commenter ended by recommending that a 20 ppmv NO_x limit be selected instead of the proposed 9 ppmv.

   UDAQ Response: The Division appreciates each of the concerns raised by the commenter. The division has engaged with a variety of boiler manufacturers and distributors and has concluded that a threshold of 9 ppmv is appropriate as the technology is widely available for an array of different applications, that the oxygen content observed across the NAA resulting from the areas elevation is sufficient to operate at 9 ppmv, that the current technologies are robust and reliable, and that the additional cost of ownership is well within acceptable RACT fiscal ranges when applied to new or modified boilers. Thus, the division has determined that the 9 ppmv threshold is the most appropriate to demonstrate attainment of the NAAQS as expeditiously as possible. Further, by implementing a 9 ppmv threshold as opposed to a 20 ppmv threshold, the division anticipates an additional 2.3 tpd (846.9 tpy) of NO_x emissions removed from the counties this rule applies to.

8) **Public Comment**: Three commenters representing a wide array of stakeholders including the EPA, a boiler manufacturer, and industry, provided comment on the need for additional clarification and language around the monitoring and enforcement aspects of the rules. In particular, the EPA provided comment that the proposed language for "R307-315 and R307-316 does not contain an adequate certification process or testing protocols for sources to show compliance with the rule," going further to note, "additional development of language found within R307-315 and R307-316 is required for federal approval".

   In addition to the comment provided by the EPA, comments submitted by industry stakeholder provided additional suggestions for potential clarifications to the certification process including: applying the certification process to only single burner boilers, clarifying that certification is based on assumptions of typically normal operating conditions, and suggesting a definition to be added to defining "certify".

   UDAQ Response: As these rules are intended to be incorporated as part of Utah's SIP, and thus are needed to comply with federal statutory requirements for an ozone NAA under the CAA, federal approvability of the proposed rules is a critical aspect to consider. Additionally, regulatory certainty is critical for industry impacted by these proposed rules. Thus, the Division greatly appreciates the significant amount of feedback and proposed solutions received through the public comment process.

   In efforts to address the shortcomings of the originally proposed language, the division has incorporated the following changes into the proposed rules:

   a) The certification requirements have been removed from the rule. While it was the intent of the Division to allow sources to comply with these rules by demonstrating manufacture certifications, the Division recognizes that a certification program for impacted equipment does not currently exist at the proposed emission thresholds. Therefore, the ease of complying with the 9 ppmv threshold through manufacturer certification cannot be implemented without the development of and implementation of a certification program. The development and

implementation of a program of this magnitude is outside of the resources available to the Division at this time.

b) With the removal of compliance through demonstration of manufacturer certification, the Division has included a recurring testing schedule for all boilers and burners covered under the extent of these rules. This testing is to be performed every 3 or 5 years depending on the size of the boiler and its burners, using several methods including EPA Reference Method 7E or using portable combustion analyzers as part of regularly scheduled maintenance.

c) As noted in response to comment #5, the 24-hour averaging period has been removed from testing requirements

The Division believes that the addition of the portable combustion analyzer testing requirements improves the enforceability and compliance provisions of the rule in efforts to meet requirements for a federally enforceable rule, while simultaneously not overburdening impacted stakeholders with compliance costs. This is especially important given the broad range of stakeholders covered under these rules.

9) **Public Comment**: One stakeholder provided comment requesting flexibility in order to "accommodate situations where a facility cannot comply instantaneously upon triggering the requirements… For example, if an unexpected situation results in damage to burners or other need to replace burners quickly, refineries need the time to conduct engineering analyses, design the required changes, procure equipment, and install the changes". The commenter concluded by requesting language be added "allowing in-kind or temporary repairs or replacements in the interim until the final design can be installed during a planned outage."

UDAQ Response: The Division appreciates this comment and wants to note that the Division will always work with stakeholders as they strive to comply with regulatory requirements. The commenter raises an interesting point relative to boiler and burner availability and the need for temporary replacements and emergency coverage. While these rules are meant to address boilers and the replacement of burners generally, UDAQ recognizes that situations arise where a source may need to replace damaged equipment or temporarily utilize alternative equipment while repairs are being made.

This is already covered by the proposed rules. The language found in R307-316-4(7) allows a source to apply to the Director for an alternative control method. This language was specifically added for those circumstances which may fall slightly outside the norm. It is not UDAQ's intention that this language be used as a means of circumventing the normal process of reporting breakdowns under R307-107, nor as a mechanism of avoiding the process outlined in R307-316-4(2) through R307-316-4(6).

Additionally, it is the responsibility of all facilities to be able to anticipate future maintenance needs that comply with regulatory requirements. Thus, no additional language was added to the proposed rules allowing for in-kind or temporary installments. The Division does also want to note that the rules have explicit exemptions for temporary boilers which can generally be used to provide flexibility during unanticipated maintenance situations. Further, it is important to note that the proposed rules only apply to boilers utilizing pipeline quality natural gas, and thus many of the larger boilers in the NAA where unanticipated maintenance requirements would be of concern are not covered under these rules. Lastly, the Division would like to note that, as described in response to comment #6, the Division is proposing to extend the compliance schedule of these rules to May

1, 2024. This additional time should give impacted stakeholders sufficient time to plan future maintenance requirements that conform with these rules where applicable.

10) **Public Comment**: One commenter representing industry stakeholders requested that the terminology used for the alternative method of compliance found in R307-316-4(6) be further clarified, noting ""The phrase "best achievable level of control available" ("BALOCA") needs to have appropriate boundaries drawn around it. As written, it has no clear regulatory meaning. We recommend replacing BALOCA with the term "Best Available Control Technology" ("BACT")".

    UDAQ Response: The Division appreciates this comment, and agrees with the commenter that further clarification is warranted. The Division has modified the language in that provision to now read "produces an equal air quality benefit as required by Subsection R307-316-4(2) or that meets Best Available Control Technology thresholds."

11) **Public Comment**: One stakeholder also commented that, "The economic analysis for the rules significantly underestimates costs in some situations and these substantially higher costs need to be acknowledged."

    UDAQ Response: The Division appreciates this comment and would like to note that this point was raised early on during the development of the proposed rules during the Division's stakeholder engagement resulting from its ANPR process. As a result of this early engagement, the Division has included an alternative method of compliance, as discussed in response to comment #10, in the originally proposed language and in the final language. This alternative method of compliance allows impacted stakeholders flexibility depending on the case-specific fiscal impacts of complying with the rule.

12) **Public Comment**: One commenter proposed an alternative definition for natural gas, narrowing the definition to pipeline quality gas and bringing the definition more in line with those used by other air agencies with low-NO_x requirements for natural gas boilers. The commenter also proposed adding propane-fired boilers to the scope of the rule.

    UDAQ Response: The Division greatly appreciates this comment and agrees that definition provided by the commenter is more appropriate for the scope of these rules and has incorporated them into the final proposed language. The Division would also like to note that while the original definition of natural gas which was proposed included propane, by incorporating the commenter's suggestion and directly specifying propane within the rule has added clarity to the applicability of the rule, and thus greatly appreciates the added benefits of incorporating these suggestions.

13) **Public Comment**: One commenter suggested that the rules should have explicit language exempting Carbon Monoxide (CO) boilers.

    UDAQ Response: The Division agrees that the addition of language explicitly exempting CO boilers from the rules is helpful in providing clarification to the applicability of the rules and providing regulatory certainty. A definition and exemptions for CO boilers was added to both R307-315 and R307-316.

14) **Public Comment**: One commenter reiterated a suggestion submitted during the ANPR period that the definition of boiler should be narrowed as it currently relies on a Subpart JJJJJJ reference, which may not be the most appropriate application for rules targeted at NO_x emission reductions. The commenter provided changing the definition to a modified MACT definitions and further

suggested adding definitions and exemptions for Process Heaters and Waste Heat Boilers to add clarity to the applicability of the rules.

UDAQ Response: The Division would like to thank the commenter for providing the suggestions to the definition of "boiler" and agrees that the proposed modifications to the language provide clarity to the applicability of the rule. The Division has replaced the originally proposed definition with the majority of that proposed by the commenter. In regards to the commenter's suggestion to include definitions and exemptions for process heaters and waste heat boilers, the Division agrees that the addition of these definitions and exemptions clarify the applicability of the rules and has thus added the suggested definitions, and added exemptions for both process heaters and waste heat boilers into the applicability sections of both R307-315 and R307-316.

15) **Public Comment**: Two commenters provided suggested edits to the definitions of "construction" and "modification" as originally proposed. While the proposed edits from the two commenters differed in exact text, the intent was similar in that the newly proposed language would narrow the scope of the language, with one commenter recommending, "a revision of the language found under "Modification" from "planned change" to "physical or operation change."

UDAQ Response: The Division would once again like to thank the commenters for providing meaningful and helpful suggestions for ways of improving the language of the proposed rules. However, the Division thinks that the definitions for both construction and modification are appropriate as originally proposed. Additionally, the definitions as originally proposed are consistent with the definitions used elsewhere in existing Utah Administrative Rules, and thus provides consistency across rules.

State of Utah
Administrative Rule Analysis
Revised June 2022

NOTICE OF CHANGE IN PROPOSED RULE		
Title No. - Rule No. - Section No.		
Rule or Section Number:	**R307-316**	**Filing ID: Office Use Only**
Date of Previous Publication:	**12/07/2022**	

Agency Information

1. Department:	Environmental Quality	
Agency:	Air Quality	
Room number:		
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Please address questions regarding information on this notice to the agency.		

General Information

2. Rule or section catchline:

R307-316. NOx Emission Controls for Natural Gas-Fired Boilers greater than 5.0 MMBtu.

3. Reason for this change (Why is the agency submitting this filing?)**:**

Changes were made to the proposed rules after comments received during public comment period.

4. Summary of this change (What does this filing do?)**:**

1) Clarifying language was added, 2) the compliance schedule was extended from May 1, 2023 to May 1, 2024, 3) the testing and compliance methods were changed to allow for portable gas analyzers to be used to verify compliance with requirements in the rule.

Fiscal Information

5. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:

A) State budget:

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts to the state budget. The fiscal impact of this rule on state budgets is unknown. This rule will eventually impact all boilers above 5 MMBtu in impacted counties, a portion of which are owned and operated by the state. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 620 boilers greater than 5 MMBtu located in the impacted counties, but the proportion owned and operated by state government is not known. DAQ estimates a cost difference between $13,000 and $26,000 for a 6.7MMBtu standard boiler that is replaced with an Ultra-Low NOx boiler rated at 9 ppmv. However, since the timing of replacement is unknown; the fiscal impact cannot be accurately estimated.

B) Local government:

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts to local governments. The fiscal impact of this rule on local governments is unknown. This rule will eventually impact all boilers above 5 MMBtu in impacted counties, a portion of which are owned and operated by local governments. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 620 boilers over 5 MMBtu located in the impacted counties, but the proportion owned and operated by local governments is not known. DAQ estimates a cost difference between $13,000 and $26,000 for a 6.7MMBtu standard boiler that is replaced with an Ultra-Low NOx boiler rated at 9 ppmv. However, since the timing of replacement is unknown; the fiscal impact cannot be accurately estimated.

C) Small businesses ("small business" means a business employing 1-49 persons)**:**

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts for small businesses. The fiscal impact of this rule on small business is unknown. This rule will eventually impact all boilers above 5 MMBtu in impacted counties, a portion of which are owned and operated by small businesses. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 620 boilers over 5 MMBtu located in the impacted counties, but the proportion owned and operated by small businesses is not known. DAQ estimates a cost difference between $13,000 and $26,000 for a 6.7MMBtu standard boiler that is replaced with an Ultra-Low NOx boiler rated at 9 ppmv. However, since the timing of replacement is unknown; the fiscal impact cannot be accurately estimated.

D) Non-small businesses ("non-small business" means a business employing 50 or more persons)**:**

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts to non-small businesses. The fiscal impact of this rule on non-small business is unknown. This rule will eventually impact all boilers above 5 MMBtu in impacted counties, a portion of which are owned and operated by non-small businesses. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 620 boilers over 5 MMBtu located in the impacted counties, but the proportion owned and operated by non-small businesses is not known. DAQ estimates a cost difference between $13,000 and $26,000 for a 6.7MMBtu standard boiler that is replaced with an Ultra-Low NOx boiler rated at 9 ppmv. However, since the timing of replacement is unknown; the fiscal impact cannot be accurately estimated.

E) Persons other than small businesses, non-small businesses, or state or local government entities ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an ***agency***)**:**

The changes to the proposed rule do not result in changes to the originally identified fiscal impacts to other persons. The fiscal impact of this rule on other persons is unknown. This rule will eventually impact all boilers above 5 MMBtu in impacted counties, a portion of which are owned and operated persons other than small businesses, non-small businesses, state, or local governments. The rule does not require retrofits to existing boilers, so the near-term impact of the rule will be limited to new installations, burner replacements, and boilers reaching the end of their useful life. A DAQ analysis identified 620 boilers over 5 MMBtu located in the impacted counties, but the proportion owned and operated by other persons is not known. DAQ estimates a cost difference between $13,000 and $26,000 for a 6.7MMBtu standard boiler that is replaced with an Ultra Low NOx boiler rated at 9 ppmv. However, since the timing of replacement is unknown, the fiscal impact cannot be accurately estimated.

F) Compliance costs for affected persons:

Based on quotes received from boiler distributors and maintenance companies, compliance costs for affected persons are estimated at $600 once every five years.

G) Regulatory Impact Summary Table (This table only includes fiscal impacts that could be measured. If there are inestimable fiscal impacts, they will not be included in this table. Inestimable impacts will be included in narratives above.)

Regulatory Impact Table

Fiscal Cost	**FY2023**	**FY2024**	**FY2025**
State Government	$0	$0	$0
Local Governments	$0	$0	$0
Small Businesses	$0	$0	$0
Non-Small Businesses	$0	$0	$0
Other Persons	$0	$0	$0

Total Fiscal Cost	**$0**	**$0**	**$0**
Fiscal Benefits	**FY2023**	**FY2024**	**FY2025**
State Government	$0	$0	$0
Local Governments	$0	$0	$0
Small Businesses	$0	$0	$0
Non-Small Businesses	$0	$0	$0
Other Persons	$0	$0	$0
Total Fiscal Benefits	**$0**	**$0**	**$0**
Net Fiscal Benefits	**$0**	**$0**	**$0**

H) Department head comments on fiscal impact and approval of regulatory impact analysis:

The Executive Director of Environmental Quality, Kim D. Shelly, has reviewed and approved this regulatory impact analysis.

Citation Information

6. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:

Section 19-2-104		

Incorporations by Reference Information

7. Incorporations by Reference (if this rule incorporates more than two items by reference, please include additional tables)**:**

A) This rule adds, updates, or removes the following title of materials incorporated by references (a copy of materials incorporated by reference must be submitted to the Office of Administrative Rules; *if none, leave blank*)**:**

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

B) This rule adds, updates, or removes the following title of materials incorporated by references (a copy of materials incorporated by reference must be submitted to the Office of Administrative Rules; *if none, leave blank*)**:**

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

Public Notice Information

8. The public may submit written or oral comments to the agency identified in box 1. (The public may also request a hearing by submitting a written request to the agency. See Section 63G-3-302 and Rule R15-1 for more information.)

A) Comments will be accepted until:	07/03/2023

B) A public hearing (optional) will be held:

On (mm/dd/yyyy)**:**	**At** (hh:mm AM/PM)**:**	**At** (place)**:**

9. This rule change MAY become effective on:	07/10/2023
NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.	

Agency Authorization Information

To the agency: Information requested on this form is required by Section 63G-3-303. Incomplete forms will be returned to the agency for completion, possibly delaying publication in the *Utah State Bulletin* and delaying the first possible effective date.			
Agency head or designee and title:	**Bryce C. Bird**	**Date:**	04/18/2023

R307. Environmental Quality, Air Quality.
R307-316. NO_x Emission Controls for Natural Gas-Fired Boilers Greater Than 5.0 MMBtu.
R307-316-1. Purpose.

Rule R307-316 establishes maximum emission thresholds for the emissions of oxides of nitrogen (NO_x) for new or modified natural gas-fired boilers with a total rated heat input greater than 5.0 million British Thermal Units per hour (MMBtu/hr).

R307-316-2. Applicability.

(1) Rule R307-316 applies to each boiler that [~~commences~~]begins construction or modification after the compliance date defined in Section R307-316-6 that:

([~~1~~]a) is fueled exclusively by natural gas;

([~~2~~]b) has a total rated heat input greater than 5.0 MMBtu/hr;

([~~3~~]c) is [~~operated in~~]an industrial boiler, institutional boiler, or commercial [~~setting~~]boiler;

([~~4~~]d) is located in Salt Lake, Utah, Davis, Weber, or Tooele County; and

([~~5~~]e) is not a temporary boiler.

(2) Exemptions to this rule include:

(a) residential boilers as defined in this rule;

(b) CO boilers as defined in this rule;

(c) waste heat boilers as defined by this rule; and

(d) process heaters as defined by this rule.

R307-316-3. Definitions.

As used in this rule:

"Boiler" means [~~boiler as defined in 40 CFR 63.11237, Subpart JJJJJJ National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, which is incorporated by reference in Rule R307-210.~~]an enclosed device using controlled flame combustion of natural gas, as defined by this rule, in which water is heated to recover thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel or oxidizer feed rates are controlled.

"Burner" means the functional component of a boiler that provides the heat input by combustion of a fossil fuel with air or oxygen. Burners are available either as part of the boiler package from the manufacturer, as stand-alone products for custom installations, or as replacement products.

"CO boiler" means a boiler that is fired with gaseous fuel with an integral waste heat recovery system used to oxidize CO-rich waste gases generated by a Fluid Catalytic Cracking Unit.

"Commercial boiler" means a boiler used in commercial establishments such as hotels, restaurants, and laundries to provide electricity, steam, or hot water.

"Construction" means any physical change [~~or change in the method of operation~~]including fabrication, erection, installation, demolition, or modification of a [~~source~~]boiler which would result in an [~~change~~]increase in actual NO_x emissions.

"Industrial boiler" means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, or electricity.

"Institutional boiler" means a boiler used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries, religious establishments, and governmental buildings to provide electricity, steam, or hot water.

"Modification" means any planned change in a [~~source~~]boiler [~~that~~]which results in an [~~potential~~]increase of actual NO_x emissions.

"Natural gas" means:

(1) [~~A~~]a [~~naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface of which the principal constituent is methane;~~]mixture of gaseous hydrocarbons, with at least 80% methane by volume, and of pipeline quality, such as the gas sold or distributed by any utility company regulated by the Utah Division of Public Utilities;

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835, or propane, propane-derived synthetic natural gas, or mixtures thereof; or

[~~(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. For example, a temperature of 288 Kelvin, a relative humidity of 60%, and a pressure of 101.3 kilopascals. Additionally, natural gas must either be composed of at least 70% methane by volume or have a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot); or~~]

([4]3) [~~P~~]propane or propane-derived synthetic natural gas.[~~ Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C3H8.~~]

"Process Heater" means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material such as liquid, gas, or solid, or to a heat transfer material such as glycol or a mixture of glycol and water, for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. Process heaters include units that heat water and water mixtures for pool heating, sidewalk heating, cooling tower water heating, power washing, or oil heating.

"Propane" means a colorless gas derived from petroleum and natural gas, with the molecular structure C3H8.

"Residential boiler" means a boiler used to provide heat or hot water as part of a residential combined heat and power system. This definition includes boilers located at an institutional facility such as a university campus, military base, church grounds or commercial or industrial facility such as a farm used primarily to provide heat or hot water for:

(1) a dwelling containing four or fewer families; or

(2) a single unit residence dwelling that has since been converted or sub-divided into

condominiums or apartments.

"Temporary boiler" means any gaseous or liquid fuel-fired steam generating unit that is designed to, and is capable of, being carried or moved from one location to another by wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

(1) [~~T~~]the equipment is attached to a foundation[~~.~~];

(2) [~~T~~]the steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function [~~will~~]shall be included in calculating the consecutive time period[~~.~~];

(3) [~~T~~]the equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least two years, and operates at that facility for at least three months each year[~~.~~]; or

(4) [~~T~~]the equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

"Waste heat boiler" means a device that recovers normally unused energy such as hot exhaust gas and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial or power equipment such as thermal oxidizers, kilns, furnaces, combustion turbines, and engines. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

R307-316-4. Requirements.

(1) Except as provided in Subsection R307-316-4([~~8~~]3), a person that:

(a) [~~commences~~]begins construction, or modification of a boiler;

(b) replaces a burner in a boiler having only a single burner; or

(c) replaces 50% or more of the burners in a multi-burner boiler for a boiler meeting the requirements of Section R307-316-2 shall[~~:~~] install a burner that meets a NO_x emission rate of nine parts per million by volume (ppmv) or less at 3% volume stack gas oxygen on a dry basis.

[~~(2) Install a burner that is certified to meet a NOx emission rate of nine parts per million by volume (ppmv) or less at 3% volume stack gas oxygen on a dry basis averaged over a 24-hour period.~~]

([~~3~~]2) An owner or operator of a boiler subject to Subsection R307-316-4(1) shall:[~~ operate and maintain the boiler and boiler subsystems, including burner or burners, according to the manufacturer's instructions.~~]

(a) operate and maintain the boiler and boiler subsystems, including burners, according to the manufacturer's instructions;

[~~(4) A manufacturer of a boiler or boiler burner meeting the requirement of Subsection R307-316-4(2) shall certify the boiler or boiler burner as complying with the emission rate in Subsection R307-316-4(2).~~

~~(5) Boilers over 40 MMBtu/hr shall be tested for compliance with the emission limit in Subsection R307-316-4(2) no less than once every three years using EPA Reference Method 7E.~~]

(b) determine continued compliance based on Section R307-315-6; and

([~~6~~]c) ensure that [~~M~~]manufacturer's operational specifications, records, and testing of any control system shall use the applicable EPA Reference Methods of 40 CFR Part 60, the most recent EPA test methods, or EPA-approved state methods, to determine the efficiency of the control device[~~.~~]; and

([~~7~~]d) [~~The owner or operator must~~]meet the applicable recordkeeping requirements for any control device.

([~~8~~]3) Any person may apply to the director for approval of an alternate method of control. The application [~~must~~]shall include a demonstration that the proposed alternate produces an equal air quality benefit as required by Subsection R307-316-4([~~2~~]1)(c) or [~~the best achievable level of control available~~]that meets Best Available Control Technology thresholds..

R307-316-5. Recordkeeping.

