

AGENDA MANAGEMENT SHEET

Name of Committee Regulatory Committee

Date of Committee 22nd December 2005

Report Title Rugby Cement Works – Bag Filters

Summary This application proposes the installation of a new bag filter with related plant and infrastructure at Rugby Cement Works, Lawford Road, Rugby.

For further information please contact Matthew Williams
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Would the recommended decision be contrary to the Budget and Policy Framework? Yes/No

Background Papers Submitted application and environmental impact assessment, received 27/9/2005.
 Letter and additional supporting information, received 18/11/2005.
 Letters of representation received from six individuals.
 Letters from Rugby Borough Council, dated 7/10/2005, 19/10/2005, 24/11/2005.
 Letters from Rugby Primary Care Trust, 5/10/2005, 1/11/2005.
 Letter from Health & Safety Executive, 13/10/2005.
 Letter from English Nature, dated 20/10/2005.

CONSULTATION ALREADY UNDERTAKEN:- *Details to be specified*

- Other Committees
- Local Member(s) Councillor B Levy – see paragraph 2.15
(With brief comments, if appropriate)
- Other Elected Members All other Rugby Ward Members – no comments received.
- Cabinet Member
(Reports to The Cabinet, to be cleared with appropriate Cabinet Member)

- Chief Executive
- Legal
- Finance
- Other Chief Officers
- District Councils Rugby Borough Council – see comments in paragraph 2.
- Health Authority
- Police
- Other Bodies/Individuals Environment Agency, Rugby Primary Care Trust, Countryside Agency, Health & Safety Executive, English Nature, County Museum.

FINAL DECISION **YES/NO** *(If 'No' complete Suggested Next Steps)*

SUGGESTED NEXT STEPS :

Details to be specified

- Further consideration by this Committee
- To Council
- To Cabinet
- To an O & S Committee
- To an Area Committee
- Further Consultation

Regulatory Committee – 22nd December 2005

Rugby Cement Works – Bag Filters

**Report of the Strategic Director of
Environment and Economy**

Recommendation

That the Regulatory Committee authorises the grant of planning permission for the installation of a new bag filter with related plant and infrastructure at Rugby Cement Works, Lawford Road, Rugby, subject to the conditions and for the reasons contained in **Appendix B** of the report of the Strategic Director of Environment and Economy.

APPLICATION NO : R410/05CM030

RECEIVED BY COUNTY : 27/9/2005

ADVERTISED DATE : 13/10/2005

APPLICANT : Cemex UK Cement Ltd, Cemex House, Evreux Way,
Rugby, Warwickshire.

AGENT : Mr D Tomlin, Cemex UK Operations Ltd, Cemex House,
Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD.

THE PROPOSAL : Installation of new bag filter with related plant and
infrastructure.

SITE & LOCATION : Rugby Cement Works, Lawford Road, Rugby
(Grid ref: 487.757)

See plan in **Appendix A**.

1. Application Details

- 1.1 The application proposes the installation of a new bag filter plant at the Rugby Cement Works as a replacement for the existing electro-static precipitator (ESP) dust filtration system.
- 1.2 The bag filters would be enclosed within a building measuring 27 metres long by 19 metres wide by 29 metres in height. The bag filter building would be located adjacent to the existing ESP filtration system, on the eastern side of the main kiln tower. New ducting would link the pre-heater tower to the dust bag unit delivering exhaust gas, while a new main fan/motor and ducting would connect the clean gas outlet part of the unit to the existing stack. The building would be a steel framework structure clad in steel sheets, coloured to match the remainder of the plant (mushroom).
- 1.3 The dust filtration process would involve exhaust gases from the kiln passing through a series of 8 individual compartments, containing a total of 6240 woven fibreglass bags. The gases would pass from the outside to the inside of the bags, depositing the dust as a cake on the outside of the bags. Dust would then be removed from the bags by intermittently and briefly blowing compressed air inside each bag, forcing the dust to fall into hoppers located below before being reintroduced to the manufacturing process.
- 1.4 A copy of the Applicant Supporting Statement as **Appendix C**.

2. Consultations

- 2.1 **Rugby Borough Council (RBC)** – comment that following the commissioning of detailed expert advice, the Borough Council has for many years pursued the fitting of bag filters at the plant to both reduce emissions and act as a safeguard when the kiln shuts down. The Borough Council consider bag filters to be the Best Available Technique for controlling emissions and should be fitted as soon as possible.
- 2.2 The Borough Council has been asked to consider requesting a more detailed and full Environmental Impact Assessment (EIA). The Council is confident in Warwickshire County Council's decision regarding the EIA. Delays by any further assessment would be very unfortunate, as bag filters will provide better protection for the people of the Borough. The Council will not therefore be asking for a further EIA. Consultants have been commissioned for their technical expertise to evaluate different technologies and bag filters were considered to have a lesser environmental impact and provide reduced emissions and better protection in the event of plant failure.
- 2.3 The application indicates the improvements made in emission control by indicating that in the old plant emission limits for particulates was 140 mg/m³ and that the current limit for the new plant is 55 mg/m³. While this is factually correct, it does not consider the total impact from the increased volumes of gas released from the site or the improved dispersion of pollutants from the stack for the new plant. However, the proposed 30 mg/m³ is directly compatible with the

new plant emission limit as the bag filter will not affect production and is a significant reduction.

- 2.4 It is clearly stated in the application that the reason for this application is to meet the requirements of the Waste Incineration (England and Wales) Regulations 2002 as the kiln is now considered a waste co-incinerator under these Regulations because of the proposals to burn tyres and, potentially, other wastes. While the Council still has concerns about the burning of waste at the site, these issues are being dealt with separately. While granting permission may indirectly allow waste burning at the Works, it is considered more appropriate to deal with the waste burning issue separately and not hinder an application which, even if waste burning is permitted, will significantly reduce particulate emissions from the stack.
- 2.5 The Environmental Statement indicates that under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 this development would not automatically require an Environmental Impact Assessment (EIA) but it was recommended by Warwickshire County Council (WCC) because of the Air Quality Management Area (AQMA) declared by Rugby Borough Council. WCC limited the scope of the EIA to air quality, noise and visual amenity. Given the proposed development (minor alteration to plant resulting in a simple air quality impact of reduced particulate emissions) this is considered reasonable and the decision made by WCC is supported.
- 2.6 The application indicates that historically coal and pet coke had been used. This is considered potentially misleading because it is understood the plant has, except for small trials with pet coke, only used coal. It is accepted that the permit allows the use of coal or pet coke.
- 2.7 The application states that the only impact the bag filters will have on air quality is reduction in emitted particulate concentration from the stack. This is an important statement in determining impact and is considered by the Council to be correct. Indirect changes in emissions from the stack by allowing the bag filters, which would allow burning of waste such as tyres, is being dealt with separately by the Council, notably consultation with the Environment Agency, the Rugby Cement Community Forum and the Tyre Burning Review Group. This approach is considered appropriate because granting permission for the bag filters will improve particulate emissions if waste is burnt or not. The decision to allow tyre burning is an Environment Agency matter under their enforcement responsibility and it is not considered appropriate for the planning process, regarding this alteration to the plant, to be used to try to prevent waste burning and bypass the recognised enforcement route for waste burning permitting.
- 2.8 The application does not consider the impact on the air quality management area declared by Rugby Borough Council in December 2005 for nitrogen dioxide, mainly as a result of traffic pollution in the town centre. Their approach is considered acceptable. However, the assessment is considered potentially misleading in that the EIA relates to the stack emission only, but could be misinterpreted to indicate that this is the assessment of the whole site, which it is not. Fugitive and low level point sources are significant sources of

particulates, which affect mainly the New Bilton area. These sources are unaffected by the bag filters and have not been considered in the EIA which is considered appropriate in this limited scope EIA. Overall the conclusion that particulate air quality will be improved is accepted because of the reduction of particulates from the stack, which have a relatively small effect locally because of the dispersion of the pollutants from the stack.

