10. Air Quality

Environmental Appraisal
Volume I

10. AIR QUALITY

10.1 Introduction

This chapter of the Environmental Appraisal (EA) provides an assessment of the potential air quality impacts resulting from the construction and operation of the Proposed Development. The assessment includes a review of the following:

- Construction dust;
- Emissions to air from the coating and drying processes;
- Vehicle exhaust emissions; and
- Consequences for the regional and global environment including emissions of greenhouse gases and photochemical ozone precursors.

The High Explosives Fabrication Facility (HEFF) Project Team has provided process emissions data for the assessment. Where gaps in the available information were identified, the assumptions made are clearly stated. The majority of the baseline data discussed was freely available in the public domain as part of the National Air Quality Archive and West Berkshire Council's air quality Review and Assessment reports. Site-specific meteorological and air quality data has been compiled for other recent developments at AWE and was considered as part of this assessment. This chapter has been produced by Atkins.

10.2 Planning Policy Context

10.2.1 National Legislation

The National Air Quality Strategy (NAQS) for England provides details of national air quality standards and objectives for eight pollutants. These criteria are defined in Regulations SI 2000/928 (Ref 10-1) and SI 2002/3043 (Ref 10-2). The standards define the level of pollution below which health effects are unlikely to be experienced even by the most sensitive members of the population. These are based upon recommendations of the Expert Panel on Air Quality Standards (EPAQS). The objectives are targets for air pollution levels which take account of the costs and benefits of achieving the standard. Local authorities have a responsibility (under the Environment Act 1995 (Ref 10-3)) to review and assess local pollution levels against these objectives.

The NAQS was first published in 1997 and a second edition in January 2000. An addendum to the NAQS was published by the UK Government and devolved administrations in February 2003 which gives an additional, more stringent, objective for benzene and a tighter objective for carbon monoxide (CO) that are included in new regulations. A tighter objective for Particular Matter less than 10 micrograms per metre cubed (PM_{10}) and a new objective for polycyclic aromatic hydrocarbons (PAHs) were also announced, although these are yet to be included in regulations.

The current air quality criteria that are relevant to this study are listed in Appendix C, and summarised in Table 10-1. These standards are based on the effects of pollutants on human health although other factors, such as effects on vegetation, are sometimes taken into account depending on location.

The first European Community (EC) air pollution limit values were introduced in the 1980s. These contained limit values that must be attained and more stringent, but non-obligatory, guide values. The EC Directives were incorporated into the UK legislation through SI 1995/3146 (Ref 10-4). In 1996, the European Union adopted a Directive on ambient air quality assessment and management and later supporting pollutant specific Daughter Directives were, and are being, prepared.

The first Daughter Directive set legally binding limit values for concentrations of sulphur dioxide (SO_2), nitrogen dioxide (NO_2), PM_{10} and lead in air which must be complied with by 1st January 2005 or, in the case of NO_2, 2010. The Daughter Directive limit values will supersede previous EC Directives on their achievement date (i.e. 1st January 2005 or 1st January 2010).

A second Daughter Directive set limit values for concentrations of benzene and carbon monoxide to be complied with by 2010 and 2005 respectively. A third Daughter Directive set target values for ozone and a fourth and final Daughter Directive for PAHs and several metals has recently been agreed by EU institutions.

The Air Quality Framework Directive and the Air Quality Daughter Directives are implemented by the Air Quality Standards Regulations 2007 (SI 2007/64 (Ref 10-5)).

In the future the Directive on Ambient Air Quality and Cleaner Air for Europe ('CAFÉ') will eventually replace the current framework directive and four daughter directives. A draft has been published alongside the proposed strategy officially called Thematic Strategy on Air Pollution, but this still has to be agreed within the EU political process.

The EU limit values for the protection of vegetation for NO_x and sulphur dioxide (1999/30/EC) have been incorporated into UK regulations through SI 2007/64. The limit values were based on the work of the United Nations Economic Commission for Europe (UNECE) and World Health Organisation (WHO).

