Microsoft MWH Data Center
Air Quality Approval Order 18AQ-E024

Response to Public Comments Report

From July 26, 2018 through August 31, 2018, Ecology accepted public comments on the draft air quality approval order for the Microsoft MWH Data Center expansion, MWH Phases 03/04/05/06. A public hearing was held at the Quincy Community Center on August 27, 2018.

Table 1 below lists the commenters, the topics, and their associated comment numbers. Included in Appendix A of this document are the referenced attachments submitted by the commenters, as well as documents that were requested during commenting.

We thank the commenters for their participation.

Table 1: List of commenters and topics

Affiliation	Commenter Name	Topics	Associated comment numbers*
Individual			
	Brandt, Doug	General	I-1-1
	Dal Porto, Danna	General	I-5-1
		Climate/Weather	I-4-13
		Engines	I-4-3, I-4-4
		Health Risk Impact Assessment	I-4-1, I-4-2, I-4-5, I-4-6, I-4-7, I-4-8, I-4-12, I-5-2, I-5-3, I-5-5
		Modeling	I-4-9
		Monitoring	I-4-10, I-4-11, I-5-4
	Douglass, Brandon	Outreach	I-4-14, I-5-6
	Martin, Patricia	General	I-2-1
		Engines	I-3-6, I-3-7, I-3-8, I-3-9, I-3-10, I-3-11, I-3-14, I-3-16
		Health Risk Impact Assessment	I-3-12, I-3-17, I-3-18, I-6-3, I-6-7

		Modeling	I-3-3, I-3-4, I-3-5, I-3-15, I-6-2 , I-6-4, I-6-5
		Other	I-3-13
		AOP	I-3-1
		Facility	I-3-2, I-6-6
		Outreach	I-6-1
Agency			
Port of Quincy	Boss, Pat	General	A-1-1
Business			
Microsoft Corp.	Kirkham, Jaymes	Permit Conditions	B-1-1, B-1-2, B-1-3

* All comments received online, by mail, email, or verbal testimony were entered into our eComments system. Comment numbers are generated by the eComment software. Here's what they mean:

First number: Category I, A, or B = Individual, Agency, or Business.

Second number: The numerical order of commenters in that category. Note: If a specific commenter made additional comments at a later time, this number will be different from their previously given comments.

Third number: The numerical order of the comment.

So, for example:

I-4-9 = The ninth comment of the fourth individual.

A-2-1 = The first comment of the second agency.

B-4-1 = The first comment of the fourth business.

Commenters' names and topics are also included with each comment.

Comments and Responses

Comments and Responses are grouped together and organized by topic. We used the following topics:

• Climate/Weather • Engines • General • Health Risk Impact Assessment • Modeling	• Monitoring • Other • Outreach • Permit Conditions • AOP • Facility

Comments on Climate/Weather

Commenter: Danna Dal Porto - Comment I-4-13

Question: I heard the term "heat Island' in reference to Quincy. What is a "heat Island" and is this caused by the concentration of data centers in Quincy? Has this "heat Island" changed Quincy weather?

Response to Climate/Weather

Response for Comment I-4-13

A "Heat Island" is formation of a localized microclimate of an urban area due to a structural development to accommodate the growing demands of its population. "Heat Island" forms when natural land use/cover (such as vegetation, bare soil, etc.) is replaced by asphalts and concretes, thereby changing the cooling and heating processes of the area. According to the definition of an "Urban Heat Island", Quincy is too small to be meteorologically categorized as one (See EPA page for more at: https://www.epa.gov/heat-islands).

Comments on Engines

Commenter: Danna Dal Porto - Comment I-4-3

Question: The New Chapter 173-400 WAC states that emission standards apply at all times such as start-up and shutdown. Does this Landau NOC take into consideration these new rules? Even cold start?

Response to Comment I-4-3

Startup, shutdown and cold start emissions were calculated and modeled in Microsoft's NOC application. The MWH data center will be subject to the requirements of the updated WAC 173400 (effective September 16, 2018).

Commenter: Danna Dal Porto - Comment I-4-4

Question: The New Chapter 173-400 WAC rules will replace "exemptions" with "opacity standards". I want that explained to me and does this permit takes these new rules into consideration?

Response to Comment I-4-4

It is not clear which 400 rule the commenter is referring to. However, if the comment is referring to startup/shutdown emissions, please note that the permit does not allow emission exemptions during startup/shutdown events (WAC 173-400, effective September 16, 2018).

Commenter: Patricia Martin - Comment I-3-6

Please explain Ecology's justification for allowing a phasing of construction in violation of the CAA, and cite to authority allowing the agency to do so.

Response to Comment I-3-6

Microsoft's expansion of the MWH data center is being permitted as a modification to the facility and the cumulative impacts from this entire expansion MWH 03/04/05/06 were reviewed. The existing data center engines MWH 01/02, were also evaluated in this proposal and included in the modeling as local background. If Microsoft delays part of the construction of the facility then Ecology has required notification per condition 10.a.

General condition 10.a in the order states that construction must be commenced within eighteen months of issuance of the Approval Order. If construction is not commenced within eighteen months, if construction is discontinued for eighteen-months or if construction is not completed within a reasonable time then Microsoft will need to submit a request for a construction

extension to Ecology. Ecology may extend the eighteen-month period upon a satisfactory showing by Microsoft that an extension is justified. (WAC 173-400-111 (7)(a)).

Commenter: Patricia Martin - Comment I-3-8

Please provide the estimated amount of condensable particulate emissions used in modeling the new 72 engines. What are the total emissions of condensable particulate for all 117 engines?

Response to Comment I-3-8

Expansion Project Emissions (72 engines)
Total PM2.5/PM10 (Front Half + Back Half) (Generators Only) is 9.24 tons per year
Condensable particulate (Back Half) is 7.56 tons per year
Facility Wide (117 engines)
Total PM2.5/PM10 (Front Half + Back Half) (Generators Only) is 11.68 tons per year
Condensable particulate (Back Half) is 9.56 tons per year

Commenter: Patricia Martin - Comment I-3-9

MWH appears to be a major source of federally regulated hazardous air pollutants subject to MACT standards. Why aren't HAPs from MWH being regulated under 40 CFR 63 ZZZZ? Please cite to Ecology's authority for failing to regulate under subpart ZZZZ.

Response to Comment I-3-9

MWH triggered Title V for Nitrogen Oxides (NOx), which is not a HAP. MWH is not a major source of HAPs, because HAP emissions are below the applicable major source thresholds. MWH will be an area source of federal HAPs and will meet the requirements of NESHAP ZZZZ (63.6590 (C)(1)) by meeting Tier 2 emission standards, which is also required in New Source Performance Standard Subpart IIII.

Commenter: Patricia Martin - Comment I-3-10

Are catalyzed DPFs as effective as DOCs for removing carbon monoxide which is used as a surrogate for formaldehyde? Did Ecology consider the formaldehyde emissions from ConAgra and Amway during permitting?

Response to Comment I-3-10

Catalyzed diesel particulate filters (DPFs) are as effective (80% control of CO) as Diesel Oxidation Catalysts (DOCs) (80% control of CO) (Microsoft NOC application Page 6-2). A catalyzed DPF is typically a DOC welded to a DPF. Formaldehyde levels with this expansion triggered a First Tier Review and did not require additional review of background sources (WAC 173-460-080).

Commenter: Patricia Martin - Comment I-3-11

Will MWH's engines have continuous emissions monitoring equipment integrated into the engines? If not, why not? Please cite to the authority that allows the agency to forego this requirement if that is the case.

Response to Comment I-3-11

Continuous emission monitors are not required for MWH Data Center due to the intermittent emissions from running the emergency backup engines. Compliance with emission standards will be determined through source testing. Continuous compliance will be determined with monitoring data, such as parameter monitors, visual observation, inspection and record keeping (WAC 173-401-200 (7)).

Commenter: Patricia Martin - Comment I-3-14

What is the concentration of formaldehyde in ppb being released from the MWH facility by the 72 engines? By all 117 engines? By all 154?

Response to Comment I-3-14

New MWH Expansion (72 engines) = 55 – 59 ppb concentration per engine, total emission rate 50.4 pounds per year

Entire MWH Facility (117 engines) = total emission rate = 52.4 pounds per year

Columbia Data Center (37 engines) + MWH Facility (117 engines) = total emission rate 161 pounds per year

Commenter: Patricia Martin - Comment I-3-7

Testing of condensable particulate is a requirement of the SIP (see attached) to assure compliance with the NAAQS. Ecology is not requiring the testing of condensable particulate in the MWH permit. Please cite to the authority Ecology relies on to exclude condensable particulate.

Commenter: Patricia Martin - Comment I-3-16

Please review the manufacturer guarantees required under 40 CFR 89. Please note that the tests conducted as part of the assurance that the engines can comply with the NSPS allow for the exclusion of startup, shutdown and malfunctions (SSM), and do not include condensable particulate. Without performance tests to substantiate estimates provided by MWH and its consultants, Ecology may be substantially underestimating condensable particulates (secondary formation of PM2.5, TSP and haze) and placing our community at risk. Perhaps Ecology should

be asking themselves why there is such resistance by the industry to conduct performance tests for condensable particulate.

Response to Comments I-3-7 and Comment I-3-16

Emission tests required by this permit are intended to demonstrate continued compliance with NSPS. Cold start and condensable emissions were factored into emissions estimates used in dispersion modeling and demonstrated that emissions from engines meeting the NSPS requirements would comply with the NAAQS. Ecology has explored the utility of condensable testing of data center engines using EPA Method 202. The results of Method 202 testing appeared to contain unexplained variation such that the value of the data is limited.

MWH conservatively estimated the condensable portion of particulate matter emissions in this NOC application to be 5.15 times the filterable emissions. This analysis, which overestimates condensable particulate matter emissions, demonstrated again that emissions from engines that comply with EPA's NSPS requirements comply with the NAAQS. By showing continued compliance with the NSPS tier 4 standards every 5 years as required by the permit, the applicant will also show compliance with the NAAQS because modeling results were evaluated to take into account cold start factors and condensable estimates. Also, the dilution tunnel system required in Table 2 of Appendix B to Subpart E of 40 CFR 89 accounts for some of the condensable PM.

Comments on General

Commenter: Doug Brandt - Comment I-1-1

How much is too much? This is a ridiculous addition of diesel engines. Who decided this was not an impact to the environment? How can any sane person try to pander the idea that 72 diesel engines isn't a negative impact? Absolute LUNACY! Enough of our state being destroyed so huge corporations can make more $$$.

Commenter: Danna Dal Porto - Comment I-5-1

My name's Danna Dal Porto. And I just come to these meetings because I have a real concern for air quality in my community. And I just kind of feel that it's important to be a citizen of the community and to contribute to knowledge of really kind of what's happening. The air quality in my community has declined. But I can't totally say that it is all data center, but it has to be. You can't put these large, industrial engines in this valley and not make a difference. It has to make a difference.

Response to Comment I-1-1 and I-5-1

No one decided this project had no environmental impacts. The City of Quincy reviewed the SEPA Environmental checklist submitted for Microsoft's MWH expansion project and issued a Mitigated Determination of Non-Significance (MDNS) for this project. The City of Quincy as lead agency for this proposal determined that all probable significant adverse impacts on the environment will be mitigated.

Commenter: Brandon Douglass - Comment I-2-1

These backup generators will likely see short usage once per month as part of monthly preventative maintenance. The likelihood of a mass power outage, where all of these will have to be running at once for extended periods of time, is very slim to none. There is no reason this permit should not be granted.

Commenter: Pat Boss - Comment A-1-1

Hi, I'm Pat Boss. I'm here on behalf of the Port of Quincy tonight. I'm just going to keep my comments more overall general in regards to this hearing. The Port of Quincy supports Microsoft and its request to expand in Quincy. Additionally, the Port of Quincy recognizes the significant benefits Microsoft and other data centers have brought to the tax base in Quincy. For example, just so you know, the assessed property values in Quincy this last year were $2.7 billion in the City of Quincy and were $4.2 billion in the Port of Quincy. And a lot of that was contributed to by the data centers. And we actually -- City of Quincy and the Port of Quincy topped Grant County in assessed property values. So that's a big deal for a town of 6,000 people. Microsoft and the other data centers in Quincy have contributed a large proportion of the property taxes, as I mentioned a minute ago, and that has helped to build new schools, new fires stations, help pay for law enforcement, a lot of the municipal services, and it's really helped this town to do a lot of things to improve the quality of life in Quincy. More importantly, Microsoft and other data centers have helped to bring down the overall property tax rates for the citizens and the property owners in Quincy. And as a result of that, our property taxes per capita are much lower. So we really support what Microsoft's trying to do. And after hearing the comments earlier tonight of the minimal amount of impact this is going to have on the community, but also the maximum economic impact that this is going to have, we greatly support Microsoft's request. Thank you.

Response to General

Thank you for your comments.

Comments on Health Risk Impact Assessment

Commenter: Danna Dal Porto - Comment I-4-2

Question: Why did this MWH expansion not trigger a 3rd Tier Review?