(1) The owner or operator of any [~~unit~~]boiler subject to Rule R307-316 shall:

(a) [~~R~~]retain documentation of the unit's emission rate specifications;

(b) [~~R~~]retain a copy of the manufacturer's recommendations for proper operation and maintenance of units covered by Rule R307-316;

(c) [~~M~~]maintain records showing proper operation and maintenance of units covered by Rule R307-316 following manufacturer's recommendations; and

[~~(d) Retain a copy of the manufacturer's certification for any replacement burner;~~

~~(e) Retain records of any certification testing as required under Subsection R307-316-4(5); and~~]

([~~f~~]d) [~~R~~]retain a record of approval of any alternative method of control as outlined in Subsection R307-316-4([~~8~~]3).

(2) Operation and maintenance records shall be retained for five years and shall be made available to the director upon request.

R307-316-6. Compliance Determination and Schedule.

[~~The compliance schedule for this rule shall begin on May 1, 2023.~~]

1) Compliance with the NO_x emission requirement listed in Subsection R307-316-4(1)(c) shall be determined according to the following procedures:

(a) U.S.EPA Reference Method 7E, Determination of Nitrogen Oxides Emissions from Stationary Sources;

(b) a continuous in-stack nitrogen oxide monitor or equivalent verification system in compliance with 40 CFR Part 60 Appendix B Specification 2;

(c) other EPA-approved testing methods acceptable to the director; or

(d) combustion analysis as part of a regular maintenance schedule.

(2) Compliance Determination shall be conducted according to the following frequency

(a) once every three years for units with a rated heat input capacity greater than or equal to 10 MMBtu/hr, except for boilers subject to Subsection R307-316-6(1)(b); and

(b) once every five years for units with a rated heat input capacity less than 10 MMBtu/hr down to and including 5 MMBtu/hr.

(3) Provided an emissions test is conducted within the same calendar year as the test required in Subsection R307-316-6(2), an owner or operator may use the following emissions tests to comply with Subsection R307-316-6(2):

(a) periodic monitoring or testing of a unit as required in a Title V permit; or

(b) relative accuracy testing for continuous emissions monitoring verification pursuant to 40 CFR

Part 60 Appendix B Specification 2.

(4) The compliance schedule for this rule shall begin on May 1, 2024.

KEY: air pollution, boiler, NO_x, nitrogen oxides
Date of Last Change: 2023
Authorizing, and Implemented or Interpreted Law: 19-2-104

ITEM 6

State of Utah
SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-034-23

M E M O R A N D U M

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Harold Burge, Major Source Compliance Section Manager

DATE: April 21, 2023

SUBJECT: US Magnesium LLC – Administrative Settlement Agreement

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US Magnesium LLC (USM) operates a primary magnesium production facility in Rowley, Tooele County, Utah. On August 27, 2015, the Utah Division of Air Quality (UDAQ) issued a Notice of Violation and Order to Comply (NOV) to USM alleging violations of Rule R307-415 of the Utah Administrative Code and the conditions of the Permit at USM's Rowley Plant. USM challenged the August 2015 NOV by filing a request for agency action on September 15, 2015, that started an administrative proceeding before the Executive Director of the Utah Department of Environmental Quality (UDEQ). The Parties settled this administrative litigation, which resulted in the Executive Director's final order on August 30, 2017, that dismissed the administrative case with prejudice and entered certain findings on the violations alleged in the August 2015 NOV.

On September 1, 2017, the State filed a civil action in the Third District Court seeking penalties under Section 19-2-115 of the Utah Code for the violations established in the Executive Director's final order. The court fully or partially dismissed certain claims with prejudice based on the statute of limitations by the order entered on February 19, 2018.

On March 2, 2018, UDAQ issued another Notice of Violation and Order to Comply DAQC-139-18 (March 2018 NOV) to USM alleging violations of Rule R307-415 of the Utah Administrative Code and the conditions of the Permit at USM's Rowley Plant. USM did not challenge this NOV administratively. The State then filed a second civil case in the Third District Court on July 18, 2019, alleging that the violations in the March 2018 NOV were established by failure to contest and seeking civil penalties under Section 19-2-115 of the Utah Code.

On May 8, 2020, UDAQ filed a third civil case against USM seeking to establish violations of the Utah Air Conservation Act, the Utah Air Quality Rules, and the Permit and penalties under Section 19-2-115 of the Utah Code. Only July 8, 2020, the three civil cases were consolidated into one case. *See* Ruling and Order Granting Mot. to Consolidate, *Utah v. U.S. Magnesium*, Civil No. 170301376 (July 8, 2020). These three civil cases are referred to as the Consolidated Case in the memorandum.

On November 16, 2021, UDAQ issued a Notice of Violation and Order to Comply DAQC-1230-21 (November 2021 NOV) to USM alleging violations of Rule R307-415 of the Utah Administrative Code and the conditions of the Permit at USM's Rowley Plant. USM filed a request for agency action challenging this NOV on December 15, 2021. Neither party requested an appointment of an Administrative Law Judge and there is no active administrative litigation in this proceeding. This case is referred to as the Administrative Case in this memorandum.

There are several alleged violations that occurred from October 2021 to September 2022. UDAQ has not issued a Notice of Violation and Order to Comply for these violations because the Parties are resolving these alleged violations through this Settlement Agreement.

Without adjudication of any factual or legal issue and to settle all claims in the Consolidated Case, the Administrative Case, and potential alleged violations for which no NOV has yet been issued USM agrees to a total stipulated penalty of $413,772.00 to settle the alleged violations. $250,124.00 of this penalty shall be paid to the State of Utah in four quarterly installments of $62,531.00. USM elects to deposit half of the $250,124.00 into the Environmental Mitigation and Response Fund. The Fund Deposit shall go towards environmental mitigation actions, environmental response actions, site closures, and cleanups under Section 19-1-604(2) of the Utah Code. The Fund Deposit may also be disbursed to other state agencies for similar activities under Section 19-1-604(4) of the Utah Code.

The remaining $163,648.00 of the $413,772.00 total stipulated penalty shall be credited as Supplemental Environmental Project (SEP) with an implementation cost of $204,560.00. The cost of the SEP is credited at 80% towards the remaining penalty amount of $163,648.00. The SEP would allow for most of the chlorine emissions emitted during scheduled Chlorine Reduction Burner (CRB) maintenance to be directed to the Chlorine Bypass Scrubber (CBS) resulting in an estimated net reduction of 33 tons of chlorine per month or 396 tons per year.

The Parties agree to file a stipulation and order to dismiss with prejudice the litigation in the Consolidated Case and the Administrative Case within thirty (30) days of the effective date of this Agreement.

In accordance with Section 19-2-104(3)(b)(i) of the Utah Code, this settlement is provided to the Board for review as the penalty exceeds $25,000. A copy of the settlement agreement with attachments listing specific claims and describing the SEP in greater detail is provided. The DAQ will withhold any further action on this case until the Board approves or disapproves the settlement.

Recommendation: Staff recommends that the Board approve the penalty amount and the settlement agreement.

SETTLEMENT AGREEMENT
RECITALS

This Settlement Agreement (Agreement) is entered into between the Utah Division of Air Quality (UDAQ), the division within the Utah Department of Environmental Quality, the Director of the UDAQ in his individual capacity, the Utah Department of Environmental Quality (UDEQ), and the Executive Director of the UDEQ in her individual capacity (referred to collectively as the State) and US Magnesium LLC (referred to as USM) under the Utah Air Conservation Act, Utah Code §§ 19-2-101 through 19-2-305 (the Act). For purposes of this Agreement, the State and USM shall be referred to collectively as the Parties.

1. Executive Director of UDEQ's Authority

UDEQ's Executive Director is authorized to issue orders to enforce state laws and rules established by UDEQ under Section 19-1-202(2)(a) of the Utah Code. The UDEQ and the Executive Director of the UDEQ are parties to this Agreement because it resolves claims alleged in *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.) (consolidated), where the Executive Director of the UDEQ and the UDEQ are parties. The Executive Director issued a final order on August 30, 2017 approving and adopting the stipulation entered into by the Parties in the administrative litigation that became the basis of the state district court litigation in case number 170301376.

2. UDAQ's Authority

UDAQ has the authority to administer the Act, issue orders, and exercise all incidental powers necessary to carry out the purposes of the Act, including settlement. Utah Code § 19-2-107(2)(b)(ix).

3. USM

USM is a Delaware limited liability company registered with the Utah Department of Commerce, Utah Division of Corporations and Commercial Code at 238 North 2200 West in Salt Lake City, Utah 84116. USM operates a primary magnesium production facility in Rowley, Tooele County, Utah, (Rowley Plant) producing magnesium metal from the waters of the Great Salt Lake, and is subject to the requirements of the Clean Air Act, the Act, the Utah Air Quality Rules (Utah Administrative Code Rules R307-101 through R307-842), and Title V Operating Permit 4500030003 (last revised on January 22, 2021) (the Permit).[1]

4. Administrative Proceedings and Civil Litigation in the Third District Court

On August 27, 2015, UDAQ issued a Notice of Violation and Order to Comply DAQC-1049-15 (August 2015 NOV) to USM alleging violations of Rule R307-415 of the Utah Administrative Code and the conditions of the Permit at USM's Rowley Plant. The August 2015 NOV required compliance with the applicable provisions of the Act, the Utah Air Quality Rules, and the Permit. USM challenged the August 2015 NOV by filing a request for agency action on September 15, 2015 that started an administrative proceeding before the Executive Director of UDEQ. The Parties settled this administrative litigation, which resulted in the Executive Director's final order on August 30, 2017 that dismissed the administrative case with prejudice and entered certain findings on the violations alleged in the August 2015 NOV.

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[1] Some alleged violations resolved in this Agreement occurred while USM was subject to prior revisions of this Permit dated February 6, 2015 and December 12, 2018. For purposes of this Agreement, the Parties cite the most current version of the Permit but understand that the prior versions would govern the alleged violations that occurred prior to the most current revision on January 22, 2021.

On September 1, 2017, the State filed a civil action in the Third District Court seeking penalties under Section 19-2-115 of the Utah Code for the violations established in the Executive Director's final order (Consolidated Case). *See Utah v. U.S. Magnesium*, Civil No. 170301376. The court fully or partially dismissed certain claims with prejudice based on the statute of limitations by the order entered on February 19, 2018. *See* Stipulated Order Granting US Magnesium's Partial Mot. to Dismiss, *Utah v. U.S. Magnesium*, Civil No. 170301376 (Feb. 19, 2018). The remaining claims are subject to this Agreement.

On March 2, 2018, UDAQ issued another Notice of Violation and Order to Comply DAQC-139-18 (March 2018 NOV) to USM alleging violations of Rule R307-415 of the Utah Administrative Code and the conditions of the Permit at USM's Rowley Plant. The March 2018 NOV required compliance with the applicable provisions of the Act, the Utah Air Quality Rules, and the Permit. USM did not challenge this NOV administratively. The State then filed a second civil case in the Third District Court on July 18, 2019, alleging that the violations in the March 2018 NOV were established by failure to contest and seeking civil penalties under Section 19-2-115 of the Utah Code. This second case was later consolidated into the Consolidated Case. *See* Ruling and Order, *Utah v. U.S. Magnesium*, Civil No. 170301376 (Nov. 4, 2019).

On May 8, 2020, UDAQ filed a third civil case against USM seeking to establish violations of the Act, the Utah Air Quality Rules, and the Permit and penalties under Section 19-2-115 of the Utah Code. This third case was also later consolidated into the Consolidated Case. *See* Ruling and Order Granting Mot. to Consolidate, *Utah v. U.S. Magnesium*, Civil No. 170301376 (July 8, 2020). All the active claims in the Consolidated Case are listed in Attachment 1 to this Agreement, List of Claims Subject to the Settlement Agreement, Rows 2-18.

5. Request for Agency Action and Pending Administrative Claims

On November 16, 2021, UDAQ issued a Notice of Violation and Order to Comply DAQC-1230-21 (November 2021 NOV) to USM alleging violations of Rule R307-415 of the Utah Administrative Code and the conditions of the Permit at USM's Rowley Plant. USM filed a request for agency action challenging this NOV on December 15, 2021. Neither party requested an appointment of an Administrative Law Judge and there is no active administrative litigation in this proceeding. This proceeding is referred to as Administrative Case in this Agreement. Claims included in this pending Administrative Case are listed in Attachment 1, Rows 19-23.

6. Other Alleged Violations

There are several alleged violations that occurred from October 2021 to September 2022. UDAQ has not issued a Notice of Violation and Order to Comply for these violations because the Parties are resolving these alleged violations through this Agreement. These alleged violations are listed in Attachment 1, Rows 24-31.

7. Settlement Negotiations

The Parties engaged in a series of settlement discussions throughout the course of litigation and administrative enforcement actions and were able to reach an agreement. The Parties agree that the best way to resolve the claims listed in Attachment 1 pending in the Consolidated Case, the Administrative Case, and before the agency is to enter into this Agreement.

8. Purpose

The purpose of this Agreement is to settle all the claims listed in Attachment 1 and to resolve the Consolidated Case and the Administrative Case. Nothing in this Agreement constitutes the Parties' admission of any liability, wrongdoing, or violation of the law.

9. Mutual Interest

The Parties believe that it is in their mutual best interest to execute this Agreement and to settle all allegations made in the Consolidated Case, the Administrative Case, and potential alleged violations for which no NOV has yet been issued listed in Attachment 1.

AGREEMENT

Without adjudication of any factual or legal issue and to settle all claims in the Consolidated Case, the Administrative Case, and potential alleged violations for which no NOV has yet been issued listed in Attachment 1, the Parties agree to the following:

10. USM agrees to a total stipulated penalty of $413,772.00 to settle the alleged violations listed in Attachment 1. $250,124.00 of this penalty shall be paid to the State of Utah and $163,648.00 shall be credited as Supplemental Environmental Project with the implementation cost of $204,560.00 as provided below.

a. Civil Penalty Paid to the State. USM shall pay $250,124.00 of the total civil penalty in quarterly installments in the amount of $62,531.00 each with the first installment due within thirty (30) days of the effective date of this Agreement. The effective date of this Agreement shall mark the beginning of the first quarter. Each subsequent installment payment shall be due within thirty (30) days from the beginning of the next quarter. For example, if this Agreement becomes effective on May 1, 2023, USM's first installment payment shall be due by May 31, 2023. In this example, the second quarter will begin on August 1, 2023 with the second installment payment due by August 31, 2023. USM shall make the payments by wire transfer or ACH transfer payable to the State of Utah. The last two payments or half of the $250,124.00 shall be deposited into the Environmental Mitigation Fund as per paragraph 10.c below. If the payments

are not timely made, or the SEP referenced in paragraph 10.b. below is not implemented on time, additional penalties at the rate of $1,000.00 a day shall accrue, and the State may enforce this Agreement through a civil action in the state district court.

b. Supplemental Environmental Project (SEP). USM proposed a SEP described in Attachment 2 to this Agreement, which will cost USM $204,560.00 to implement. The cost of the SEP is credited at 80% towards the remaining penalty amount of $163,648.00. USM shall begin procuring the necessary materials to implement the SEP immediately after the effective date of this Agreement and shall fully implement the SEP within seventeen (17) weeks of having all the necessary materials to begin construction. The implementation of the entire SEP shall not exceed thirty (30) weeks from the effective date of this Agreement. The Parties acknowledge that there may be circumstances when timely compliance with the SEP implementation deadlines would not be possible due to circumstances outside of USM's control. To address this, the following caveats shall apply to the SEP compliance deadlines:

i. USM shall execute the SEP promptly and make the necessary purchases and procurement of labor or services associated with the project timely. Unreasonable delays within USM's control shall be considered violations of the Agreement and trigger penalty payment provisions under paragraph 10.a.

ii. Some delays in complying with the SEP implementation deadlines in paragraph 10.b above may be outside of USM's control. Such delays may be caused by supply chain or other schedules outside of USM's control and shall not be considered violations of the Agreement triggering penalty payment provisions under paragraph 10.a.

iii. USM shall provide monthly updates to UDAQ (on the first day of each month) regarding the progress of the SEP implementation and any anticipated or current delays, including an explanation of whether such delays trigger penalty payment provisions under paragraph 10.a. These reports shall be sent to Harold Burge at hburge@utah.gov with a copy to Marina Thomas at marinathomas@agutah.gov.

c. Deposit into Environmental Mitigation Fund. USM elects to deposit half of the $250,124.00 into the Environmental Mitigation and Response Fund as authorized by Section 19-1-603(3) of the Utah Code (the "Fund Deposit"). The payments shall be made in accordance with paragraph 10.a. The Fund Deposit shall be fully used and is not returnable to USM. The Fund Deposit shall go towards environmental mitigation actions, environmental response actions, site closures, and cleanups under Section 19-1-604(2) of the Utah Code. The Fund Deposit may also be disbursed to other state agencies for similar activities under Section 19-1-604(4) of the Utah Code.

11. The Parties agree to file a stipulation and order to dismiss with prejudice the litigation in the Consolidated Case and the Administrative Case within thirty (30) days of the effective date of this Agreement.

12. None of the provisions of this Agreement shall be considered admissions by the State or USM and shall not be used by any third party related or unrelated to this Agreement for purposes other than determining the basis of this Agreement. This Agreement resolves all liability

and claims arising from or relating to the Consolidated Case, the Administrative Case, and all other claims listed in Attachment 1 as identified above in this Agreement.

13. The Parties forever release and waive the claims resolved and settled in this Agreement, which includes the claims identified in paragraphs 4-6 above and Attachment 1.

14. All notices, requests, demands, and other communications under this Agreement shall be in writing and shall be given by (i) an established express delivery service that maintains delivery records, (ii) hand delivery, (iii) certified or registered mail, postage prepaid, return receipt requested, or (iv) electronic mail, to the Parties at the following addresses, or at such other addresses as the Parties may designate by written notice in the following manner:

The State

Bryce C. Bird
Utah Division of Air Quality
P.O. Box 144870
Salt Lake City, UT 84114-4870
bbird@utah.gov

With a copy to:

Marina V. Thomas
P.O. Box 140873
Salt Lake City, UT 84114-0873
marinathomas@agutah.gov

USM

Ron Thayer
President
US Magnesium LLC
238 North 2200 West
Salt Lake City, UT 84116

With a copy to:

Michael Zody
Parsons Behle & Latimer

201 S. Main St., 1800
Salt Lake City, UT 84111
mzody@parsonsbehle.com

15. Successors and Assigns

All the rights and obligations of the Parties under this Agreement shall be binding on and inure to the benefit of their permitted successors.

16. Entire Agreement

This Agreement, which includes all recitals and terms, constitutes the entire agreement between the Parties related to the subject matter of this Agreement, and incorporates all prior correspondence, communications, or agreements between the Parties relating to the subject matter of this Agreement, and cannot be altered except in writing signed by all Parties.

17. Authority to Execute

Each person executing this Agreement individually and personally represents and warrants that he or she is duly authorized to execute and deliver the same on behalf of the entity for which he or she is signing, and that all corporate and/or legislative authority and approvals have been obtained, and that this Agreement is a binding obligation on the Parties.

18. Effective Date

This Agreement is effective on the date when the last party signs the Agreement.

This Agreement shall be executed as follows: counterparts.

