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APPENDIX 9

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APPENDIX 9-1

Construction Dust Risk Assessment
Proposed Plasterboard Manufacturing Plant
Gorteens, Co. Kilkenny
Contents

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1 CONSTRUCTION DUST RISK ASSESSMENT

The following appendix outlines the construction dust risk assessment matrix employed by the Institute of Air Quality Management (IAQM) [1]. The following steps were carried out relating to the Construction Phase of the Proposed Development.

1.1 Step 2A Define Potential Dust Emission Magnitude

Table 1-1: Sensitivity of the Area to Dust Soiling Effects on People and Property

Dust Emission Magnitude:	Demolition: examples of works associated with each emission magnitude	Earthworks: examples of works associated with each emission magnitude	Construction: examples of works associated with each emission magnitude	Track out: examples of works associated with each emission magnitude
Large	Total building volume >50,000 m ³ , potentially dusty construction material (e.g. concrete), onsite crushing and screening, demolition activities >20 m above ground level.	Total site area >10,000 m ² , potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth-moving vehicles active at any one time, formation of bunds >8 m in height, total material moved >100,000 tonnes.	Total building volume >100,000 m ³ on-site concrete batching, sandblasting.	>50 HDV (>3.5t) outward movements ¹ in any one day ² , potentially dusty surface material (e.g. high clay content), unpaved road length >100 m.
Medium	Total building volume 20,000 m ³ – 50,000 m ³ , potentially dusty construction material, demolition activities 10-20 m above ground level.	Total site area 2,500 m ² – 10,000 m ² , moderately dusty soil type (e.g. silt), 5-10 heavy earthmoving vehicles active at any one time, formation of bunds 4 m - 8 m in height, total material moved 20,000 tonnes – 100,000 tonnes.	Total building volume 25,000 m ³ – 100,000 m ³ , potentially dusty construction material (e.g. concrete), on-site concrete batching.	10-50 HDV (>3.5t) outward movements ¹ in any one day ² , moderately dusty surface material (e.g. high clay content), unpaved road length 50 m – 100 m.
Small	Total building volume <20,000 m ³ construction material with low potential for dust release (e.g. metal, cladding or timber), demolition activities <10m above	Total site area <2,500 m ² , soil type with large grain size (e.g. sand), <5 heavy earth-moving vehicles active at any one time,	Total building volume <25,000 m ³ construction material with low potential for dust release (e.g. metal, cladding or timber.)	<10 HDV (>3.5t) outward movements ¹ in any one day, surface material with low potential for dust release, unpaved road length <50m

Dust Emission Magnitude:	Demolition: examples of works associated with each emission magnitude	Earthworks: examples of works associated with each emission magnitude	Construction: examples of works associated with each emission magnitude	Track out: examples of works associated with each emission magnitude
	ground, demolition during wetter months.	formation of bunds <4m in height, total material moved <20,000 tonnes, earthworks during wetter months.		

***Notes:**

1 Denotes a vehicle movement as a one-way journey i.e. A to B and excludes the return journey.

2 Denotes HDV movements during a construction project vary over its lifetime, and the number of movements is the maximum not the average.

1.2 Dust Emission Magnitude for the Proposed Development

Table 1-2: Dust Emissions for Activities associated with the Proposed Development

Activities	Proposed Development- Activities	Dust Emission Magnitude
Earthworks	- Total site area ca.11.57ha; - Twelve (12No.) plant will be active during the Construction Phase including a crane, excavators and loading shovels; - Ca.9,00m³ of topsoil will be removed from site area and proposed access road; - Total volume of material to be excavated is ca. 25,000m³ (ca.45,000 tonnes) including the site area and the proposed access road; and, 2m high bunds will be erected.	Medium
Track out	- Estimated twenty (20HGV.) outward movement is in any one day; and, - A newly constructed hardstanding access route will be constructed for vehicles entering and leaving the site.	Medium
Construction	- Construction will be comprised of using concrete which will be delivered to the site, steel buildings and associated drainage; and, - Total building volume will be ca.300,000m³.	Large
Demolition	- One small farmhouse will be demolished onsite; - The primary material will be concrete and metal which are potentially dusty materials; and, - Total building volume to be demolished is ca.<20,000m³.	Small

2 SENSITIVITY OF THE AREA

2.1 Sensitivity Of Receptors for Dust Soiling

When determining the sensitivity of people to dust soiling, the IAQM presents general guidance's and examples of high, medium, and low sensitivity receptors. The general principles under consideration are outlined in Table 2-1 below.