Response to Comment I-4-2

Third tier review (WAC 173-460-100) was not triggered because the proposed project met the approval criteria of WAC 173-460-090(7):

> *(7) Approval criteria for second tier review. Ecology may recommend approval of a project that is likely to cause an exceedance of acceptable source impact levels for one or more TAPs only if it determines that the emission controls for the new and modified emission units represent tBACT and the applicant demonstrates that the increase in emissions of TAPs is not likely to result in an increased cancer risk of more than one in one hundred thousand and ecology determines that the noncancer hazard is found to be acceptable.…*

As described in the Health Impact Assessment Recommendation, July 2018, for Microsoft MWH Data Center Phases 03/04/05/06:

- Ecology determined that tBACT is met through restricted operation of EPA Tier-2 certified engines operated as emergency engines as defined in 40 CFR §60.4219, and compliance with the operation and maintenance restrictions of 40 CFR Part 60, Subpart IIII. In addition, the source must have written verification from the engine manufacturer that each engine of the same make, model, and rated capacity installed at the facility uses the same electronic Programmable System Parameters, i.e., configuration parameters, in the electronic engine control unit. While the BACT and tBACT emission limitation is EPA's Tier 2 standards, Microsoft will voluntarily equip the generators with a selective catalytic reduction (SCR) and catalyzed diesel particulate filter (DPF) controls to meet EPA Tier 4 emission standards. Emission limitations in the draft permit reflect the use of these additional pollution controls.

- The estimated maximum lifetime cancer risk attributable to MWH-03/04/05/06 toxic air pollutant emissions is three in one million at the maximally impacted residential receptor. This risk is less than the maximum risk (10 in one million) allowed by a Second Tier review.

Ecology determined that the non-cancer hazard was acceptable because long-term non-cancer health effects from exposure to DEEP are not likely to occur, and short-term respiratory effects from exposure to nitrogen dioxide during power outage scenarios, although possible, are unlikely.

Commenter: Danna Dal Porto - Comment I-4-5

Question: The Health Impact Assessment Recommendation Document, July 2018, has a map on page 27 (Figure 2). The statement at the bottom of the map reads: Residential parcels within the area where proposed MWH- 03/04/05/06 power outage related NO2 concentrations could exceed the ASIL. No mention is made of the duration of the power outage. I want to know the duration of the power outage that is used to determine his map.

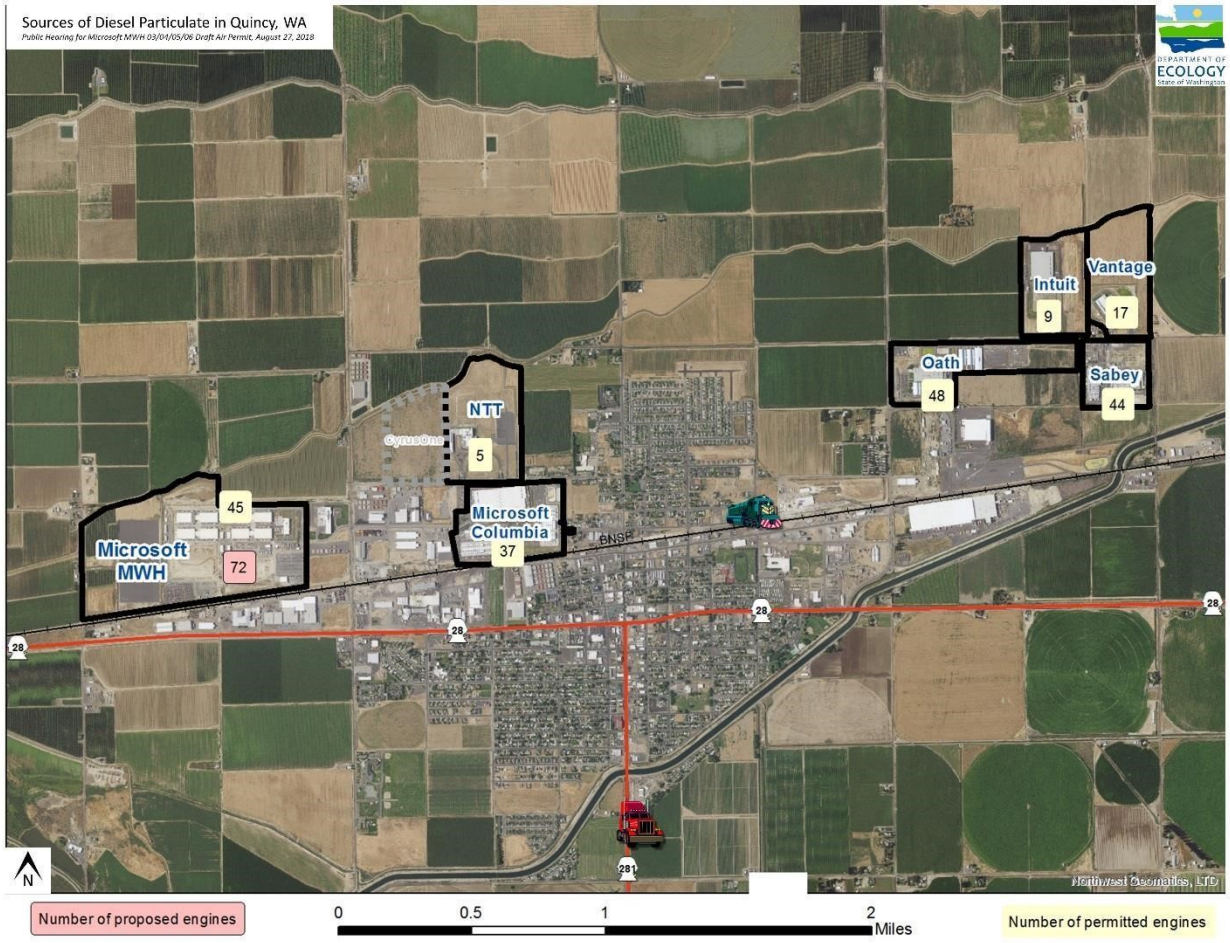
Response to Comment I-4-5

This map was developed to compare to the 1-hr NO2 toxic air pollutant Acceptable Source Impact Level. The maximum 1-hr concentrations presented in Figure 2 were based on the conservative assumption that the highest NOx emission rate from each of the 72 MWH 03/04/05/06 proposed engines occurs continuously over a 5 year meteorological period (approximately 44,000 hours). The model determines the highest estimated 1-hr NO2 concentration over the 5 years (or ~ 44,000 hours) at each receptor location. Figure 2 displays the locations where the maximum 1-hr NO2 concentration could exceed the ASIL assuming each engine operates at its worst-case (i.e., highest emitting) load. These maxima do not occur at the same time throughout the entire modeling domain. In reality, these engines are not expected to operate at the modeled worst-case loads, nor will they operate continuously as Grant County PUD data suggest power outages are uncommon with a system-average interruption duration of less than 2.3 hours per year.

Commenter: Danna Dal Porto - Comment I-4-6

Question: I want a copy of the map presented at the Quincy Public Hearing, August 27, that shows the sources of the diesel from the various data centers.

Response to Comment I-4-6



Commenter: Danna Dal Porto - Comment I-4-7

Question: I want a map that shows the dispersion of toxins over the entire city of Quincy, to include a map of DEEP, a map of NO2.

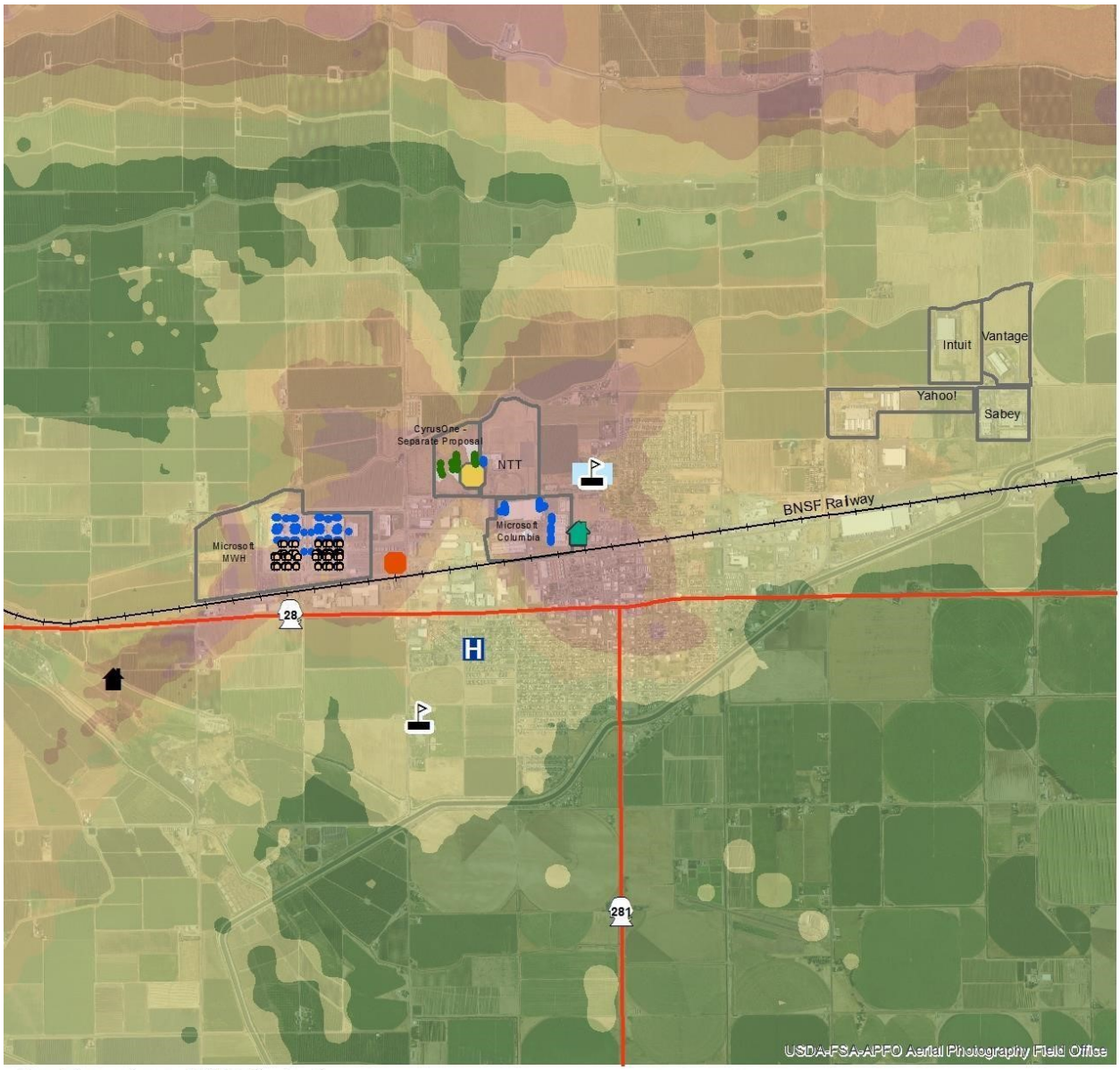
Response to Comment I-4-7

The map on page 13 of this document reflects maximum 1-hr NO2 concentrations assuming all west-side Quincy data centers continuously operate all of their permitted and proposed engines at worst-case loads over a 5 year meteorological period (approximately 44,000 hours). The model determines the highest estimated 1-hr NO2 concentration over the 5 years (or ~ 44,000 hours) at each receptor location. These maxima do not occur at the same time throughout the entire modeling domain. In reality, these engines

are not expected to operate at the modeled worst-case loads, nor will they operate continuously as Grant County PUD data suggest power outages are uncommon with a system-average interruption duration of - less than 2.3 hours per year.

The map on page 14 of this document reflects the cumulative average annual diesel particulate concentrations assuming:

- all west-side Quincy data centers emit their allowable annual emissions every year for 70 years,
- highway emissions from SR 28 and SR 281 will continue at 2014 emission rates into the future, and
- locomotive emissions will continue at 2014 rates into the future.