[Signature Page to Follow]

Agreed:

_____ Date: _____

Bryce C. Bird
Director, Utah Division of Air Quality
For: UDAQ

Agreed:

_____ Date: _____

Kimberly D. Shelley
Executive Director, Utah Department of
Environmental Quality
For: UDEQ

Agreed:

Ron Thayer Date: 4/19/23

Ron Thayer
President
For: USM

PBL\4875-0405-7949.v1

Attachment 1

1	**Title V Permit Condition**	**Description of the Claimed Violation**	**Case**
2	Condition II.B.8.a.1	Failure to test Melt Reactor chlorine emissions annually in 2014 (testing was 108 days late)	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
3	Condition II.B.8.d.1	Failure to test Melt Reactor dioxin/furan emissions every 30 months by Sept. 20, 2014 (testing was 146 days late)	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
4	Condition I.K	Failure to certify monthly chlorine emission reports by responsible official prior to December 2014	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
5	Condition II.B.20.a.2	Failure to keep record of Fire Pump operating hours prior to November 2014	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
6	Condition I.S.2.a	Failure to report deviations from Title V Permit in 6-month monitoring report dated October 2, 2014 (failure to test Melt Reactor chlorine emissions; failure to test Melt Reactor dioxin/furan emissions; failure to certify monthly chlorine reports; failure to keep record of Fire Pump operating hours	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
7	Condition I.S.2.c	Failure to submit deviation reports for failure to test Melt Reactor chlorine emissions; failure to test Melt Reactor dioxin/furan emissions; failure to certify monthly chlorine reports; failure to keep record of Fire Pump Operating hours	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
8	Condition I.S.2.a	Failure to submit a Title V six-month monitoring report for the period covering October 1, 2014 through March 3, 2015	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
9	Condition II.B.3.c	Exceedance of the 05/06 Scrubber PM10 emission concentration limit of no greater than 0.016 grain/dscf during March 3, 2015 stack test	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
10	Condition II.B.8.b	Exceedance of the Melt Reactor HCl emission limit of no greater than 7.2 lb/hr during stack test on March 2, 2015	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
11	Condition II.B.9.c	Exceedance of the EOG Stack chlorine emissions limit of no greater than 26 lb/hr during the stack test on February 24-27, 2015	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)

12	Condition II.B.5.b	Exceedance of the Spray Dryer 03 TSP emission limit of no greater than 100 lb/hr during March 22, 2018 stack test	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
13	Condition II.B.8.b	Exceedance of the Melt Reactor HCl emission limits of no greater than 7.2 lb/hr during the stack test on March 21, 2018	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
14	Condition II.B.3.c.1(a)	Failure to test 05/06 Bin Stack Scrubber PM10 emissions every 30 months (late stack test - 52 days late)	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
15	Condition II.B.5.a.1(a)	Failure to test Spray Dryer 02 HCl emissions annually (late stack test - 1 day late)	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
16	Condition II.B.5.b.1(a)	Failure to test Spray Dryer 02 TSP emissions annually (late stack test - 1 day late)	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
17	Condition II.B.5.a.1(a)	Failure to test Spray Dryer 03 HCl emissions annually (late stack test - 1 day late)	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
18	Condition II.B.5.b.1(a)	Failure to test Spray Dryer 03 TSP emissions annually (late stack test - 1 day late)	Consolidated Case: *Utah v. U.S. Magnesium*, Civil No. 170301376 (3rd Dist. Ct.)
19	Condition II.B.3.b.1(a)	Failure to test 05/06 Bin Stack Scrubber HCl emissions annually (late stack test - 2 days late)	Administrative Case (Request for Agency Action) Challenging NOV DAQC-1230-21 (Nov. 16, 2021)
20	Condition II.B.5.a.1(a)	Failure to test Spray Dryer 01 & 02 HCl emissions annually (late stack test - 4 days late for SD 01 and 1 day late for SD 02)	Administrative Case (Request for Agency Action) Challenging NOV DAQC-1230-21 (Nov. 16, 2021)
21	Condition II.B.5.b.1(a)	Failure to test Spray Dryer 01 & 02 TSP emissions annually (4 days late for SD 01 and 1 day late for SD 02)	Administrative Case (Request for Agency Action) Challenging NOV DAQC-1230-21 (Nov. 16, 2021)
22	Condition II.B.8.b.1(a)	Failure to test Melt Reactor chlorine emissions annually (late stack test - 1 day late)	Administrative Case (Request for Agency Action) Challenging NOV DAQC-1230-21 (Nov. 16, 2021)
23	Condition I.S.2	Failure to report deviations in the Title V 6-month monitoring report dated May 17, 2021 (late stack tests for 05/06 Bin Stack scrubber HCl emission; Spray Dryer 01 & 02 HCl and TSP emissions, and Melt Reactor chlorine emissions)	Administrative Case (Request for Agency Action) Challenging NOV DAQC-1230-21 (Nov. 16, 2021)

24	Condition II.B.3.b.1(a)	Failure to test 05/06 Bin Stack Scrubber HCl emissions annually (late stack test - 8 days late)	Violations Documented, but no NOV
25	Condition II.B.5.a.1(a)	Failure to test Spray Dryer 01, 02, & 03 HCl emissions annually (late stack test - 7 days late for SD 01, 10 days late for SD 02, 11 days late for SD 03)	Violations Documented, but no NOV
26	Condition II.B.5.b.1(a)	Failure to test Spray Dryer 01, 02, & 03 TSP emissions annually (7 days late for SD 01, 10 day late for SD 02, 11 day late for SD 03)	Violations Documented, but no NOV
27	Condition II.B.8.b.1(a)	Failure to test Melt Reactor chlorine emissions annually (late stack test - 11 days late)	Violations Documented, but no NOV
28	Condition I.S.2.a	Failure to report deviations from Title V Permit in 6-month monitoring report dated June 28, 2022 (failure to test timely for violations in rows 24 through 27)	Violations Documented, but no NOV
29	Condition I.S.2.c	Failure to submit deviation reports for violations in rows 24 through 27)	Violations Documented, but no NOV
30	Condition I.L.1.c	Failure to identify deviations in the Title V Annual Compliance Certification dated September 30, 2021 for failure conduct the following stack tests within one year (365 days): 05/06 Bin Cl emissions, SD 01 & 02 HCl and TSP emissions, Melt Reactor Cl2 emissions	Violations Documented, but no NOV
31	Condition I.L.1.c	Failure to identify deviations in the Title V Annual Compliance Certification dated September 28, 2022 for failure to conduct the following stack tests within one year (365 days): 05/06 Bin HCl emissions, SD 01, 02 & 03 HCl emissions, SD 01 TSP emissions, Melt Reactor Cl2 emissions	Violations Documented, but no NOV

Attachment 2

Supplementary Environmental Project at US Magnesium

In 1990 US Magnesium installed the Chlorine Reduction Burner (CRB) to capture/control chlorine emissions from the Melt-Reactor process.

US Magnesium has a second piece of chlorine control equipment, the chlorine bypass scrubber (CBS), that is used to control emissions when the chlorine liquefaction unit is off line or unavailable. This scrubber utilizes ferrous chloride solutions to capture chlorine emissions (producing ferric chloride solutions.) The CBS is routinely operating (circulating scrubber liquor) in the absence of feed gas in order to be readily available when the need arises. Its actual operational need is not frequent, so there is excess scrubbing capacity available at this unit.

The CRB and the CBS are located reasonably proximate to each other. It is suggested that a piece of ducting and control dampers could be installed along with other necessary equipment could be used to make a connection between the two chlorine scrubbers. This would allow the CBS to capture some of the emissions that result during incidents of CRB downtime thus reducing chlorine emissions events.

Estimated cost = ~ $204k (See attached estimates)
Chlorine emission reductions = Based on the average scheduled maintenance emissions of chlorine from July 2013 through July 2022, of 996 TPY, this project should reduce chlorine emissions for these events by about 85% or 850 TPY,

Considerations:

1. Availability would be restricted to times the CBS is not engaged in handling chlorine plant downtime/electrolytic bypass i.e. US Magnesium won't be able to direct all CRB downtime emission to the CBS.
2. Measurements of chlorine transfers would have to be dealt with in a new chlorine material balance (replacing the old one) that is the basis to determine chlorine emissions.

USmag™

Capitol Cost Estimate Summary Sheet

Project : **CBS-HES Duct Tie-in**

Date: 4/20/2023
Rev.: 0
By: Jeff Mensinger

(Costs are expressed in thousands)

Description	Equipment	Labor	Material	Other		Totals	% of cost
Construction Equipment	$ 23.60	$ 7.60	$ -			$ 31.20	17%
Piping	$ -	$ 36.10	$ 111.81			$ 147.91	80%
Concrete	$ -	$ -	$ -			$ -	0%
Steel	$ -	$ -	$ -			$ -	0%
Electrical	$ -	$ 5.31	$ 1.55			$ 6.86	4%
Instrumentation	$ -	$ -	$ -			$ -	0%
Mobilization	$ -	$ -	$ -			$ -	0%
				Subtotal		$ 185.96	
				Contingency	10%	$ 18.60	
Permitting				$ -		$ -	
Outside Engineering			0%	$ -		$ -	
	$ 23.60	$ 49.01	$ 113.35	$ -		$ 204.56	

CBS-HES Tie-in 4/20/2023 Rev. 0
Plant Labor

$95.00 /hr labor

Description	Quantity	Unit	Equipment/unit	Equipment total	Total Hours	Labor Hours/unit	Labor/unit	Labor total	Material/unit	Material total	Total
Construction Equipment											
		month		$0			$0	$0		$0	$0
		weeks		$0	0		$0	$0		$0	$0
		week		$0	0		$0	$0		$0	$0
		week		$0	0		$0	$0		$0	$0
		days		$0	0		$0	$0		$0	$0
		each		$0			$0	$0		$0	$0
Rental crane	**80**	hr	**$295.00**	$23,600	80	**1.0**	$95	$7,600		$0	$31,200
Construction Equipment Subtotal				$23,600	-			$7,600		$0	$31,200
Piping											
Duct - 24" Joints (107'-6" TL)	**14**	each		$0	112	**8.0**	$760	$10,640	**$1,770.00**	$24,780	$35,420
Fittings - tees	**1**	each		$0	16	**16.0**	$1,520	$1,520	**$3,540.00**	$3,540	$5,060
Fittings - elbow 90	**3**	each		$0	48	**16.0**	$1,520	$4,560	**$2,655.00**	$7,965	$12,525
Fittings - elbow 45	**2**	each		$0	16	**8.0**	$760	$1,520	**$2,360.00**	$4,720	$6,240
Fittings - Saddle	**1**	each		$0	24	**24.0**	$2,280	$2,280	**$1,770.00**	$1,770	$4,050
Fittings - Reducer 26x24	**1**	each		$0	12	**12.0**	$1,140	$1,140	**$2,655.00**	$2,655	$3,795
Valves - BFV w/ Act	**2**	each		$0	48	**24.0**	$2,280	$4,560	**$29,500.00**	$59,000	$63,560
Pipe hangers	**1**	each		$0	8	**8.0**	$760	$760	**$295.00**	$295	$1,055
Pipe supports	**6**	each		$0	96	**16.0**	$1,520	$9,120	**$1,180.00**	$7,080	$16,200
Piping Subtotal				$0	380			$36,100		$111,805	$147,905
Electrical											
Twist Pair to Cl2 burner JB	**1**	each		$0	12	**12.0**	$996	$996	**$354.00**	$354	$1,350
Twist Pair to Rx 2nd Floor JB	**1**	each		$0	12	**12.0**	$996	$996	**$177.00**	$177	$1,173
8x8 J-box	**2**	each		$0	16	**8.0**	$664	$1,328	**$177.00**	$354	$1,682
PVC pipe	**1**	each		$0	12	**12.0**	$996	$996	**$71.00**	$71	$1,067
Misc	**1**	each		$0	12	**12.0**	$996	$996	**$590.00**	$590	$1,586
		ft		$0	0	**0.3**	$25	$0	**$30.00**	$0	$0
		lot		$0	0	**14.3**	$1,186	$0	**$1,180.00**	$0	$0
		lot		$0	0	**14.3**	$1,186	$0	**$1,180.00**	$0	$0
		lot		$0	0	**20.0**	$1,660	$0	**$1,180.00**	$0	$0
Electrical Subtotal				$0	64			$5,312		$1,546	$6,858

444 hrs

ITEM 7

Ozone Transport Federal Implementation Plan Update

EPA Good Neighbor Plan

Ozone Transport Federal Implementation Plan

Becky Close, UDAQ Policy Section Manager

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
AIR QUALITY

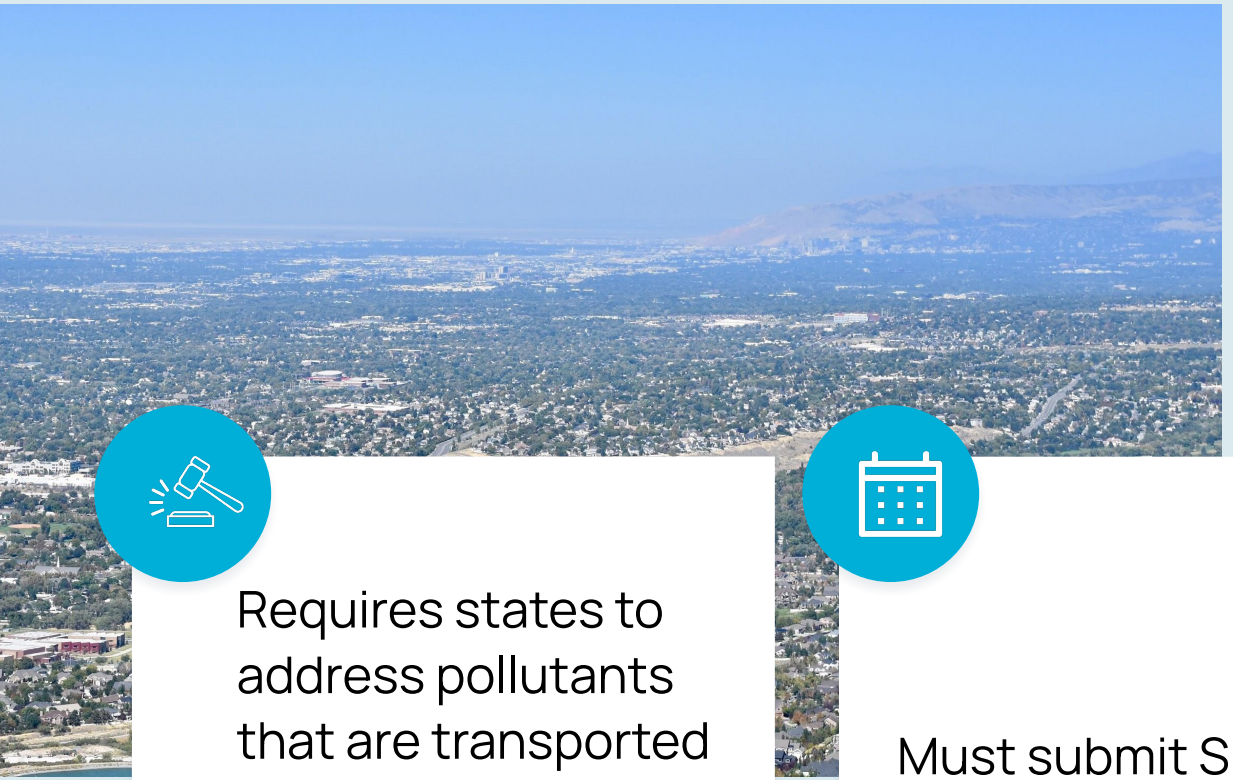
Clean Air Act Sections

181 - 193
Nonattainment Requirements

110 - State Implementation Plans
Infrastructure

110(a)(2)(D)(i)(I)
Good Neighbor Provision

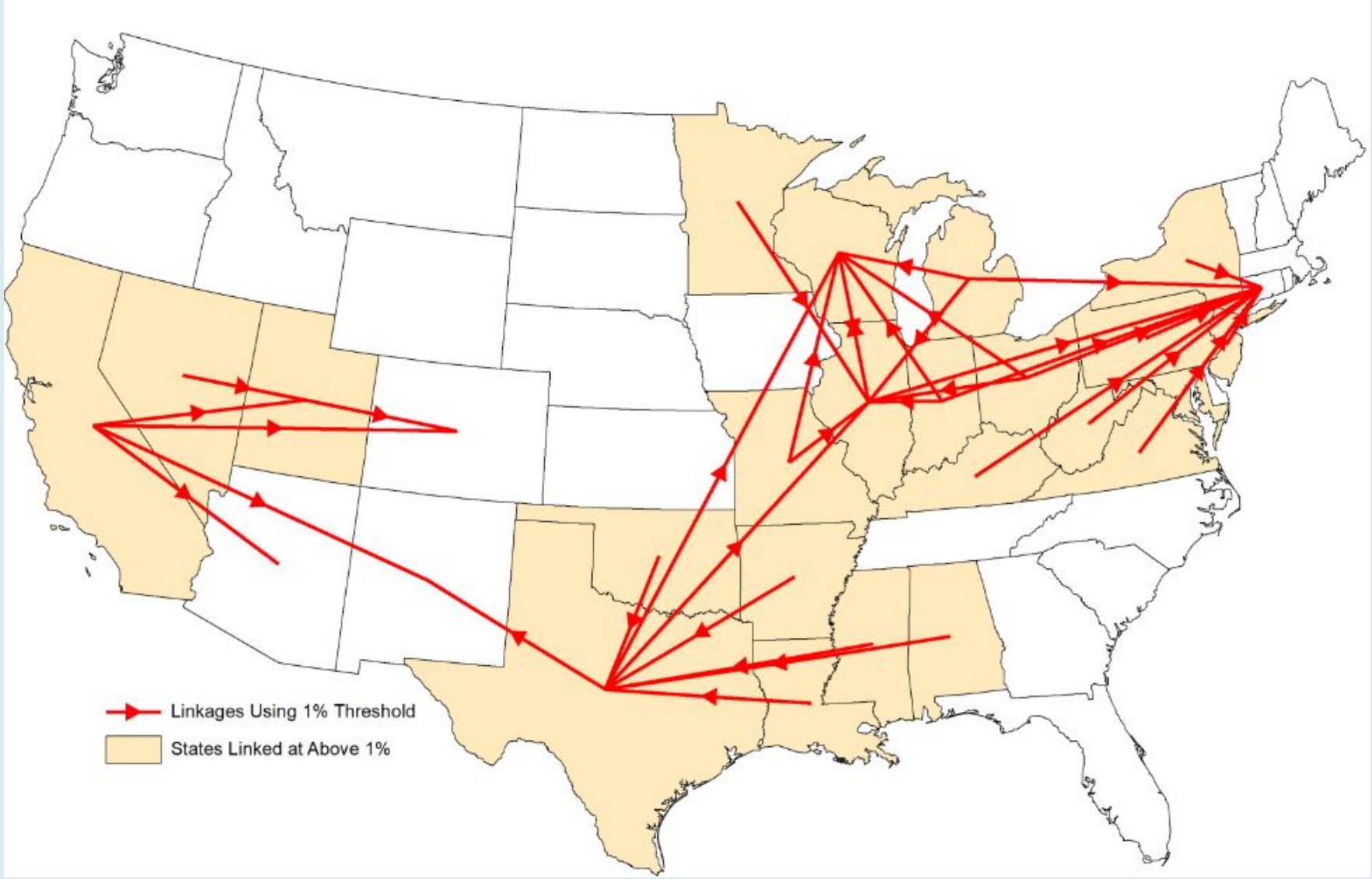
Good Neighbor Provision



Requires states to address pollutants that are transported across state lines and impact neighboring states' ability to attain or maintain a NAAQS

Must submit SIP within 3 years of new NAAQS promulgation

EPA shall promulgate a FIP within 2 years of a SIP disapproval



Why is UT included in the FIP?

4-Step Interstate Transport Framework

1

Identify monitoring (receptor) sites that are projected to have problems attaining and/or maintaining the NAAQS.

2

Determine which upwind states are “linked” to these identified downwind receptors based on a numerical contribution.

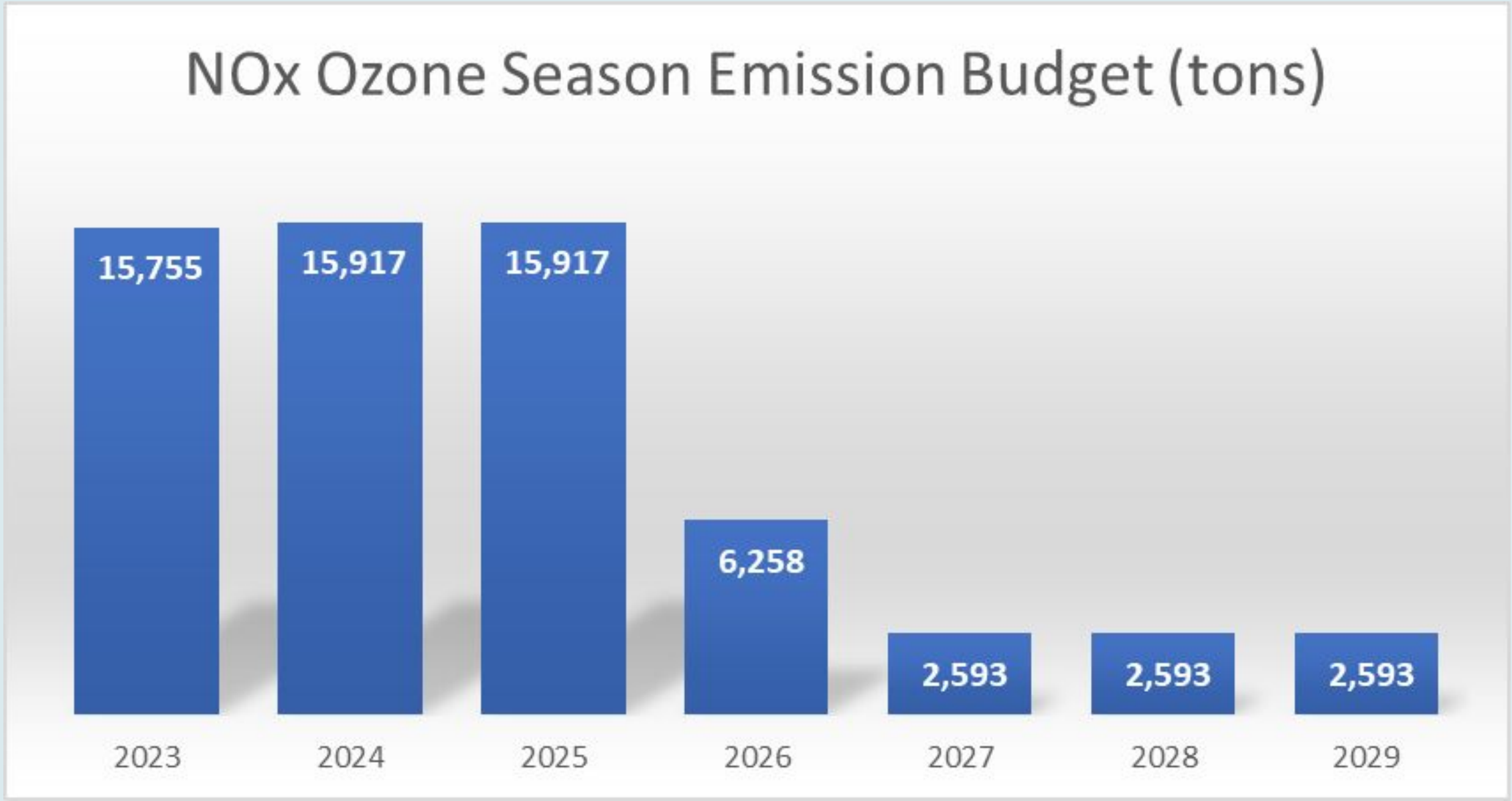
3

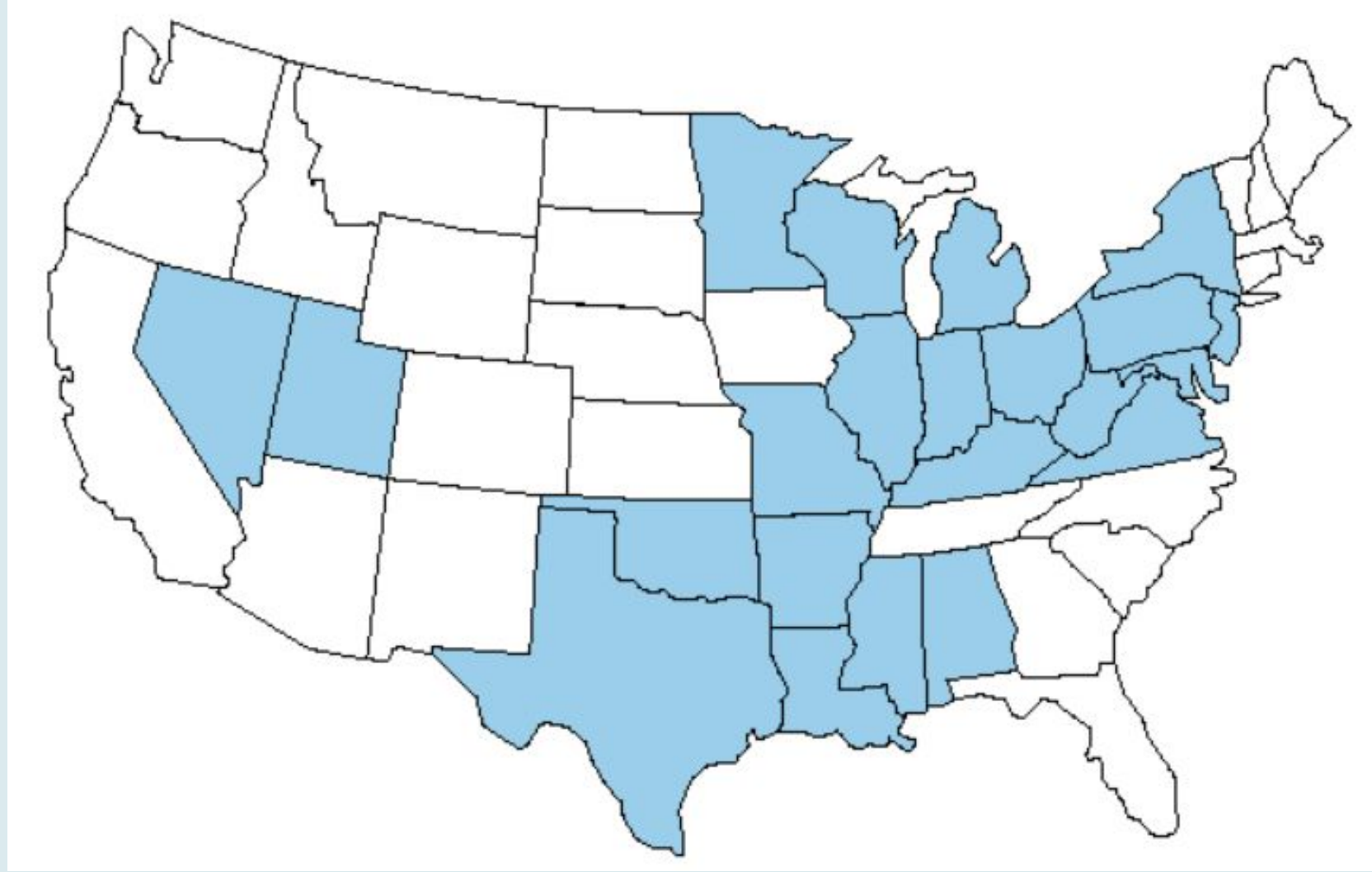
Identify upwind emissions on a statewide basis that significantly contribute to downwind nonattainment or maintenance, considering cost- and air quality-based factors.