- 2.9 Currently, when certain problems occur in production, the electrostatic precipitators (ESPs) automatically turn off, allowing significant discharges of dust to be emitted from the stack. The advantages of the bag filters is that they will continue to work when these problems occur and would result in virtual elimination of the stack related discharge events which do affect local residents and are a source of regular complaint. This is a very positive and welcomed improvement.
- 2.10 The application indicates that there will be increased electricity use to move the air through the bag filters, which equates to 15,277 tonnes per annum of carbon dioxide. This increase in green house gas emissions is considered to be serious globally, but the Council's main concern has to be the protection of local residents and, therefore, the increased emission is, reluctantly, considered acceptable because of the advantages of the bag filters.
- 2.11 The assessment of the visual impact of the plume is considered to be questionable as the plume's visual assessment is considered to be 'low'. Subjective assessment by officers suggests that the impact is higher. However, the conclusion that the impact of the reduced particulate emissions will have little effect on the visible plume is accepted.
- 2.12 The application proposes lagging or other insulation such that the unit complies with a noise limit of 65.5 dB $L_{Leq, 5 \text{ minutes, free field}}$. This should be made a planning condition.
- 2.13 The noise report proposes noise limits at sensitive residential properties. These are considered appropriate and should be made a planning condition.
- 2.14 The report does not consider the impact of the construction of the bag filter unit on the site. The applicant suggests similar conditions to those imposed on planning permission R410/95CM007 relating to upgrade of the works. This proposal is generally supported. However, RBC would like an additional condition requiring the submission of a detailed construction noise assessment including details of the works being carried out, the proposed timescale, the timetable for the works and the equipment that will be used, complete with an assessment of the impact each phase will have on local residents. This should be submitted to the County Planning Authority, for approval by them in consultation with Rugby Borough Council Environmental Health. The plan should be submitted and approved before work starts.
- 2.15 **Councillor B Levy** – welcomes addition of anything at the Works that would assist with reducing emissions from the plant and improve air quality in Rugby. Additionally, would wish to see adequate measures in place to monitor emissions from the plant.

- 2.16 **All other Rugby Ward Members** – no comments received.
- 2.17 **Long Lawford Parish Council** – no comments received.
- 2.18 **Environment Agency** – the Agency regulate the Cemex Rugby Cement installation through a Pollution Prevention and Control Permit issued in August 2003 under the Pollution Prevention and Control (England and Wales) Regulations 2000. However, the Waste Incineration Regulations (WID) come into force for the installation on 27th December 2005. They impose lower emission limits for certain pollutants, e.g. particulate matter (dust) where the limit will be reduced from an hourly average of 55 mg/m³ to 30 mg/m³. The installation cannot currently guarantee to consistently meet this lower limit using the existing abatement equipment, that is, electrostatic precipitators (ESP's). The operator is proposing to install a bag filtration unit to replace the main ESP to ensure the limit can be reliably met.
- 2.19 Cemex will require a variation to their Permit in order to be able to install and operate the filtration unit. The Agency will have due regard to all aspects of the proposed modified operation of the installation and will have to be satisfied the Operator is using Best Available Techniques to prevent or, where that is not practical, reduce pollution.
- 2.20 The Environmental Impact Statement submitted with the planning application identifies that the development has been proposed to reduce dust emissions from the current operation and will not be associated with any alteration in the manufacturing process, or to the scale of throughput. The Statement reports that the proposed development will result in a general improvement in air quality by reducing emissions from the main stack. Furthermore, a reduction in noise levels will also be experienced, when compared to the existing ESP unit which it would replace.
- 2.21 The existing ESP may be automatically tripped out by high carbon monoxide concentrations for safety reasons, thus resulting in short periods of higher than usual dust emissions from the main stack. This will not occur with the bag filtration unit. Thus from a planning perspective the installation of the proposed filtration unit will, in our opinion, afford a higher level of environmental protection than currently exists. The Agency therefore has no objections in principle to the planning proposals.
- 2.22 **Rugby Primary Care Trust** – The current proposal has arisen from a separate permission which has been granted for the use of waste tyres as part of the fuel to be used within the kiln. Although the current dust abatement method (electrostatic precipitators) are able to meet the dust emission limits based upon the use of coal and pet coke, they would not be able to consistently meet the more stringent WID emission limits which will be relevant if tyres are used as part of the fuel. Therefore, a new and improved dust filtration system (namely, bag filters) is required in order to ensure WID compliance at Rugby Cement Works.

- 2.23 Additional information submitted by the applicant is satisfactory and addresses the concerns raised by the Trust. In the Trust's opinion, it is unlikely that the proposed installation would present a risk to local people if the Cement Works complies with WID, and is well managed and regulated.
- 2.24 **Health and Safety Executive** – advise that they wish to make no comments.
- 2.25 **County Museum** – no comments received.
- 2.26 **English Nature** – no observations.
- 2.27 **Countryside Agency** – no comments received.

3. Representations

- 3.1 Letters and emails of objection to the application have been received from six individuals - four local residents, District Councillor Mrs Pat Wyatt and a firm of Solicitors Richard Buxton, Environmental and Public Law. A copy of the letter from Richard Buxton is appended; although it is addressed to Rugby Borough Council and responds to their comments on this application it has been accepted as being also a representation to the County Council. (See **Appendix D**). Rugby Borough Council have received a further three letters of objection from local residents.

Concerns include:

- (i) Bag filters are not appropriate to/will not work at the Rugby Plant – where else in the world are bag filters used in semi-wet process.
- (ii) Bag filters would facilitate burning of more hazardous wastes at the plant – plant could become general waste incinerator.
- (iii) Without bag filters no waste could be burnt at the plant.
- (iv) Bag filters would allow increase in particulate emissions from the burning of wastes.
- (v) Plant has become a co-incinerator by stealth.
- (vi) EIA inadequate and does not comply with EIA Regs – should deal with whole issue of use of alternative fuels.
- (vii) Application misleading.
- (viii) Would bag filters work during plant start up or emergency shut downs.
- (ix) Application is being rushed through without full consideration.
- (x) No valid planning permission or EIA was undertaken for plant as built.
- (xi) All proposals/applications at plant should be considered together in order to assess cumulative effects not piecemeal.
- (xii) Bag filters would facilitate increased production at the plant.
- (xiii) Impact of proposal upon traffic should be assessed.
- (xiv) Plant does not burn pet coke.
- (xv) Bag filters would only filter 60% of stack gases – will not stop pollution from all of plant.
- (xvi) Bag filters could make fallout from plume worse.
- (xvii) Impact upon general air quality and health of residents of Rugby needs to be considered – Rugby has higher death rate than elsewhere in Warwickshire.