Key Receptors - MWH Project

- Maximally Impacted Commercial Receptor (MICR)
- Maximally Impacted Residential Receptor (MIRR)
- Maximally Impacted Boundary Receptor (MIBR)
- Monument Elementary
- Quincy Valley Medical Center
- Mountain View Elementary

Key Receptors - Cumulative

- MIRR - Cumulative
- MICR / MIBR - Cumulative

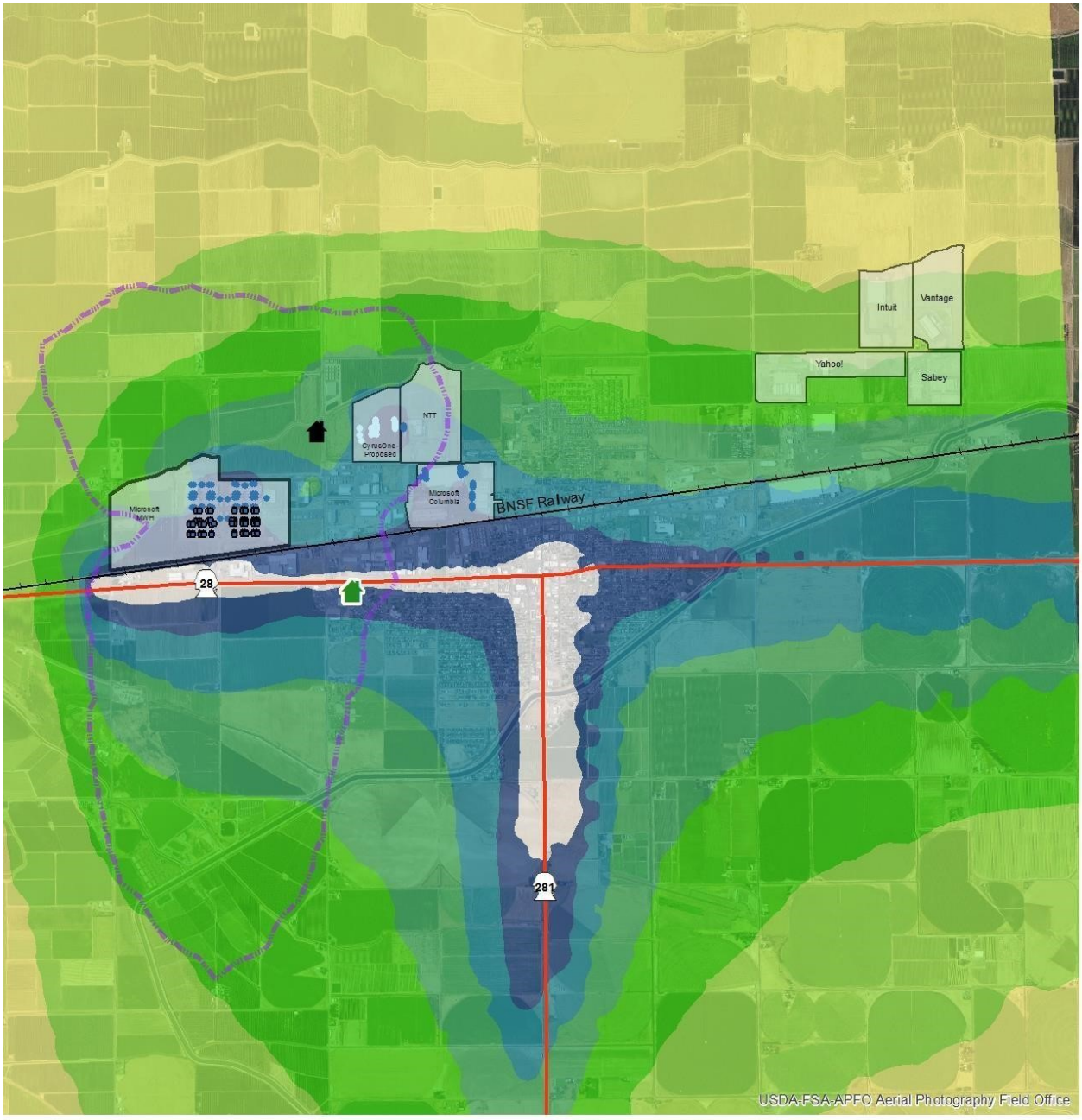
Diesel Exhaust Stacks

- Separate Proposal in Progress
- Proposed
- Permitted

Maximum 1-hr NO2 concentration (ug/m3)

< 470	600 to 750	940 to 1,500
470 to 600	750 to 940	> 1,500

Assumes all permitted and proposed west Quincy engines operate at worst-case loads at the same time. The maximum concentration presented occurs over a period of 5 years of meteorology.


Intuit
Vantage
Yahoo!
Sabey
NTT
CyrusOne-Proposed
Microsoft Columbia
Microsoft MWH
BNSF Railway
28
281
USDA-FSA-APFO Aerial Photography Field Office
Key Residential Receptors
Maximally Impacted Residential Receptor (MIRR)
Maximum Cumulative Residential Receptor
Exhast Stacks
CyrusOne - Separate Proposal
MWH - Proposed
Permitted
0
0.5
1
2
Miles
MWH Project DEEP > ASIL
N
W
E
S
Cumulative DEEP concentration
Includes emissions from West side data centers
Quincy - wide locomotives and SR 28 and SR 281
[# times ASIL (ASIL = 0.0033 ug/m3)]
< 10
10 to 16
16 to 25
25 to 40
40 to 63
63 to 100
> 100

Commenter: Danna Dal Porto - Comment I-4-8

Question: The maps in the Health study show the MWH facility and a plume of material that expands beyond the edge of the paper, sort of like detail of a larger map. I want to see each map showing the entire plume of material.....how far that plume extends into the area around town.

Response to Comment I-4-8

Figure 1 in the Health Impact Assessment Recommendation, July 2018, shows the full extent of the area in which proposed MWH 03/04/05/06 annual average diesel particulate impacts exceed the DEEP ASIL. Figure 3 shows the DEEP concentration gradient over a smaller area to present the key receptor locations exposed to the highest project-related diesel particulate concentrations.

Figure 2 in the Health Impact Assessment Recommendation, July 2018, shows the full extent of the area in which proposed MWH 03/04/05/06 maximum 1-hr NO2 impacts exceed the NO2 ASIL. Figure 5 shows the NO2 concentration gradient and presents the key receptor locations exposed to the highest project-related NO2 concentrations.

Commenter: Danna Dal Porto - Comment I-4-12

Question: I am referencing a letter, dated June 22, 2018, from Chris Hanlon-Meyer, Ecology, to Mark Brunner, Landau. In this letter, Ecology "requests submission of a qualitative discussion about the potential for increased health effects from exposure to both DEEP and NO2 and the historical outage data so that it may be considered as we determine the need for appropriate actions". I did not see any mention of "historical outage data" in the Health Report. All I ever see is that the power is supposed to be great and there will be the likelihood of few problems. Did Landau answer Ecology's request and what is the answer?

Response to Comment I-4-12

Yes. Landau Associates obtained reported outage data from Oath (2011 through 2017), Microsoft Columbia (2008 through 2017), and Microsoft MWH (inception through 2017) data centers. The data provided by these data centers confirm that the power is reliable with Microsoft Columbia experiencing outages (unplanned and planned) about 1 hour per year on average, and Oath experiencing outages about 2 hours per year on average. Most outages were planned. A single simultaneous outage affecting Microsoft Columbia, Microsoft MWH and Oath data centers occurred for about 1.5 hours due to high winds.

For reference, Ecology typically conservatively evaluates the frequency of NO2 impacts in excess of 454 $\mu g/m^3$ and provides estimates of recurrence intervals assuming simultaneous power outages of 2.3 or more hours per year (consistent with the Grant County PUD's reported 2006 to 2016 system average interruption duration index). See Tables 5 and 6 of Health Impact Assessment Recommendation, July 2018.

Commenter: Danna Dal Porto - Comment I-5-2

So there's some little picky things. On page 27 of the health assessment, there is a map showing the NO2 concentrations that would exceed the [indistinct] in the event of a power outage. But the map doesn't tell me how long of a power outage. So I think that's a large flaw.

Response to Comment I-5-2

The maximum 1-hr concentrations presented in Figure 2 of the Health Impact Assessment Recommendation, July 2018, were based on the assumption that the highest NOx emission rate from each of the 72 MWH 03/04/05/06 proposed engines occurs continuously over a 5 year meteorology period (approximately 44,000 hours). The model determines the highest estimated 1-hr NO2 concentration over the 5 years (or ~ 44,000 hours) at each receptor location. Figure 2 displays the locations where the maximum 1-hr NO2 concentration could exceed the ASIL assuming each engine operates at its worst-case load.

Commenter: Danna Dal Porto - Comment I-5-3

There's also a map on page 31 [of the health assessment], which shows the maximum NO2 concentrations from a large power outage. And this covers a large part of the community, but it does not -- the Ecology has not indicated where Mountain View School is. And even though they have put Monument School on these maps, Mountain View is a really -- we have a lot of students at that building, and I need to know that they're ok.

Response to Comment I-5-3

Landau Associates chose to evaluate exposures that occur at Monument Elementary School because this school is the most impacted by MWH emissions. Ecology acknowledges that although Mountain View School does not appear to be impacted by MWH 03/04/05/06 emissions at levels above ASILs, they may be impacted by other local data centers' emissions. Ecology has reproduced the map to include the location of Mountain View School. See page 13 of this document.

Commenter: Danna Dal Porto - Comment I-5-5

I'm requesting an overview map, as I have in the past, showing all of the data centers and all of the flumes about how they kind of co-mingle. And I can get it if I ask for it, so I'm gonna ask for it again. There's a map at the back showing the location of the data centers and the number of engines. I would also like a copy of that map, which I apparently have to ask for.

Response to Comment I-5-5

A current map showing overlapping plumes from east- and west-side Quincy data centers does not exist. Ecology did not require Landau Associates to include emissions from eastside data centers as part of the second tier review health impact assessment because:

- We focused our review on the area of town impacted by the proposed project at levels above the ASIL, and
- Previous experience with permitting data centers in Quincy has shown us that the impacts of east side data centers on the annual average concentrations of diesel particulate matter on the west side of town are minimal, and
- Each side of town is served by separate electrical feeder lines according to Grant PUD, and system-wide power outages affecting east and west sides of town are expected to be unlikely.

The two maps provided for Response to Comment I-4-7 on pages 13 and 14 of this document reflect:

- the maximum 1-hr NO2 concentration assuming all west-side Quincy data centers continuously operate all of their permitted and proposed engines at worst-case loads over a 5 year meteorological period (approximately 44,000 hours), and
- the cumulative average annual diesel particulate concentrations assuming all west-side Quincy data centers emit their allowable annual emissions every year for 70 years, highway emissions from SR 28 and SR 281 will continue at 2014 emission rates into the future, and locomotive emissions will continue at 2014 rates into the future.

Commenter: Patricia Martin - Comment I-6-3

I also want to point out to people that may not be aware of this, is that 100 cancer per million standard that you heard mentioned by Gary Palcisko was actually arbitrarily assigned to the City of Quincy so that we could place all of those data centers within our urban growth area. Otherwise, the standard for the state is 1 cancer in a million.

I want to make sure that people understand that you didn't ask for the organization that I represent or that Danna represents, but it's Microsoft Yes Toxic Air Pollutants No. It's not about not wanting data centers. It's about not wanting the pollution that comes from them, okay? And we do live in a valley. And that has not really been taken into consideration with the placement of these facilities.

Commenter: Danna Dal Porto - Comment I-4-1

My continued concern is for the air quality in my community. Ecology has not convinced me that adding over 300 diesel generators, in such a small area, is safe. I live south of Quincy and I can look to the north and see a cloud of pink/tan diesel smoke hanging over the town. The

"Community Wide" approach that was adopted for Quincy was an arbitrary number with no scientific basis. No studies were done and no peer review was conducted to verify the decision to adopt this standard. I consider the adoption of "Community Wide" as an abandonment of principle and an insult to the protection of human health and the environment. Ecology should be embarrassed how this standard was chosen to allow the intense concentration of data centers in this rural community. It is my opinion that Ecology is serving industry, not the public.

Response to Comment I-6-3 and I-4-1

Washington's air toxics rule allows an increased cancer risk of up to 10 cases of cancer per million people for each new source or project. WAC 173-460-090 (7); WAC 173-460-080(5). State law does not currently define an upper bound for acceptable cumulative cancer risk in any community in Washington. Ecology established a goal to prevent multiple new sources of diesel particulate from causing repeated incremental risks on the same individuals in Quincy. If a data center proponent's incremental risk would result in a cumulative risk greater than this goal, Ecology would explore all available options to mitigate background risk before a new project can be approved.

Commenter: Patricia Martin - Comment I-6-7

And I think, with the exception of adding one other note, and that was that when this all started [indistinct] in 2008, Ecology had told us that the number of engines coming to town was 100, not 300. Thank you.

Response to Comment I-6-7

A limit on the number on backup emergency engines in Quincy has not been set. This project would permit 72 additional engines at MWH for a total of 117 engines at MWH, which will bring the total number of data center emergency engines in Quincy to 300.

Commenter: Patricia Martin - Comment I-3-12

Please provide documentation that emissions from the 500,000 gallons/day were modeled. Please itemize how many engines are assumed to be running and for how long. What is the anticipated effect of these emissions on health? Please be specific as to levels of criteria, TAPs and HAPs.

Response to Comment I-3-12

Microsoft's NOC application demonstrated through air dispersion modeling that the facility (117 engines), which will potentially consume 506,310 gallons of diesel fuel within one day of power outage, will meet all 24-hr limitations for pollutants with standards that have a 24-hr averaging period, such as PM_{10} and $PM_{2.5}$ (WAC 173-400-111). For the PM_{10} standard (99^{th} percentile standard) an unplanned power outage was simulated. For the $PM_{2.5}$ standard (98^{th} percentile

standard, 8th highest result) the maximum results from the 8th ranked day of monthly maintenance was simulated. Toxic air pollutants acrolein and ammonia, which have 24-hr averaging periods were evaluated for this project only (72 engines) (WAC 173-460-070). Please see Microsoft's NOC application air dispersion modeling descriptions and on Pages 7-6 to 7-10 and Tables 9 and 11.