Table 2-1: General Principle for Defining the Sensitivity of a Receptors to Dust Soiling

Sensitivity Rating to Dust Soiling	General Principles Associated with Sensitivity Rating
Low	- The enjoyment of amenity would not reasonably be expected; - Property would not reasonably be expected to be diminished in appearance, aesthetics, or value by soiling; or, - There is transient exposure, where the people or property would reasonably be expected to be present for limited periods of time as part of the normal pattern of use of the land.
Medium	- Users would expect to enjoy a reasonable level of amenity but would not reasonably expect to enjoy the same level of amenity as in their home; - The appearance, aesthetics or value of the property could be diminished by soiling; or, - The people or property would not reasonably be expected to be present continuously or at least regularly for extended periods, as part of the normal pattern of use of land.
High	- Users can reasonably expect enjoyment of a high level of amenity; - The appearance, aesthetics or value of the property would be diminished by soiling; or, - The people or property would reasonably be expected to be present continuously or at least regularly for extended periods, as part of the normal pattern of use of the land.

2.2 Define the Sensitivity of the Area to Dust Soiling

Table 2-2: Defining the Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the source (m)			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	<1	Low	Low	Low	Low

2.2.1 Sensitivity of the Area to Dust Soiling Associated with the Proposed Development

Table 2-3: Sensitivity of the area to dust soiling associated with the Construction Phase of the Proposed Development

Receptor ID	Receptor Sensitivity	Distance to Nearest applicable boundary (m)	Orientation to nearest Route	Number of receptors expected to be impacted	Sensitivity Rating for Dust Soiling	Reason for Receptor Sensitivity
SR01	High	ca.86m (Site Boundary)	Southeast	10-100	Low	Distance and number of receptors associated with the receptors justified a Low sensitivity rating.
SR02	High	ca.36m (Site Boundary)	Southwest	10-100	Medium	Distance and number of receptors associated with the receptors justified a Medium sensitivity rating.
SR03	High	ca.35m (Site Boundary)	Southwest	1-10	Low	Distance and number of receptors associated with the receptors justified a Low sensitivity rating.
SR04	High	ca.144m (Site Boundary)	Southwest	10-100	Low	Distance and number of receptors associated with the receptors justified a Low sensitivity rating.
SR05	High	ca.21m (Site Boundary)	West	1-10	Low	Distance and number of receptors associated with the receptors justified a Low sensitivity rating.
SR06	High	ca.46m (Site Boundary)	West	1-10	Low	Distance and number of receptors associated

						with the receptors justified a Low sensitivity rating.
SR07	High	ca.31m (Site Boundary)	Northwest	10-100	Medium	Distance and number of receptors associated with the receptors justified a Medium sensitivity rating.
SR08	Low	ca.43m (Site Boundary)	Northeast	<1	Low	Distance and number of receptors associated with the receptors justified a Low sensitivity rating.
SR09	Low	ca.308m (Site Boundary)	West	<1	Low	Distance and number of receptors associated with the receptors justified a Low sensitivity rating.
SR10	Low	ca.217m (Site Boundary)	Southwest	<1	Low	Distance and number of receptors associated with the receptors justified a Low sensitivity rating.

2.3 Sensitivity to PM₁₀ Exposure

Table 2-4 outlines the criteria to assess the sensitivity of people to the health effects of PM₁₀. In short, the criteria are based on whether a receptor is likely to be exposed to elevated concentrations of PM₁₀ over 24 hours and utilises the background concentrations of PM₁₀ as part of the assessment. Table 2-5 below shows the general conditions when considering the sensitivity of the receptors to PM₁₀ exposure. Table 2-6 below shows the sensitivity of the receptors to PM₁₀ exposure from the Proposed Development.