- (xviii) How can emissions from bag filters be guaranteed to comply with WID.
 - (xix) Bag filters would create additional noise.
 - (xx) Concern over RBC's approach to the bag filter application, especially in the light of its air quality and environmental health responsibilities.
- 3.2 District Councillor Mrs Pat Wyatt expresses strong objection to the proposed development and requests that the application is deferred until a full environmental impact assessment has been carried out.

4. Observations

Background

- 4.1 Planning permission was granted in 1996 for a comprehensive upgrade of the old Rugby Cement Works. The new upgraded works has been operational since 2000.
- 4.2 Prior to the installation of the new plant, the previous cement works was regulated by an 'authorisation' (required under the provisions of the Environmental Protection Act 1990) limiting emissions of dust/particulate matter from the kiln chimney to 140 mg/m³ (milligrams per cubic metre of air). The new cement works is subject to a more stringent emission limit of 55 mg/m³ at an hourly average. This emission limit is set within the Pollution Prevention Control (PPC) Permit for the new plant.
- 4.3 New legislation in the form of the Waste Incineration (England and Wales) Regulations 2002 (in accordance with the 'Waste Incineration Directive 2000' (WID)) introduce more restrictive controls on the incineration or 'co-incineration' of all types of waste. The Regulations and Directive are now relevant to the operation at the Rugby Cement Works due to the use of chipped waste tyres as an alternative fuel (partial substitute for coal) because the burning of wastes in cement kilns is classified as 'co-incineration'.
- 4.4 The Regulations and Directive require that if the process involves co-incineration in a cement kiln, dust emissions from the main kiln stack must be limited to 30 mg/m³ at dry 10% oxygen reference conditions. The existing electro static precipitator dust filtration system is not capable of consistently meeting those more stringent emission limits. Cemex wish to continue the use of alternative fuel at the Plant and therefore a new improved dust filtration and collection system is required.

Existing Dust Filtration System

- 4.5 Dust filtration of exhaust gases from the preheater tower (tallest building at centre of site) is currently undertaken by means of an electrostatic precipitator (ESP) unit. This unit was installed at the Works as part of the replacement/upgrade of the former plant.
- 4.6 The existing ESP process involves passing the exhaust gases from the preheater tower through an electrically charged environment. The charge passes to the dust particles which are then captured on electrode plates. The

electrode plates are intermittently wrapped to drop the collected dust into hoppers below the filtration system.

- 4.7 The exhaust gases pass through 4 such electrically charged fields, where each field has an efficiency of between 85%-95%, and where the effect is to reduce the dust in the exhaust to some 1000th of the incoming dust load.
- 4.8 Particulate emission concentrations from the main kiln stack are currently in the range of 45 mg/m³ to 55 mg/m³, which is in compliance with current Pollution Prevention Control (PPC) Permit limits. However, this would not comply with new Regulation and Directive particulate limits for co-incineration. Therefore, the applicant seeks to replace the ESP unit with a more efficient dust filtration system.
- 4.9 The applicant states that the existing ESP system could be upgraded by the addition of extra banks to meet the WID requirements. However, it is understood that when certain problems occur in production, the electrostatic precipitators (ESPs) automatically turn off, interrupting production and allowing short term discharges of dust to be emitted from the stack. It has not been indicated whether upgrading the ESP system would overcome this problem. The bag filters by comparison should continue to work in such circumstances.

Proposed Dust Filtration System

- 4.10 The bag filter is intended to primarily abate chalk dust from a very early stage in the raw material handling, this material having been fed from cyclones within the main tower during initial drying and processing of imported chalk.
- 4.11 The new bag filter would be fitted with 6240 filter bags in 8 compartments. Each compartment would be fitted with continuous monitoring equipment to detect any bags that may burst. The compartmentalised design, each with 780 bags, would allow for an individual compartment to be isolated from the exhaust gases to carry out maintenance and repair work without impact on either operational performance or production. Filter bags would be woven fibreglass bags with a specialised membrane. Each bag would contain a steel cage to maintain the bag shape during operation. Exhaust gases are directed proportionately to all compartments, where gases pass from the outside to the inside of the bags depositing gas as a cake layer on the outside of the bags. Dust is removed from the bags by intermittently and briefly blowing compressed air inside the bag forcing the dust to fall into hoppers located below before being fed back into the manufacturing process.

Environmental Impact Assessment

- 4.12 Prior to submitting the application the applicant sought a formal 'screening opinion' from the County Council as to whether the application should be accompanied by an Environmental Statement. The development falls below the thresholds in Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 which trigger consideration of the need for EIA. However, an EIA was considered desirable because Rugby is designated as an 'Air Quality Management Area' (AQMA) due

to air quality within the Town being below standards set within the National Air Quality Strategy and because of likely public concerns. The County Council also advised on the scope of an EIA, asking that it focus on air emissions and the visual and noise impacts of the proposal. The applicant agreed to and did provide an Environmental Statement and as a result the application is to be treated and determined as if an EIA had been legally required under the Regulations. The main text of the Environmental Statement is appended to this report and Members can obtain further details (such as the full air quality assessment carried out by Gair Consulting) from the Case Officer.

- 4.13 Notwithstanding the above, it must be recognised that the AQMA was designated as a result of concerns in respect of emissions from vehicles in Rugby Town Centre and not as a result of emissions from the Rugby Cement Works. The designation stems from air quality assessments undertaken by Rugby Borough Council indicating that the annual mean nitrogen dioxide (NO₂) air quality objective for 2005 (40ug/m⁻³) was at risk of being exceeded at the facades of certain buildings in Rugby Town Centre as a result of vehicle emissions.

Air quality

- 4.14 Gases reach the main kiln stack from five sources, only one of which would be de-dusted by the proposed bag filter. However, the gases passing through the proposed bag filter represent 60% of the gases discharged through the main stack and dispersion modelling carried out by Gair Consulting predicted that ground level concentrations of particulates in these gases emitted from the stack would be half of those resulting from the use of ESPs. The application states that the new system would have no effect on emissions from the other four sources, or from the low level particulate sources that have become the focus of attention in the judicial review proceedings against the Environment Agency. Moreover, the proposed bag filter would only reduce emissions of particulates (i.e. dust) and would not affect other emissions such as nitrogen oxide, carbon monoxide, sulphur dioxide, etc. All these other emissions, like those passing through the proposed bag filter unit, would be subject to control by the Environment Agency through the PPC Permit regime. It is understood that the operation of bag filters would not make any consequent alteration in any other part of the manufacturing process or in the scale of production (except so far as shutdowns might be avoided).
- 4.15 A study of particulate emissions arising from the proposed development compared with the existing ESP unit, contained within the environmental statement, concludes that the bag filter system is the best solution for the environment as a whole. The assessment compared emissions to air, deposition to land, energy consumption, risks of environmental accidents and visual impact of plume. The assessment concluded that bag filters are the 'best option' for all elements with the exception of energy usage.
- 4.16 Rugby Borough Council Environmental Health Department, the Environment Agency and Rugby Primary Care Trust have been consulted and support the installation of bag filters at the plant as a means to reduce emissions and increase environmental protection.