Commenter: Patricia Martin - Comment I-3-17

Another error that may be included in the health assessment is exposure times for students. Beginning in 2019 all schools in Quincy will be neighborhood schools, except the new high school. This means that assumptions that students receive only 8 hours of exposure is no longer accurate because the students live in the neighborhood around the school 24 hrs/day.

Response to Comment I-3-17

We acknowledge that it is possible for people to live in the area around their school. Landau Associates identified the maximally impacted residence and maximally impacted school. The exposure concentration at the maximally impacted residence is higher than the exposure concentration at the school. Evaluation of the maximally impacted residential receptor's risk assuming continuous lifetime exposure is actually more conservative than assuming partial exposures occurring at home and school.

Commenter: Patricia Martin - Comment I-3-18

With 300 permitted engines in Quincy even small modeling errors can have negative consequences.

Response to Comment I-3-18

Thank you for your comment.

Comments on Modeling

Commenter: Danna Dal Porto - Comment I-4-9

Question: Explain to me the issue of measuring the plumes of material at the property line and yet no measurement is made of the overlapping plumes of material. With the density of data centers and, with another one coming, how can Ecology not measure the overlapping plumes to determine density of toxicity? Ecology seems to act as if each facility is an island and does not impact the neighboring facility. Actually, each of these plumes extends far beyond the border of the individual properties and the plumes together constitute the level of toxicity.

Commenter: Patricia Martin - Comment I-3-5

What are the air quality results when all 154 engines to run simultaneously due to a power outage?

Response to Comments I-4-9 and I-3-5

The commenter's mention of 154 engines appears to reference to all of MWH Data Center 01/02/03/04/05/06 (117 engines) and Columbia data center (37 engines). In Microsoft's NOC application, both regional background and local background sources, such as Microsoft MWH 01/02, Microsoft Columbia Data Center, NTT DATA Data Center, Con Agra, and CyrusOne were added to the modeling results from Microsoft's expansion project. Please see page 7-9 and Table 9 of Microsoft's NOC application.

Commenter: Patricia Martin - Comment I-3-15

Data centers locating in Quincy have purchased large parcels of property. Because Ecology is choosing to measure NAAQS compliance at the fence line, greater releases of criteria pollutants are being allowed to enter our air shed due to this dilution by distance factor. This seems counterintuitive to the notion of "controlling" pollutants.

Commenter: Patricia Martin - Comment I-6-2

I just have a few comments. One is a continued objection to the fact that Ecology measures compliance with the NAAQS, the National Ambient Air Quality Standards for the criteria pollutants. They measure it at the fence line, which means there are a greater amount of emissions that are allowed to be emitted into our airshed, because that measurement takes place at the fence line on a large piece of property, right? So there's a great distance between the point of discharge and the point of measurement.

Response to Comments I-3-15 and I-6-2:

Every new source or modification must demonstrate that it will not contribute to violations of the NAAQS. RCW 70.94.152(4); WAC 173-400-133(3). The NAAQS are set by federal law, (42 U.S.C. §7409(a) and 40 C.F.R. §50.4-50.17), and apply to the ambient air as defined in 40 C.F.R. §50.1(e). Ambient air is defined as "that portion of the atmosphere, external to buildings, to which the general public has access." 40 C.F.R. §50.1(e). Both the state Clean Air Act, RCW 70.94.030(4), and its implementing regulations, WAC 173-400-030(6), define "ambient air" to mean "the surrounding outside air." Ecology interprets the term "surrounding outside air" to be consistent with the federal definition of ambient air in 40 C.F.R. §50.1(e) the air that is outside the restricted and controlled area of the facility to which there is no public access. Since MWH has a fence at the boundary and tight security to protect the data center, measuring compliance with NAAQS at the property boundary is appropriate.

Commenter: Patricia Martin - Comment I-6-4

I also noticed in the preliminary determination, which will become the permit, it is that -- and I'm astounded by this number -- is that it's okay to release 506,310 gallons of diesel in one day. And I want to make sure that that number for a release or a consumption of fuel was actually modeled. Because half a million gallons of diesel seems like an awful lot to be permitted for a one-day release. And I find it hard to believe that we would be compliant with the max.

Response to Comment I-6-4

Microsoft's NOC application demonstrated through air dispersion modeling that the facility (117 engines), which will potentially consume 506,310 gallons of diesel fuel within one day of power outage, will meet all 24-hr limitations for pollutants with standards that have a 24-hr averaging period, such as PM_{10} and $PM_{2.5}$ (WAC 173-400-111). For the PM_{10} standard (99^{th} percentile standard) an unplanned power outage was simulated. For the $PM_{2.5}$ standard (98^{th} percentile standard, 8^{th} highest result) the maximum results from the 8^{th} ranked day of monthly maintenance was simulated. Toxic air pollutants acrolein and ammonia, which have 24-hr averaging periods were evaluated for this project only (72 engines) (WAC 173-460-070). Please see Microsoft's NOC application air dispersion modeling descriptions and on Pages 7-6 to 7-10 and Tables 9 and 11.

Commenter: Patricia Martin - Comment I-6-5

I also take issue, once again, with the 36-month rolling average that you use in the permit. I would ask that Ecology provide me with some place in the regulations that allow for a long-term rolling average. My understanding is that's not something that -- at least the people I've talked with in EPA -- are aware of something that allows for that kind of length of time.

Response to Comment I-6-5

EPA has determined that compliance with several of the National Ambient Air Quality Standards (NAAQS) is to be based on 3 year averages: NOx primary 1-hour standard, PM2.5 primary and secondary annual standards, PM2.5 primary and secondary 24-hour standard, PM10 primary and secondary annual standards, S02 primary 1-hour standard. For several other NAAQS, such as the NO2 annual standard, compliance is based on more immediate measurements rather than on 3 year averages.

The rolling average requirements in the MWH permit track compliance with the NAAQS for those pollutants for which compliance is determined via a 3-year average. For other pollutants, Microsoft provided a worst-case scenario where an entire 3-years' worth of emissions were assumed to be emitted in just one year. This analysis demonstrated that under the worst case scenario under the 3-year average operational limits in the permit, the Microsoft MWH project would comply with the NAAQS, even if the entire allocation of emissions for three years occurred within a single year.

Commenter: Patricia Martin - Comment I-3-3

Regarding the 1.5 meter breathing zone: Please provide a copy of the policy referenced by Gary Palcisko that supports the use of 1.5 meters.

Response to Comment I-3-3

The 1.5 meter "flagpole" receptor height was proposed by Landau Associates in the "SecondTier Health Impact Assessment Protocol." Ecology accepted this receptor height because, in general, modeled impacts are typically slightly higher at a 1.5 m flagpole height compared to ground level when the pollutants are released from elevated sources (e.g., stacks).

Commenter: Patricia Martin - Comment I-3-4

Ecology stated that it did not model emissions from the existing engines together with the new 72, but used them instead for background. Appendix W's use is a requirement of the SIP (see 40 CFR 51) and requires that in addition to modeling the source that nearby sources should also be modeled. This is in addition to background. Please cite the authority to circumvent this requirement?

Response to Comment I-3-4

Microsoft modeled the MWH project expansion as well as included regional and local background sources, such as MWH Data Center 01/02, NTT DATA Data Center, Columbia Data Center, Con Agra and CyrusOne Data Center for $PM_{2.5}$, PM_{10} and NO_2 to compare to the NAAQS standards. Please see Table 9 of the NOC application for results and specific operation scenarios for each standard evaluation.

Comments on Monitoring

Commenter: Danna Dal Porto - Comment I-4-10

Question: I want the air monitor to remain in Quincy for the indefinite future.

Commenter: Danna Dal Porto - Comment I-4-11

Question: I want to learn how to look up the information on the air monitor. I want to see what the monitor is measuring. I have looked at the monitor frequently during the terrible smoke events of 2018. I know many other people who relied on that air quality website to learn about how safe it was outside. Please, leave the air monitor in town to help us learn about the air quality.

Commenter: Danna Dal Porto - Comment I-5-4

We have an air monitor in our community. I think that there are several of us that have asked for that, and it's been really helpful. I know in the last few weeks that I've consulted the air monitor myself regarding the health hazards from the smoke from the forest fires, and I want to keep that air monitor. I don't want Ecology to take it away. I want it to stay here. If the new normal is summer smoke plus the addition of these industrial generators, that air monitor needs to stay here.

Response to Monitoring

The Quincy monitor will remain in place until March of 2019 and then be reevaluated by the Monitoring Advisory Committee. The Monitoring Advisory Committee decides which monitors are most effective and where to place them.

Comments on Other

Commenter: Patricia Martin - Comment I-3-13

Please provide the SDS for the bactericide to be used in the cooling tower water at MWH.

Response to Comment I-3-13

Please see Appendix A of this document: Safety Data Sheets for the biocides that Microsoft will add to the evaporative cooling units.

Comments on Outreach

Commenter: Danna Dal Porto - Comment I-4-14

Question: The new rules for Chapter 173-400 states that Ecology will stop using the newspaper for notification. I will point out that the Educational Service District of North central Washington has determined that less than 50% of homes have internet service. That is Grant, Douglas, Chelan and Okanogan counties. To rely on internet connections with citizens is premature. In Eastern Washington, we do not have the technology available in other parts of Washington State. If Ecology goes to internet-only notifications, a vast number of citizens will be unable to participate in these important functions of government. I want Ecology to reconsider this premature adoption of technology to connect with citizens. Wait until more of us are "connected" before you drop newspaper notification.

Commenter: Danna Dal Porto - Comment I-5-6

There's also a new notification from Ecology. The rule-making for Chapters 173-400 WAC indicates that they're going to stop putting newspaper notifications out. They're going to go completely to web notifications. I really think that's wrong. This is a community that has very poor, limited internet access. And to just say that if you know how to get to the website, you can find out about meetings of this kind, it's just ridiculous.

The newspaper is an important part of our community knowledge base and what's going on, and we need to keep that. So anybody who wants to comment, they're going to stop newspaper notification in June of 2019, which is silly. Again, I'm here because I want to make sure that we make our air as clean as possible. And I appreciate everyone listening to me again. Thank you.

Commenter: Patricia Martin - Comment I-6-1

So first, I'd like to say that tonight, of all nights, there were open houses at all the schools. And so there are a number of teachers that would have been here tonight to offer comments, particularly Deborah Koehnen, who lives very close to several of the data centers, and they are unable to attend. And that also means that a large part of the community with children are also unable to attend.

Response to Outreach

All Washington clean air agencies are currently doing notification on their websites, in addition to newspaper. In this regard, the change is largely to reflect the current practice. However, the rule change to WAC 173-400-171 in 2018 recognizes that there are people with limited or no access to internet, and took the following measures.

- The rule requires permitting agencies to continue publishing public notices in the newspaper of general circulation in the area of proposed action until June 30, 2019.
- The rule recommends the permitting agencies continue publishing in the newspaper for projects with high interest (per the agency's judgement)
- The permitting agencies are given the option to supplement the web notification (e-notice) with any other notification methods, including newspaper.

This change to the public notice procedures under WAC 173-400-171 already had its own public comment period and is complete and final.

The recent public comment period related to the State Implementation Plan (SIP) regards Ecology's request for EPA to approve the rule change so that it can be enforced by EPA and in federal courts. We will publish the announcement on the SIP action in the newspaper, as well as our website.

Comments on Permit Conditions

Commenter: Jaymes Kirkham - Comment B-1-1

Microsoft appreciates that opportunity to comment on Ecology's Preliminary Determination for reissuance of Approval Order 17AQ-E002 to accommodate the planned construction of phases 3 through 6 of the MWH Data Center. Microsoft supports issuance of this approval order. It will accommodate an urgently needed expansion of the data center. We have only a handful of suggested edits to the proposed approval order, all focused on the source testing language in Condition 4(d).

This condition imposes source testing requirements to monitor compliance with the emission limits in Table 6 of the approval order. The language in condition 4(d) needs to be clarified to address two issues. First, Table 2 of Appendix B to Subpart E of 40 CFR Part 89 specifies engine loads for five load weighted average emissions testing in torque, but the Engine Control Module (ECM) on Caterpillar engines does not directly measure torque. Caterpillar instead recommends determining torque according to Caterpillar's written guidance for each engine-generator combination, which correlates to the load levels specified in Table 2 with the equivalent ekW measurement reported by the ECM, taking into account such factors as generator efficiency and parasitic loads. Microsoft proposes to rely on this Caterpillar guidance to make the compliance demonstration required by Ecology, and to strike the sentence "Engine load rate shall be crosschecked using engine control unit torque data" because the ECM does not measure torque. The approval order needs to specify how to convert ekW to torque, and Microsoft's edits fill that gap in a manner consistent with the manufacturer's guidance.

Commenter: Jaymes Kirkham - Comment B-1-2

The second issue with the proposed source testing language is that EPA's five load weighted average test cycle spelled out in Table 2 was written for engines being tested in a laboratory. The engines installed at MWH cannot achieve 100 percent of the rated torque load of the engine because the generator limits the capacity of the engine. Microsoft proposes an edit in subparagraph (i) to clarify that for purposes of this permit, 100 percent engine load means the maximum electrical load for each engine-generator combination.