Table 10-1 National Air Quality Strategy (NAQS) Objectives ($\mu g/m^3$)

Pollutant	Objective	Averaging period	To be met by
NO_2	40	Annual mean	31 Dec 2005
PM_{10}	40	Annual mean	31 Dec 2004
	23*	Annual mean	31 Dec 2010

*Provisional objective only

10.2.2 National Planning Policy Guidance

The land-use planning system is integral to improving air quality and guidance has been prepared to assist local authorities incorporate air quality considerations into planning decision. The guidance describes the contribution local planning policy can make to long-term improvements in air quality through strategic and development control planning employing planning policy guidance in Planning Policy Guidance Note 23 (PPG23).

The guidance (PPG23) has recently been replaced by the Planning Policy Statement 23 (PPS23) (Ref 10-6). The statement reiterates many of the principles in the original guidance and states that the potential effects of a development upon ambient air quality are likely to be particularly important:

- where the development is proposed inside, or adjacent to, an Air Quality Management Area (AQMA);
- where the development could in itself result in the designation of an AQMA; or
- where to grant planning permission would conflict with, or render unworkable, elements of a local authority's air quality Action Plan.

Annex 1, Appendix 1G, of PPS23 clearly states that planning applications for developments within or adjacent to AQMAs should not automatically be refused if the development results in a deterioration of local air quality. Such an approach could sterilise development, particularly in those instances where the authority has designated their entire area as an AQMA.

In addition, PPS23 states that developers should discuss their proposals with both the planning and pollution control authorities, and with other legitimate authorities in pre-application discussions.

Additional complementary guidance is given in the National Society for Clean Air and Environmental Protection publication 'Development Control: Planning for Air Quality (Ref 10-7).

10.2.3 Regional Planning Policy Guidance RPG 9 Regional Planning Guidance for the South East (2001)

The Government Office for the South East published in 2001 Regional Policy guidance RPG9 – Planning Guidance for the South East (Ref 10-8). Policy E7 states that "Local authorities should work with the Environment Agency and others to play a positive part in pollution control and encourage measures to improve air quality." This is to be achieved via the measures described in PPS23, consideration of statutory local air quality management work and the presence of constrained areas (Air quality Management Areas, defined in more detail in Section 10.2.22).

The South East Plan is a major revision to RPG9 which is expected to be formally published in 2008 (Ref 10-9). Policy NRM7 sets out four principal areas in which

the development planning process should facilitate improvements in local air quality:

- by ensuring consistency with air quality action plans published for constrained areas (AQMAs);
- by consideration of transport management, including the use of alternative fuels;
- by encouraging mitigation by design in constrained areas; and
- by encouraging best practice to minimise construction impacts.

10.2.4 County Planning Guidance – The Berkshire Structure Plan 2001-2016

The Berkshire Structure Plan (Ref 10-10) in Policy EN5 stipulates in rather general terms that developments, considered alone or cumulatively should not give rise to any emissions to air likely to cause a nuisance or be prejudicial to health, and that the locations of nearby sensitive receptors should be considered.

10.2.5 Local Planning Guidance – The West Berkshire Local Plan and Local Development Framework

Until such time as the Core Strategy for West Berkshire's Local Development Framework have been consulted upon, the policies contained within the earlier 1991-2006 West Berkshire Local Plan (Ref 10-11) still have statutory effect.

Policy OVS1 describes the presumption in favour of developing on brownfield sites, helping to reduce the need for travel.

Policy OVS5 describes the requirements to manage emissions by mitigation, operating hours and physical location of polluting processes at an appropriate point on the development site.

10.2.6 Local Air Quality Management

All local authorities are required by the Environment Act 1995 Part IV to carry out a review and assessment of air quality. This involves examining current pollutant concentrations, estimating future concentrations and comparing the future concentrations with the objectives in the Air Quality Strategy (AQS) set out in the Air Quality Regulations (England) 2000 (as amended).