Noise

- 4.17 The main noise source from the bag filter is likely to be the fan and motor associated with dust filtration system. A noise assessment undertaken in connection with the proposal identifies that the proposed unit would create excess noise without mitigation. In order to prevent noise becoming a problem it is proposed to provide acoustic attenuation to the fan and motor units. Subject to the proposed noise mitigation measure proposed it is considered that the proposed bag filter unit is unlikely to result in any greater noise impact than the general operations associated with the manufacture of cement at the Plant as a whole. The Environmental Health Officer has suggested conditions are imposed on any planning permission granted to ensure noise does not become a problem and suitable worded conditions are suggested.

Visual Impact

- 4.18 The proposed bag filter unit would be located centrally within the Plant complex at the base of the preheater tower adjacent to the existing ESP unit. The scale of the building, which is similar to the existing ESP Unit, and coloured to match existing plant on site would result in the bag filter having no greater impact than the existing Cement Works as a whole. Similarly, the bag filter would have little impact on the visible plume.

Other Issues

- 4.19 Concern has been raised that the description of fuel used on site is unclear. The cement works has traditionally been fueled by coal (and to a lesser extent pet coke). While the plant is permitted to use pet coke it appears that its use has been limited to trials only and not in recent time. In addition, the Works has in recent time been undertaking well publicised trials of chipped waste tyres as an alternative fuel. This application is connected with meeting stricter emission controls associated with the use of alternative fuels at the plant.
- 4.20 Cemex propose to integrate the proposed dust bag filter plant into the plant during a stoppage, on completion of the construction work. The next such stoppage/shut down is scheduled for early in the new year. Upon integration of the bag filter into the plant the existing ESP would no longer be connected to the process and may be removed from the plant.
- 4.21 Operation of the bag filters introduces an increased energy requirement upon the Plant due to the suction pressure required to draw the gases through this type of filter is greater than an ESP. If the increased use of electricity is converted to carbon dioxide tonnage, the total would be 15,277 compared to 11,882 if ESPs were used. However, this needs to be weighed against the increased overall efficiency and effectiveness in the capture of dust. Therefore, on balance it is considered that improvements to the filtration system outweigh the greater energy use.
- 4.22 Concern has been raised by objectors that the installation of the bag filters would generate additional vehicle movements at the Works. The application

states that the installation of the bag filter unit will in itself result in no increase in traffic movements. Dust collected in the bag filters is fed back into the system so no additional waste is created for transport off site and fuel will continue to be transported to the Works by road regardless of type.

- 4.23 Concern has been raised by objectors that bag filters are not suitable to the type of plant in operation at the Rugby Works and in fact would not work. The Environment Agency have not expressed similar concern in their response, which describes bag filters, which do not 'trip' and release dust discharges, as offering a higher level of environmental protection than the existing ESP filtration unit.

Planning Policy

- 4.26 Policy ER2 of the Warwickshire Structure Plan states that the environmental impact of all proposed developments must be thoroughly assessed and measures secured to mitigate adverse environmental effects to acceptable levels. Policy R/G1 of the adopted Rugby Borough Local Plan sets out the general standards against which proposals will be considered. Proposals will normally be permitted where R/G1(11) the amenities enjoyed by occupants are protected in terms of, amongst other things, noise, pollution and smell and R/G1(12) where the new development is sympathetic to the scale and character of its surroundings. Policy GP1 (appearance and design of development) of the Rugby Borough Local Plan Review continues this theme.