Commenter: Jaymes Kirkham - Comment B-1-3

Microsoft proposes two small edits to subparagraph (iii). We propose to strike a reference to "analyzer" in the third sentence because we do not know what "analyzer" the condition references. We propose to substitute a cross-reference to subparagraph (i) for the phrase that requires torque output to be "crosschecked against data from the engine control unit" for the reason explained above--the Caterpillar ECM reports electrical load in ekW, and there is no direct torque reading to cross-check against.

Response to Permit Conditions

Thank you for your comments and suggested condition edits. Do to the rapid changes in understanding of how to best test these engine-generator sets, we have decided to simplify condition 4.d to reference the test methods and not spell out method 1065. Proposed changes to testing may be addressed with Ecology through testing protocol before any scheduled testing (as per Table 6 in the preliminary determination).

Comments on AOP

Commenter: Patricia Martin - Comment I-3-1

MWH is a major source. Why is there a 12 month period before it has to apply for an Air Operating Permit to be regulated under Title V? Please provide the citation allowing for this delay in being regulated under Title V.

Response to Comment I-3-1

WAC 173-401-500 (3) (c) states that a new source has 12 months after commencing operation to file a complete application. The facility will be required to meet all the requirements of the NOC Approval Order and all federally applicable requirements upon issuance of the approval order, regardless of the status of the AOP application and permit.

Comments on Facility

Commenter: Patricia Martin - Comment I-3-2

MWH is a major source and is functionally interrelated with the Columbia data center. Why are MWH and Columbia data centers not being regulated under common control as a single source? Please provide the citation supporting your answer. See attached D.C. Circuit Court of Appeals decision June 8, 2018.

Commenter: Patricia Martin - Comment I-6-6

I also -- and I left it in my chair. I'll bring it up to you. I brought along the D.C. Circuit Court of Appeals decision from June of 2018 overturning the summit decision. And basically, the effect of this is that Microsoft's NWH with its 177 engines and the Columbia Data Center, even though they are not physically adjacent, are by definition, under the law, adjacent, and so need to be regulated under common control. So I brought that court case for you.

Response to Facility

Ecology does not believe the MWH Data Center and the Columbia Data Center should be treated as a single source. Whether or not two facilities are under common control is not the only criterion required to be met to determine whether they are a single source. An additional criterion is that the facilities need to be on adjacent or contiguous properties. The two Microsoft facilities are located about a half mile apart. The two Microsoft facilities are not physically adjacent, nor are they on contiguous properties.

Appendix A

- Microsoft Attachment: 1 page
- Martin Attachments: 26 pages
- Safety Data Sheets (in response to Comment 1-3-13): 21 pages

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Microsoft

Attachment A

4. GENERAL TESTING AND MAINTENANCE REQUIREMENTS

d.

i. For the five load tests, testing shall be performed at each of the five engine torque load levels described in Table 2 of Appendix B to Subpart E of 40 CFR Part 89, and data shall be reduced to a single-weighted average value using the weighting factors specified in Table 2. ~~For 40 CFR 1065 field testing, e~~Each test run shall be done within 8 percent of the target load value specified in Table 2~~, 5 percent of maximum~~. Microsoft may replace the dynamometer requirement in Subpart E of 40 CFR Part 89 with corresponding measurement of gen-set electrical output to derive torque output. Microsoft may rely on written guidance from the engine manufacturer to convert measured ekW to torque load. If an engine's ability to reach 100 percent torque load is limited by its generator capacity, for each test run at 100 percent load the engine shall be set to run at the maximum ekW for that engine generator combination. ~~Engine load rate shall be crosschecked using engine control unit torque data.~~

ii. For all tests, the F-factor described in Method 19 shall be used to calculate exhaust flow rate through the exhaust stack, except that EPA Method 2 shall be used to calculate the flow rate for purposes of particulate testing (Method 2 is not required if 40 CFR 1065 is used). Fuel meter data measured according to Approval Condition 4.f, shall be included in the test report, along with the emissions calculations.

iii. Three test runs shall be conducted for each engine, except as allowed by the sampling protocol from 40 CFR 1065. Each run shall last at least 60 minutes except as allowed by the sampling protocol from 40 CFR 1065. ~~Analyzer and e~~Engine control unit data shall be recorded at least once every minute during the test. Engine run time and torque output (calculated as provided in subparagraph (i) above~~) from kilowatt electrical and crosschecked against data from the engine control unit)~~ and fuel usage shall be recorded during each test run for each load and shall be included in the test report.

Microsoft Corporation is an equal opportunity employer.

Subject: RE: Diesel particulate
From: "Bray, Dave" <Bray.Dave@epa.gov>
Date: 6/17/2015 10:41 AM
To: Patty Martin <martin@nwi.net>

Agreed.

But I just wanted to make sure you understood that Ecology is responsible for enforcing a variety of PM standards, including their old SIP PM limits, PM10 and PM2.5 limits they establish in Notice of Construction approvals, and delegated federal standards such as the NSPS for internal combustion engines. Each of these rules/permits establishes PM limits and testing requirements that are specific to the form of PM being regulated and Ecology needs to ensure that all of them are met. For example, just because EPA's NSPS for diesel engines only applies to filterable does not provide any basis for Ecology's PM10 and/or PM2.5 permit limits to exclude condensables. All SIP or permit limits for PM10 and PM2.5 must include condensables and compliance tests must test for condensables.

Dave

_____
From: Patty Martin [martin@nwi.net]
Sent: Wednesday, June 17, 2015 10:10 AM
To: Bray, Dave
Subject: Re: Diesel particulate

Yes, but PM is not DPM, ultra fine and gaseous.

On 6/17/2015 9:45 AM, Bray, Dave wrote:

> No, nothing has changed in Ecology's rules with respect to the requirement for condensable particulates to be included (and tested) in any PM10 or PM2.5 emission limitations that the State establishes in a rule or permit. Condensable PM has never been required to be included for the old total PM limits that use EPA Method 5 for compliance testing.
>
> Dave
>
> _____
> From: Patty Martin [martin@nwi.net]
> Sent: Wednesday, June 17, 2015 9:31 AM
> To: Bray, Dave
> Subject: Diesel particulate
>
> Dave,
>
> Did any of the rules submitted by Ecology to EPA remove the requirement
> for Ecology to test condensable diesel particulate?
>
> Patty

--
Patricia Martin
Safe Food and Fertilizer
617 H St. SW
Quincy, WA 98848

A project of Earth Island Institute.

Subject: RE: Question
From: "Bray, Dave" <Bray.Dave@epa.gov>
Date: 6/17/2015 9:41 AM
To: Patty Martin <martin@nwi.net>

Hi Patty,

Yes, the particulate matter limits in EPA's NSPS standards for stationary internal combustion engines and the manuracturer certifications for onroad and nonroad diesel engines only include filterable particulate matter. They do not include the condensable particulates so source tests for these federal requirements do not include the "back half" of the PM sampling train.

Dave

_____
From: Patty Martin [martin@nwi.net]
Sent: Thursday, June 11, 2015 1:55 PM
To: Bray, Dave
Subject: Question

Dave,

Is it true that EPA's NSPS standards and manufacturer certifications do not consider the condensable portion, i.e., "back-half" of diesel particulates?

Patty

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued April 2, 2018 Decided June 8, 2018

No. 16-1344

NATIONAL ENVIRONMENTAL DEVELOPMENT ASSOCIATION'S CLEAN AIR PROJECT,
PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY,
RESPONDENT

Consolidated with 16-1345, 16-1346

On Petitions for Review of Amendments to Regulations Promulgated by the United States Environmental Protection Agency

---

Allison D. Wood and *Shannon S. Broome* argued the cause for petitioners. With them on the briefs were *Felicia H. Barnes, Leslie Sue Ritts*, and *Charles H. Knauss*. *Stacy R. Linden* entered an appearance.

Andrew J. Doyle, Attorney, U.S. Department of Justice, argued the cause for respondent. With him on the brief were *Jeffrey H. Wood*, Acting Assistant Attorney General, and *Carol S. Holmes*, Attorney Advisor, U.S. Environmental Protection Agency.

Before: GARLAND, *Chief Judge*, and EDWARDS and SILBERMAN, *Senior Circuit Judges*.

Opinion for the Court filed by *Senior Circuit Judge* EDWARDS.

Concurring opinion filed by *Senior Circuit Judge* SILBERMAN.

EDWARDS, *Senior Circuit Judge*: This case involves a challenge by Petitioners National Environmental Development Association's Clean Air Project, American Petroleum Institute, and Air Permitting Forum ("Petitioners") to Amendments to Regional Consistency Regulations ("Amended Regulations"), 40 C.F.R. §§ 56.3–56.5 (2017), adopted by the Environmental Protection Agency ("EPA") pursuant to § 7601 of the Clean Air Act ("Act"), 42 U.S.C. § 7601. The Amended Regulations were issued in response to this court's decision in *National Environmental Development Association's Clean Air Project v. EPA* (*NEDACAP I*), 752 F.3d 999 (D.C. Cir. 2014).

NEDACAP I arose after the Sixth Circuit issued *Summit Petroleum Corp. v. EPA*, 690 F.3d 733 (6th Cir. 2012). In *Summit*, EPA had in force regulations adopted pursuant to the Act concerning "major sources" of pollution. The Act requires an operator of a "major source" of pollution to obtain a permit for a fixed term. 42 U.S.C. § 7661a(a). Under EPA regulations, multiple pollutant-emitting activities are treated as a single stationary source if they are, *inter alia*, "adjacent." 40 C.F.R. § 71.2; *id.* § 52.21(b)(5)–(6). EPA had determined whether facilities were "adjacent" on the basis of the functional interrelationships between the facilities, and not simply the physical distance separating them. In *Summit*, however, the Sixth Circuit vacated an EPA determination that a natural gas

plant and associated wells were one "source" for the purpose of permitting under the Act.

EPA took exception to the *Summit* decision because it effectively overturned a nationally applicable EPA policy. In December 2012, EPA issued a Directive to the Regional Air Directors of each of the ten EPA regions stating that,

> [o]utside the [Sixth] Circuit, at this time, the EPA does not intend to change its longstanding practice of considering interrelatedness in the EPA permitting actions in other jurisdictions. In permitting actions occurring outside of the [Sixth] Circuit, the EPA will continue to make source determinations on a case-by-case basis using the [agency's] three factor test.

NEDACAP I, 752 F.3d at 1003. One of the Petitioners here filed suit in this court challenging EPA's *Summit* Directive. The petitioner argued that by establishing inconsistent permit criteria applicable to different parts of the country, the *Summit* Directive violated the Clean Air Act and EPA regulations. We granted the petition for review, holding that the *Summit* Directive could not be squared with EPA's regulations. *Id.* We did not decide whether the *Summit* Directive also contravened the requirements of the Clean Air Act.

Almost immediately after the decision in *NEDACAP I* was issued, EPA instituted rule making to amend the old Regional Consistency Regulations. In August 2016, EPA issued the Amended Regulations that are at issue in this case. To address the *Summit* issue, the Amended Regulations make it clear that

> only the decisions of the U.S. Supreme Court and decisions of the U.S. Court of Appeals for the D.C. Circuit Court that arise from challenges to "nationally

> applicable regulations . . . or final action," as discussed in Clean Air Act section 307(b) (42 U.S.C. 7607(b)), shall apply uniformly.

40 C.F.R. § 56.3(d).

The Petitioners challenge the Amended Regulations principally on the ground that, under 42 U.S.C. § 7601(a), EPA is required to implement the Act uniformly nationwide and establish mechanisms for resolving judicially created inconsistencies. Petitioners' position is difficult to comprehend, however. For example, if the Sixth Circuit issues a decision that is contrary to EPA national policy, as happened in *Summit*, Petitioners contend that the agency cannot follow the approach announced in the *Summit* Directive. Does that mean that EPA must apply the Sixth Circuit decision in all regions? The statute does not require this. And if the Seventh Circuit subsequently issues a judgment that is at odds with the Sixth Circuit decision, would EPA be required to change its position again? Petitioners offer no viable answers.

Under the Act, the D.C. Circuit has jurisdiction to hear petitions for review of "any . . . nationally applicable regulations promulgated, or final action taken" under the Act, as well as any other final agency action that is, *inter alia*, "based on a determination of nationwide scope or effect." 42 U.S.C. § 7607(b)(1). The Act assigns all other petitions for review – including most challenges to "any . . . final action . . . which is locally or regionally applicable" – to "the United States Court of Appeals for the appropriate circuit." *Id.* Under this statutory scheme, it is hardly surprising that judicial review of EPA actions sometimes results in circuit court rulings that are inconsistent with other circuit court rulings applicable to different EPA regions. As we explain below, the Amended Regulations reflect permissible and sensible solutions to issues

emanating from intercircuit conflicts and agency nonacquiescence. We therefore defer to EPA's reasonable construction of the statute and deny the petitions for review.