Where the objectives are not likely to be achieved in all relevant locations, the authority must designate these areas as Air Quality Management Areas (AQMAs) by order and develop an action plan to improve air quality. Relevant locations include areas outside buildings or man-made structures above or below ground level and where members of the public are regularly present and are likely to be exposed.

Local authorities have completed the first round of the review and assessment process to determine the need for designation of any AQMAs in their area. The first round consisted of four stages. Stages 1 and 2 identified whether there is a possibility that any of the AQS objectives will be exceeded. Stage 3 involves the detailed assessment of current and future air quality and the formal proposals for AQMAs where AQS objectives are likely to be exceeded. Stage 4 is completed following formal designation of AQMAs. This stage identifies the objectives not being met or unlikely to be met and identifies the possible reasons.

As part of the second round of the review and assessment process an updating and screening assessment (USA) is completed and a detailed assessment is undertaken where required. The USA is used to identify matters that have changed since the first round of review and assessment and to identify sources that may lead to an air quality objective being exceeded. A detailed assessment is required where there is a possibility of AQS objectives being exceeded.

Local authorities are to undertake progress reports if no detailed assessment is required following the findings of the USA. A timetable for future rounds of review and assessment has been set, whereby USAs are required at least every three years in 2003, 2006 and 2009. Progress reports are required in the intervening years.

The AWE site lies within the boundaries of West Berkshire Council (WBC) close to the boundaries of Basingstoke and Deane Borough Council (BDBC). Neither WBC nor BDBC declared AQMAs near the AWE site following the first round of review and assessment.

As part of the second round, WBC have undertaken a USA and two progress reports. The most recent progress report concluded that the nitrogen dioxide annual mean is being exceeded in close proximity to roads. The diffusion tube survey is to be expanded to include relevant exposure locations i.e. property facades. Results from this survey will be assessed in the next USA.

BDBC's progress report in 2004 concluded that a detailed assessment was required for nitrogen dioxide concentrations. The detailed assessment included further monitoring to confirm whether an exceedance was likely. The detailed assessment found that the annual mean objective was likely to be exceeded at the junction of Winchester Street and Winton Square in Basingstoke. One property within this area was not considered sensitive as occupancy was short term and below relevant exposure periods. Further monitoring is to be carried out and an AQMA is not to be considered until further data is available.

In the context of the proposals for the site, dust emissions from construction may result in a 'Statutory Nuisance' where there is failure to apply 'Best Practicable Means' (BPM) to control emissions; the law on Statutory Nuisance and relevant definitions are given in Part III of the Environmental Protection Act 1990 (EPA90) (Ref 10-12). In practical terms, application of BPM essentially means the managed, diligent application of 'best practice' techniques to minimise emissions in the context of the receiving environment, changing conditions and cost.

10.3 Assessment Methodology and Significance Criteria

The assessment methodology employed consists of three strands:

- a semi-quantitative custom-and-practice assessment of construction dust;
- a simple point-source dispersion screening model to assess direct emissions from the operational phase of the Proposed Development – including analysis of monitoring data; and
- a screening model to assess the impacts of motor vehicles associated with the operational phase of the Proposed Development on long-term concentrations of NO_2 and PM_{10} at nearby receptors.

10.3.1 Assessment Methodology

Process emissions to air were assessed using the Environment Agency's H1 Screening Tool. This is a Microsoft Access-based software tool intended for use at sites regulated under the Pollution Prevention and Control Regulations 2000. The nature and scale of operations in the proposed HEFF are such that no current industrial pollution control legislation is applicable. Nonetheless, the H1 Tool may be used for non-Environment Agency permitted sites as a conservative screening mechanism to estimate the scale of environmental impact. This is common practice for small scale industrial processes, particularly in areas which are not significantly environmentally constrained, when a full detailed dispersion modelling study represents a disproportionate effort.

The Screening Tool makes use of conservative simplified dispersion algorithms to estimate the maximum probable ground-level concentration of gaseous species. Pollutant emission rates, operating hours and stack height data are used.