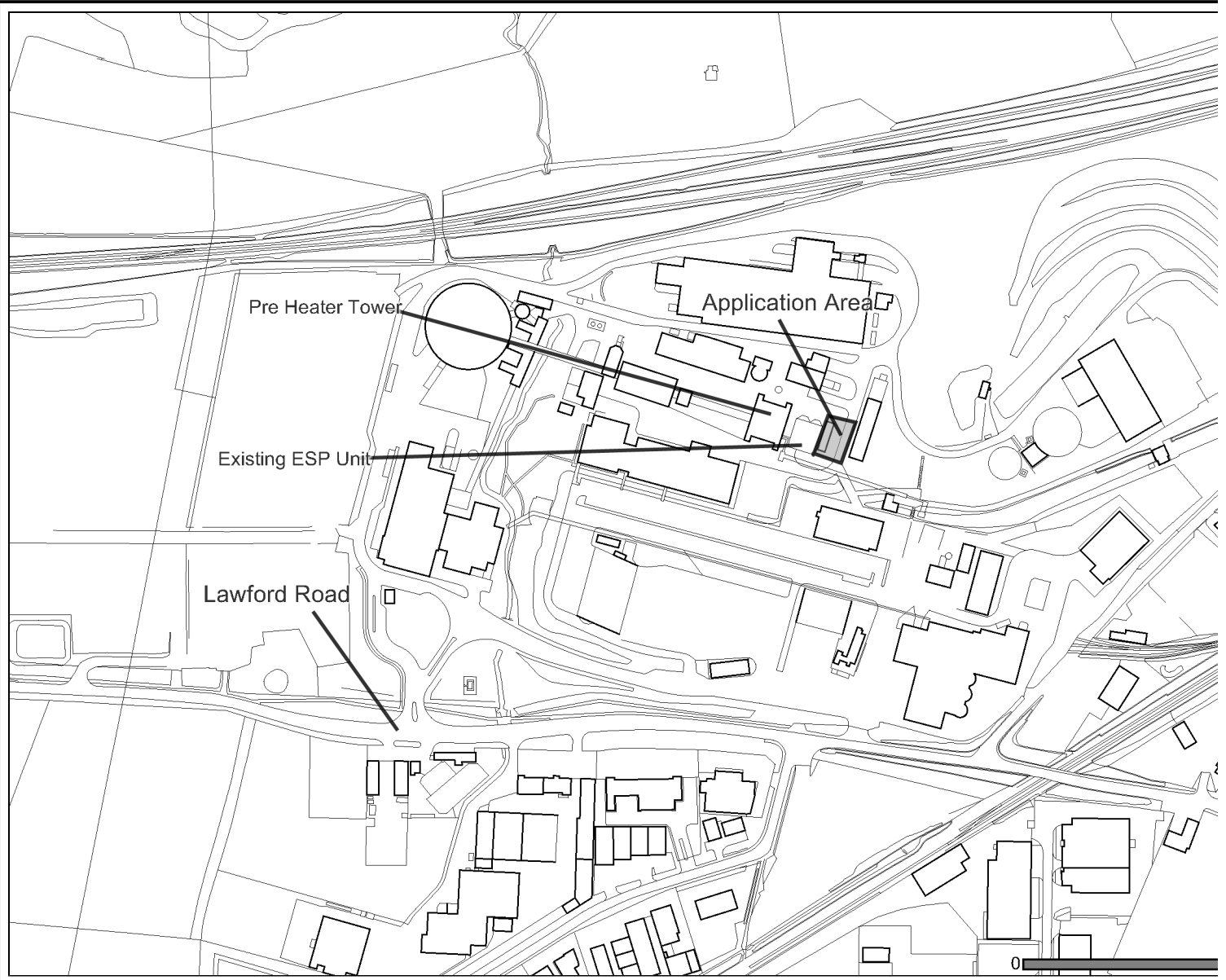
5. Conclusions

- 5.1 The installation of the bag filter cannot by itself guarantee any specific total level of emissions for the Plant, since the unit will deal only with particulates from one of the five sources feeding the main kiln stack. However, because the bag filter unit would deal with some 60% of gases emitted through the main stack, they will have a significant impact on the totality of emissions and are predicted to reduce particulates from that stack by at least one third (from 45 mg/m³ to 55 mg/m³ to 30 or less mg/m³). Therefore, the direct effect of the proposed filter bag system on particulate emissions will be to reduce them.
- 5.2 Because the bag filter unit will not affect other sources and forms of emission, or alter other parts of the productive process so as to increase their polluting potential, or increase vehicle movements to bring in raw materials or take away waste, it will not have adverse indirect effects on air quality at or in the vicinity of the Plant. However, the increased consumption of electricity required by the unit will have an indirect effect on greenhouse gases greater by a little over a quarter than the effect of the ESP alternative. However, this detriment is considered to be outweighed by the reductions in particulate emissions likely to result from the installation of the bag filter unit. Noise from the unit can be satisfactorily controlled and the visual impact is considered to be limited. Therefore, based on this analysis of direct and indirect physical effects, the proposal is considered to be in accordance with the development plan and beneficial overall in environmental and planning terms.

- 5.3 Some objectors, including Richard Buxton, have urged the County Council to use this application as an opportunity to require an EIA of the use of alternative fuels (i.e. co-incineration) and not merely of the physical effects of the bag filter unit itself. These objectors argue that the bag filter unit is necessary to make co-incineration lawful and thus the environmental effects of co-incineration are the indirect effects of that unit. They also point out that the County Council cannot simply leave all consideration of emissions to the PPC regime, since air quality is capable of being a material planning consideration and the appropriateness in planning terms of a land use positioned in a particular location remains a matter for the planning authority and not the Environment Agency.
- 5.4 An EIA may consider the indirect effects on the environment of a development. However, even assuming that the bag filter unit represents the only means of achieving compliance with WID, the County Solicitor advises that the County Council could not lawfully and reasonably have required the Environmental Statement to address the principle of co-incineration. The County Solicitor considers that (even had the application qualified as EIA Development under Schedule 2) the County Council would have exceeded its powers under the 1999 Regulations by demanding that the Statement assess the legal rather than physical consequences. Moreover, when considering the scope of the Statement, it would have been unreasonable to have, in effect, treated an application for an ancillary filtration unit as an application for co-incineration (as one objector has put it, this would have been "a sprat to catch a mackerel"). This is particularly so when the law deems the use of 40% alternative fuels not to be a material change of use requiring planning permission but does provide the PPC regime to regulate most of the environmental consequences.
- 5.5 Therefore, whilst the role of the bag filter unit in facilitating the use of alternative fuels is capable of being a material consideration, it cannot support a demand for an EIA into the principle of co-incineration. Nor is there anything in the circumstances of the case to justify using this application as a pretext for an inquiry into the land use merits of co-incineration.
- 5.6 Objectors have pressed the point that three public bodies (the County Council, the Borough Council and the Environment Agency) are making decisions with environmental consequences concerning the Plant and that there has been no "joined up" overview. Your officers have some sympathy with this view, although each body has been acting according to its remit and consulting with the others. However, it is inappropriate to use this application, which is relatively modest in the context of the Plant and by itself offers only environmental improvement in the locality, as a means for the County Council to assume wider powers of overview than are conferred on it by legislation.

JOHN DEEGAN
Strategic Director of Environment and Economy
Shire Hall
Warwick

14th December 2005



Scale 1: 4000

Ref No. R410/05CM030

Drawn Matthe

Regulatory Committee 22nd December 2005

Subject

Rugby Cement Works - Bag Filters

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Regulatory Committee – 22nd December 2005

Rugby Cement Works – Bag Filters

Application No: R410/05CM030

Commencement Date

1. The development hereby permitted shall be begun not later than 3 years from the date of this permission.

Reason: Pursuant to the requirements of Section 91 of the Town and Country Planning Act 1990.

Pre-Commencement

2. The development hereby permitted shall not be commenced until a detailed construction noise assessment plan, including details of the works to be carried out, the timetable for the works, equipment to be used, assessment of the impact of each phase of construction along with mitigation measures where appropriate, has been submitted to and approved in writing by the County Planning Authority. Following approval the construction works shall be undertaken in accordance with the plan.

Reason: To avoid undue disturbance to nearby properties from noise.

General Operations

3. Unless otherwise agreed in writing by the Mineral Planning Authority the development hereby permitted shall be carried out other than in accordance with the submitted application ref. R410/05CM030, plans ref. Plan C, 551-11-01-001 B /C, 5658/14/C, and conditions set out below.

Reason: To ensure a satisfactory standard of development.

4. The bag filter building shall be coloured (mushroom) to match the existing buildings at the Works.

Reason: To ensure a satisfactory standard of development.

5. During the construction period the contractor shall use best practices , including plant maintenance to minimise noise produced by the construction operations and shall comply with the recommendations in BS52228:1984 Noise Control on Construction and Demolition Sites.

Reason: To avoid undue disturbance to nearby properties from noise.

6. During the construction period operations that are audible at the nearest occupied noise sensitive building which shall include office buildings shall not be carried out other than between the following hours:

Monday to Friday 0800-1800 hours
Saturday 0800-1300 hours

No such work shall take place on Sundays, Bank or other Holidays.

Reason: To avoid undue disturbance to nearby properties from noise.

7. During the construction period vehicles and mechanical plant used at the site shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order so as to comply with BS5228. Machines in intermittent use shall be shut down in the periods between work. Reverse beepers on vehicles should be broad band in nature. The contractor shall remove from the works any item of plant which in the opinion of the County Planning Authority is ineffectively silenced.

Reason: To avoid undue disturbance to nearby properties from noise.

8. During the construction period compressors shall not be used unless they are 'sound reduced' models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use. Ancillary pneumatic percussive tools shall not be used unless they are fitted with mufflers or silencers of the type recommended by the manufacturers. Pumps and mechanical static plant shall not be used unless they are enclosed by acoustic sheds or screens.

Reason: To avoid undue disturbance to nearby properties from noise.

9. Unless otherwise agreed in writing by the County Planning Authority, driven or vibrated piling, including temporary piling, shall not be carried out other than between the hours of 0900 hours and 1600 and by a recognised noise reduced system.

Reason: To avoid undue disturbance to nearby properties from noise.

10. Plant such as generators and pumps shall not operate outside the hours of 0800 and 1800 unless it is surrounded by an acoustic enclosure the design of which has been approved in writing by the County Planning Authority.

Reason: To avoid undue disturbance to nearby properties from noise.