I. BACKGROUND

EPA is run by an Administrator, whose office is located in Washington, D.C. The agency also has ten regional offices, each of which is responsible for administering agency programs within the states in a designated region. "The Administrator is authorized to prescribe such regulations as are necessary to carry out his functions under [the Act] . . . [and] may delegate to any officer or employee of the Environmental Protection Agency such of his powers and duties under [the Act], except the making of regulations subject to section 7607(d) of this title, as he may deem necessary or expedient." 42 U.S.C. § 7601(a)(1). In addition, the Act requires the Administrator to "promulgate regulations establishing general applicable procedures and policies for regional officers and employees (including the Regional Administrator) to follow in carrying out a delegation." *Id.* § 7601(a)(2).

The Act also provides that regulations with respect to delegations under § 7601(a)(1) must be designed

> (A) to assure fairness and uniformity in the criteria, procedures, and policies applied by the various regions in implementing and enforcing the chapter;
>
> . . . and
>
> (C) to provide a mechanism for identifying and standardizing inconsistent or varying criteria, procedures, and policies being employed by such officers and employees in implementing and enforcing the chapter.

Id. § 7601(a)(2). Over the years, EPA Administrators have made many such delegations to facilitate agency operations.

As noted above, judicial review of EPA actions is bifurcated between petitions for review that must be filed in the United States Court of Appeals for the D.C. Circuit and petitions that may be filed in the regional circuit courts. The Act provides:

> A petition for review of action of the Administrator in promulgating any . . . nationally applicable regulations promulgated, or final action taken, by the Administrator . . . may be filed only in the United States Court of Appeals for the District of Columbia. A petition for review of the Administrator's action . . . which is locally or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit. Notwithstanding the preceding sentence a petition for review of any action referred to in such sentence may be filed only in the United States Court of Appeals for the District of Columbia if such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination.

Id. § 7607(b)(1); *see also Dalton Trucking, Inc. v. EPA*, 808 F.3d 875, 878–80 (D.C. Cir. 2015) (discussing the jurisdiction and venue provisions under the Clean Air Act). The Petitioners acknowledge that this statutory scheme "creates the possibility of geographically inconsistent judicial decisions on [Act] issues," because different circuits may reach different results on the same question. Pet'rs' Br. 22.

As outlined in the introduction to this opinion, the dispute in this case stems from the Sixth Circuit's decision in *Summit*. That case resolved a challenge to EPA's interpretation of the word "adjacent," an interpretation the Sixth Circuit rejected. 690 F.3d at 735. EPA then issued the aforementioned *Summit* Directive in which the agency made it clear that it would not follow *Summit* in EPA regions outside of the Sixth Circuit. One of the Petitioners here challenged the *Summit* Directive in this court in *NEDACAP I*, arguing that the directive violated EPA's consistency obligations under both § 7601(a)(2) and the agency's then-effective regulations. 752 F.3d at 1003.

The consistency regulations that were at issue in *NEDACAP I* read, in relevant part, as follows:

> It is EPA's policy to:
>
> (a) Assure fair and uniform application by all Regional Offices of the criteria, procedures, and policies employed in implementing and enforcing the act; [and]
>
> (b) Provide mechanisms for identifying and correcting inconsistencies by standardizing criteria, procedures, and policies being employed by Regional Office employees in implementing and enforcing the act . . . .

NEDACAP I, 752 F.3d at 1004 (quoting 40 C.F.R. § 56.3 (2012)). We upheld the challenge to the *Summit* Directive because we saw the consistency regulations as implying "that EPA was obligated to respond to the *Summit Petroleum* decision in a manner that eliminated regional inconsistency." *Id.* at 1011. We concluded that EPA's then-current "regulations preclude[d] EPA's inter-circuit nonacquiescence . . . and [that] the *Summit* Directive [was] therefore contrary to law." *Id.* We

declined to determine whether the *Summit* Directive also violated the Act. *Id.*

The decision in *NEDACAP I* made it clear that EPA had options other than following the command of *Summit* nationwide, including an option to "revise its uniformity regulations to account for regional variances created by a judicial decision or circuit splits." *Id.* at 1010. EPA heeded these words and promptly issued a notice of proposed rule making.

In August 2015, EPA published and solicited public comment on a proposal to amend the old consistency regulations to address "how to treat Federal court decisions regarding locally or regionally applicable actions that may affect consistent application of national programs, policy, and guidance." Amendments to Regional Consistency Regulations, 80 Fed. Reg. 50,250, 50,252 (Aug. 19, 2015) (to be codified at 40 C.F.R. pt. 56). In August 2016, EPA issued the Amended Regulations that are now before us.

The Amended Regulations read in relevant part as follows:

It is EPA's policy to:

(a) Assure fair and uniform application by all Regional Offices of the criteria, procedures, and policies employed in implementing and enforcing the act;

(b) Provide mechanisms for identifying and correcting inconsistencies by standardizing criteria, procedures, and policies being employed by Regional Office employees in implementing and enforcing the act; and

. . . .

> (d) Recognize that only the decisions of the U.S. Supreme Court and decisions of the U.S. Court of Appeals for the D.C. Circuit Court that arise from challenges to "nationally applicable regulations . . . or final action," as discussed in Clean Air Act section 307(b) (42 U.S.C. 7607(b)), shall apply uniformly, and to provide for exceptions to the general policy stated in paragraphs (a) and (b) of this section with regard to decisions of the federal courts that arise from challenges to "locally or regionally applicable" actions, as provided in Clean Air Act section 307(b) (42 U.S.C. 7607(b)).

40 C.F.R. § 56.3(a), (b), (d). In § 56.4, EPA added a provision stating that

> [t]he Administrator shall not be required to issue new mechanisms or revise existing mechanisms developed under paragraphs (a) of this section to address the inconsistent application of any rule, regulation, or policy that may arise in response to the limited jurisdiction of either a federal circuit court decision arising from challenges to "locally or regionally applicable" actions, as provided in Clean Air Act section 307(b) (42 U.S.C. 7607(b)), or a federal district court decision.

Id. § 56.4(c). Finally, EPA revised § 56.5 so that a regional office need not seek headquarters' concurrence in order to depart from EPA policy if that departure is required in order to act in accordance with a federal court decision. *Id.* § 56.5(b).

Petitioners timely filed petitions for review of the Amended Regulations.

II. ANALYSIS

A. *Standard of Review*

Petitioners' challenge to EPA's interpretation of the Act is governed by *Chevron U.S.A. Inc. v. Natural Resources Defense Council*, 467 U.S. 837 (1984). Under *Chevron* step one, we must first decide "whether Congress has directly spoken to the precise question at issue." *Id.* at 842; *see also Kingdomware Techs., Inc. v. United States*, 136 S. Ct. 1969, 1976 (2016) ("[W]e begin with the language of the statute[;] . . . [i]f the . . . language is unambiguous and the statutory scheme is coherent and consistent . . . the inquiry ceases."). If the statutory provision in question is "silent or ambiguous with respect to the specific issue," we then assess the matter pursuant to *Chevron* step two to determine whether EPA's interpretation is "based on a permissible construction of the statute." 467 U.S. at 843. *See generally* EDWARDS & ELLIOTT, FEDERAL STANDARDS OF REVIEW: REVIEW OF DISTRICT COURT DECISIONS AND AGENCY ACTIONS 211–22 (3d ed. 2018).

The court may also set aside EPA action that is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law," or "in excess of statutory . . . authority." 42 U.S.C. § 7607(d)(9). "To determine whether EPA's rules are 'arbitrary and capricious,' we apply the same standard of review under the Clean Air Act as we do under the Administrative Procedure Act." *Allied Local & Reg'l Mfrs. Caucus v. EPA*, 215 F.3d 61, 68 (D.C. Cir. 2000). That standard requires us to "affirm the EPA's rules if the agency has considered the relevant factors and articulated a 'rational connection between the facts found and the choice made.'" *Id.* (quoting *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto.*

Ins. Co., 463 U.S. 29, 43 (1983)). *See generally* EDWARDS & ELLIOTT, FEDERAL STANDARDS OF REVIEW, *supra*, at 259–67.

B. *Petitioners' Challenges*

Petitioners challenge the Amended Regulations on four grounds. First, they argue that § 7601(a)(2) precludes the use of intercircuit nonacquiescence. Petitioners contend that this statutory provision requires EPA to implement the Act uniformly nationwide and establish a mechanism for resolving inconsistencies created by court decisions. Second, Petitioners claim that even if § 7601(a)(2) is ambiguous, the Amended Regulations rely on an unreasonable interpretation of the Act. Third, Petitioners contend that the Amended Regulations are arbitrary and capricious in allowing exceptions to EPA policy for court-created inconsistencies. Finally, Petitioners insist that because *NEDACAP I* held that intercircuit nonacquiescence violated regulations whose language resembles the statutory provision we now construe, the two cases cannot be distinguished and judgment in this case must follow its predecessor. For the reasons indicated below, we reject these arguments.

1. Section 7601(a)(2) Does Not Apply to Judicially Created Inconsistencies

Petitioners argue that because the Amended Regulations tolerate court-created inconsistencies in the application of agency policies, the regulations clearly violate § 7601(a)(2) and, therefore, cannot survive review under *Chevron* step one. In other words, Petitioners suggest that because the Act admits of plain meaning, EPA's construction of § 7601(a)(2) fails under *Chevron* step one. Petitioners' view is misguided.

"In addressing a question of statutory interpretation, we begin with the text." *City of Clarksville v. FERC*, 888 F.3d 477,

482 (D.C. Cir. 2018). In order to resolve the dispute at *Chevron* step one, we must determine whether "the intent of Congress is clear," meaning that the statutory provision at issue is "unambiguous[]" with respect to the question presented. *Chevron*, 467 U.S. at 842–43. This requires that the governing statute, read "as a whole," reveal a clear congressional intent regarding the relevant question, *see, e.g.*, *Dole v. United Steelworkers of Am.*, 494 U.S. 26, 41 (1990), or that "the text [of the statute] and reasonable inferences from it give a clear answer," *Brown v. Gardner*, 513 U.S. 115, 120 (1994). We certainly can make no such findings in this case.

What is most noteworthy here is that nothing in the language of § 7601(a) addresses judicially created inconsistencies in the application of EPA policies. Indeed, the fairness and uniformity requirements of § 7601(a)(2) apply only to EPA regulations promulgated for "regional officers and employees (including the Regional Administrator) to follow *in carrying out a delegation* under paragraph (1), if any." 42 U.S.C. § 7601(a)(2) (emphasis added). As relevant here, paragraph (1) limits the Administrator to delegating his or her "powers and duties under this chapter." *Id.* § 7601(a)(1). The Amended Regulations, however, excuse departure from EPA policy only to the extent "required in order to act in accordance with a federal court decision." 40 C.F.R. § 56.5; *see also id.* §§ 56.3–56.4.

Petitioners acknowledge, as they must, that the Administrator cannot defy a controlling federal court decision in any EPA region that falls within that court's jurisdiction. The Administrator has no such "power" or "duty" under the Act. In other words, the agency is required to obey such a judicial decision without regard to any delegation of powers or duties from the Administrator. Section 7601(a)(2) does not require regulations authorizing such obedience. Nor does the Act

purport to allow the Administrator to delegate authority to subordinate officials to ignore binding judicial decisions. In short, because the Administrator does not have any "powers" to disobey court decisions issued within EPA regions, § 7601(a) does not even allow for the issuance of such regulations. *And § 7601(a)(2) does not come into play in the absence of an Administrator's lawful delegation*. Therefore, the plain language of the Act surely does not support Petitioners' position.

Furthermore, the disputed provisions in the Amended Regulations do not purport to delegate any of the Administrator's powers. Rather, they provide that EPA regional offices are not required to seek headquarters approval "for actions that may result in inconsistent application if such inconsistent application is required in order to act in accordance with a federal court decision." 40 C.F.R. § 56.5(b). Again, where an action is required by a court, no delegation of the Administrator's "powers" has taken place.

"The plainness or ambiguity of statutory language" must be measured with reference to, among other things, "the specific context in which that language is used, and the broader context of the statute as a whole." *Robinson v. Shell Oil Co.*, 519 U.S. 337, 341 (1997). Petitioners concede that the Act, by its terms, allows for inconsistent judicial decisions. As already noted, petitions for review of purely local or regional EPA actions must be filed in the appropriate circuit court. 42 U.S.C. § 7607(b)(1). Petitions regarding nationally applicable issues must be filed in this court. *Id.* Congress obviously meant to curb inconsistencies with respect to "nationally applicable regulations promulgated, or final action taken, by the Administrator" by channeling all such challenges to the D.C. Circuit. *Id.* However, no such provision was enacted for agency actions that are purely "locally or regionally applicable." *Id*.

The potential for intercircuit inconsistency is therefore an inevitable consequence of the Act's judicial review provision.

Petitioners argue that § 7601(a) was intended to resolve the problem of inconsistent judicial decisions generated by § 7607. They contend that the Amended Regulations thus violate § 7601(a)(2) because they do not promote uniformity, but rather permit regional offices to take actions that may result in inconsistent application of the Act "if such [action] is required in order to act in accordance with a federal court decision." 40 C.F.R. § 56.5(b). However, as already noted, reducing inconsistencies generated by different judicial decisions in different regions is not the aim of § 7601(a).