4

Implement the necessary emissions reductions through enforceable measures.

Utah's Fossil-Fuel Fired Power Plants





Cross State Air Pollution Rule

CSAPR Group 3 Trading States

Non-EGU Impacted Sources

Specific industries with specific equipment

Questar pipeline Kastler Maruschack compressor station
Daggett County

Kern River Gas Veyo compressor station
Washington County

Northwest Pipeline Moab compressor Station
San Juan County

EnerVest Wapiti Operating Dry Canyon compressor station
Carbon County

Ashgrove Cement Company Leamington Cement Plant
Millard County

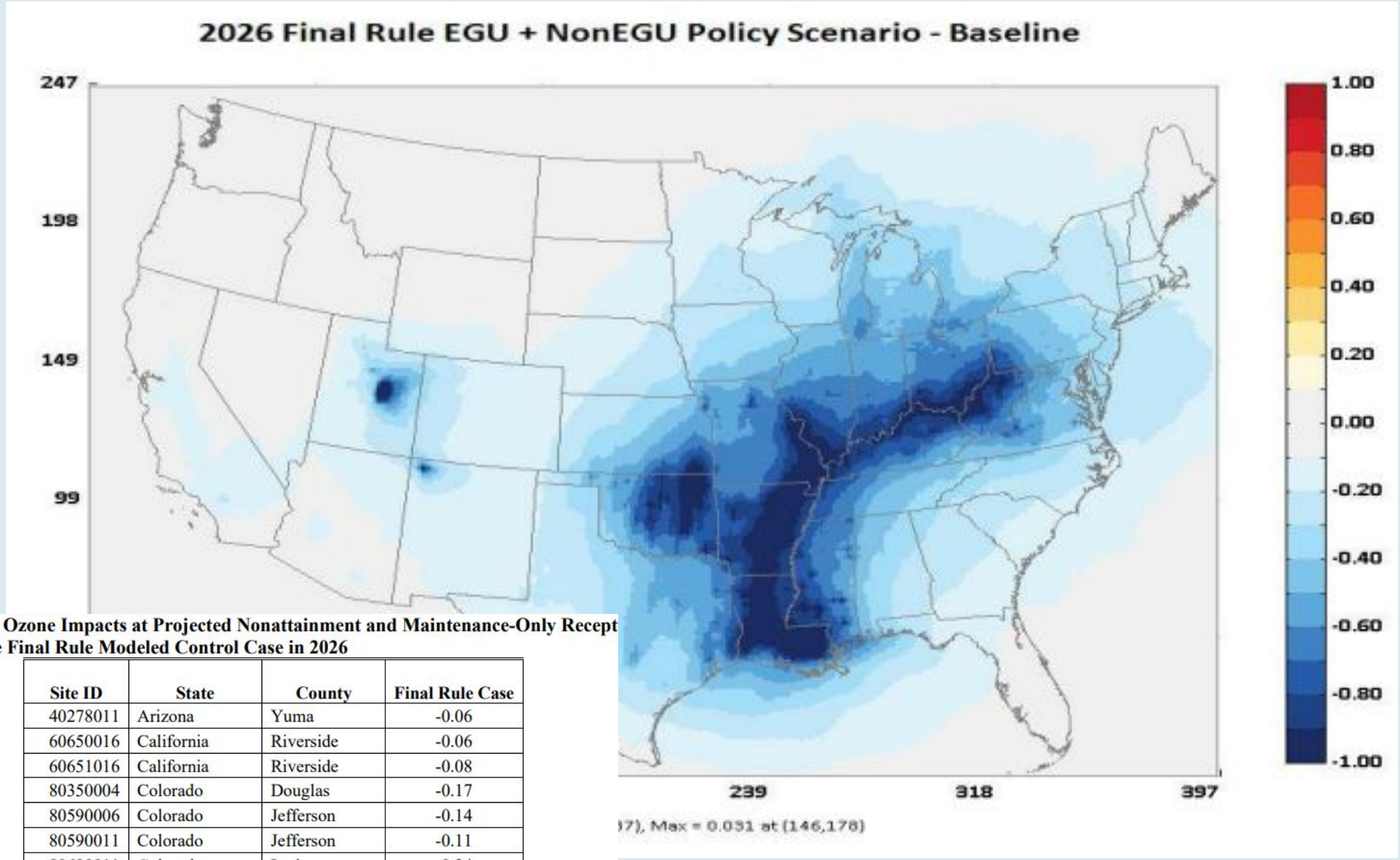


Table 3A-1. Ozone Impacts at Projected Nonattainment and Maintenance-Only Recept (ppb) for the Final Rule Modeled Control Case in 2026

Site ID	State	County	Final Rule Case
40278011	Arizona	Yuma	-0.06
60650016	California	Riverside	-0.06
60651016	California	Riverside	-0.08
80350004	Colorado	Douglas	-0.17
80590006	Colorado	Jefferson	-0.14
80590011	Colorado	Jefferson	-0.11
80690011	Colorado	Larimer	-0.24
90010017	Connecticut	Fairfield	-0.38

UDAQ & AQ Board Roles

UDAQ

Permitting

Potential SIP

AQ Board

If UDAQ decides to submit a SIP within 2 years.

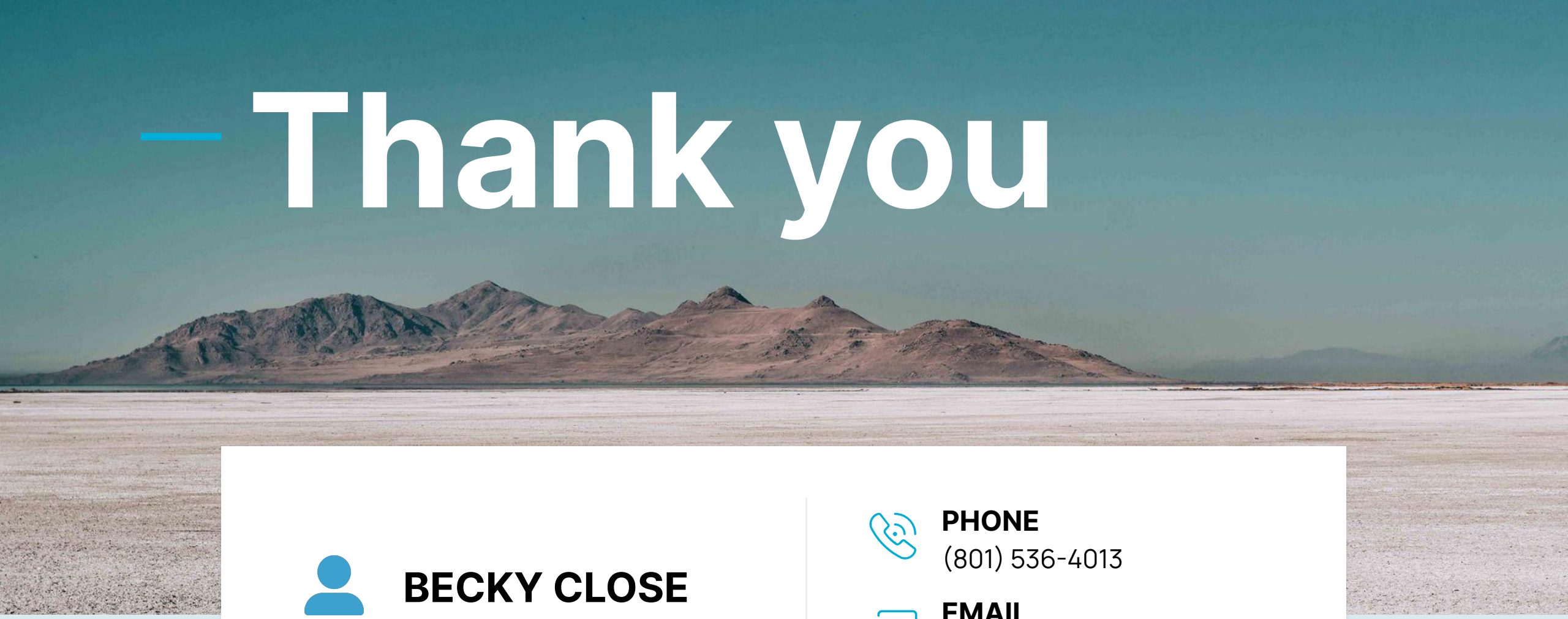
Current SIP Litigation

Utah vs. EPA (10th Circuit)

- Disapproval of SIP arbitrary and capricious
- Rejection of WOE in SIP
- EPA relied on new modeling and data for disapproval that UT didn't review

Petition for Review of the SIP Disapproval

Motion for Stay in the 10th Circuit



Thank you

BECKY CLOSE

PHONE
(801) 536-4013

EMAIL
bclose@utah.gov

Air Toxics

State of Utah
SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQA-180-23

M E M O R A N D U M

TO: Air Quality Board

FROM: Bryce C. Bird, Executive Secretary

DATE: April 4, 2023

SUBJECT: Air Toxics, Lead-Based Paint, and Asbestos (ATLAS) Section Compliance Activities – March 2023

Asbestos Demolition/Renovation NESHAP Inspections	17
Asbestos AHERA Inspections	16
Asbestos State Rules Only Inspections	0
Asbestos Notification Forms Accepted	158
Asbestos Telephone Calls	312
Asbestos Individuals Certifications Approved	138
Asbestos Company Certifications/Recertifications	5/12
Asbestos Alternate Work Practices Approved	1
Lead-Based Paint (LBP) Inspections	2
LBP Notification Forms Approved	2
LBP Telephone Calls	89
LBP Letters Prepared and Mailed	18
LBP Courses Reviewed/Approved	0
LBP Course Audits	0
LBP Individual Certifications Approved	35

LBP Firm Certifications	24
Notices of Violation Sent	0
Compliance Advisories Sent	2
Warning Letters Sent	2
Settlement Agreements Finalized	2

Penalties Agreed to:

Duchesne County School District/ Michael Weldon	$1,518.75
Reynolds Excavation, Demolition and Utilities/Sherry McMillan	$2,250.00
Next Level Homes, LLC/ John D Thomas	$1,250.00
Westland Construction, Inc./ Todd Houghton	$1,500.00
Total	$6,518.75

Compliance

State of Utah
SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQC-387-23

M E M O R A N D U M

TO: Air Quality Board

FROM: Bryce C. Bird, Executive Secretary

DATE: April 11, 2023

SUBJECT: Compliance Activities – March 2023

ACTIVITIES:

Activity	Monthly Total	36-Month Average
Inspections	55	54
On-Site Stack Test & CEM Audits	2	3
Stack Test & RATA Report Reviews	36	35
Emission Report Reviews	14	15
Temporary Relocation Request Reviews	7	6
Fugitive Dust Control Plan Reviews	147	128
Soil Remediation Report Reviews	0	2
Open Burn Permits Issued	192	215
Miscellaneous Inspections[1]	8	19
Complaints Received	4	15
Wood Burning Complaints Received	0	1
Breakdown Reports Received	0	1
Compliance Actions Resulting from a Breakdown	0	0
VOC Inspections	0	0
Warning Letters Issued	2	2
Notices of Violation Issued	1	0
Compliance Advisories Issued	7	4
No Further Action Letters Issued	0	2
Settlement Agreements Reached	5	2
Penalties Assessed	$6,044.00	$119,254.46

[1]Miscellaneous inspections include, e.g., surveillance, complaint, on-site training, dust patrol, smoke patrol, open burning, etc.

SETTLEMENT AGREEMENTS:

Party	Amount
Christensen Arms	$359.00
Quinex Energy Corp.	$2,480.00
Wesco Operating Inc. (2)	$2,317.00
Weir Minerals	$888.00

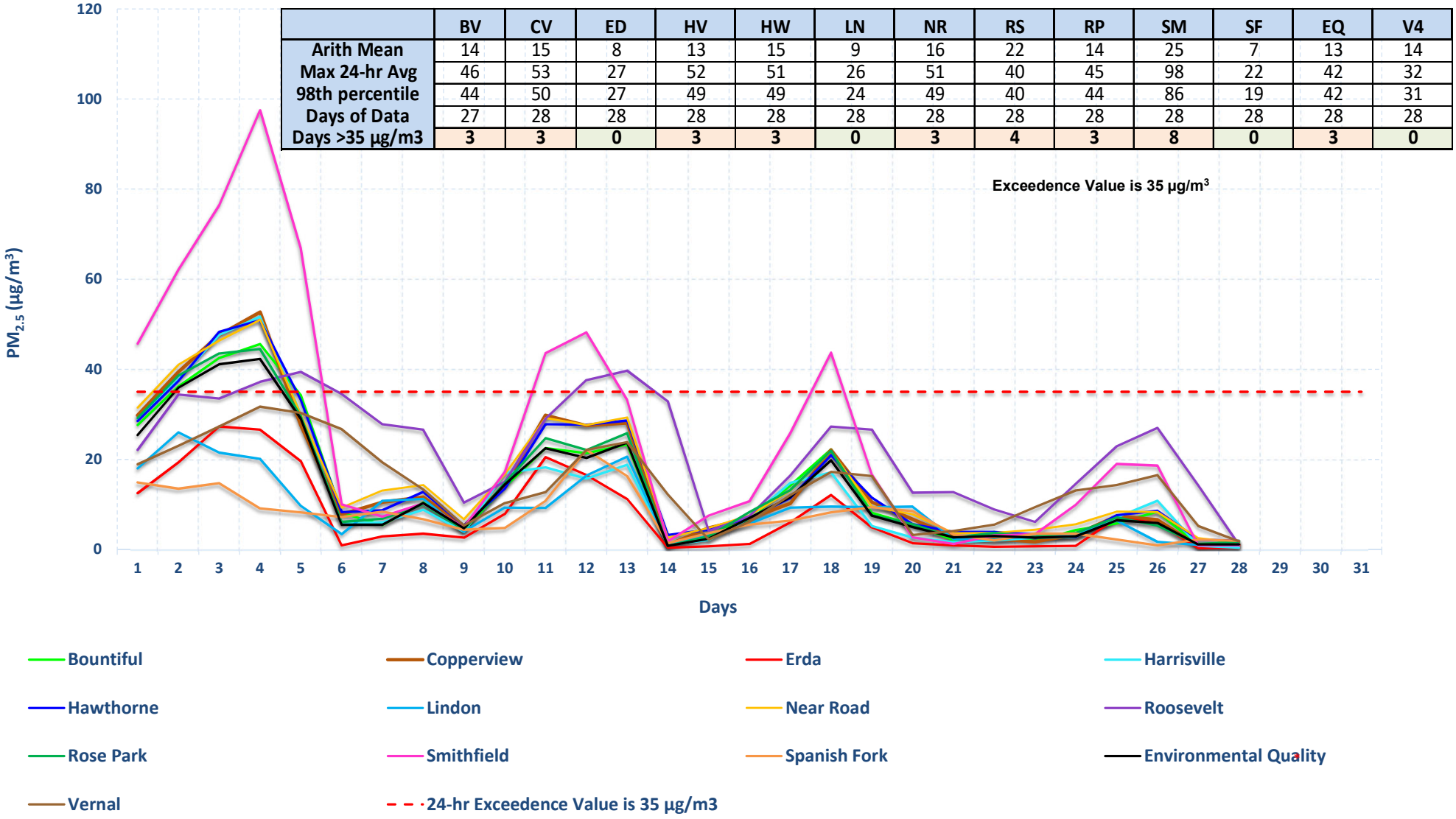
UNRESOLVED NOTICES OF VIOLATION:

Party	Date Issued
US Magnesium (in litigation)	08/27/2015
US Magnesium (in litigation)	03/02/2018
Citation Oil and Gas (in administrative litigation)	01/15/2020
Ovintiv Production Inc.	07/14/2020
Uinta Wax Operating (formerly CH4 Finley)	07/24/2020
US Magnesium (in administrative litigation)	11/16/2021
Finley Resources	09/15/2022
Paradox Midstream	11/03/2022
Interstate Brick	03/23/2023

Air Monitoring

Utah 24-Hr $PM_{2.5}$ Data February 2023

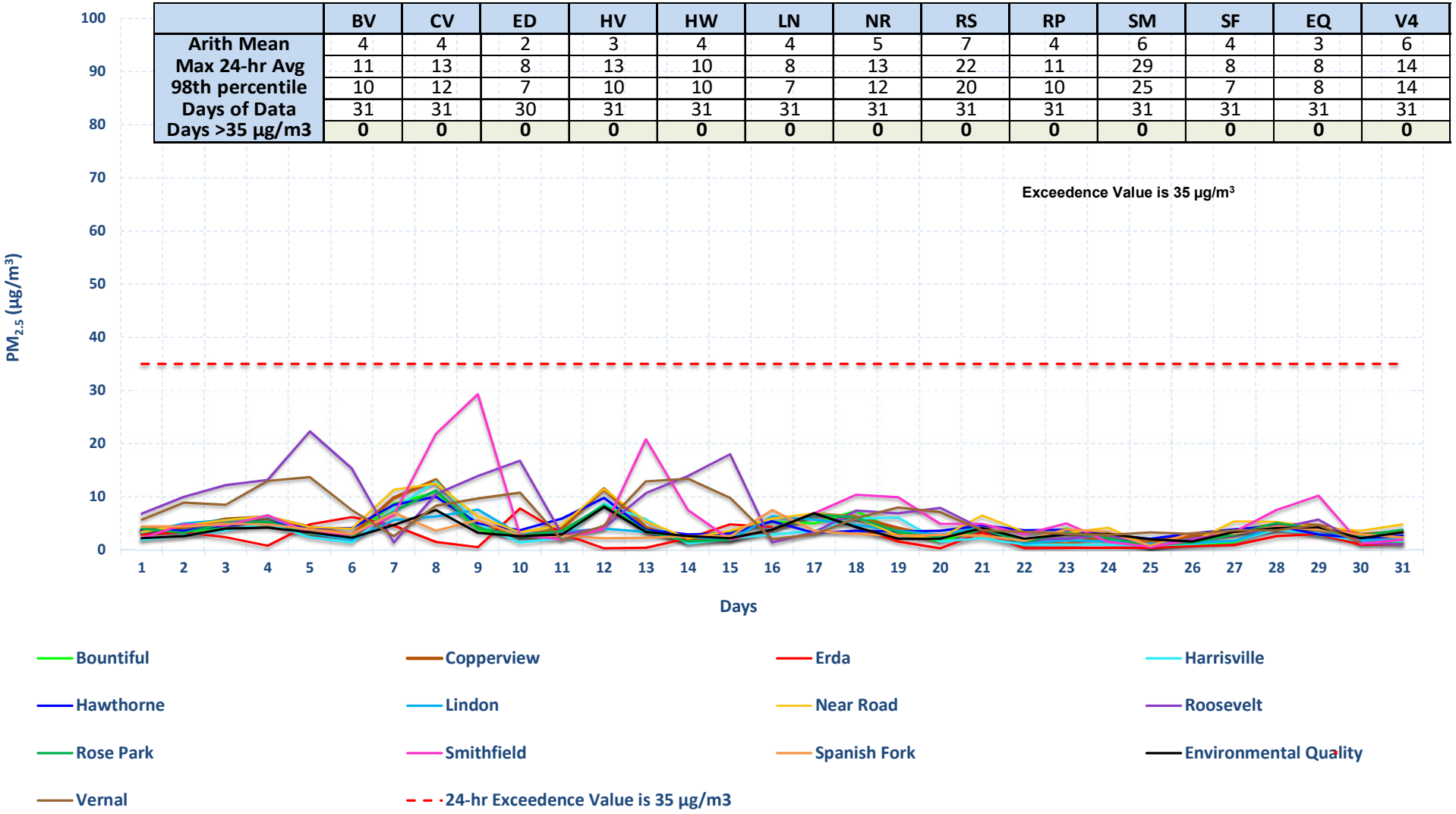
	BV	CV	ED	HV	HW	LN	NR	RS	RP	SM	SF	EQ	V4
Arith Mean	14	15	8	13	15	9	16	22	14	25	7	13	14
Max 24-hr Avg	46	53	27	52	51	26	51	40	45	98	22	42	32
98th percentile	44	50	27	49	49	24	49	40	44	86	19	42	31
Days of Data	27	28	28	28	28	28	28	28	28	28	28	28	28
Days >35 µg/m3	3	3	0	3	3	0	3	4	3	8	0	3	0



* Environmental Quality (**EQ**) previously named Technical Support Center (**TSC**)