11. During the construction period, noise at adjacent properties shall be minimised by careful positioning of plant and location of haul roads.

Reason: To avoid undue disturbance to nearby properties from noise.

12. Noise emissions from the bag filter unit shall not exceed 65 dB $L_{Aeq, 5 \text{ minutes}}$, free field at a distance of 10 metres.
13. Noise emissions from the bag filter unit shall not exceed the noise limits and at the locations detailed below:

<u>Location</u>	<u>dB $L_{Aeq, T}$</u>	
No. 30 Townsend Lane	43	dB $L_{Aeq, 1 \text{ hour}}$, free field
No. 10 Bridle Road	39	dB $L_{Aeq, 1 \text{ hour}}$, free field
No. 256 Parkfield Road	40	dB $L_{Aeq, 1 \text{ hour}}$, free field
No. 2 Thurnmill Road	43	dB $L_{Aeq, 1 \text{ hour}}$, free field

Development Plan Policies Relevant to this Decision

- Warwickshire Structure Plan – 1996-2011 – **Policies GD.1, GD.2, GD.3, GD.4, GD.5, ER.1, ER.2, ER.4, ER.5 and ER.9.**
- Rugby Borough Council Local Plan – June 1997 – **Policy R/G1.**
- Rugby Borough Council Local Plan – First Deposit - May 2004 – **Policy GP1.**
- West Midlands Spatial Strategy – **Policies QE1, QE2.**

Reasons for the Decision to Grant Permission

The development hereby permitted is in accordance with the relevant provisions of the development plan and would secure the most satisfactory standard of development overall and there are no contrary material considerations sufficient to require refusal.

Note: The policies, proposals and reasons given above are only summaries of the considerations set out more fully in the committee report. In accordance with Article 22(2) of the Town and Country Planning (General Development Procedure) Order 1995 and Article 3(3) of the Town and Country Planning (Environmental Impact Assessment)(England and Wales) Regulations 1999 (EIA Regulations) notice is hereby given that the county Council in determining the above application has taken into consideration an environmental statement and environmental information (as defined by the EIA Regulations).

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Rugby Borough Council
Town Hall
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Attn: Chief Planning Officer
Sean Lawson/Karen Stone

14 November 2005

Dear Sirs

Cemex/ Rugby Limited Bag Filter Application

We have seen Rugby Borough Council's ("RBC") Director of Housing and Environmental Health's letter of 19 October 2005 to Warwickshire County Council ("WCC") in response to WCC's consultation on the bag filter application. (Paragraph numbers below refer, unless otherwise stated, to that letter.)

We have serious concerns over RBC's approach to the bag filter application, especially in the light of its air quality and environmental health responsibilities.

In particular, we consider RBC's conclusion that "bag filters will provide better protection for the people of Rugby" (para 2) and its characterisation of the proposed development as a "minor alteration to the plant resulting in a simple air quality impact of reduced particulate emissions" (para 5) to be premature and unwarranted on the information available.

Environmental Impact Assessment (EIA) and the planning process

The expert advice which RBC commissioned in 2001 on which RBC appears now to rely in support of bag filters (para 1)

- I. Is, contrary to RBC's assertions, not an (EIA), and
- II. Does not recommend bag filters - it states that serious consideration be given to the use of bag filters, and specifically recommends that there should be an "adequate evaluation of the costs of each technique [ie bag filters and ESPs] against the overall environmental impacts associated with their use." (AEA Technology Report, Environmental Health Impact Assessment - Rugby Cement, Tyre Burning Proposal, December 2001, pp iv, 12)

We understand that one of the report's authors recently confirmed "What we actually said was that RMC should have seriously considered bag filters in the BAT assessment. That is different to strongly recommending them for the Rugby plant ... it recognises that there is variation between plant."

RBC indicates that it supports WCC in its request for an (albeit limited) EIA in respect of the bag filter application (para 5). In accordance with the EIA Directive, the EIA process must deal with the direct, indirect, secondary and cumulative impacts of the proposal. This requirement is separate, preliminary and additional to the pollution permitting and enforcement process, and is a legitimate and necessary part of the planning process. RBC's attempt to separate consideration of direct and indirect effects of the proposal at the planning stage is therefore flawed in principle.

RBC's statement that "the decision to allow tyre burning is an Environment Agency matter ... and it is not considered appropriate for the planning process ... to be used to try to prevent waste burning and bypass the recognised enforcement route for waste burning permitting" (para 7) is similarly misconceived. It fails to recognise the role of the planning system in relation to the appropriate siting of works. It also fails to recognise that the Environment Agency has repeatedly stated that, for example, traffic associated with the plant, and with tyre burning in particular, is not within their remit but is a planning matter. The Environment Agency also place reliance on RBC's fulfilment of its air quality responsibilities in its decision making in relation to the plant (albeit that question marks remain over RBC's conduct in that regard). In any event, it is clear from the application that the purpose of bag filters is to comply with the Waste Incineration Directive. It is therefore inconceivable that the application can be considered in isolation of the implications of the use of the very fuel that is sought to be accommodated by the proposals.

RBC are therefore wrong not to consider the tyre/alternative waste burning aspect of this application, and to regard it as something that is strictly for the Environment Agency.

Lack of information in the application

Whether or not considered in the light of the specific requirements of the EIA Directive, the environmental information accompanying the bag filter application is lacking and provides a wholly inadequate basis on which to provide meaningful comment on the proposals. For example

- The application states the bag filters will only affect 60% of the flow through the main stack (ie from the current kiln exhaust electrostatic precipitators ("ESP")).

No detail has been provided regarding the proportion of pollution (as opposed to flow) attributable to the kiln exhaust, during normal operations or unstable conditions. Nor have any similar details been given as regards the remaining emissions sources coming out of the main stack such as kiln bypass ESP or clinker cooler ESP.

How exactly can the emissions from bag filters on the kiln exhaust be "guaranteed to ensure an overall dust emission level at the stack outlet of less than 30mg/Nm³ as a daily average at reference conditions" (EIS, section 3.4, p 10), when there are four other unquantified sources emitting from the stack outlet, and two of these continue to use ESPs?

- The application gives no indication of how the temperature and exit velocity of the plume will be affected by bag filters. Lower temperature and exit velocity could result in a more visible plume grounding nearer to the stack.

- Rugby Limited have repeatedly maintained that bag filters would not work at the plant because of its "semi-wet" nature and have cited among their reasons for previously rejecting bag filters "higher overall emissions from bag filters", stating "[o]n a statistical basis a very large filter containing several thousand bags would suffer an unacceptably high rate of bag failures. The time taken to identify the bag that had failed and to shut down the process would lead to significant emission." (PPC application, enclosure 1) (underline added)

The Environment Agency have stated that "bag filters may achieve marginal environmental improvement" and saw fit in their Decision Document (DD) to note, without considering at that stage, Rugby Cement's claim "that bag filters are not [an available technique] because the high moisture content of the gases from the kiln system (this is not a dry kiln system) and the cementitious nature of the dust, could cause excessive blinding of the filters" (DD para 7.135, enclosure 2). (underline added)

No information appears to have been provided as to why these are no longer concerns. Nor have details been given of any other semi-wet plants operating with bag filters.