Table 2-4: General Principles for Defining the Sensitivity of Receptors to PM₁₀ Exposure

Sensitivity Rating to Human Health Impacts	General Principles Associated with Sensitivity Rating
Low	Locations where human exposure is transient
Medium	Locations where the people exposed are workers, and exposure is over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24hr objectives, a relevant location would be one where individuals may be exposed for eight hours or more per day)
High	Locations where members of the public are exposed over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24hr objectives, a relevant location would be one where individuals may be exposed for eight hours or more per day)

2.3.1 Sensitivity of people to health effects of PM₁₀

Table 2-5: Sensitivity criteria for the health effects of PM₁₀

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	No. of Receptors	Distance from Source (m)				
			<20	>50	<100	<200	>350
High	>32 µg/m ³ (>18 µg/m ³ in Scotland)	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32 µg/m ³ (16-18 µg/m ³ in Scotland)	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28 µg/m ³ (14-16 µg/m ³ in Scotland)	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 µg/m ³	>100	Medium	Low	Low	Low	Low

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	No. of Receptors	Distance from Source (m)				
			<20	>50	<100	<200	>350
	(<14 µg/m ³ in Scotland)	10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	>32 µg/m ³ (>18 µg/m ³ in Scotland)	>10	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	28-32 µg/m ³ (16-18 µg/m ³ in Scotland)	>10	Medium	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	24-28 µg/m ³ (14-16 µg/m ³ in Scotland)	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	<24 µg/m ³ (<14 µg/m ³ in Scotland)	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Low	-	≥1	Low	Low	Low	Low	Low

2.3.2 Sensitivity of human receptors to PM₁₀ exposure from the proposed Development

Table 2-6: Sensitivity of human receptors to PM₁₀ exposure from the Proposed Development

Receptor ID	Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Distance to Nearest applicable boundary (m)	Number of receptors expected to be impacted	Receptor Sensitivity Rating for PM ₁₀	Description of receptor
SR01	High	12.3µg/m ³	ca.86m (Site Boundary)	10-100	Low	Residential Property
SR02	High	12.3µg/m ³	ca.36m (Site Boundary)	10-100	Low	Residential Property
SR03	High	12.3µg/m ³	ca.35m (Site Boundary)	1-10	Low	Residential Property
SR04	High	12.3µg/m ³	ca.144m (Site Boundary)	1-10	Low	Residential Property
SR05	High	12.3µg/m ³	ca.21m (Site Boundary)	1-10	Low	Residential Property
SR06	High	12.3µg/m ³	ca.46m (Site Boundary)	1-10	Low	Residential Property
SR07	High	12.3µg/m ³	ca.31m (Site Boundary)	10-100	Low	Residential Property

Receptor ID	Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Distance to Nearest applicable boundary (m)	Number of receptors expected to be impacted	Receptor Sensitivity Rating for PM ₁₀	Description of receptor
SR08	Low	12.3µg/m ³	ca.43m (Site Boundary)	≥1	Low	Industrial Facility
SR09	Low	12.3µg/m ³	ca.308m (Site Boundary)	≥1	Low	Industrial Facility
SR10	Low	12.3µg/m ³	ca.217m (Site Boundary)	≥1	Low	Industrial Facility

3 DEFINE THE RISK OF IMPACT

3.1 Defining the Risk Matrix for Construction Activities

Table 3-1: Risk Matrix- Construction Activity

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

3.2 Defining the Risk Matrix for Track out Activities

Table 3-2: Risk Matrix- Track out Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

3.3 Defining the Risk Matrix for Earthworks Activities

Table 3-3: Risk Matrix- Earthworks Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium risk	Low-Risk
Low	Low Risk	Low Risk	Negligible

3.4 Defining the Risk Matrix for Demolition Activities

Table 3-4: Risk Matrix- Demolition Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium risk	Low-Risk
Low	Medium Risk	Low Risk	Negligible