Utah 24-Hr $PM_{2.5}$ Data March 2023

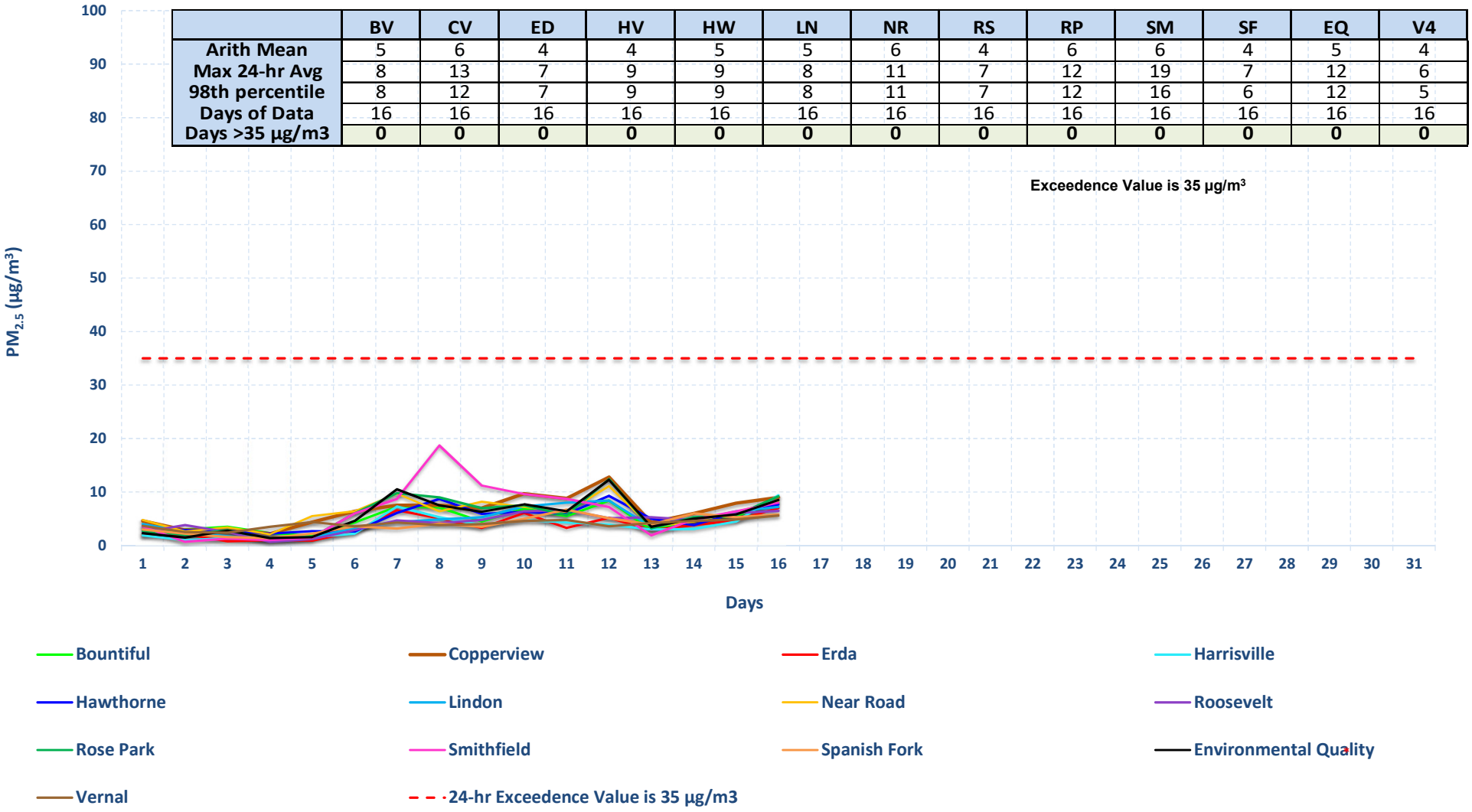
	BV	CV	ED	HV	HW	LN	NR	RS	RP	SM	SF	EQ	V4
Arith Mean	4	4	2	3	4	4	5	7	4	6	4	3	6
Max 24-hr Avg	11	13	8	13	10	8	13	22	11	29	8	8	14
98th percentile	10	12	7	10	10	7	12	20	10	25	7	8	14
Days of Data	31	31	30	31	31	31	31	31	31	31	31	31	31
Days >35 µg/m3	0	0	0	0	0	0	0	0	0	0	0	0	0



* Environmental Quality (**EQ**) previously named Technical Support Center (**TSC**)

Utah 24-Hr $PM_{2.5}$ Data April 2023

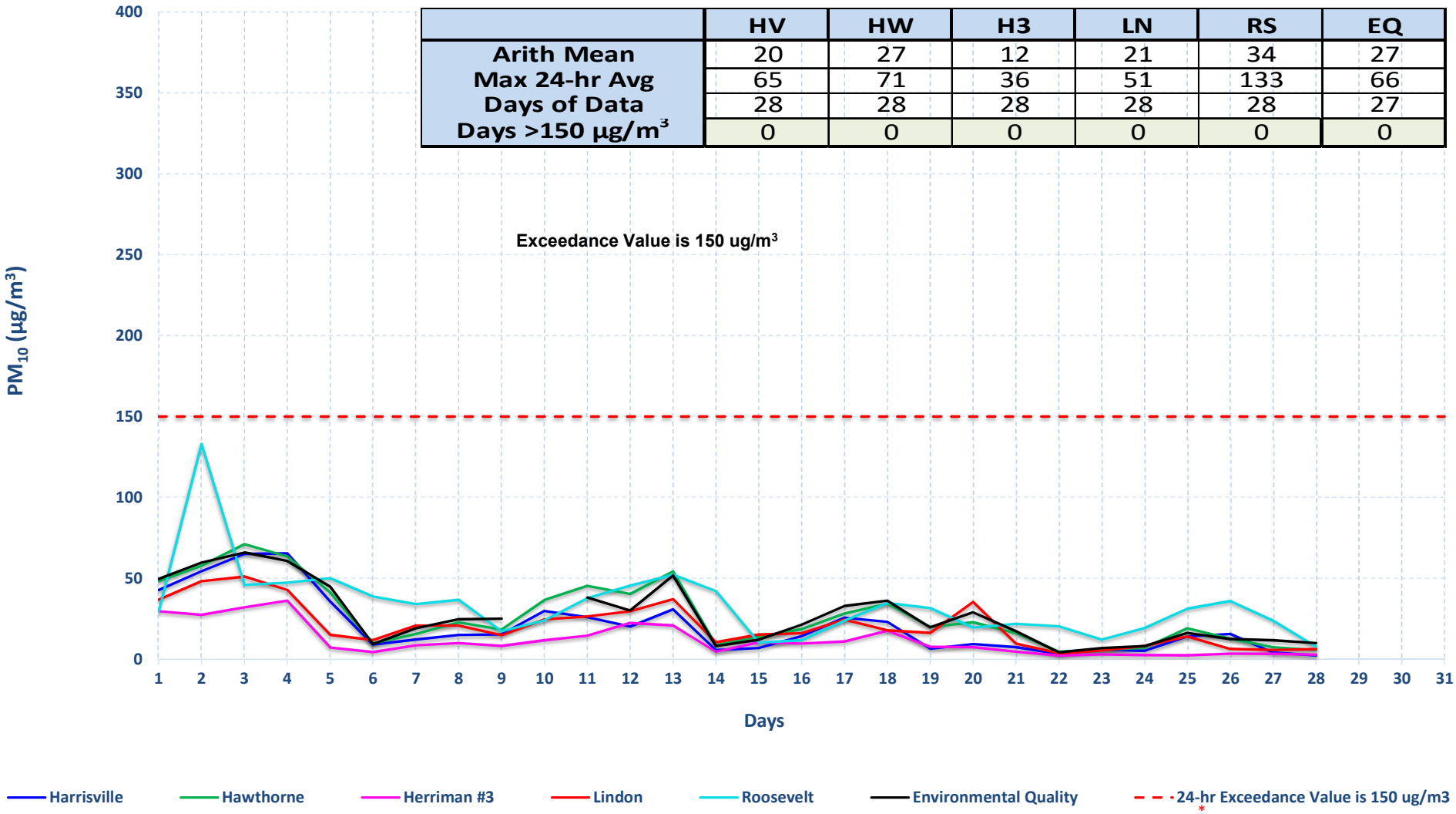
	BV	CV	ED	HV	HW	LN	NR	RS	RP	SM	SF	EQ	V4
Arith Mean	5	6	4	4	5	5	6	4	6	6	4	5	4
Max 24-hr Avg	8	13	7	9	9	8	11	7	12	19	7	12	6
98th percentile	8	12	7	9	9	8	11	7	12	16	6	12	5
Days of Data	16	16	16	16	16	16	16	16	16	16	16	16	16
Days >35 µg/m3	0	0	0	0	0	0	0	0	0	0	0	0	0



* Environmental Quality (**EQ**) previously named Technical Support Center (**TSC**)

Utah 24-hr PM_{10} Data February 2023

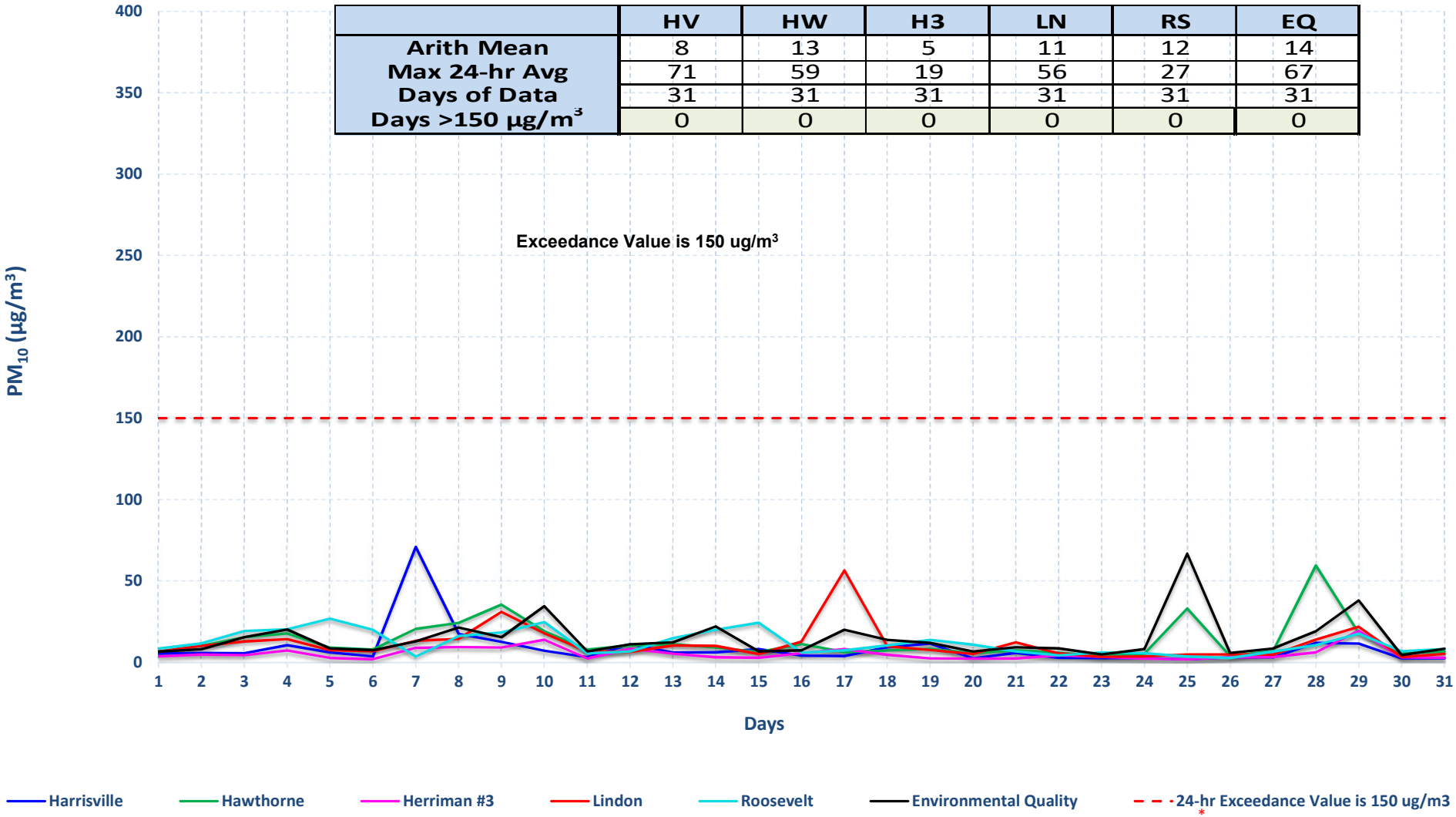
	HV	HW	H3	LN	RS	EQ
Arith Mean	20	27	12	21	34	27
Max 24-hr Avg	65	71	36	51	133	66
Days of Data	28	28	28	28	28	27
Days >150 µg/m³	0	0	0	0	0	0



* Environmental Quality (**EQ**) previously named Technical Support Center (**TSC**)

Utah 24-hr PM_{10} Data March 2023

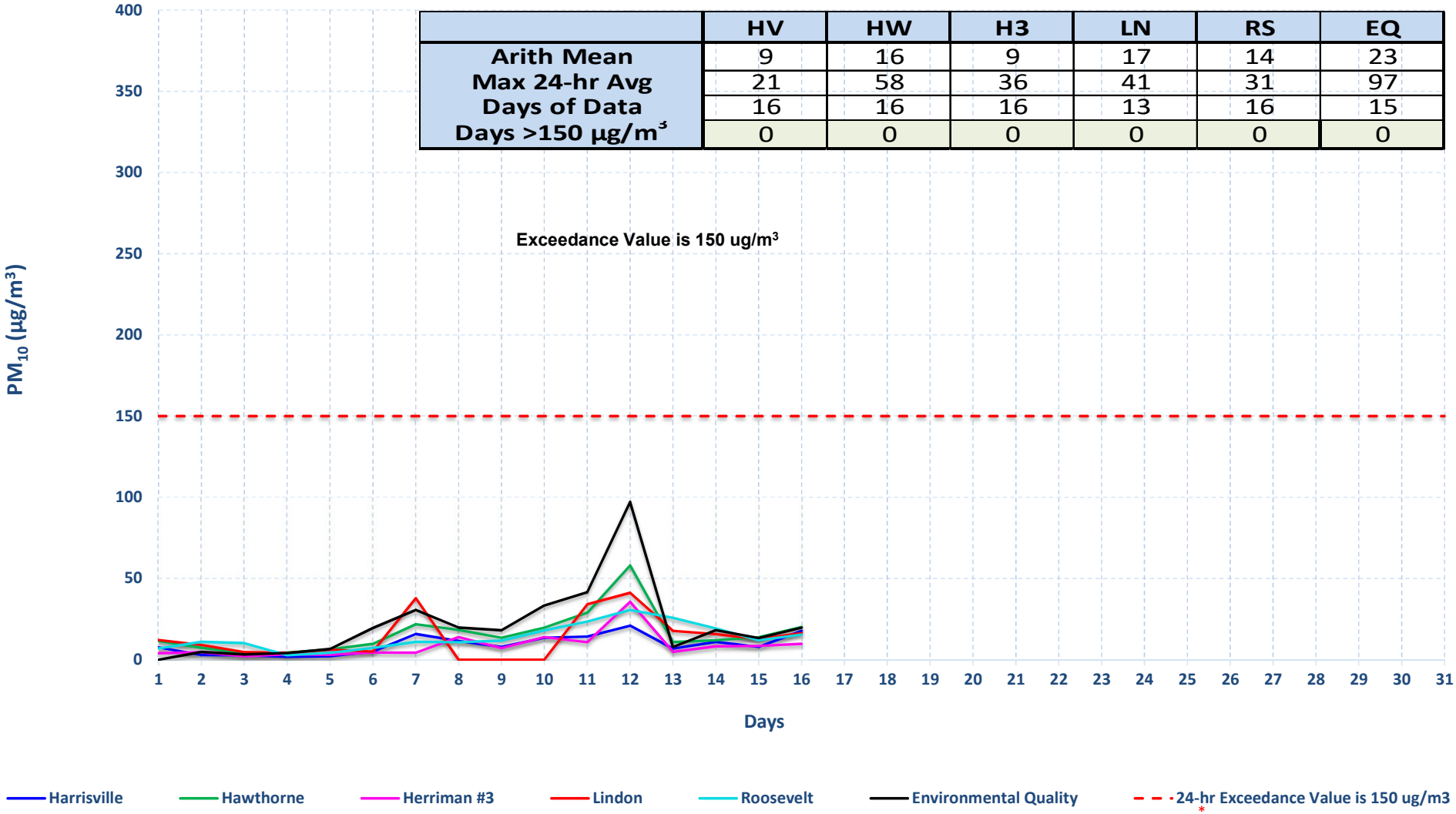
	HV	HW	H3	LN	RS	EQ
Arith Mean	8	13	5	11	12	14
Max 24-hr Avg	71	59	19	56	27	67
Days of Data	31	31	31	31	31	31
Days >150 µg/m³	0	0	0	0	0	0



* Environmental Quality (**EQ**) previously named Technical Support Center (**TSC**)

Utah 24-hr PM_{10} Data April 2023

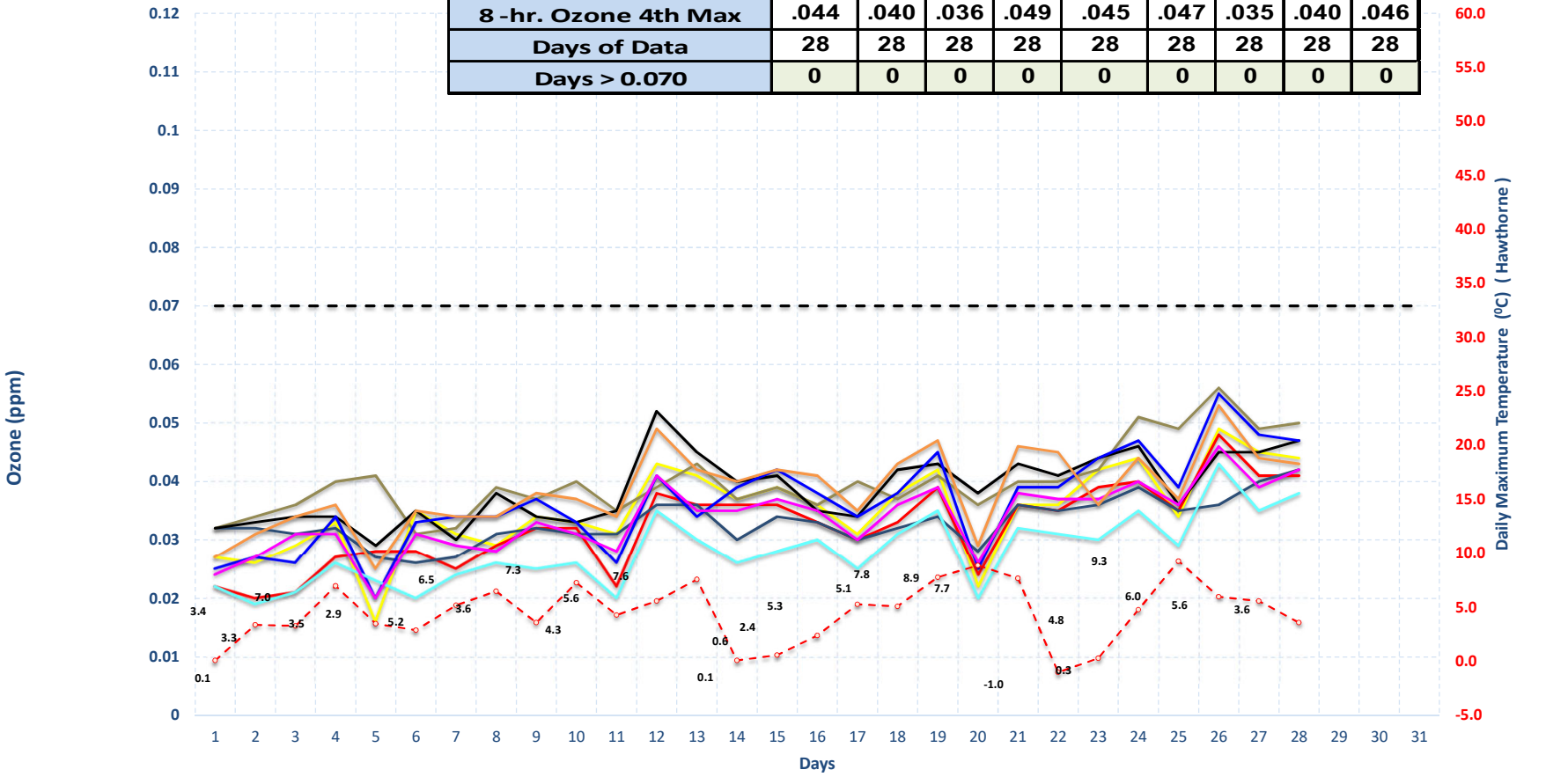
	HV	HW	H3	LN	RS	EQ
Arith Mean	9	16	9	17	14	23
Max 24-hr Avg	21	58	36	41	31	97
Days of Data	16	16	16	13	16	15
Days >150 µg/m³	0	0	0	0	0	0



* Environmental Quality (**EQ**) previously named Technical Support Center (**TSC**)

Highest 8-hr Ozone Concentration & Daily Maximum Temperature February 2023

	BV	CV	ED	H3	HV	HW	NR	RP	EQ
Arith Mean	.035	.032	.033	.040	.039	.037	.028	.034	.039
8 -hr. Ozone 4th Max	.044	.040	.036	.049	.045	.047	.035	.040	.046
Days of Data	28	28	28	28	28	28	28	28	28
Days > 0.070	0	0	0	0	0	0	0	0	0