Maximum short and long-term ground level concentrations were calculated for the chemical species which made up the expected emissions profile, based on the process emissions data as provided by AWE. These values were compared with the Environment Agency's database of Environmental Assessment Levels (EALs), currently the most comprehensive suite of non-traffic derived ambient air quality criteria published in the UK. Significance is assessed by determining the percentage contribution to the EALs for each species.

Four separate technical units were considered as part of the operating processes of the facility. Operation of the technical units will be subject to production demands and optimum technical requirements rather than defined operating hours and emissions to air in any case will not take place at a constant rate. Continuous plant operation was hence assumed for the Screening Exercise as an extremely conservative scenario. Stack heights and volumetric flow rates for these emission points were determind. A conservative value of 10 metres per second (m/s) was assumed for all stack efflux velocities; in practice the velocities are likely to be higher and hence further enhance dispersion.

The pollutant species associated with the development that were subject to assessment are:

- those derived by the vehicle fleet which are generally present at concentrations closest to AQS Objective concentrations, namely NO_2 and PM_{10};
- direct emissions from the coating and drying processes within HEFF, namely hydrogen chloride, butan-2-one and paraxylylene; and
- dust raised as a result of construction activities.

Pollutant mass emission rates were provided by the HEFF Project Team. A mass emission consisting of 50% paraxylyene monomer or dimer and 50% hydrochloric acid was assumed as a conservative scenario. A nominal emission concentration of 1 milligram per cubic metre was assumed for a separate process within the facility.

A full summary of the emissions profiles is provided in Appendix C of this EA (as printouts from the H1 Screening Tool).

Traffic-derived emissions in less constrained areas are generally assessed using the Air Quality Screening Tool produced as part of the Highways Agency's Design Manual for Roads and Bridges (DMRB) Volume 11 Chapter 3 (Ref 10-13). This tool processes basic traffic data (average vehicle flow, speed etc.) and derives long-term (annual mean) concentrations of traffic-derived pollutants. The pollutants of most concern are usually nitrogen dioxide and fine particulate matter (PM10).

Construction dust emissions were assessed using in-house procedures which address the principal issues covered by the Department for Communities and Local Government's Minerals Policy Statement 2 Annex 1 (Ref 10-14).

Greenhouse gases and photochemical ozone precursors have been discussed qualitatively.

10.3.2 Significance Criteria

Significance criteria in the context of air quality are based on a given parameter's compliance or otherwise with statutory or accepted guideline criteria. The criteria used in this assessment are summarised in Table 10-2.

A full list of statutory and relevant guideline air quality criteria are given in Appendix C.

Criteria for significance in changes of long-term traffic-derived pollutant concentrations are discussed in the Department for Transport's Transport Analysis Guidance (TAG) Unit 3.3.3 (Ref 10-15).

Significance criteria relating to the operational impacts of the Proposed Facility (i.e. relating to hydrogen chloride, butan-2-one and paraxylylene) are detailed in the H1 Screening Tool Assessment. Further details are included within Appendix C of this EA.

Table 10-2 Criteria for Impact

Significance Level	
Major adverse	Increase of annual mean NO_2 and PM_{10} concentrations such that AQS Objectives are exceeded in an otherwise compliant area. Likely in the professional opinion of a local authority officer to be significant grounds for refusal of planning permission.
Moderate adverse	Increase of annual mean NO_2 and PM_{10} concentrations of greater than 2 and 1 $\mu g/m^3$ respectively as an annual mean but not leading to a breach of AQS objectives. Possible in the professional opinion of a local authority officer to be significant grounds for refusal of planning permission.
Minor adverse	Increase of annual mean NO_2 and PM_{10} concentrations of less than 2 and 1 $\mu g/m^3$ respectively as an annual mean but not leading to a breach of AQS objectives. Unlikely in the professional opinion of a local authority officer to be significant grounds for refusal of planning permission.
Negligible	Unlikely to be measurable by contemporary measurement techniques in common use (limit of resolution generally 0.1 $\mu g/m^3$). Industrially derived pollutants are present at less than 1% of the short term EAL.
Beneficial	The proposed scheme is likely to result in a decrease (improvement) in ground level concentrations at local receptor points, compared to the natural growth scenario

10.4 Baseline Conditions

10.4.1 Overview

A description of existing conditions was drawn from the air quality review and assessment reports completed by all local authorities.