- In addition we would point out that it is well known that tyre burning (to take the most obvious alternative waste) results in increased particulate emissions. It is also well known that the effect of tyre burning on particle size distribution (ie percentage of PM10, PM2.5 etc), and on other toxic substances associated with particles, has not been quantified in the Rugby context. RBC have highlighted this issue in the past.

The Government's Air Quality Expert Group reported on particulates in June 2005 and stated that "The available evidence suggests that it is the fine components of PM10 which have a diameter of 2.5 or less and are formed by combustion, that are the main cause of the harmful effects of particulate matter" (enclosure 3).

These matters have not been addressed in the application.

Flaws in RBC's response to the application

RBC makes repeated reference to bag filters resulting in "significant" reduction (paras 3 and 4). This belies the information given in the application which states "both options [ie the existing ESP and the proposed bag filters] would have a negligible impact on ground level PM10 concentrations" (Gair, section 4.1, p18) (underline added), which is what matters in terms of health at the end of the day.

In any event it is not correct to say that the application "will ... reduce" particulate emissions from the stack (para 4). A reduction in ELV from 55mg/m³ to 30mg/m³ will indeed reduce the amount of particulate emitted in each cubic meter. This is no guarantee, however, that overall particulate emissions from the stack will be reduced, as the cubic meters may well increase. RBC's own comments refer to this. While the old plant had a stack emission limit of 140mg/m³ and the new plant has a lower stack emission limit of 55mg/m³, that in itself "does not consider the total impact from the increased production and therefore the increased volumes of gas released from the site or the improved dispersion of pollutants from the stack" (para 3). In fact the old plant's stack was permitted to emit a total of 55 tonnes of particulates per year, whereas the new plant emits considerably more than that. The figure used for total

stack emissions of particulate in the H1 attached to the bag filter application is 123 tonnes per year, though it is not clear on what this is based. (Rugby Limited have previously estimated a figure of 370 tonnes per year, based on 1.75 million tonnes of clinker production per annum (PPC application, enclosure 1).)

For the same reason it is not correct to say that "granting permission for the bag filters will improve particulate emissions if waste is burnt or not". If wastes are enabled to be burnt, then whether or not there is a change to the scale or process of manufacturing cement or clinker, throughput of fuel and volumes of gas emitted may well increase.

Also, even if ground level concentrations of particulate emissions resulting from the stack are to be reduced, would the effect of particulates arising from the LLPSs and the (surely inevitable) increased HGVs transporting alternative wastes to the site be of equal or greater significance? (RBC are no doubt aware of the new increased emission factors for vehicle tyre and brake wear, and that HGVs are significantly more important in terms of resuspension of particulates by road vehicles than smaller vehicles (enclosure 3).) Would the other effects arising from the plant operating as a co-incinerator (such as an increase in the smaller fractions of particulates ie PM2.5 or less) be of equal or greater significance to the "negligible" reduction in particle emissions concentrations?

RBC considers the statement "the only impact the bag filters will have on air quality is reduction in emitted particulate concentration from the stack" (para 7) (emphasis added) to be "important" and "correct".

For the reasons set out above, and in the light of RBC's own comments, it is clear that there is insufficient information available on which to base such a statement, and that the available evidence points to that important statement being incorrect.

RBC also state that "key parameter 4, Environmental Accidents, is considered critical" (para 9). However, contrary to RBC's understanding bag filters will not "continue to work" when problems occur. The application states that "burst bag detectors would be used to bypass bag filters during these occurrences" (Gair, section 2.3.5, p 7), and that the likelihood of a bag burst is "probable" (Gair, section 2.3.5, p 8). No explanation is given as to the likelihood of multiple bag failures, or the implications that would have, or for the later statement that "bag bursts will be isolated to a single compartment and will be detected" (Gair, section 3.1.7, p 14). In addition, it is questionable whether it is the 24 hour mean emission figure that should be considered most important in the context of this "critical" issue, given the relatively short, but intense, duration of such accidents (see enclosure 4 for examples duration and total mass emitted in previous accidents). In the light of Rugby Cement's previous views that bag filters would not work at the plant, and that there would likely be "an unacceptably high rate of bag failures" (see above), it is quite possible that in relation to this "critical" aspect there could be no benefit, or even a worse situation in relation to accidents.

RBC position in context

We note in passing that, while RBC's comments on the 2001 PPC application did in fact relate to matters beyond the scope of the tyre burning aspect of the application, it is becoming apparent that RBC may not have appreciated the full scope of what it was being consulted on at that time. It appears that RBC may never have properly or

comprehensively addressed, for example, the acceptability or otherwise of the air quality impacts of the upgraded plant and its associated traffic (even if alternative fuels are not used).

We also recognise that RBC, and WCC, like much of the Rugby population, may be finding itself now in somewhat of a predicament. That is no reason to evade its responsibilities. Indeed every effort should be made to rectify past oversights.

The fact is that the upgraded plant was built (using near obsolete "semi-wet" technology) without an adequate EIA. The alternative fuel handling system was installed, and the tyre trials were allowed to proceed without an EIA. Rugby Limited have repeatedly submitted inadequate applications; the Environment Agency has unlawfully withheld information from the public, and has more generally lost the trust of the Rugby population; the assurances in the Agency's Decision Document have not been borne out in practice (eg particulate emissions from the stack are stated in the bag filter application to be between 45-55mg/m³ and are not at the 29mg/m³ average stated in the DD; there have also been considerably more accidents/EP trips than the three per year mentioned in the DD (see eg enclosures 2 and 4)). Even now the plant has not yet proved itself to be stable (Rugby Limited has admitted that last year the kiln stopped 229 times), and, as RBC recognises (para 9), it is a source of regular complaint from residents.

We understand that, informally, even Environment Agency officials are concerned at the plant having been built there.

Conclusion

Our comments above show

- Failure on RBC's part to understand the planning system or its obligations under EU law, and RBC's consequent failure to understand and fulfil its responsibilities to Rugby people in relation to air quality, planning and environment
- Failure on RBC's part to exercise sufficient care and attention in considering and commenting on the bag filter application to an extent that is considered to be reckless. We use "reckless" in the sense of the council abrogating responsibility for the effects of the decisions it is taking.
- Failure, thus far, on RBC's part to take adequate steps to safeguard the health, interests and human rights (eg Articles 2 and 8 European Convention on Human Rights) of its people


In this context it is clearly of the utmost importance that RBC and WCC (to whom this letter is copied) appraise themselves properly of the full environmental impact of the current works, and of the full impacts associated with Rugby Limited's bag filter application.

We have written to RBC separately regarding Rugby Limited's pipeline application. The failures here are a manifestation of the same abrogation of responsibility evident in relation to the pipeline application, and underscore the need for regulation of this plant to be looked at by the various regulators as a whole.

As RBC and WCC are aware, the regulation of Rugby cement works is the subject of judicial review proceedings before the Court of Appeal (R (oao Edwards) v Environment Agency and others). Those proceedings arise, in part, from the persistent failure of the organs of the state to work together to fulfil their responsibilities under EU law. We will be drawing this letter, and our other correspondence with RBC and WCC relating to Rugby Cement works, to the attention of the Court of Appeal in the context of those proceedings.