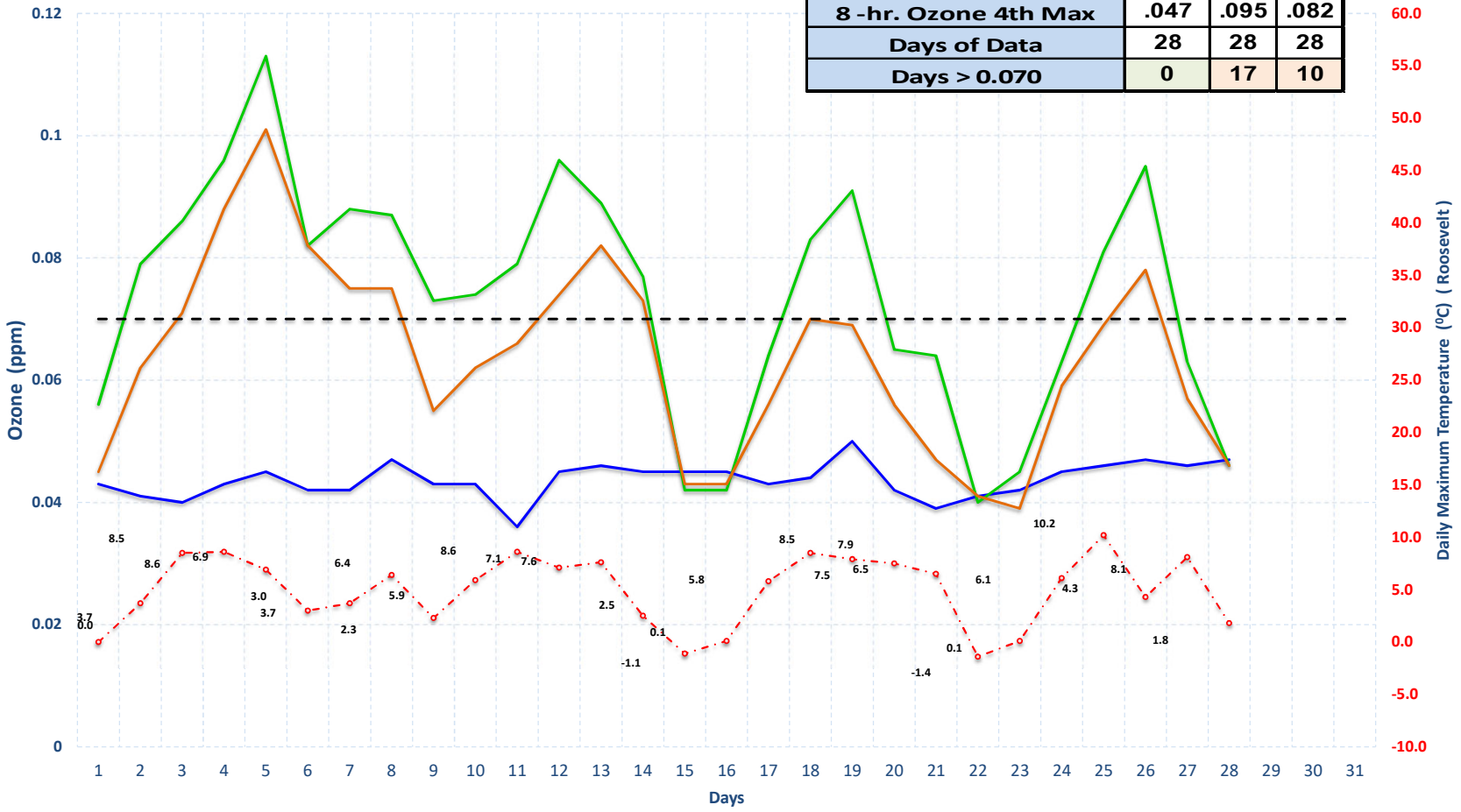


* Environmental Quality (**EQ**) previously named Technical Support Center (**TSC**)

** Controlling Monitor

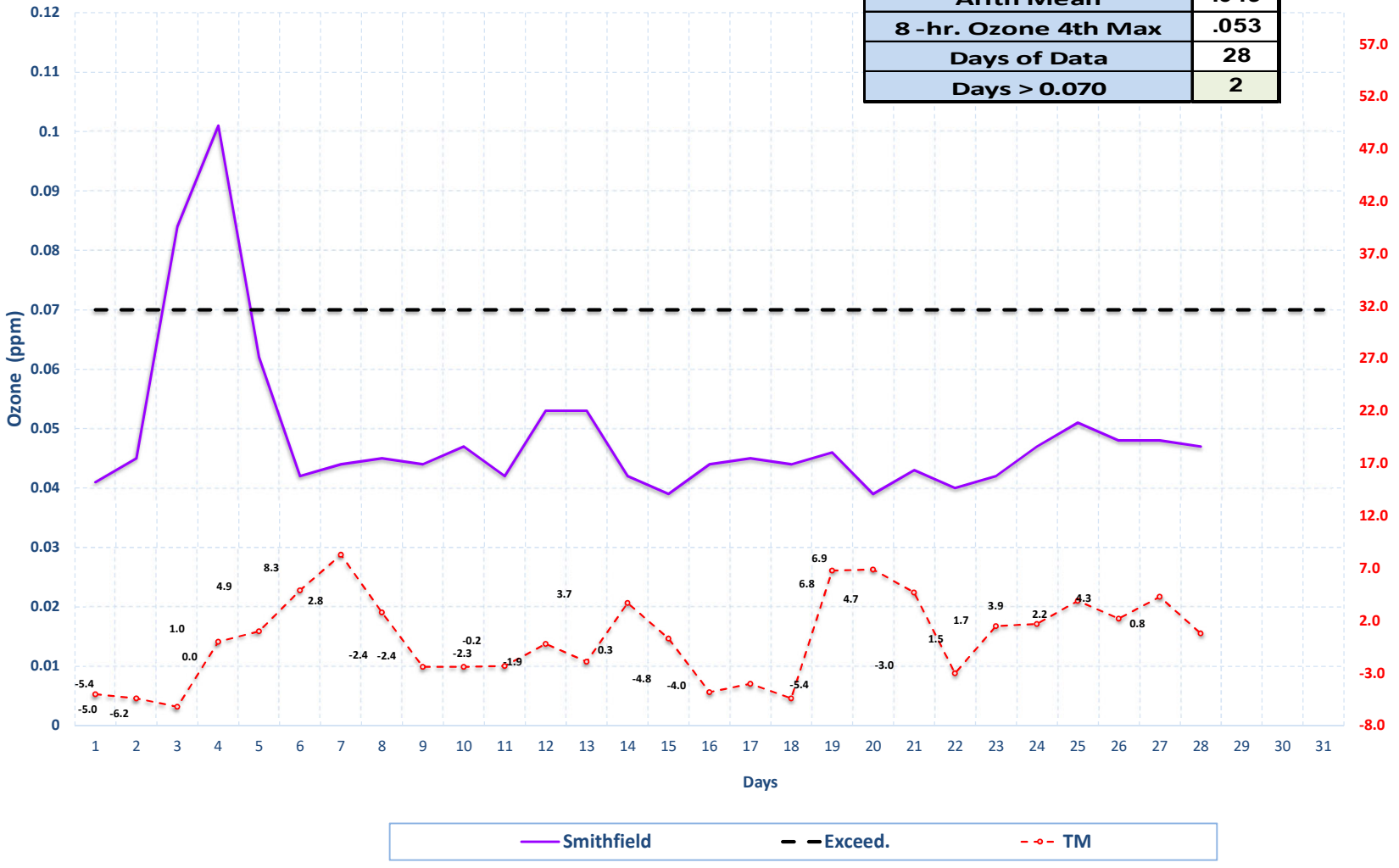
Highest 8-hr Ozone Concentration & Daily Maximum Temperature February 2023

	P2	RS	V4
Arith Mean	.044	.074	.064
8 -hr. Ozone 4th Max	.047	.095	.082
Days of Data	28	28	28
Days > 0.070	0	17	10



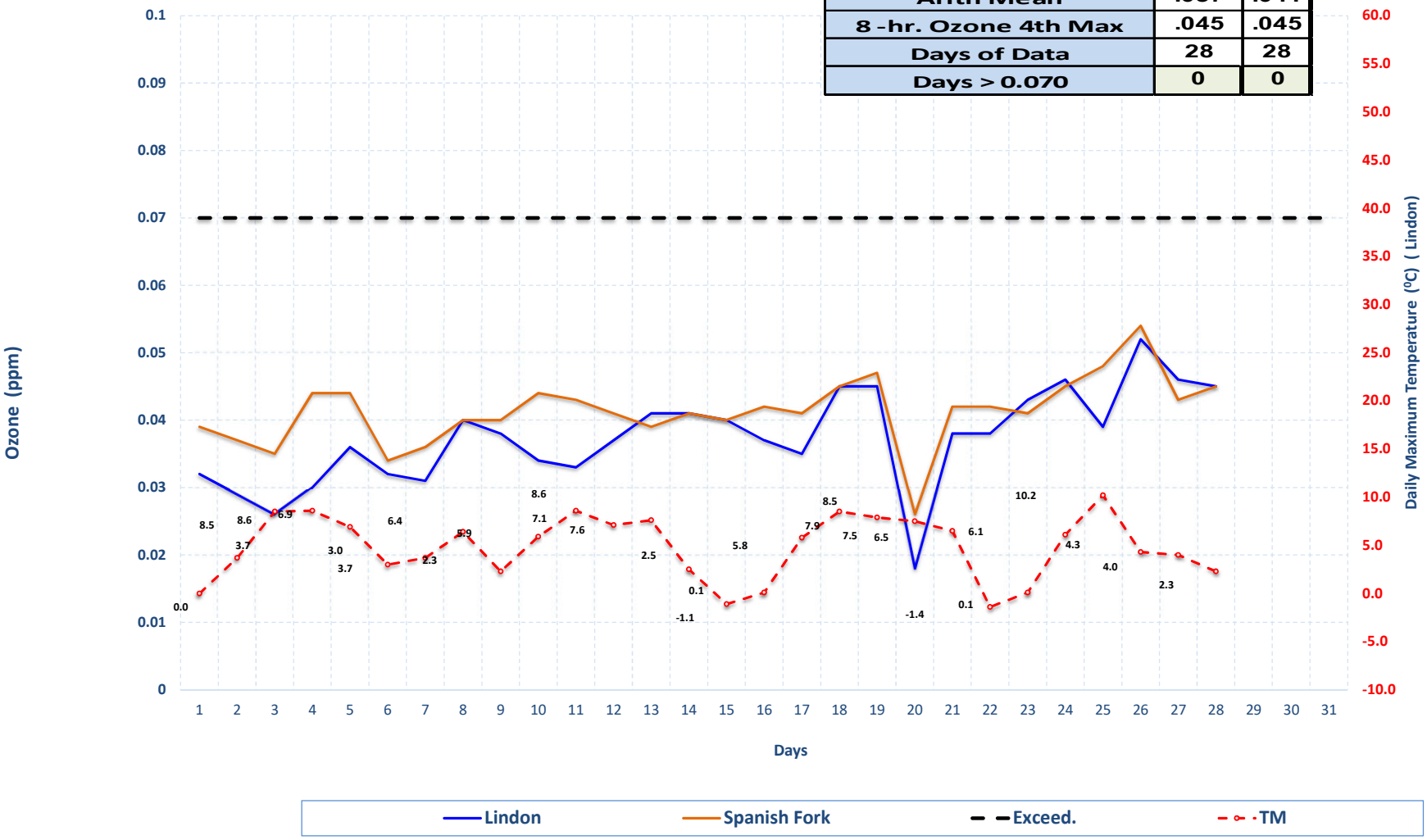
Highest 8-hr Ozone Concentration & Daily Maximum Temperature February 2023

	SM
Arith Mean	.049
8 -hr. Ozone 4th Max	.053
Days of Data	28
Days > 0.070	2



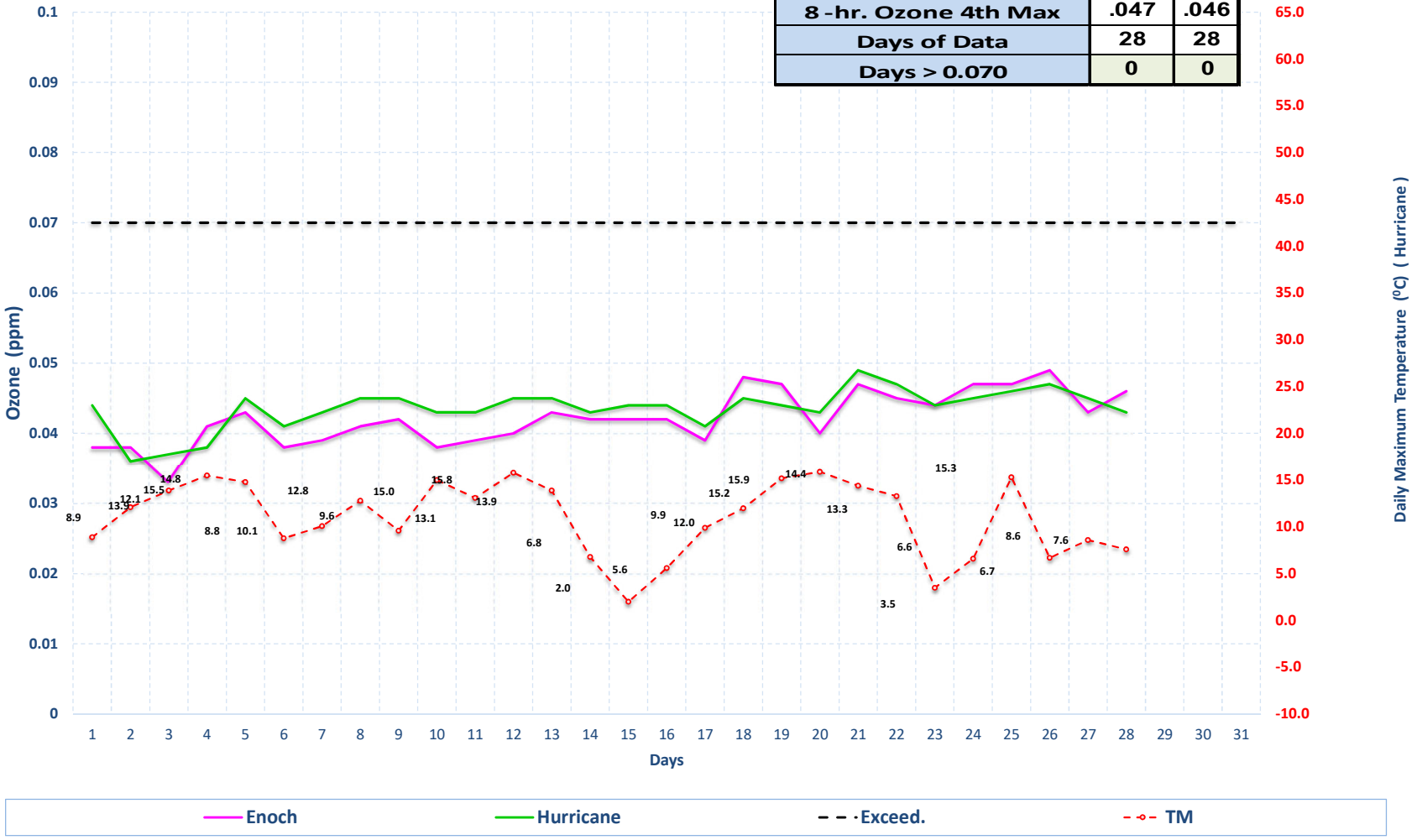
Highest 8-hr Ozone Concentration & Daily Maximum Temperature February 2023

	LN	SF
Arith Mean	.037	.041
8 -hr. Ozone 4th Max	.045	.045
Days of Data	28	28
Days > 0.070	0	0



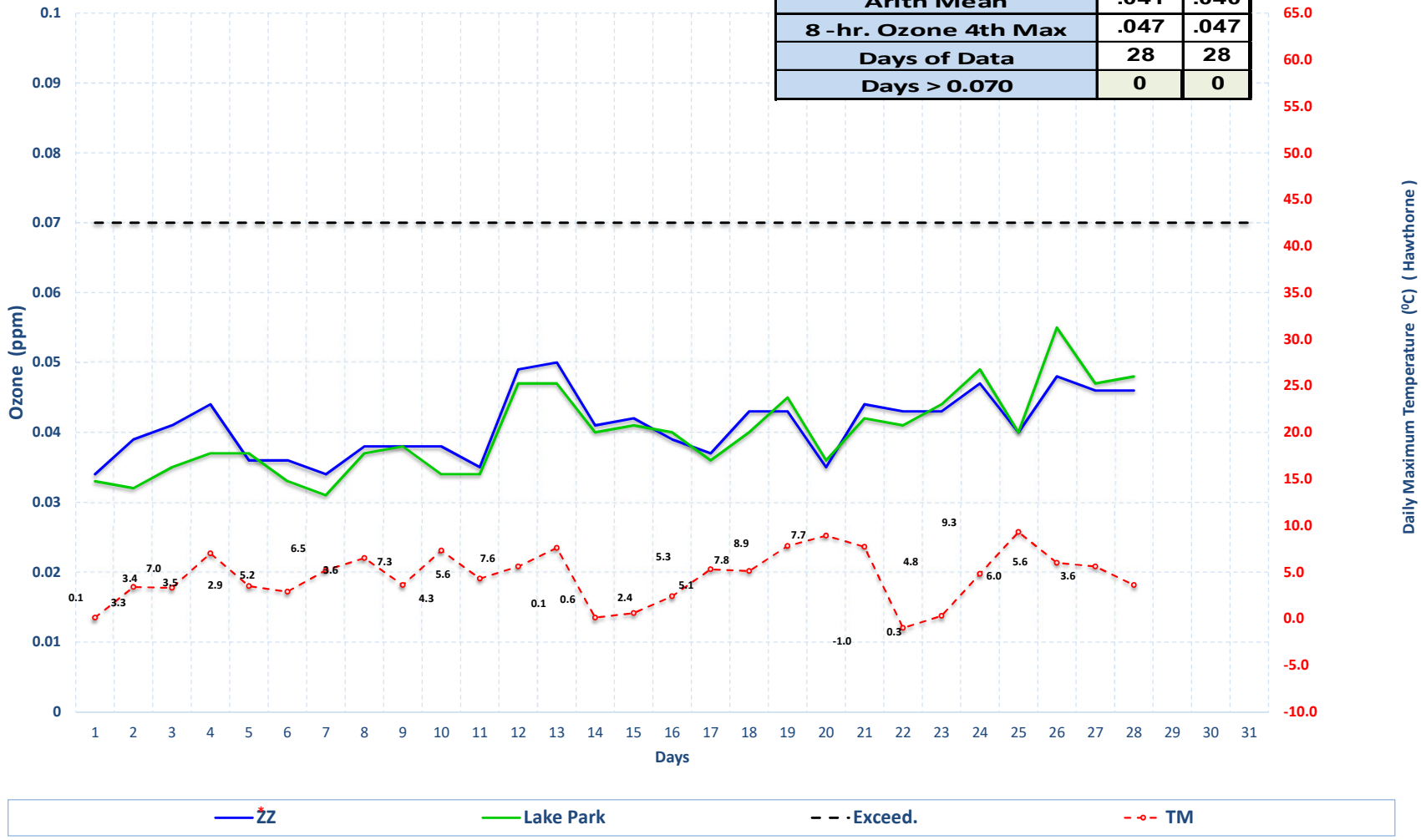
Highest 8-hr Ozone Concentration & Daily Maximum Temperature February 2023

	EN	HC
Arith Mean	.042	.044
8 -hr. Ozone 4th Max	.047	.046
Days of Data	28	28
Days > 0.070	0	0



Highest 8-hr Ozone Concentration & Daily Maximum Temperature February 2023
Stations monitoring the Inland Port development

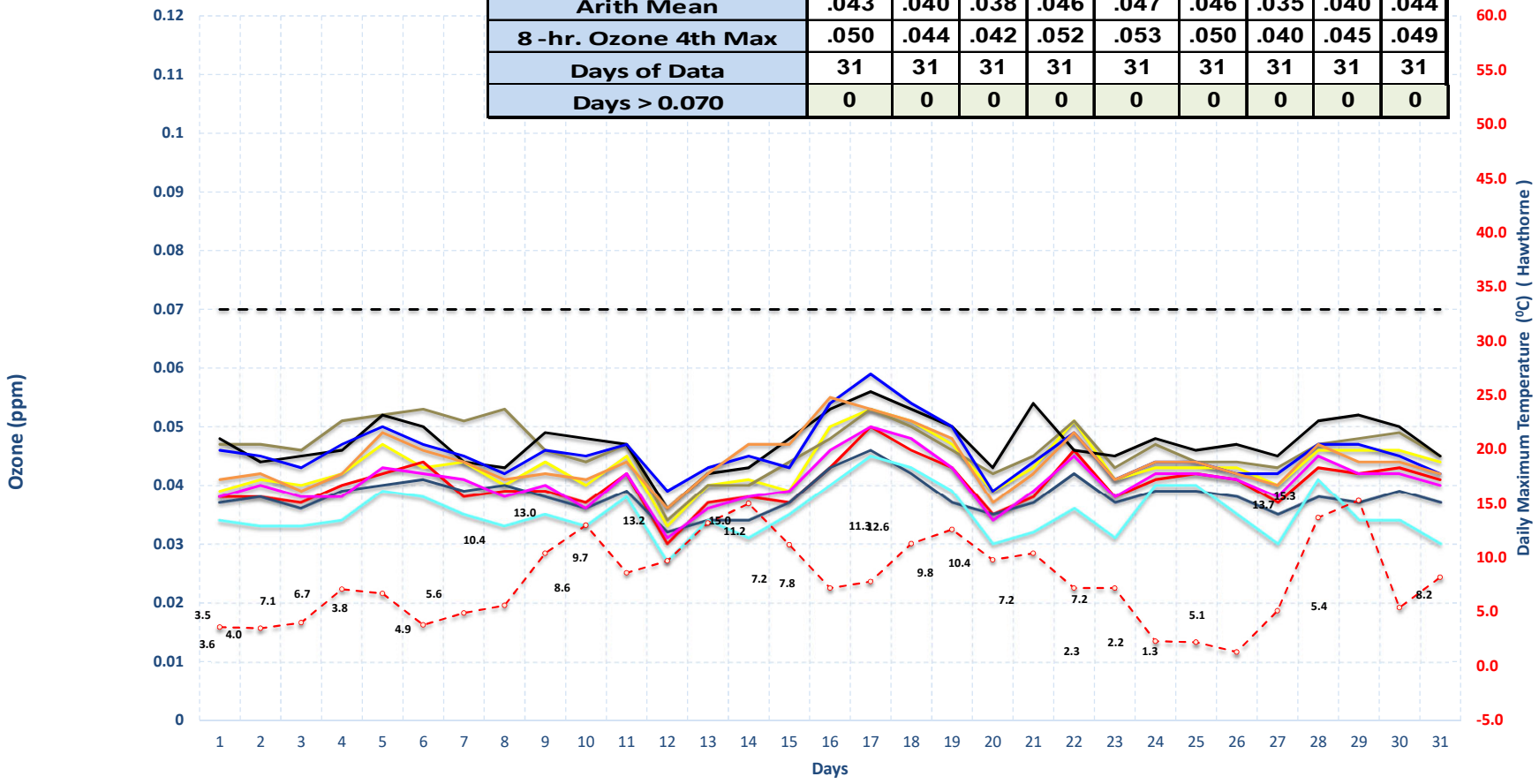
	ZZ	LP
Arith Mean	.041	.040
8-hr. Ozone 4th Max	.047	.047
Days of Data	28	28
Days > 0.070	0	0