Petitioners' arguments seem to imply that EPA's construction of § 7601(a) cannot be credited because intercircuit conflicts are inherently bad and, therefore, we should not assume that Congress meant to enact such a statutory scheme. On this point, it is sufficient to say that Petitioners' views on the values of intercircuit conflicts are shortsighted. *See* Samuel Estreicher & Richard L. Revesz, *Nonacquiescence by Federal Administrative Agencies*, 98 YALE L.J. 679, 735–36 (1989) (contending that "[g]iven the lack of intercircuit stare decisis, and the reasons underlying our system of intercircuit dialogue, an agency's ability to engage in intercircuit nonacquiescence should not be constrained").

In any event, the main point here is that § 7601(a)(2) addresses only delegation-created inconsistencies, whereas § 7607(b)(1) obviously allows for judicially created inconsistencies. Contrary to what Petitioners suggest, these two provisions do not intersect. Indeed, in their brief to this court, Petitioners concede that § 7601(a)(2) was meant to address delegation-created inconsistencies, not judicially created inconsistencies. Pet'rs' Br. 2–3.

In sum, Petitioners cannot prevail under the first step of *Chevron* because the plain meaning of the Act does not support their claims. Section 7601's uniformity obligations do not address court-created inconsistencies. They instead apply solely to regulations governing delegations of the Administrator's powers. Obedience to a controlling court decision involves no such delegation. Because the Amended Regulations merely acknowledge what the law requires, *i.e.*, obedience to controlling court decisions, § 7601's uniformity obligations do not apply.

2. EPA Permissibly and Reasonably Interpreted the Act to Allow Intercircuit Nonacquiescence

Petitioners' arguments also fail under *Chevron* step two. "*Chevron* recognized that [t]he power of an administrative agency to administer a congressionally created . . . program necessarily requires the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress." *Mayo Found. for Med. Educ. & Research v. United States*, 562 U.S. 44, 55–56 (2011). A court has no authority to "substitute its own construction of a statutory provision for a reasonable interpretation made by the administrator of an agency" when the agency is acting pursuant to congressionally delegated authority. *Chevron*, 467 U.S. at 844. "*Chevron*'s premise is that it is for agencies, not courts, to fill statutory gaps." *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 982 (2005).

As explained above, intercircuit conflicts in the application of EPA policies caused by inconsistent judicial decisions are inevitable because of the Act's judicial review provision in § 7607(b)(1). The Act does not instruct EPA how to address such intercircuit conflicts or how to implement the "fairness" and "uniformity" provisions of § 7601(a)(2).

However, EPA has the delegated authority to enforce these statutory provisions and to fill any perceived gaps in the statute. In our view, the Amended Regulations reasonably fill the statutory gaps, and, therefore, EPA's construction of the Act is entitled to deference.

In its brief to this court, EPA usefully and accurately summarized the Amended Regulations:

> *First*, EPA promulgated an exception to the agency's policy of uniformity, acknowledging existing agency practice that a federal court decision adverse to EPA that arises from a challenge to a locally or regionally applicable agency action will not "automatically" apply uniformly nationwide. EPA also codified its longstanding position that, consistent with the structure and purpose of the Act's judicial review provision, 42 U.S.C. § 7607(b)(1), only decisions of the Supreme Court and decisions of this Court that arise from challenges to nationally applicable regulations or final agency action would necessarily apply uniformly.
>
> *Second*, EPA added a provision that its headquarters need not issue mechanisms or revise existing mechanisms to address every "inconsistent application of any rule, regulation, or policy that may arise in response to the limited jurisdiction of either a federal circuit court decision arising from challenges to 'locally or regionally applicable' actions . . . or a federal district court decision."
>
> *Third*, EPA clarified that a regional office no longer needs to seek concurrence from headquarters to diverge from national policy if such regional action is required in certain states "to act in accordance with"

> an adverse federal court decision that arises locally or regionally.

Resp't's Br. 10–11. EPA also makes the compelling point that

> Congress did not purport to forecast all the unique and unpredictable variables associated with regional court decisions, particularly when they opine on national policy. Section 7601(a)(2) is entirely silent on this more complex subject matter, and it is plausible (at the very least) for the agency to read section 7601(a)(2) as focusing on improving the consistency of actions that EPA regions take in the *absence* of judicial decisions.

Resp't's Br. 30. We agree. Overall, EPA's construction of § 7601(a) is not only permissible but eminently reasonable.

Petitioners struggle to articulate what regulatory provisions EPA should have included in place of the Amended Regulations. They appear to endorse the view that the Amended Regulations should require the agency to petition the Supreme Court for review of adverse judicial decisions, or require EPA's General Counsel to consult with the regions about how to handle court decisions that are at odds with EPA's national rules. None of these suggestions would make much of a dent in the inconsistencies inherently generated by § 7607, which further suggests that § 7601 was not aimed at such inconsistencies.

Moreover, Petitioners' suggestions do not involve powers delegated by the Administrator to the regions, and hence would not be promulgated under § 7601 in any event. Regional officers cannot petition for certiorari. Nor does any remedy involving EPA's General Counsel come within a delegation of power to a regional office. Rather, regulations addressing these

issues may come within the compass of other authority granted to the Administrator to constrain EPA actions. We do not foreclose the possibility that some other statutory provision, not addressed by Petitioners, might require some such procedures.

Petitioners' ostensible parade of horribles – a potentially national thicket of inconsistent decisions – is overblown, to say the least. If no party is able to overturn an inconsistency-creating decision through a petition for rehearing, en banc review, or certiorari to the Supreme Court, EPA obviously will be in a position to consider initiating a rule making procedure to resolve the conflict, or take other final agency action that has the force of law. Alternatively, a petitioner with standing may petition for rule making should EPA fail to initiate such a proceeding.

The simple point here is that the statute clearly contemplates some splits in the regional circuits. There is nothing in the statute to indicate that EPA is bound to change its rules nationwide each time a regional circuit court issues a decision that is at odds with an EPA rule. Were this the case, then the first court of appeals to address an issue would determine EPA's policy nationwide. And that would make no sense because only the D.C. Circuit has jurisdiction to hear and decide cases involving "nationally applicable regulations" or cases in which the action is "based on a determination of nationwide scope or effect." The implication of Petitioners' position – that EPA must conform its policies nationwide to the first circuit decision disagreeing with an agency rule – is illogical, and plainly inconsistent with the Act's judicial review provision. In fact, it is even worse than that, because if a second (or third, etc.) circuit were to disagree with that first mover, EPA would be forced to change its rules again to avoid a lack

of uniformity, if that were even possible. There is certainly no statutory requirement that EPA follow such an approach.

Petitioners' arbitrary and capricious challenge fails for much the same reason as their *Chevron* step two challenge. As EPA has explained, the Amended Regulations codify obedience to the law and preserve § 7607(b)(1)'s two-track system of judicial review. Petitioners' claim that EPA has not always been consistent in applying a practice of intercircuit nonacquiescence is immaterial. In this case, EPA need only show "that the new policy is permissible under the statute, that there are good reasons for it, and that the agency *believes* it to be better, which the conscious change of course adequately indicates." *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009). EPA has done this, and Petitioners offer no good reason to compel a different approach.

3. Petitioners' Argument that NEDACAP I *Controls this Case*

NEDACAP I held that intercircuit nonacquiescence violated the previous consistency regulations because those regulations "implie[d] that EPA was obligated to respond to the *Summit Petroleum* decision in a manner that eliminated regional inconsistency." 752 F.3d at 1011. Petitioners argue that because those regulations largely mirrored § 7601(a)(2)(A) and (C) (the statutory language we construe here), *NEDACAP I* compels us to interpret the statute likewise. While this point is superficially plausible, it has two notable flaws.

First, to the extent the parties and decision in *NEDACAP I* examined the Act, they did so solely with respect to § 7601(a)(2)(A) and (C), and did not analyze how § 7601(a)(1) and (2) limit application of the uniformity obligations to powers delegated by the Administrator. As explained above, because the Administrator cannot disobey a controlling court

decision, compliance with such decisions involves no delegation of power under the Act and thus does not trigger § 7601(a)(2)'s obligations.

Second, *NEDACAP I* specifically stated that "EPA might . . . revise its . . . regulations to account for regional variances created by a judicial decision or circuit splits." *NEDACAP I*, 752 F.3d at 1010. It is implausible that *NEDACAP I* invited regulations its own holding would invalidate. Indeed, had *NEDACAP I* assessed the *Summit* Directive solely vis-à-vis § 7601(a)'s strictures, and without reference to the then-effective regulations, the result would have been completely different. But *NEDACAP I* did not examine that issue.

Nevertheless, we recognize that the prior consistency regulations resembled § 7601(a)(2). To avoid any confusion going forward, we now make it clear that, to the extent *NEDACAP I* can be read to suggest that § 7601(a)(2) bars EPA from adopting reasonable regulations endorsing intercircuit nonacquiescence – as EPA did in promulgating the Amended Regulations – the decision is mistaken.[*]

III. CONCLUSION

For these reasons, we deny the petitions for review.

So ordered.

[*] Because our holding today might be viewed as inconsistent with some of the discussion in *NEDACAP I*, this opinion has been circulated to and approved by all of the active members of the court, and thus constitutes the law of the circuit. *See Irons v. Diamond*, 670 F.2d 265, 268 n.11 (D.C. Cir. 1981).

SILBERMAN, *Senior Circuit Judge*, concurring: I fully agree with the court's opinion. I write separately to point out that the EPA can often rather easily mitigate the inter-circuit non-acquiescence problem – and it should. Section 7607 provides that any EPA action that can be challenged in a regional circuit, because ostensibly regionally applicable, should nevertheless be brought only in our Circuit if the "action is based on a determination of nationwide scope or effect" and if the Administrator finds and publishes that such action is based on such determination. 42 U.S.C. § 7607(b)(1).

In the case of *Summit Petroleum Corp. v. EPA*, 690 F.3d 733 (6th Cir. 2012) – which started this whole donnybrook – EPA, in accordance with its regulations, responded to a request to the Administrator for a determination whether a number of natural gas facilities were "adjacent" and thereby constituted a single "major source" (which would impose a regulatory burden). None of the various locations shared a common boundary with one another, and they were scattered across 43 square miles. Nevertheless, EPA determined that the facilities were regarded as "adjacent" under its regulations, pointing to a memorandum prepared by its then-Assistant Administrator, Gina McCarthy (subsequently appointed Administrator). *See* Memorandum from Gina McCarthy, Assistant Adm'r, to Reg'l Adm'rs Regions I-X (Sept. 22, 2009). That was a reversal of EPA's previous position which interpreted "adjacent" geographically – not functionally. There is little question that, although this interpretation was applied first to a single set of facilities in the *Summit* case, it constituted an interpretation of "nationwide scope and effect." Therefore, it seems to me that the EPA Administrator should have so declared, and then any challenge should have been brought to the D.C. Circuit. Instead, Summit petitioned for review in the Sixth Circuit, leading to the national uncertainty that NEDACAP decries in the case before us.

It is clear that Congress, by empowering the EPA Administrator to publish a finding that an action is "based on a determination of nationwide scope or effect," delegated unusual authority to control the venue of judicial review. But her exercise of that authority is not unreviewable. Any circuit court, including the D.C. Circuit, could reject EPA's determination that an issue is of national importance as arbitrary and capricious under the APA. And conversely, a failure of EPA to so declare in an appropriate case could also be challenged by a party with standing – like NEDACAP here – who desired uniformity of national regulation, so long as it had first petitioned EPA to publish the necessary finding.

In *Summit*, the question as to whether the case belonged in the D.C. Circuit did not arise. But the Fifth Circuit has concluded that whether or not an issue is of nationwide scope and effect is only a venue question that it could determine *de novo*, without any deference to EPA. *See Texas v. EPA*, 829 F.3d 405, 417-22 (5th Cir. 2016). I think that opinion is quite wrong. To be sure, we have said that the question whether a case challenging EPA's action should be brought in a regional circuit or before us is not jurisdictional. *Dalton Trucking, Inc. v. EPA*, 808 F.3d 875, 879-80 (D.C. Cir. 2015). Nevertheless, it is more than the ordinary venue issue – which typically involves such questions as the convenience of the parties. Here it is the legislative provision that directs regional issues to regional circuits, and national issues to our circuit for uniform resolution. As such, it is venue plus; it approaches jurisdiction. Thus, while the EPA Administrator's determination does not escape review under the APA's arbitrary and capricious standard, it certainly should be entitled to deference. Indeed, I think deference in this situation should be particularly generous because the Administrator, as the national regulator, is in a much

better position than a regional circuit court to evaluate the nationwide impact of her action. Congress recognized that comparative advantage by delegating this unusual authority to an administrative agency.

Finally, as the court recognizes, it is possible that an issue of nationwide scope or effect could emerge unanticipated in an enforcement action in district court. Perhaps the purpose of the Congressional scheme would be followed, in that event, by the Administrator declaring the issue national, thereby channeling any appeal to the D.C. Circuit. Similarly, if a petition for review had already been filed in a geographical circuit and the EPA Administrator promptly followed with her national declaration, it would seem logical that the case should then be transferred to the D.C. Circuit – though it remains an open question how § 7607(b)(1) deals with retroactivity. All of these procedural pathways can and should work together to give effect to what I understand to be a clear Congressional mandate: uniform judicial review of regulatory issues of national importance.