All local authorities are required by Part IV of the Environment Act 1995 to review air quality in their area and to assess present and likely future air quality against set objectives.

10.4.2 Monitoring Data

There is a wealth of air quality monitoring and mapping data available in the United Kingdom. Monitoring efforts tend to be concentrated on problem areas, but a representative number of sites to cover all exposure conditions are also maintained. Two principal types of monitoring techniques are used: continuous, direct-reading real-time analysers and simpler passive sampling apparatus (i.e. diffusion tubes). Both types of monitoring are undertaken at a national and local authority level.

DEFRA operates a national network of continuous analysers known as the Automatic Urban and Rural Network (AURN). There are no AURN sites within 40 kilometres of the Aldermaston site and data from these stations is not considered further.

Both WBC and BDBC operate networks of diffusion tubes, and BDBC also operates an automatic monitoring station not affiliated to the AURN. Data from these locations are reported for information in Appendix C. Location-specific data is available from previous dedicated survey work and has been utilised for this assessment. The last three year's worth of ratified data from non-urban stations in WBC and BDBC indicate that both short- and long-term concentrations of NO2 and PM10 comfortably meet the relevant air statutory air quality criteria.

The National Air Quality Archive is a repository for air quality information. As well as holding records from the AURN, the Archive contains maps for every one-kilometre square area of the United Kingdom based on AURN, local network and modelling results. These maps describe background conditions upon which (principally) local industrial and road sources may be overlaid. In the absence of empirical monitoring data, it is custom and practice to determine baseline air quality at a given location using these map data and the overlaid results of modelling work.

As part of the Aldermaston Environmental Site Setting Exercise carried out by Atkins in 2003 and 2004, a local network of 21 diffusion tube sampling locations was established, including a number of locations on the AWE site with the remainder off-site in the wider local area. Tubes were corrected for differences in method performance (bias) between diffusion tube sampling and the EU Reference Method (direct reading by chemiluminescence analyser) by co-location with a suitable automatic analyser. Sampling locations and results are described in Appendix C. Results for NO_2 suggested that long-term concentrations were well below the NAQS Objective. National trends from 2004-2007 suggest that this will continue to be the case.

10.4.3 Summary of Baseline Conditions

A summary of relevant baseline data for which statutory criteria are published is presented in Appendix C. As neither WBC nor BDBC has declared Air Quality Management Areas in the vicinity of the site; the air quality may be considered relatively good.

There are no published reports describing baseline concentrations of any of the pollutants identified in process-related emissions, namely butan-2-one, paraxylylene and hydrogen chloride. These substances are only likely to be found in the atmosphere in the vicinity of industrial facilities using these compounds.

There are a small number of residential properties within a one-kilometre boundary of the proposed construction site, principally those located in the Heath End area nearest the A340 Aldermaston Road, which may possibly be affected to some extent by construction dust.

There are no published reports to indicate dust deposition or soiling rates in the area. Generally, in a rural area, dust deposition rates are between 28 and 39 milligrams per square metre per day ($mg/m^2/day$) (Ref 10-16) and soiling rates between 0.01 and 0.5 % Effective Area Coverage (EAC) per day (Ref 10-17).

10.5 Potential Impacts and Mitigation Measures

10.5.1 Potential Impacts – Construction Phase

The short-term effects on air quality during the construction phase may lead to elevated local concentrations of PM_{10} and an increased rate of coarse particulate (dust) deposition. Properties in the north of the Heath End area are exposed to winds blowing from the site less than 10% of the time.