* **ZZ** is located at the New Utah State Prison (1480 North 8000 West, SLC).
This site was previously named **IP**

Highest 8-hr Ozone Concentration & Daily Maximum Temperature March 2023

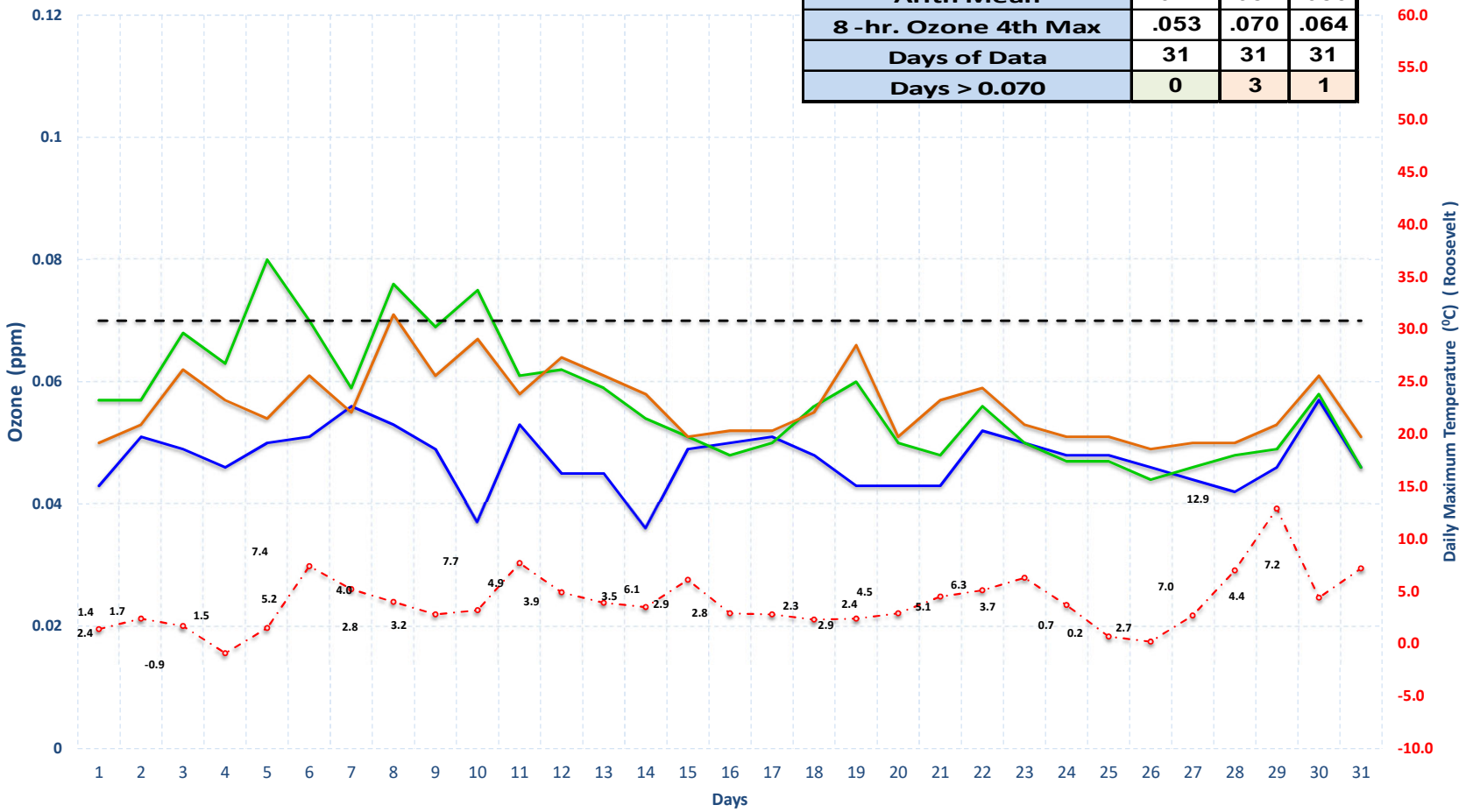
	BV	CV	ED	H3	HV	HW	NR	RP	EQ
Arith Mean	.043	.040	.038	.046	.047	.046	.035	.040	.044
8 -hr. Ozone 4th Max	.050	.044	.042	.052	.053	.050	.040	.045	.049
Days of Data	31	31	31	31	31	31	31	31	31
Days > 0.070	0	0	0	0	0	0	0	0	0



* Environmental Quality (**EQ**) previously named Technical Support Center (**TSC**)
** Controlling Monitor

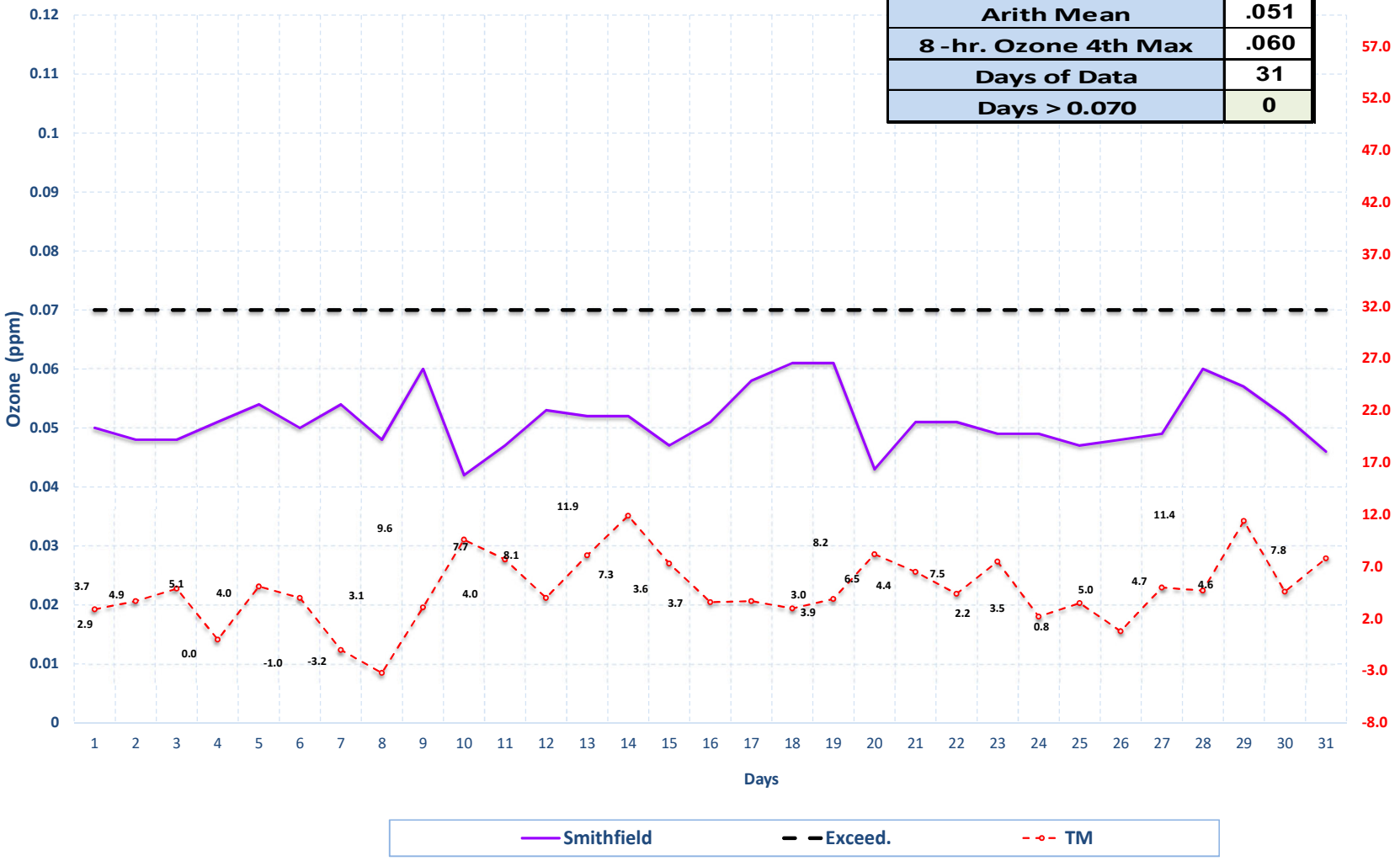
Highest 8-hr Ozone Concentration & Daily Maximum Temperature March 2023

	P2	RS	V4
Arith Mean	.047	.057	.056
8 -hr. Ozone 4th Max	.053	.070	.064
Days of Data	31	31	31
Days > 0.070	0	3	1



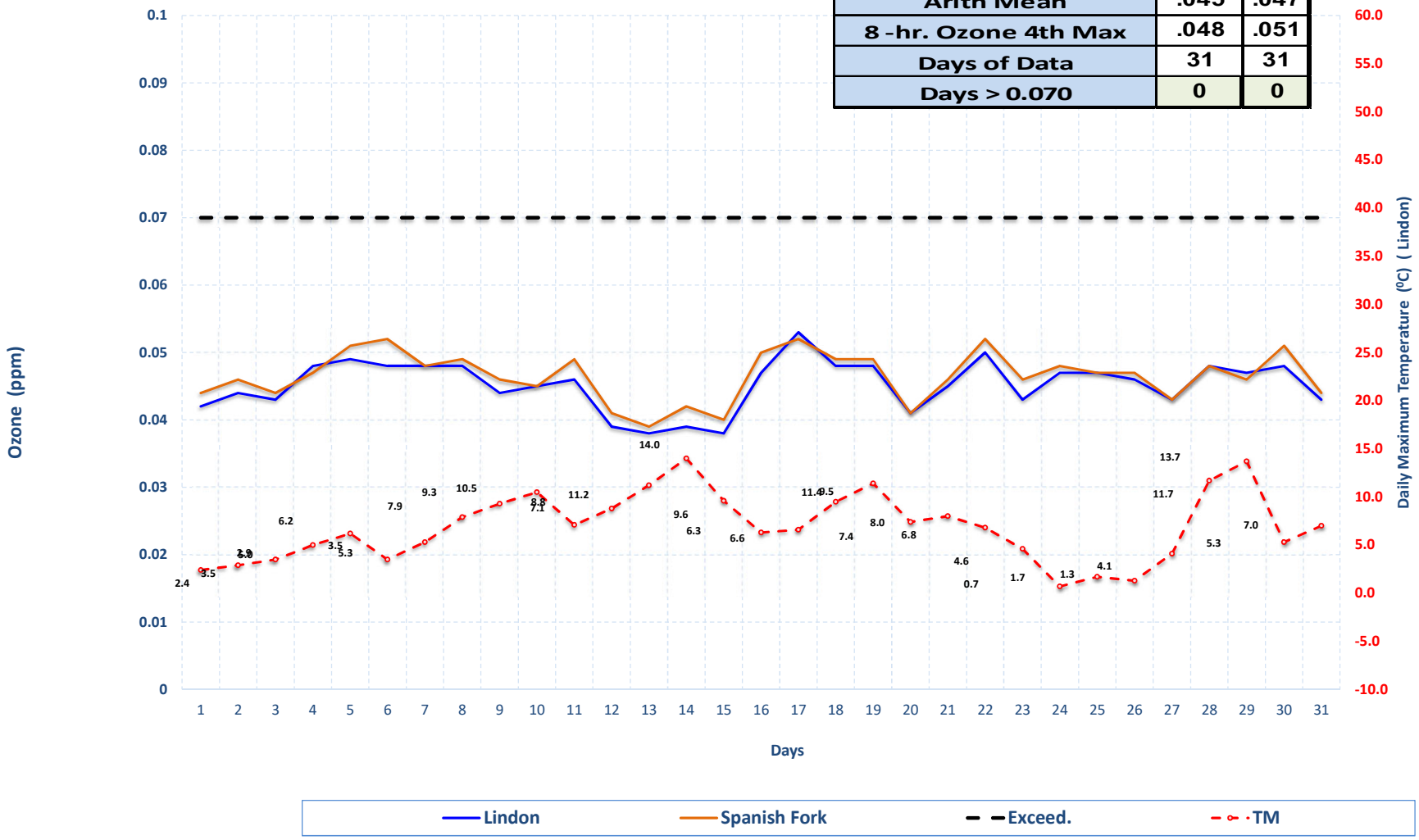
Highest 8-hr Ozone Concentration & Daily Maximum Temperature March 2023

	SM
Arith Mean	.051
8 -hr. Ozone 4th Max	.060
Days of Data	31
Days > 0.070	0



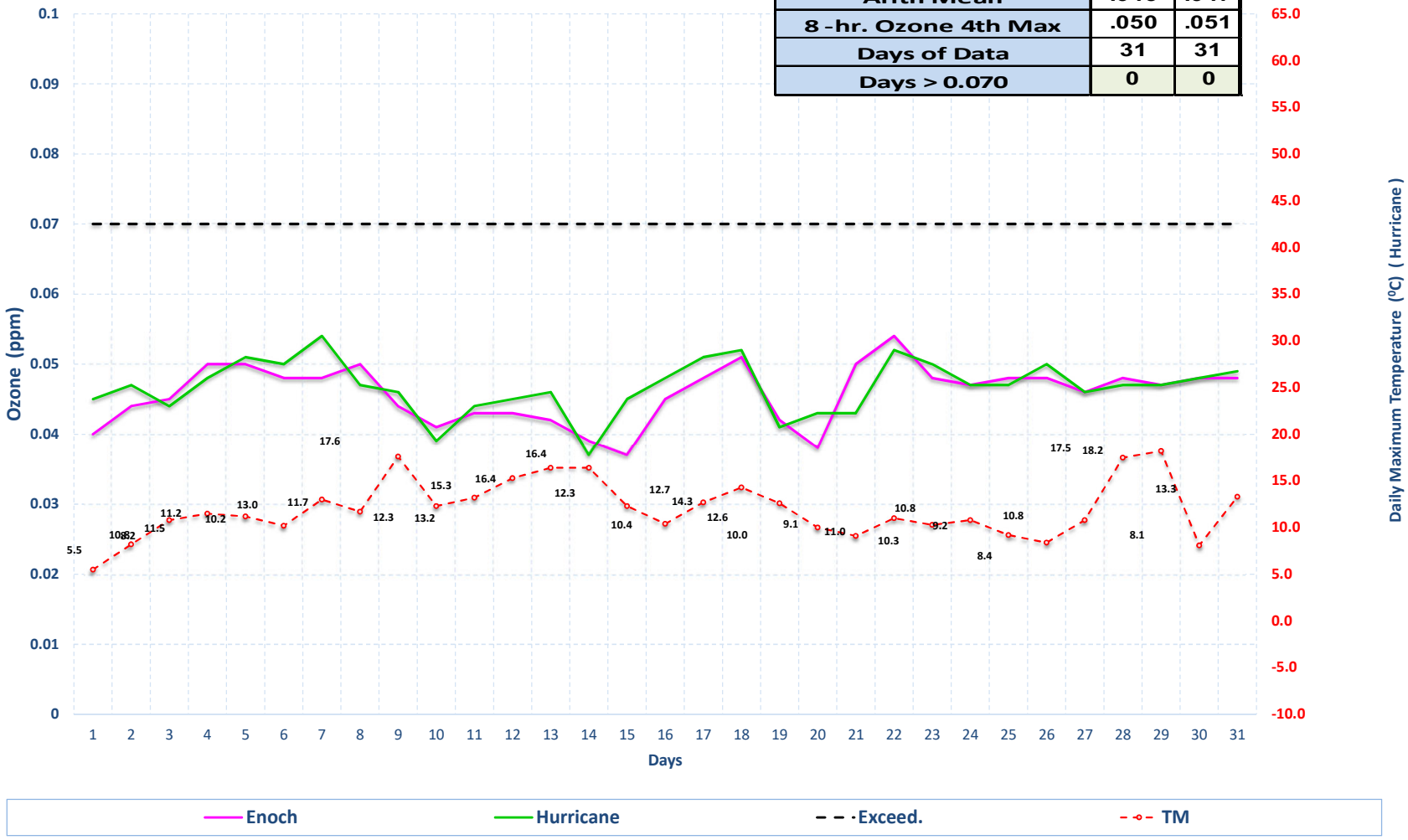
Highest 8-hr Ozone Concentration & Daily Maximum Temperature March 2023

	LN	SF
Arith Mean	.045	.047
8 -hr. Ozone 4th Max	.048	.051
Days of Data	31	31
Days > 0.070	0	0



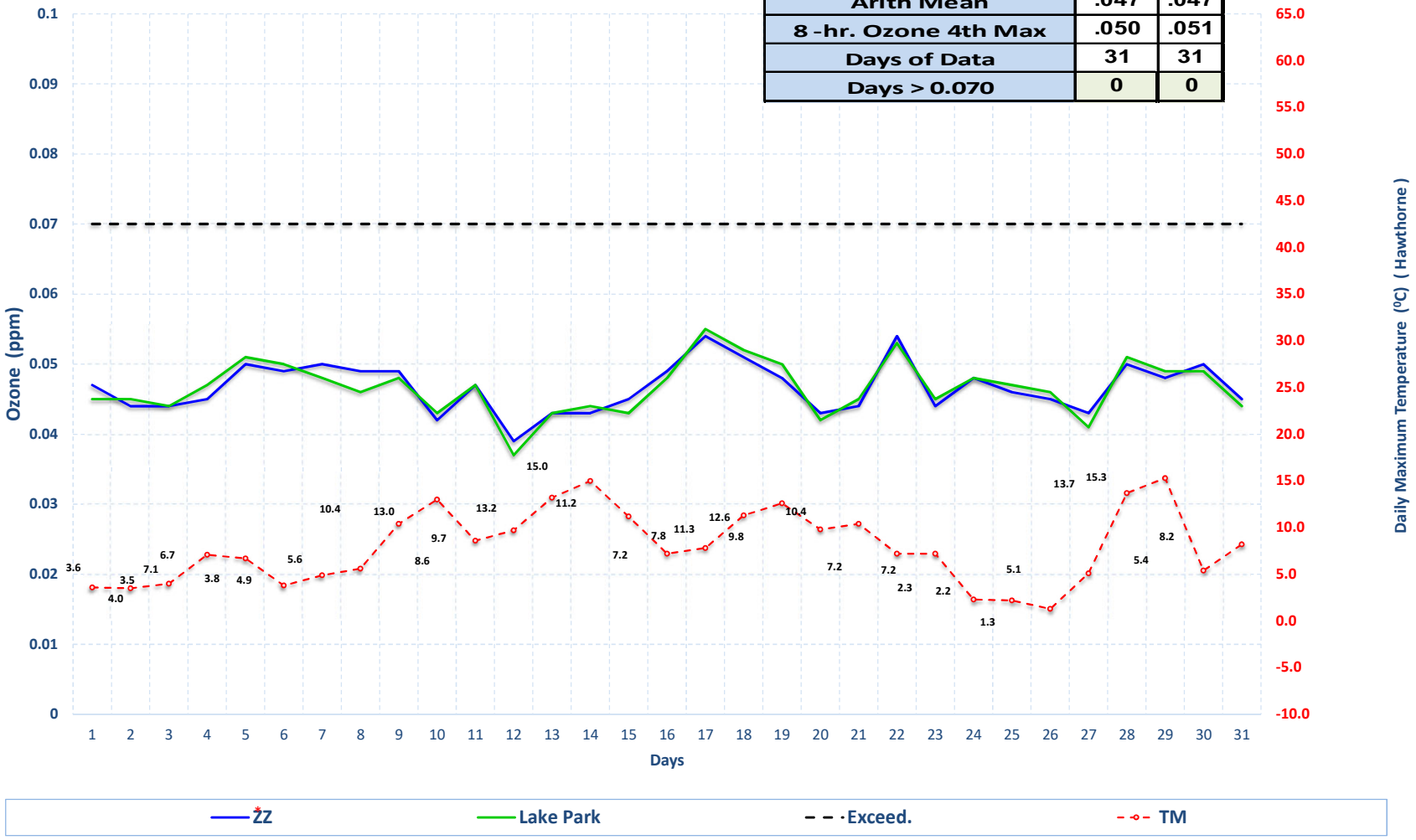
Highest 8-hr Ozone Concentration & Daily Maximum Temperature March 2023

	EN	HC
Arith Mean	.046	.047
8 -hr. Ozone 4th Max	.050	.051
Days of Data	31	31
Days > 0.070	0	0



Highest 8-hr Ozone Concentration & Daily Maximum Temperature March 2023
Stations monitoring the Inland Port development

	ZZ	LP
Arith Mean	.047	.047
8 -hr. Ozone 4th Max	.050	.051
Days of Data	31	31
Days > 0.070	0	0