4 RISK OF IMPACT ASSOCIATED WITH THE PROPOSED DEVELOPMENT

4.1 Potential Dust Soiling Impacts

Table 4-1: Sensitivity of Human Receptors to Dust Soiling from Track out Activities

Sensitivity of the Area	Dust Emission Magnitude Category	Risk of Impact from Track out
Medium	Medium	Low Risk

Table 4-2: Sensitivity of Human Receptors to Dust Soiling from Construction Activities

Sensitivity of the Area	Dust Emission Magnitude Category	Risk of Impact from Construction
Medium	Large	Medium Risk

Table 4-3: Sensitivity of Human Receptors to Dust Soiling from Earthworks Activities

Sensitivity of the Area	Dust Emission Magnitude Category	Risk of Impact from Earthworks
Medium	Medium	Medium Risk

Table 4-4: Sensitivity of Human Receptors to Dust Soiling from Demolition Activities

Sensitivity of the Area	Dust Emission Magnitude Category	Risk of Impact from Demolition
Medium	Small	Low Risk

4.2 Potential PM₁₀ Exposure Impacts

Table 4-5: Sensitivity of Human Receptors to PM₁₀ Exposure from Track out Activities

Sensitivity of the Area	Dust Emission Magnitude Category	Risk of Impact from Track out
Low	Medium	Low Risk

Table 4-6: Sensitivity of Human Receptors to PM₁₀ Exposure from Construction Activities

Sensitivity of the Area	Dust Emission Magnitude Category	Risk of Impact from Construction
Low	Large	Low Risk

Table 4-7: Sensitivity of Human Receptors to PM₁₀ Exposure from Earthworks Activities

Sensitivity of the Area	Dust Emission Magnitude Category	Risk of Impact from Earthworks
Low	Medium	Low risk

Table 4-7: Sensitivity of Human Receptors to PM₁₀ Exposure from Demolition Activities

Sensitivity of the Area	Dust Emission Magnitude Category	Risk of Impact from Demolition
Low	Small	Negligible

5 REFERENCES

- [1] IAQM , “Guidance on the Assessment of Dust from Demolition and Construction,” 2016.

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Table A: 2019 Model Outputs

2019	Concentration	Time Period & Percentile	Background	PEC	AQS	AQS%
R01	1.01	Annual	12.3	13.31	40	33.26%
R02	0.71	Annual	12.3	13.01	40	32.53%
R03	0.75	Annual	12.3	13.05	40	32.63%
R04	0.46	Annual	12.3	12.76	40	31.91%
R05	0.33	Annual	12.3	12.63	40	31.58%
R06	0.30	Annual	12.3	12.60	40	31.51%
R07	0.18	Annual	12.3	12.48	40	31.20%
R09	0.50	Annual	12.3	12.80	40	32.01%
R10	0.48	Annual	12.3	12.78	40	31.94%
R01	3.30	24Hr(Percentile%) PM10	12.3	13.95	50	27.90%
R02	2.68	24Hr(Percentile%) PM10	12.3	13.64	50	27.28%
R03	2.95	24Hr(Percentile%) PM10	12.3	13.78	50	27.55%
R04	1.44	24Hr(Percentile%) PM10	12.3	13.02	50	26.04%
R05	0.87	24Hr(Percentile%) PM10	12.3	12.74	50	25.47%
R06	1.03	24Hr(Percentile%) PM10	12.3	12.81	50	25.63%
R07	0.55	24Hr(Percentile%) PM10	12.3	12.57	50	25.15%
R09	1.88	24Hr(Percentile%) PM10	12.3	13.24	50	26.48%
R10	1.48	24Hr(Percentile%) PM10	12.3	13.04	50	26.08%