Fugitive dust emissions are likely to occur under all wind conditions during site working hours as mechanical processes (e.g. vehicle movements over dusty surfaces) eject dust particles into the air. Areas of unconsolidated materials that are relatively undisturbed by site activities will tend to only be active sources when the wind has sufficient energy to lift dust particles from the exposed surface into the air; for the purposes of this assessment these are referred to as "occasional sources". Emissions from occasional sources are most likely when the surface is dry (i.e. low soil moisture) and the wind is gusting; unlike areas that are frequently disturbed by activities these sources tend to diminish in importance over time as the available surface reservoir of particles potentially subject to erosion is depleted.

Winds that are capable of mobilising dust from occasional sources at the site have a probability of less than 5%. Assuming damp conditions for at least 50% of the year then the likelihood of nuisance dust and PM_{10} from the site reaching this location is very low. The majority of dust likely to give rise to soiling will settle within 500 metres of the source; hence the probability of nuisance dust soiling at nearby residential properties, the nearest of which is over 500 metres from the HEFF site, is considered to be negligible.

A full treatment of local meteorological data used to inform this conclusion is included as Appendix C. Contraction plant and vehicles will lead to additional emissions of PM_{10} and NO_2. However, these emissions will be for a short-term period and will only last for the durations of the construction phase of the project.

10.5.2 Potential Impacts – Operational Phase

The long-term effects on air quality as a result of process contributions to local concentrations of butan-2-one, paraxylylene, hydrogen chloride and particulate matter are negligible. The H1 Screening Assessment is reproduced in Appendix C. None of the pollutant species assessed was expected to be present at a concentration higher than either 1% of the long-term EAL or 10% of the short-term EAL.

The consequences of such negligible amounts of butan-2-one and paraxylylene on enhanced greenhouse effect and on the rate of local and regional generation of photochemical oxidant products are negligible and do not warrant further assessment.

Chapter 9: Transport highlights that there is a slight increase in the number of vehicle trips to Aldermaston (transferred from Burghfield) as a result of the operational phase of the Proposed Development. These trips will have a negligible impact on the local air quality. There is hence no effect expected due to the development on concentrations of traffic-derived air pollutants for which statutory criteria are applicable. This is therefore assessed as being of negligible significance.

10.5.3 Mitigation Measures – Construction Phase

Mitigation of nuisance dust and construction derived PM10 should be pursued via the Best Practicable Means (BPM). The operational management and technical measures to be used on the site will be in compliance with AWE's Code of Construction Practice (CoCP) and will be contained within the Environmental Management Plan (EMP).

Although the assessment of fugitive dust impacts indicates that the likelihood of significant effects would be low, to minimise the risk of causing Statutory Nuisance it is recommended that the contractor adopts BPM in controlling emissions.

Typical measures include:

- Maintaining potentially dusty exposed surfaces in a damp condition by application of water sprays/mobile bowsers;
- Storage of any waste materials in covered skips (if practicable) or screened areas and as far from potentially sensitive receptors as possible (such materials should be removed from the site for proper disposal as soon as possible);
- Regular inspection and cleansing of paved surfaces – especially site access points - using appropriate means to minimise dust mobilisation;
- Clearance of any spillages of potentially dusty materials as a matter of priority using appropriate means to minimise dust mobilisation;
- Stabilisation of loose (e.g. soil) surfaces as soon as possible after exposure;
- Enforcement of vehicle speed restrictions on site to minimise dust generated by passing traffic;
- Restriction of vehicle movements to designated site haul routes;
- Sheeting or enclosure of all loads of potentially dusty materials to be transported on the public highway;
- Incorporation of a complaints register where actions can be implemented to respond to the concerns of any local receptors; and
- Provision and supervised use of vehicle cleaning facilities (e.g. wheel wash) before site exits to the public highway.

10.5.4 Mitigation Measures –Operational Phase

Operational mitigation measures have been included as part of the Proposed Facility's design process. Particulate matter from the powder coating area will be abated using fine porosity filters integrated into the local exhaust ventilation and air moving plant. The quantities of gaseous pollutants likely to be emitted do not warrant any additional abatement measures.

On-going AWE assurance procedures will be implemented to ensure the air quality within the Aldermaston site is monitored through a network of monitoring stations.