SAFETY DATA SHEET

SOLID BIONOX

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	SOLID BIONOX
Other means of identification	:	Not applicable.
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630)305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	03/18/2015

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 3
Acute toxicity (Dermal)	:	Category 4
Skin irritation	:	Category 2
Serious eye damage	:	Category 1
Skin sensitization	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Toxic if swallowed.
Harmful in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.

Precautionary Statements : **Prevention:**
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves/ protective clothing.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue

rinsing. Immediately call a POISON CENTER or doctor/ physician. Rinse mouth. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse.
Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
2,2-Dibromo-3-nitrilopropionamide	10222-01-2	40

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders.Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.
Environmental precautions	:	This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.
Methods and materials for containment and cleaning up	:	Sweep up and shovel. Reclaim into recovery or salvage drums. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Effective exhaust ventilation system Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	:	Safety goggles Face-shield
Hand protection	:	Wear the following personal protective equipment: Standard glove type. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Wear suitable protective clothing.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Solid
Colour	:	off-white
Odour	:	Disinfectant
Flash point	:	does not flash
pH	:	no data available
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	> 120 °C Decomposes on heating.
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.35 (15.6 °C)
Density	:	11.2 lb/gal
Water solubility	:	no data available
Solubility in other solvents	:	no data available

Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
VOC	:	13.26 % 172.55 g/l EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Extremes of temperature Moisture
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Eye contact, Skin contact

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Harmful in contact with skin. Causes skin irritation. May cause allergic skin reaction.
Ingestion	:	Toxic if swallowed.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Irritation, Allergic reactions
Ingestion	:	No information available.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	LD50 rat: 224 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	LD50 rabbit: > 2,000 mg/kg
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Components

Acute inhalation toxicity	:	2,2-Dibromo-3-nitrilopropionamide LC50 rat: 0.32 mg/l Exposure time: 4 h

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Very toxic to aquatic life.

Product

Toxicity to fish	:	LC50 Lepomis macrochirus (Bluegill sunfish): 1.3 mg/l Exposure time: 96 hrs Test substance: Active Substance LC50 Oncorhynchus mykiss (rainbow trout): 1 mg/l Exposure time: 96 hrs Test substance: Active Substance LC50 Pimephales promelas (fathead minnow): 1.36 mg/l Exposure time: 96 hrs Test substance: Active Substance

		LC50 Cyprinodon variegatus (sheepshead minnow): 1.4 mg/l Exposure time: 96 hrs Test substance: Active Substance
Toxicity to daphnia and other aquatic invertebrates	:	LC50 Daphnia magna (Water flea): 1.24 mg/l Exposure time: 48 hrs Test substance: Active Substance LC50 Grass Shrimp: 11.5 mg/l Exposure time: 96 hrs Test substance: Active Substance

Persistence and degradability

no data available

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	:	<5%
Water	:	10 - 30%
Soil	:	50 - 70%

The portion in water is expected to float on the surface.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Disposal methods	:	The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name	:	TOXIC SOLID, ORGANIC, N.O.S.
Technical name(s)	:	2,2-Dibromo-3-nitrilopropionamide
UN/ID No.	:	UN 2811
Transport hazard class(es)	:	6.1
Packing group	:	III

Air transport (IATA)

Proper shipping name	:	TOXIC SOLID, ORGANIC, N.O.S.
Technical name(s)	:	2,2-Dibromo-3-nitrilopropionamide
UN/ID No.	:	UN 2811
Transport hazard class(es)	:	6.1
Packing group	:	III

Sea transport (IMDG/IMO)

Proper shipping name	:	TOXIC SOLID, ORGANIC, N.O.S.
Technical name(s)	:	2,2-Dibromo-3-nitrilopropionamide
UN/ID No.	:	UN 2811
Transport hazard class(es)	:	6.1
Packing group	:	III
*Marine pollutant	:	2,2-DIBROMO-3-NITRILOPROPIONAMIDE

*Note: This product is regulated as a Marine Pollutant when shipped by Rail, Highway (in bulk quantities), or Air (if no other hazard class applies), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

EPA Reg. No. : 464-624-1706

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

2,2-Dibromo-3-nitrilopropionamide	10222-01-2	40 %

California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

TOXIC SUBSTANCES CONTROL ACT (TSCA)
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)
Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

EUROPE
The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

JAPAN
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

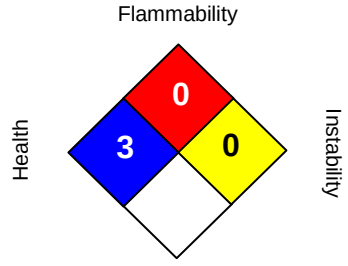
KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

NEW ZEALAND
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

PHILIPPINES
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

Section: 16. OTHER INFORMATION

NFPA:



Special hazard.

HMIS III:

HEALTH	3*
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 03/18/2015

Version Number : 1.0
Prepared By : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an MSDS visit www.nalco.com and request access.

NALCO
An Ecolab Company

SAFETY DATA SHEET

NALCO® 7346 TAB

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NALCO® 7346 TAB
Other means of identification	:	Not applicable.
Recommended use	:	BIOCIDE
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Company 1601 W. Diehl Road Naperville, Illinois 60563-1198 USA TEL: (630)305-1000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	10/07/2015

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing solids	:	Category 1
Acute toxicity (Oral)	:	Category 3
Acute toxicity (Inhalation)	:	Category 4
Skin corrosion	:	Category 1B
Serious eye damage	:	Category 1
Skin sensitization	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : May cause fire or explosion; strong oxidiser.
Toxic if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Harmful if inhaled.

Precautionary Statements : **Prevention:**
Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe dusts or mists. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ protective clothing/ eye protection/ face protection. Wear fire/

flame resistant/ retardant clothing.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Immediately call a POISON CENTER or doctor/ physician. If skin irritation or rash occurs: Get medical advice/ attention. Wash contaminated clothing before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
1-Bromo-3-Chloro-5,5-Dimethyl-Hydantoin	16079-88-2	54.2
1,3-Dichloro-5,5-Dimethylhydantoin	118-52-5	28.9
1,3-Dichloro-5-Ethyl-5-Methylhydantoin	89415-87-2	15.9

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Oxidizer. Contact with other material may cause fire.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Sweep up and shovel into suitable containers for disposal.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep in a cool, well-ventilated place. Keep away from reducing agents. Keep away from combustible material. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Shipping and long term storage compatibility with construction materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	not determinednot determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
1,3-Dichloro-5,5-Dimethylhydantoin	118-52-5	TWA	0.2 mg/m3	ACGIH
		STEL	0.4 mg/m3	ACGIH
		TWA	0.2 mg/m3	NIOSH REL
		STEL	0.4 mg/m3	NIOSH REL
		TWA	0.2 mg/m3	OSHA Z1

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Briquettes

Colour : off-white

Odour : Pungent

Flash point : 142 °C
Method: ASTM D 92, Cleveland open cup

pH : 3.6, 1 %
Method: ASTM E 70

Odour Threshold : no data available

Melting point/freezing point : MELTING POINT: 120 - 148 °C, ASTM D-2117

Initial boiling point and boiling range	:	no data available
Evaporation rate	:	< 1
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	no data available
Density	:	no data available
Water solubility	:	5.4 g/l (25 °C)
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	61.87 % 1,300.12 g/l EPA Method 24

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong acids Strong Bases Contact with organic materials (e.g. rags, sawdust, hydrocarbon oils or solvents) and avoid reducing agents (e.g. hydrazine, sulfites, sulfide, aluminum or magnesium dust) which can generate heat, fires, explosions and the release of toxic fumes. Organic materials and reducing agents Oxidizing agents Combustible materials
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides

nitrogen oxides (NOx)
Sulphur oxides
Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Eye contact, Skin contact

Potential Health Effects

Eyes : Causes serious eye damage.

Skin : Causes severe skin burns. May cause allergic skin reaction.

Ingestion : Toxic if swallowed. Causes digestive tract burns.

Inhalation : Harmful if inhaled. May cause nose, throat, and lung irritation.

Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Corrosion

Skin contact : Redness, Pain, Irritation, Corrosion, Allergic reactions

Ingestion : Corrosion, Abdominal pain

Inhalation : Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity : LD50 rat: 468 - 477 mg/kg
Test substance: Product

Acute inhalation toxicity : Acute toxicity estimate : 2.69 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD50 rabbit: > 2,000 mg/kg
Test substance: Active Substance

Skin corrosion/irritation : no data available

Serious eye damage/eye irritation : no data available

Respiratory or skin sensitization : no data available

Carcinogenicity : no data available

Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : Very toxic to aquatic life.

Product

Toxicity to fish : LC50 Oncorhynchus mykiss (rainbow trout): 0.5 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Lepomis macrochirus (Bluegill sunfish): 1.2 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Cyprinodon variegatus (sheepshead minnow): 1.4 mg/l
Exposure time: 96 hrs
Test substance: value expressed as Br2

LC50 Pimephales promelas (fathead minnow): 0.71 mg/l
Exposure time: 96 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Mysid Shrimp (Mysidopsis bahia): 0.93 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 American Oyster: 0.84 mg/l
Exposure time: 96 hrs
Test substance: value expressed as Br2

EC50 Daphnia magna (Water flea): 1.1 mg/l
Exposure time: 48 hrs
Test substance: Product

LC50 Daphnia magna (Water flea): 1.1 mg/l
Exposure time: 48 hrs
Test substance: Product

NOEC Daphnia magna (Water flea): 0.63 mg/l
Exposure time: 48 hrs

Test substance: Product

Toxicity to algae : LC50 Green Algae (Pseudokirchneriella subcapitata, previously Selenastrum capricornutum): 0.12 mg/l
Exposure time: 72 hrs
Test substance: Active Substance

Toxicity to terrestrial organisms : LC50 Bobwhite Quail: > 5,620 mg/kg
Test substance: Similar active ingredients

LC50 Mallard Duck: > 5,620 mg/kg
Test substance: Similar active ingredients

Persistence and degradability

The product is hydrolyzed in water to hypobromous acid, hypochlorous acid and 5,5-dimethylhydantoin.

Chemical Oxygen Demand (COD): 140,000 mg/l

Biochemical Oxygen Demand (BOD):

Incubation Period	Value	Test Descriptor
	150 mg/l	

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air : <5%
Water : 50 - 70%
Soil : 30 - 50%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose

of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name	:	OXIDIZING SOLID, CORROSIVE, N.O.S.
Technical name(s)	:	BROMOCHLORO-5,5-DIMETHYLIMIDAZOLIDINE-2,4-DIONE
UN/ID No.	:	UN 3085
Transport hazard class(es)	:	5.1 , 8
Packing group	:	II

Air transport (IATA)

Proper shipping name	:	OXIDIZING SOLID, CORROSIVE, N.O.S.
Technical name(s)	:	BROMOCHLORO-5,5-DIMETHYLIMIDAZOLIDINE-2,4-DIONE
UN/ID No.	:	UN 3085
Transport hazard class(es)	:	5.1 , 8
Packing group	:	II

Sea transport (IMDG/IMO)

Proper shipping name	:	OXIDIZING SOLID, CORROSIVE, N.O.S.
Technical name(s)	:	BROMOCHLORO-5,5-DIMETHYLIMIDAZOLIDINE-2,4-DIONE
UN/ID No.	:	UN 3085
Transport hazard class(es)	:	5.1 , 8
Packing group	:	II
*Marine pollutant	:	BROMOCHLORO-5,5-DIMETHYLHYDANTOIN

*Note: This product is regulated as a Marine Pollutant when shipped by Rail, Highway (in bulk quantities), or Air (if no other hazard class applies), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

EPA Reg. No. : 6836-115-1706

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	Fire Hazard Acute Health Hazard
SARA 302	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpart D):
The following components are listed: 1-Bromo-3-Chloro-5,5-Dimethyl-Hydantoin

California Prop 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

INTERNATIONAL CHEMICAL CONTROL LAWS :

TOXIC SUBSTANCES CONTROL ACT (TSCA)
This product is exempted under TSCA and regulated under FIFRA. The inerts are on the Inventory List.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)
Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

AUSTRALIA
All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA
All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

JAPAN
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

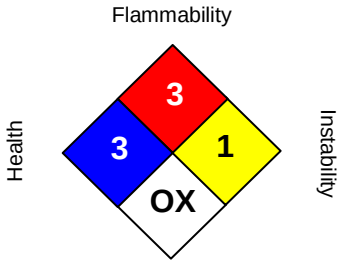
KOREA
All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

NEW ZEALAND
All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996,and are listed on or are exempt from the New Zealand Inventory of Chemicals.

PHILIPPINES
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

Section: 16. OTHER INFORMATION

NFPA:



Special hazard.

HMIS III:

HEALTH	3*
FLAMMABILITY	3
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	10/07/2015
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

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