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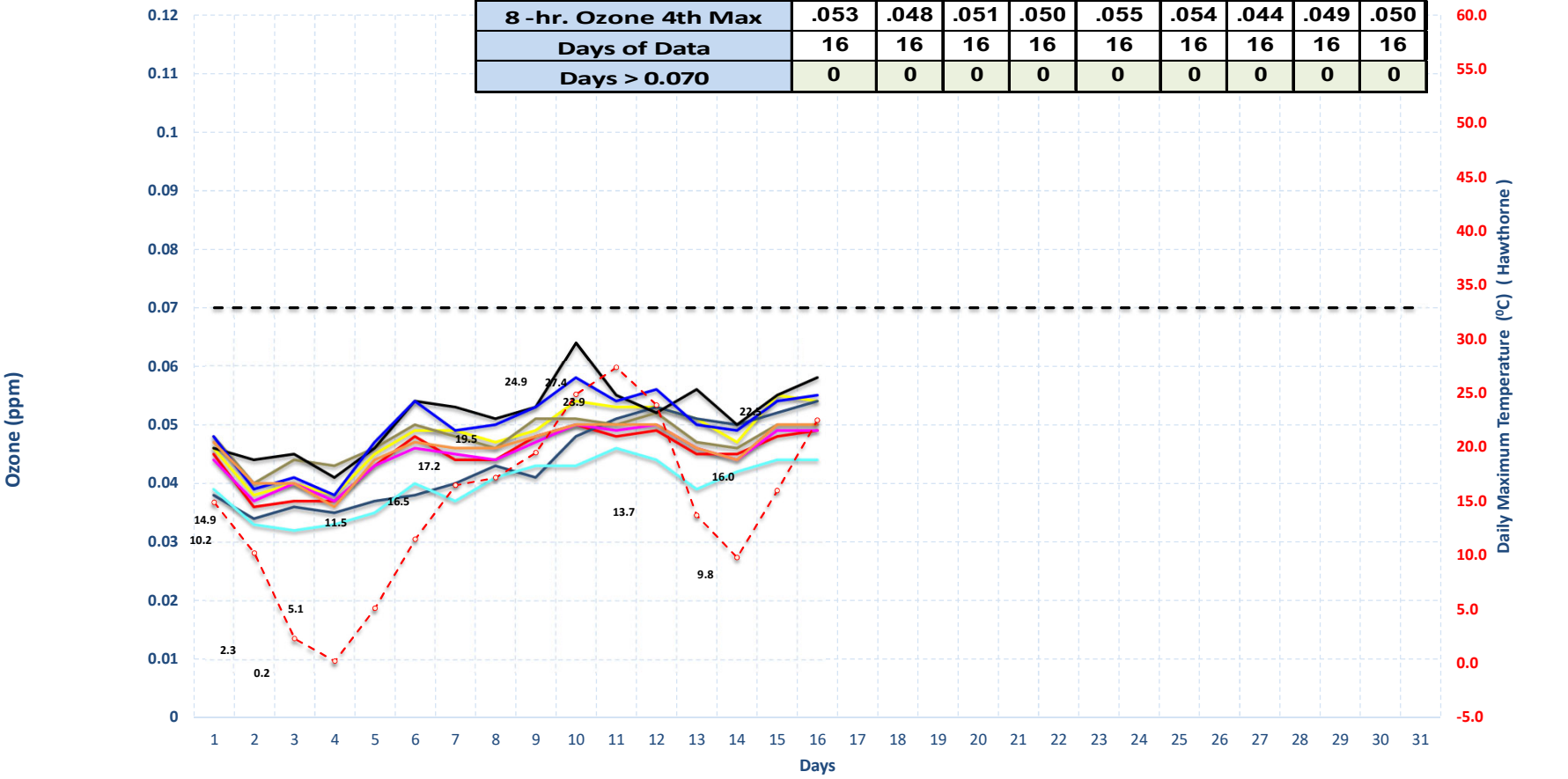
Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2023

	BV	CV	ED	H3	HV	HW	NR	RP	EQ
Arith Mean	.048	.045	.044	.048	.051	.050	.040	.045	.046
8 -hr. Ozone 4th Max	.053	.048	.051	.050	.055	.054	.044	.049	.050
Days of Data	16	16	16	16	16	16	16	16	16
Days > 0.070	0	0	0	0	0	0	0	0	0

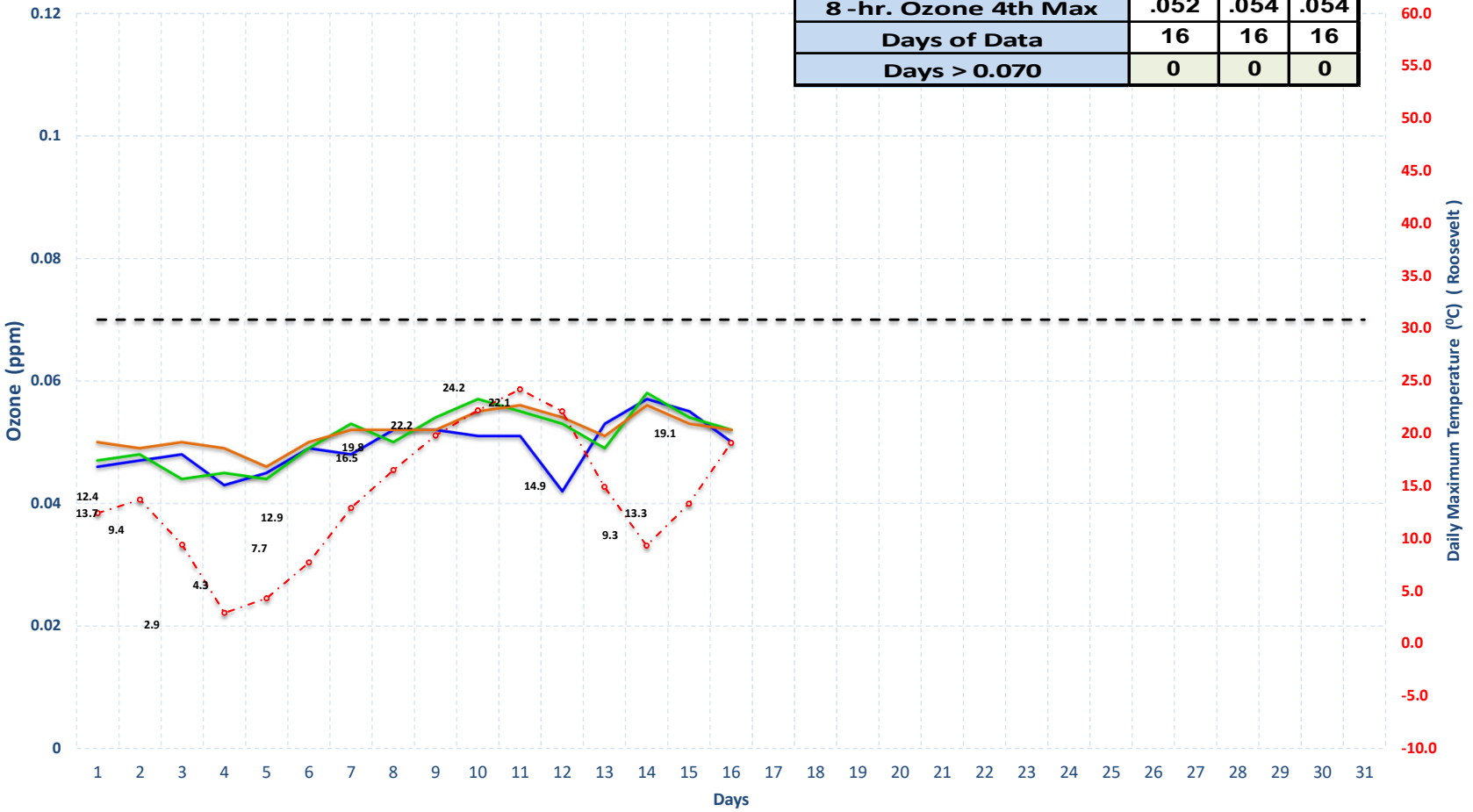


* Environmental Quality (**EQ**) previously named Technical Support Center (**TSC**)

** Controlling Monitor

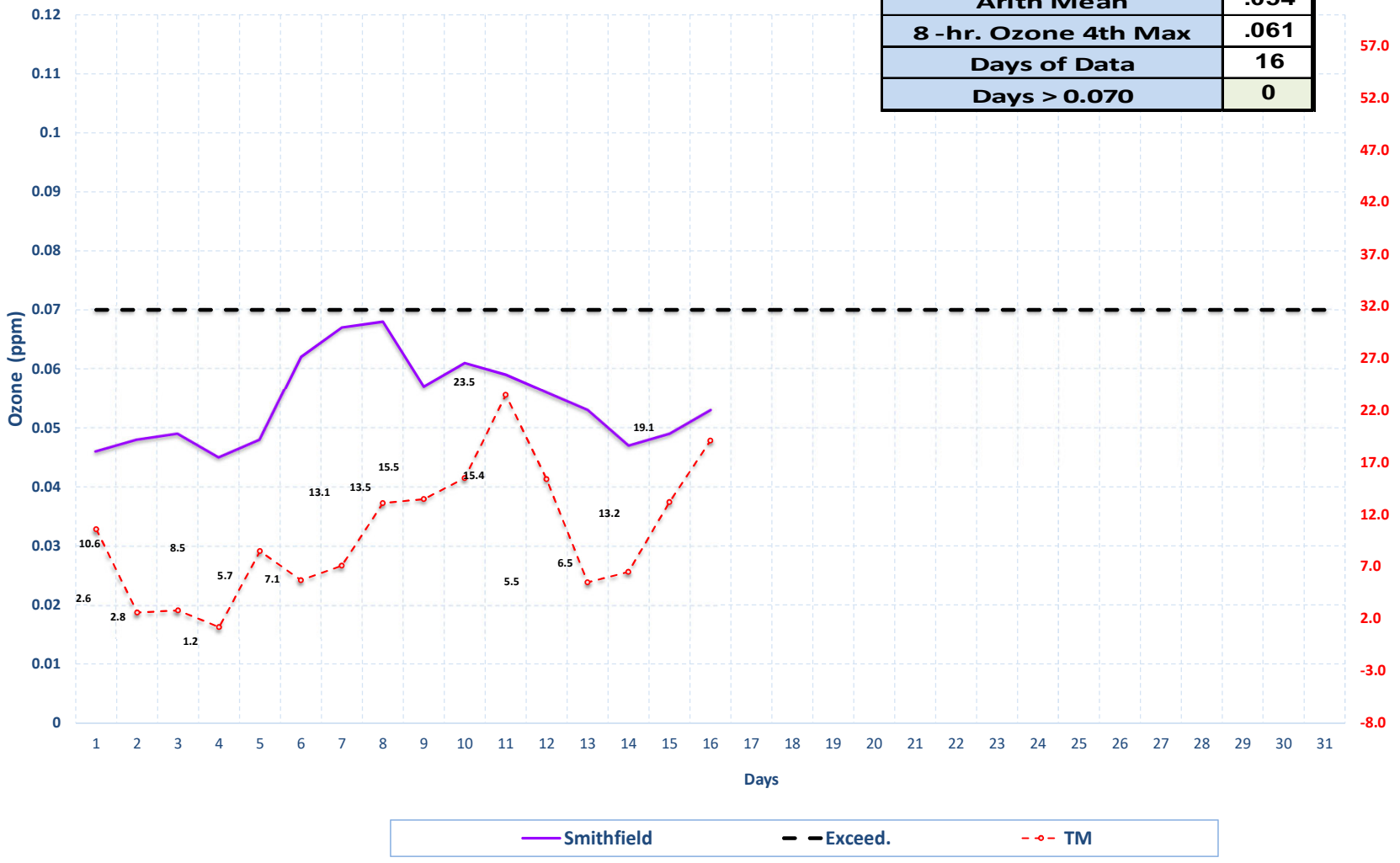
Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2023

	P2	RS	V4
Arith Mean	.049	.051	.052
8 -hr. Ozone 4th Max	.052	.054	.054
Days of Data	16	16	16
Days > 0.070	0	0	0



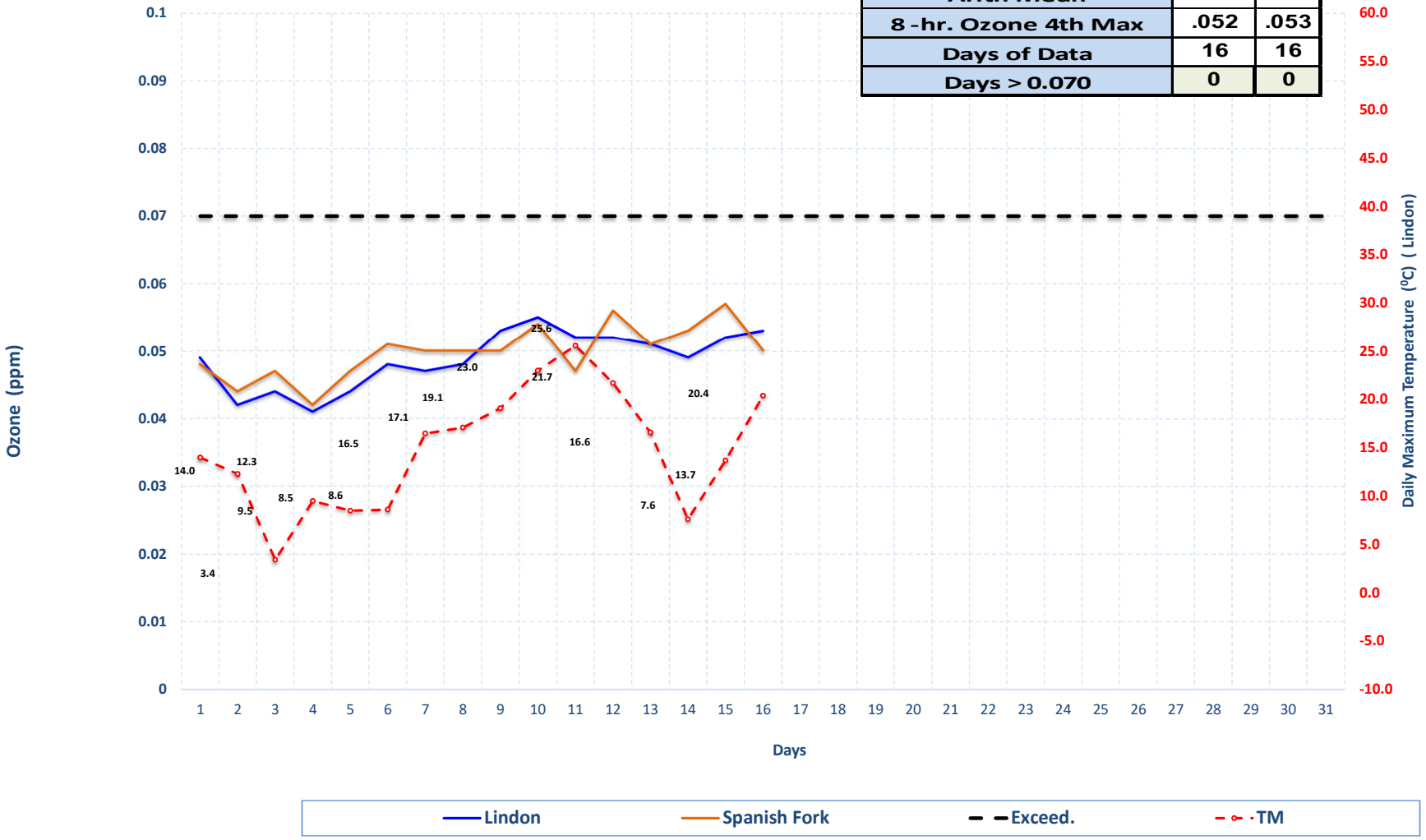
Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2023

	SM
Arith Mean	.054
8 -hr. Ozone 4th Max	.061
Days of Data	16
Days > 0.070	0



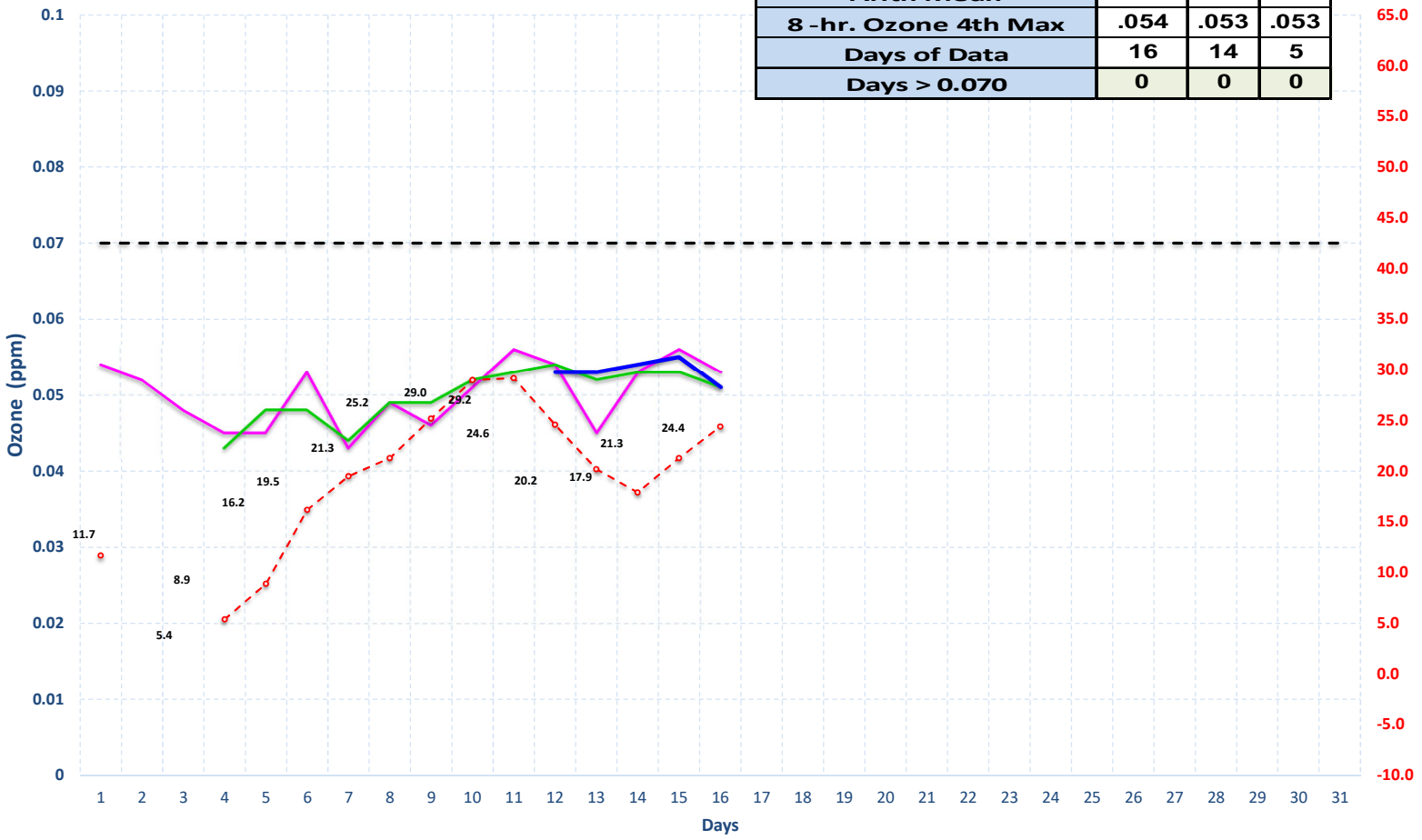
Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2023

	LN	SF
Arith Mean	.049	.050
8 -hr. Ozone 4th Max	.052	.053
Days of Data	16	16
Days > 0.070	0	0



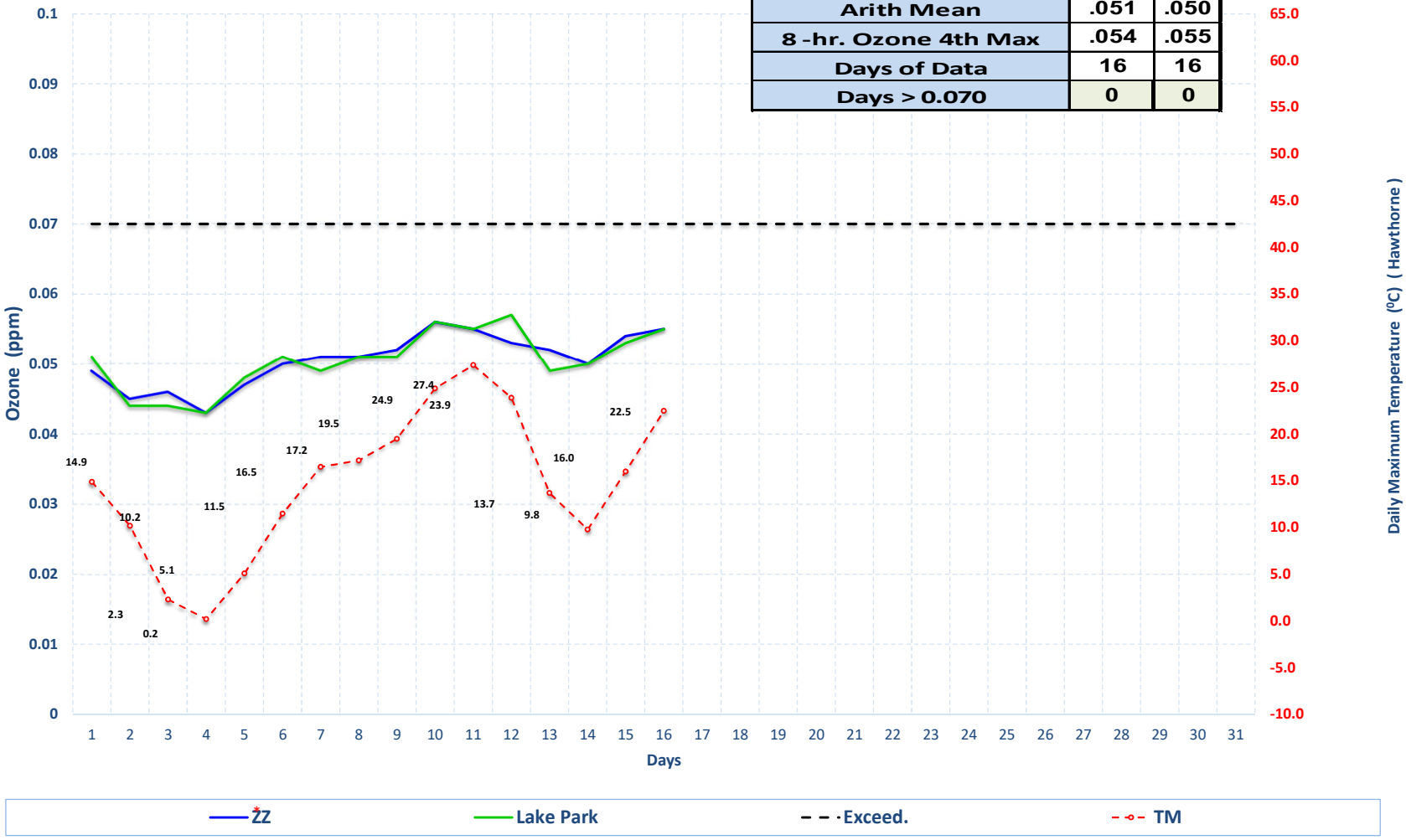
Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2023

	EN	HC	M7
Arith Mean	.050	.049	.053
8 -hr. Ozone 4th Max	.054	.053	.053
Days of Data	16	14	5
Days > 0.070	0	0	0



Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2023
Stations monitoring the Inland Port development

	ZZ	LP
Arith Mean	.051	.050
8 -hr. Ozone 4th Max	.054	.055
Days of Data	16	16
Days > 0.070	0	0



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