

1-1 DOCUMENT INFORMATION

EOP/SOP Ref	Procedure Name			
EOP SS-xxx-xx	Powergate Loss of utility mains supply - Air Quality Management Plan (AQMP)			
System / Equipment:	Location / Area	Rev	Status	Next review date
Generators	Whole Site	0	draft	tbc

1-2 CHANGE HISTORY

DATE	DESCRIPTION OF CHANGES	SECTIONS / PAGES UPDATED	AUTHOR	REVIEWED BY	DATE
25-07-2022	Document creation date	All			27-07-2022

1-3 PURPOSE & SCOPE

Scope
This procedure covers the evaluation, ongoing impacts assessment, notification and engagement in the event of a major, unplanned power loss at the facility resulting in the requirement that a significant number of standby diesel generators are required to run on the site.

1-4 SITE INFORMATION

Permit Number	DP3107LF
Address	Unit 9-13 Volt Avenue Powergate Business Park North Acton NW10 6PW
Grid Ref	TQ 20971 82811

1-5 RESPONSIBILITIES

It is the responsibility of the DCS Site Manager to review this procedure annually.

Name	Company	Description
Iain Will	Colt	Colt DCS UK Operations Manager
Andrew Davies	Colt	DCS Site Operations Manager

1-6 REFERENCE / RELATED DOCUMENTATION

Document	Title	Notes
	Powergate AQMP Outage Report	Readings to be taken and sent to HDR & the Environment Agency
	London North AQMP Outage Report Print Version	For hard copy use

1-7 DEFINITION OF TERMS & EQUIPMENT/ PPE NEEDED

TERM	DEFINITION	Equipment / PPE needed
DCS	Data Centre Services	1 High Viz Jacket
EMT	Colt Event Management Team	2 Protective footwear
UKPN	UK Power Networks	3 Outage report hard copy
AQMP Report	Air Quality Management Plan Report	4 Clipboard
		5 Pen

1-8 STANDBY PLANT ON SITE

Scope	Response	Unit
MW Elec	23.47	MW elec
Permitted MW thermal	62	MWth
Site MVA	29.33	MVA
Installed number of standby engines	13	n
Resilience provision for the engines	Mixed (N+1, N+N)	
Site location	Industrial estate, Single Site	
Stack Arrangement (indicative or average height + characteristic)	(>10m) vertical at building height	m
Primary Grid connection description	2 feeds, A&B supplies within substations	
Minimum distance to other large data centres or aggregated standby which could share the same Primary Grid connection.	<100m	m
Standby Cluster? – estimated number of any off-site standby engines within 500m radius that would likely operate in a national black-start scenario	TBC	n
Nearest sensitive/residential receptor	Residential - 60 North Acton Road (199m) Commercial - Unit 1 -5 Royal London Industrial Estate (88m) Ecological - Wesley Playing Field (42m)	m
Local Authority AQ management Zone	Yes – Hillingdon (London Borough of Ealing)	

1-9 HIERARCHY OF ENGINE NUMBERS AND ASSOCIATED OUTAGE DURATIONS OF CONCERN

Criteria	Realistic Outage Scenarios based on a review of the way the site could reasonably be expected to react to a range of modes of power loss – delete/add as appropriate	MWelec (number of gens)	Run duration (hours)	Outage duration to notify as soon as possible the EA and/or local authority if event is likely to exceed ¹
1 (required)	Worst case, realistic whole site loss of power e.g. <i>Maximum number of engines and/or load operating for SHORT period where concern could start. AEGL risk</i>	TBC	TBC	<n> hours
2	Reasonable next subdivision of site plant or specific site buildings i.e. accounting for various HV circuits A & B and/or worst case single data hall – NB this accounts for elective standby to support maintenance activities.			<n> hours, is this a Post-event reporting only?
3	Worst case partial site number of generators e.g. this might be a minimum number of engines and/or load operating for a reasonable LONG period where concern could start.			
4	Specific data hall(S) locations: Minimum part load or number of generators for named part of site due to proximity of receptors			<n> hours, Post-event reporting only
5 (required)	Indicative maximum number of engines below which there is minimal outage impact for the local Air Quality i.e. ambient NOx 200ug/m3 is not exceeded at all	TBC	TBC	<n> hours, Post-event reporting only
6	Other site specific representative outage			
<p>Note1 The usual permit condition is to notify the EA within 24 hours of “Number of generators operating initially and the number then operating two hours after the outage” started. The duration in this column is the pre-agreed predicted duration and scale of an ongoing outage notified as soon as possible i.e. when ‘within 24 hours’ really means as soon as practical. The significant majority of outages will be small scale or short duration brown-outs, these need only be <u>post-event reported</u> to the local EA officer alone.</p>				