PEC: Predicted Environmental Concentration

AQS: Air Quality Standards

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Table B: 2020 Model Outputs

2020	Concentration	Time Period & Percentile	Background	PEC	AQS	AQS%
R01	1.20	Annual	12.3	13.50	40	33.75%
R02	1.01	Annual	12.3	13.31	40	33.28%
R03	0.94	Annual	12.3	13.24	40	33.10%
R04	0.28	Annual	12.3	12.58	40	31.44%
R05	0.18	Annual	12.3	12.48	40	31.21%
R06	0.13	Annual	12.3	12.43	40	31.09%
R07	0.13	Annual	12.3	12.43	40	31.08%
R09	0.48	Annual	12.3	12.78	40	31.96%
R10	0.46	Annual	12.3	12.76	40	31.90%
R01	4.19	24Hr(Percentile%) PM10	12.3	14.39	50	28.79%
R02	3.83	24Hr(Percentile%) PM10	12.3	14.21	50	28.43%
R03	3.52	24Hr(Percentile%) PM10	12.3	14.06	50	28.12%
R04	0.74	24Hr(Percentile%) PM10	12.3	12.67	50	25.34%
R05	0.38	24Hr(Percentile%) PM10	12.3	12.49	50	24.98%
R06	0.26	24Hr(Percentile%) PM10	12.3	12.43	50	24.86%
R07	0.31	24Hr(Percentile%) PM10	12.3	12.45	50	24.91%
R09	1.57	24Hr(Percentile%) PM10	12.3	13.09	50	26.17%
R10	1.54	24Hr(Percentile%) PM10	12.3	13.07	50	26.14%

PEC: Predicted Environmental Concentration

AQS: Air Quality Standards

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Table C: 2021 Model Outputs

2021	Concentration	Time Period & Percentile	Background	PEC	AQS	AQS%
R01	1.34	Annual	12.3	13.64	40	34.09%
R02	1.01	Annual	12.3	13.31	40	33.28%
R03	0.96	Annual	12.3	13.26	40	33.16%
R04	0.38	Annual	12.3	12.68	40	31.71%
R05	0.28	Annual	12.3	12.58	40	31.44%
R06	0.19	Annual	12.3	12.49	40	31.23%
R07	0.17	Annual	12.3	12.47	40	31.18%
R09	0.60	Annual	12.3	12.90	40	32.25%
R10	0.57	Annual	12.3	12.87	40	32.18%
R01	5.09	24Hr(Percentile%) PM10	12.3	14.85	50	29.69%
R02	4.32	24Hr(Percentile%) PM10	12.3	14.46	50	28.92%
R03	3.89	24Hr(Percentile%) PM10	12.3	14.25	50	28.49%
R04	1.33	24Hr(Percentile%) PM10	12.3	12.97	50	25.93%
R05	0.73	24Hr(Percentile%) PM10	12.3	12.66	50	25.33%
R06	0.53	24Hr(Percentile%) PM10	12.3	12.56	50	25.13%
R07	0.33	24Hr(Percentile%) PM10	12.3	12.47	50	24.93%
R09	2.15	24Hr(Percentile%) PM10	12.3	13.37	50	26.75%
R10	1.85	24Hr(Percentile%) PM10	12.3	13.22	50	26.45%

PEC: Predicted Environmental Concentration

AQS: Air Quality Standards

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Table D: 2022 Model Outputs

2022	Concentration	Time Period & Percentile	Background	PEC	AQS	AQS%
R01	1.14	Annual	12.3	13.44	40	33.59%
R02	0.87	Annual	12.3	13.17	40	32.91%
R03	0.83	Annual	12.3	13.13	40	32.81%
R04	0.32	Annual	12.3	12.62	40	31.55%
R05	0.22	Annual	12.3	12.52	40	31.30%
R06	0.20	Annual	12.3	12.50	40	31.24%
R07	0.20	Annual	12.3	12.50	40	31.26%
R09	0.61	Annual	12.3	12.91	40	32.27%
R10	0.56	Annual	12.3	12.86	40	32.15%
R01	4.08	24Hr(Percentile%) PM10	12.3	14.34	50	28.68%
R02	3.83	24Hr(Percentile%) PM10	12.3	14.21	50	28.43%
R03	3.37	24Hr(Percentile%) PM10	12.3	13.98	50	27.97%
R04	0.89	24Hr(Percentile%) PM10	12.3	12.74	50	25.49%
R05	0.49	24Hr(Percentile%) PM10	12.3	12.55	50	25.09%
R06	0.35	24Hr(Percentile%) PM10	12.3	12.48	50	24.95%
R07	0.60	24Hr(Percentile%) PM10	12.3	12.60	50	25.20%
R09	1.87	24Hr(Percentile%) PM10	12.3	13.23	50	26.47%
R10	1.87	24Hr(Percentile%) PM10	12.3	13.24	50	26.47%