Residual Impact Assessment and Conclusions

10.5.5 Construction Phase

Provided that construction mitigation measures are implemented as described, the residual impacts on local air quality from the construction phases of the Proposed Development are deemed to be negligible.

10.5.6 Operational Phase

Residual impacts on local air quality in terms of traffic and process derived pollutants as a result of the operational phase of the Proposed Development are deemed to be negligible.

Residual impacts on a regional and global scale, namely emissions of greenhouse gases and photochemical oxidant emission, are deemed to be negligible, due to the low quantities to be emitted.

10.6 Cumulative Impact Assessment

Given that the anticipated air quality impacts associated with the HEFF are deemed to be negligible, there are not anticipated to be any cumulative material changes in combination with other developments at the Aldermaston AWE site.

The AWE Aldermaston & Burghfield Site Development Context Plan (SDCP) 2000–2015 (Ref. 10-25) sets out the overall approach to the modernisation of AWE Aldermaston and AWE Burghfield, through the refurbishment, and replacement of existing facilities. AWE Burghfield occupies a 225 acre site, approximately 11 kilometres east of Aldermaston.

The SDCP describes a number of proposals for new buildings at the Burghfield and Aldermaston Sites, plus demolition or refurbishment of existing buildings.

Due to the distance between Burghfield and Aldermastion, demolition and construction activates within the respective site boundaries will not cause significant a cumulative impact on air quality at sensitive receptors.

It is possible that traffic associated with demolition and construction activities will share a portion of the major transport routes as they approach Burghfield and Aldermaston. Therefore emissions from these vehicles have the potential to have a cumulative impact on local air quality. However, this is likely to be insignificant compared to that associated with base traffic flows along these major routes and, in the presence of low background concentrations of pollutants in the area (as described in this Chapter), is very unlikely to lead to exceedences of the AQS objectives.

This cumulative assessment has also included an assessment of nearby external schemes (listed in Table 17-2) and has concluded that there will be a negligible cumulative impact due to the distance between schemes and to the nature of atmospheric dispersion.

Indeed, the SDCP recognises the opportunity for promoting sustainable transport choices for staff contractors and visitors during the implementation of the programme.

10.7 References

Ref 10-1 The Air Quality (England) Regulations 2000

Ref 10-2 The Air Quality (England) (Amendment) Regulations, 2002

Ref 10-3 The Environment Act, 1995

Ref 10-4 The Air Quality Standards (Amendment) Regulations, 1995 (Revoked)

Ref 10-5 The Air Quality Standards Regulations, 2007

Ref 10-6 Department for Communities and Local Government (DCLG), Planning Policy Statement 23 (PPS23), Annex 1: Pollution Control, Air and Water Quality

Ref 10-7 National Society for Clean Air (NSCA) and Environmental Protection, Development Control: Planning for Air Quality, November 2004

Ref 10-8 Government Office for the South East, Regional Policy Guidance RPG9 – Planning Guidance for the South East, 2001

Ref 10-9 Government Office for the South East, The South East Plan (draft, to be published in 2008)

Ref 10-10 Berkshire Joint Strategic Planning Unit, The Berkshire Structure Plan 2001-2016

Ref 10-11 West Berkshire Council, Local Plan 1991-2006, 2002

Ref 10-12 The Environmental Protection Act, 1990

Ref 10-13 Highways Agency, Design Manual for Roads and Bridges (DMRB), Volume 1, Section 3, Part 1, Air Quality, February 2003

Ref 10-14 Department for Communities and Local Government's, Minerals Policy Statement 2 Annex 1, March 2005

Ref 10-15 Department for Transport, TAG Unit 3.3.3, 2004

Ref 10-16 Vallack, HW & Shillito DE, "Suggested Guidelines for Deposited Ambient Dust", Atmospheric Environment, Vol.32, No.16, pp.2737-2744, 1998

Ref 10-17 Beaman AL and Kingsbury RWSM, "Recent Developments in the Method of Using Sticky Pads for the Measurement of Particulate Nuisance", Clean Air, Vol.14 No.2 pp.75-81, 1984