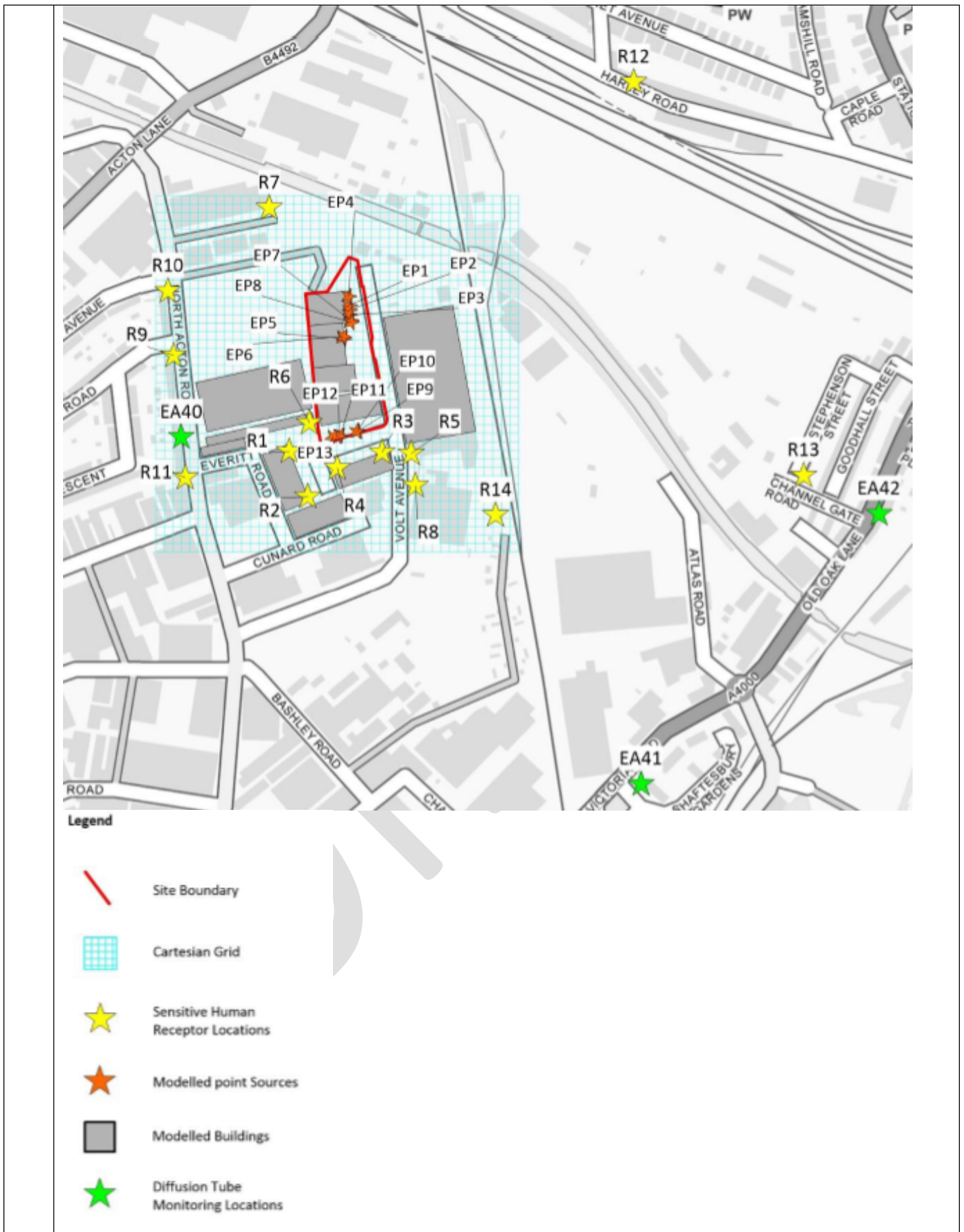
1-10 STANDBY PLANT ON SITE EXTRACTS AND REVIEW OF AIR QUALITY MODEL FOR NO₂

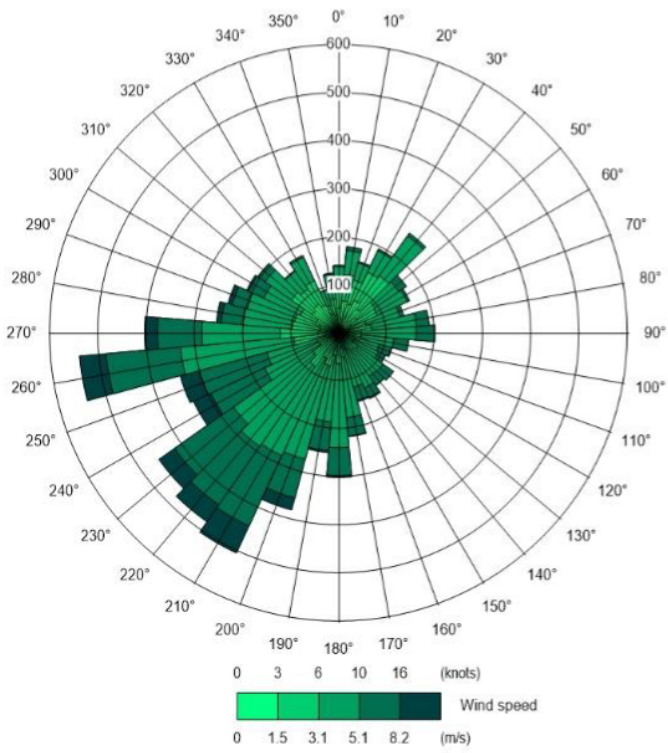
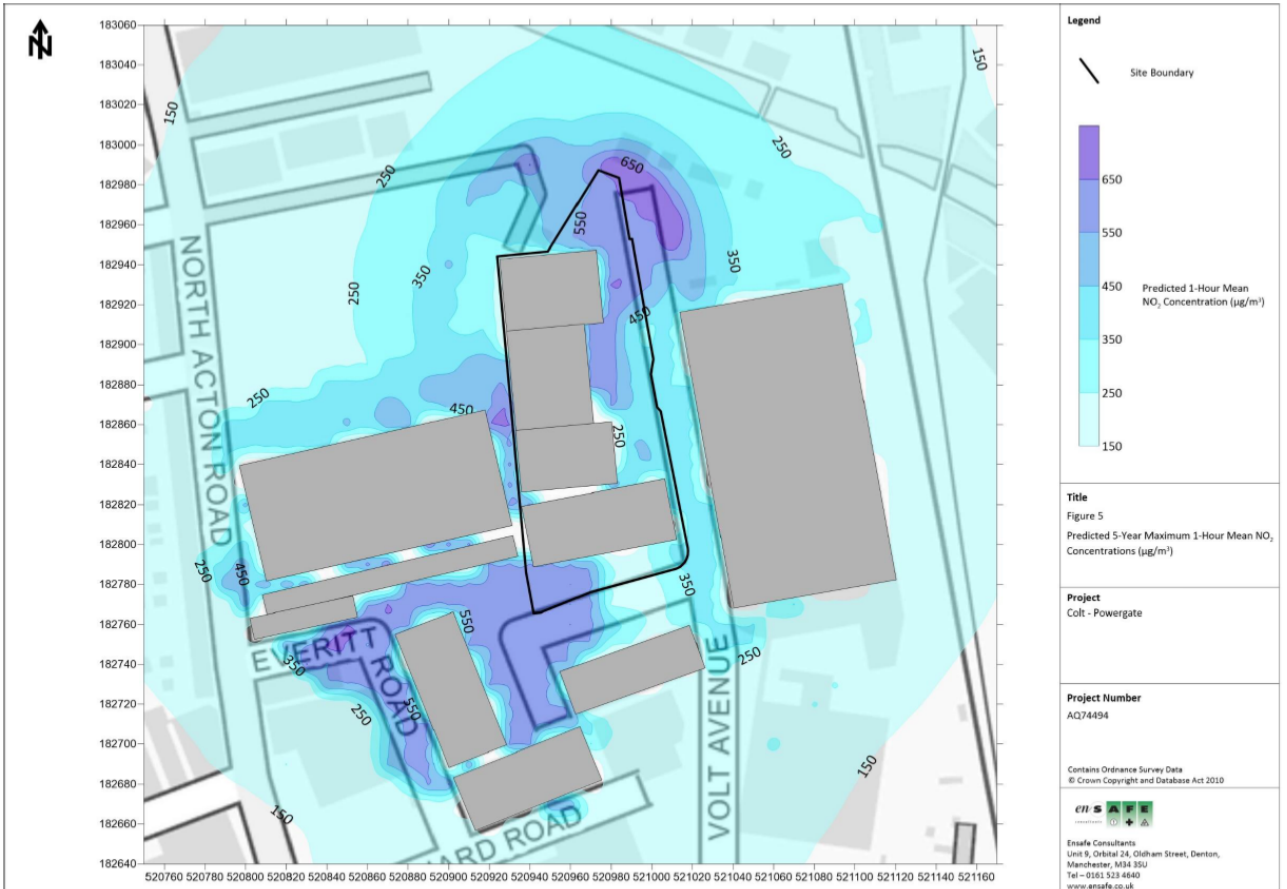
Criteria	Predicted Environmental Concentration NO ₂		
A	Conservative peak NO ₂ under worst scenario {ambient AQ or AEGL}	0.32	ug/m ³
B	Indicative or likely typical during prolonged outage	0.34	ug/m ³
C	Guidance distance that could be affected (radius) for the above figures	234	m
Headline realistic figures (for A max above)			
D	Site load on full outage	TBC	MWelec
E	Fuel rate per hour (for A max above)	TBC	t/hr
F	Average NOx emission rate per generator	TBC	kg/hr
G	Total NOx emission rate on full site outage (for A max above)	TBC	kg/hr
Key Risk Factors identified			
	Times of day	TBC	
	Seasonal		
	Area prone to poor QA alerts	Yes / no	
Comments:-			