PEC: Predicted Environmental Concentration

AQS: Air Quality Standards

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Table E: 2023 Model Outputs

2023	Concentration	Time Period & Percentile	Background	PEC	AQS	AQS%
R01	1.17	Annual	12.3	13.47	40	33.67%
R02	0.95	Annual	12.3	13.25	40	33.13%
R03	0.87	Annual	12.3	13.17	40	32.93%
R04	0.27	Annual	12.3	12.57	40	31.42%
R05	0.21	Annual	12.3	12.51	40	31.28%
R06	0.24	Annual	12.3	12.54	40	31.35%
R07	0.22	Annual	12.3	12.52	40	31.29%
R09	0.56	Annual	12.3	12.86	40	32.16%
R10	0.45	Annual	12.3	12.75	40	31.87%
R01	4.49	24Hr(Percentile%) PM10	12.3	14.54	50	29.09%
R02	4.01	24Hr(Percentile%) PM10	12.3	14.30	50	28.61%
R03	3.67	24Hr(Percentile%) PM10	12.3	14.13	50	28.27%
R04	0.65	24Hr(Percentile%) PM10	12.3	12.62	50	25.25%
R05	0.63	24Hr(Percentile%) PM10	12.3	12.61	50	25.23%
R06	0.86	24Hr(Percentile%) PM10	12.3	12.73	50	25.46%
R07	0.77	24Hr(Percentile%) PM10	12.3	12.68	50	25.37%
R09	1.99	24Hr(Percentile%) PM10	12.3	13.30	50	26.59%
R10	1.39	24Hr(Percentile%) PM10	12.3	12.99	50	25.99%

PEC: Predicted Environmental Concentration

AQS: Air Quality Standards

Table F: Cumulative Impact Assesemtn Model Outputs

2021	Concentration	Time Period & Percentile	Background	PEC	AQS	AQS%
R01	5.59	24Hr(Percentile%) PM10	12.3	15.10	50	30.19%
R02	4.83	24Hr(Percentile%) PM10	12.3	14.72	50	29.43%
R03	4.45	24Hr(Percentile%) PM10	12.3	14.52	50	29.05%
R04	1.71	24Hr(Percentile%) PM10	12.3	13.16	50	26.31%
R05	1.08	24Hr(Percentile%) PM10	12.3	12.84	50	25.68%
R06	0.97	24Hr(Percentile%) PM10	12.3	12.79	50	25.57%
R07	0.88	24Hr(Percentile%) PM10	12.3	12.74	50	25.48%
R08	2.36	24Hr(Percentile%) PM10	12.3	13.48	50	26.96%
R09	2.15	24Hr(Percentile%) PM10	12.3	13.38	50	26.75%
2022	Concentration	Time Period & Percentile	Background	PEC	AQS	AQS%
R01	1.37	Annual	12.3	13.67	40	34.18%
R02	1.03	Annual	12.3	13.33	40	33.32%
R03	0.99	Annual	12.3	13.29	40	33.22%
R04	0.43	Annual	12.3	12.73	40	31.82%
R05	0.31	Annual	12.3	12.61	40	31.52%
R06	0.29	Annual	12.3	12.59	40	31.48%
R07	0.29	Annual	12.3	12.59	40	31.48%
R09	0.74	Annual	12.3	13.04	40	32.60%
R10	0.75	Annual	12.3	13.05	40	32.62%

PEC: Predicted Environmental Concentration

AQS: Air Quality Standards

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