1-10-1 THE FOLLOWING STEPS ARE TO BE FOLLOWED IN THE EVENT OF A POWER FAILURE.

Step	Location	Equipment	Action	Result/Expected
1			Follow decision tree (below) and contact respondents as required. See contact details located further into the document.	
2			<p style="text-align: center;">Colt Powergate – Air Quality Management Plan</p>	

3	DCS Office	Phone	Contact UKPN control desk to confirm reason for outage and possible duration/resolution time Phone 03301 591768	Information gained on outage reason/resolution																																																																																																												
4	DCS Office	Phone	Contact EMT to confirm that they are aware Phone +44 (0) 207189 7205	EMT will send out communications to Colt incident respondents																																																																																																												
5	DCS Office	Phone	Contact DCS on call manager Phone +44 (0) 207 947 1771	Advice on priorities																																																																																																												
6	Generators running, inform contacts below																																																																																																															
7	DCS Office	Phone	Contact HDR of loss of mains with generators running, this must be done within 24 hours. Neil Spence Phone: 0141 465 1440 Mobile: 07843 359 456 E-mail: neil.spence@hdrinc.com Nikki Homfray Phone : 01414 651454 Mobile : 07702 350349 E-mail : Nikki.Homfray@hdrinc.com	HDR aware HDR to contact Environment Agency																																																																																																												
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Wind Rose of 2019 Meteorological Data

1-10-2 MAINS SUPPLY RETURNED PROCEDURE

Step	Location	Equipment	Action	Result/Expected
1	Site	AQMP Report	Populate with readings as required	Readings acquired
2	DCS Office	AQMP Report	Send to Environmental Agency case officer E-mail: howard.tee@environment-agency.gov.uk	
3	DCS Office	AQMP Report	Send to HDR E-mail: neil.spence@hdrinc.com E-mail : Nikki.Homfray@hdrinc.com	
END OF PROCEDURE				

Consultants and Technical Support	HDR inc: Neil Spence Nikki Homfray	Phone: 01414 651440 Mobile: 07843 359 456 E-mail: neil.spence@hdrinc.com Phone : 01414 651454 Mobile : 07702 350349 E-mail : Nikki.Homfray@hdrinc.com
Local Council	Ealing Council	Phone : TBC E-mail : TBC
Environmental regulator (Environment Agency)	Howard Tee (EA case officer)	Phone: 02084 747319 Mobile: 07876 397771 E-mail: howard.tee@environment-agency.gov.uk
Environment Agency incident hotline	Environmental regulator	Phone: 0800 807060