We look forward to a response to the issues raised in this letter.

Yours faithfully


Richard Buxton

cc. Warwickshire County Council, Attn: Ian Marriott

1.0 INTRODUCTION

1.1 Background

Planning permission was granted in February 1996 for a comprehensive upgrade of the previous Rugby Cement Works, including the installation of a new cement kiln, preheater tower, raw material milling plant, new cement mill and associated silos and infrastructure. The new plant has been operational since 2000, and its activities are controlled by a series of conditions imposed on the planning permission, and by a separate 'authorisation', required pursuant to the Environmental Protection Act 1990, which regulates atmospheric emissions from the plant, and particularly from the main exhaust stack.

Prior to the installation of the new plant, the previous cement works was regulated by an 'authorisation' granted in June 1993 (Authorisation no AH8697) which, *inter alia*, specified an emission limit for dust/particulate matter from the kiln chimney of 140 mg/m³. One of the benefits of the new cement works was a more efficient and environmentally sensitive process, which allowed a more stringent emission limit of 55 mg/m³ to be set. Those limits are reflected in the PPC Permit for the new plant (ref BL7248, dated 12 August 2003), which imposes a limit of 55 mg/m³ at an hourly average, at specified reference conditions. That Permit regularised the transition to a new environmental permitting regime required by the IPPC Regulations 2000. A copy of that permit is produced as Appendix 1 to this ES.

New legislation in the form of the *Waste Incineration (England and Wales) Regulations 2002* came in to force on the 28 December 2002, following the requirements set out in the European Parliament and Council Directive 2000/76/EC, otherwise known as the 'Waste Incineration Directive 2000' (WID). That Directive and Regulations introduce more restrictive controls on the incineration or 'co-incineration' of all types of waste. The Directive and Regulations have become relevant to the operation at the Rugby Cement Works following the approval by the Environment Agency in 2003 of an application to burn waste tyres at the Rugby plant, as a partial substitute for the historical fuel of coal and petcoke. The burning of wastes in cement kilns is classified as 'co-incineration' and that development, when implemented, will therefore fall within the requirements of the Directive and Regulations.

The Regulations require that if the process involves co-incineration in a cement kiln, then dust emissions from the main kiln stack need to be reduced to a limit of 30 mg/m³ at dry 10% oxygen reference conditions. The existing electro-static precipitator (ESP) dust filtration system is not capable of consistently meeting those more stringent emission limits, and a new, improved dust filtration and collection system therefore needs to be installed. This ES sets out the details of that proposed new system, and considers the environmental effects of its operation, with particular reference to the emissions of particulates.

The text of the ES cross-refers to a number of technical appendices which have been bound into the document, and which include the full content of the atmospheric emission study undertaken by Gair; the results of the noise surveys and predictions undertaken by WBM, with related technical data; and a copy of the current IPPC permit regarding emissions at the site.

2.0 THE APPLICATION SITE

The new bag filters would be installed within the general confines of the main plant complex, immediately adjacent to the existing ESP filters which they would replace. The location is illustrated on Plan A026426/1, which illustrates the relationship of the new plant to the existing infrastructure.

The bag filter building would be constructed on steel framework above an existing concrete road which runs north to south along the eastern side of the main plant complex, between the existing ESP precipitator on its western side, and the main kiln sub-station on its eastern side. To the north of the application site lie the coal/petcoke storage building, and to the south lie the heavy goods store, car park, and existing silos, together with further buildings within the plant complex.

Annotated photographs of the existing plant and location of the proposed bag filter building are produced as Figures 4-7, and are discussed within section 4.3 of the ES.

3.0 THE PROPOSED DEVELOPMENT: PLANNING APPLICATION STATEMENT

3.1 Introduction

For the purposes of the planning application, this section of the ES is to be regarded as the formal description of the proposed development, supplemented by the following application plans which are reproduced within Appendix 2 to the ES:

- Plan reference A026426/1 – site location plan
- Plan reference 510-M1-01-001 Rev B – Kiln filter – general arrangement and section elevations
- Plan reference 2 – Rugby Works: existing and proposed elevations from the south
- Plan reference 3 – Rugby Works: existing and proposed elevations from the east
- Plan reference 4 – Rugby Works: existing and proposed elevations from the north.

3.2 Cement Manufacturing Process

The manufacture of cement at Rugby relies upon chalk, and clay. The clay is imported by road from Southam Quarry (and, more recently, from reserves at 'Lodge Farm' which are being quarried immediately to the west of the plant), and chalk is brought to the site as a slurry via an underground pipeline from Kensworth, near Luton. Additional material is used to

Environmental Statement

Rugby Cement Works

fuel the kiln (historically coal and pet coke, but in future a proportion of waste tyres and potentially other waste fuels), together with smaller proportions of sand, gypsum, and iron oxide, which are added to the process for specific quality purposes. These materials are stored separately in various silos and storage buildings within the plant complex.

All of the materials, including coal and petcoke, require drying prior to use, with the raw material then placed through a mill process to produce 'raw meal'. This is fed via a silo to the crusher/ dryer where the chalk slurry is added, together with hot gases from the kiln, and where the material is further dried, and moisture removed from the chalk slurry.

The raw material and hot gases are then taken to the top of the 'preheater tower' (the tallest building in the centre of the complex), where the mixture passes through a series of cyclones which work through centrifugal action to separate the bulk of the solids from the gases, and which causes the solids to separate and drop out. The raw material solids then pass through the preheater system mixing with hot gases coming from the kiln, which further dries the solids, and drives off carbon dioxide. The gases from the cyclones within the preheated tower are passed through the existing ESP, where they are de-dusted before being exhausted to the atmosphere via the stack. This is the element of the overall process which is relevant to the current application. Most of the gas generated elsewhere in the process is re-circulated for energy recovery, before being de-dusted and discharged via separate inlets to the stack (as discussed further below).

By further heating, in the calciner, carbon dioxide is driven off, leaving calcium oxide, which is the basic chemical ingredient of cement. The resulting solids enter the kiln, where they are subjected to further heat as they pass down the kiln from a further heat source blown into the kiln at the clinker outlet end. The material changes into cement clinker at a temperature of some 1,500° C.

The clinker then leaves the kiln, and enters a 'clinker cooler', where it falls onto a moving grate which exposes the clinker to a flow of air which is used for cooling. The cooled clinker then passes through a crusher to reduce the size of any large lumps, and is conveyed to the large circular storage silo on the western side of the plant complex where it is stored until required for milling.

Cement clinker material from the storage silo is then transported via conveyors to the cement mills located in the south western area of the complex, from where the finished product is transported by conveyor to the cement silos in the central southern area, ready for loading out into bulk cement lorries, or to the packing plant, which is located in the south eastern area of the site.

3.3 The Existing ESP Filtration System

The ESP process involves passing the exhaust gases through an electrically charged environment. The charge passes to the dust particles which are then captured on electrode-plates. The electrode plates are intermittently rapped to drop the collected dust into hoppers below the filtration system. This principal is illustrated diagrammatically in Figure 1.

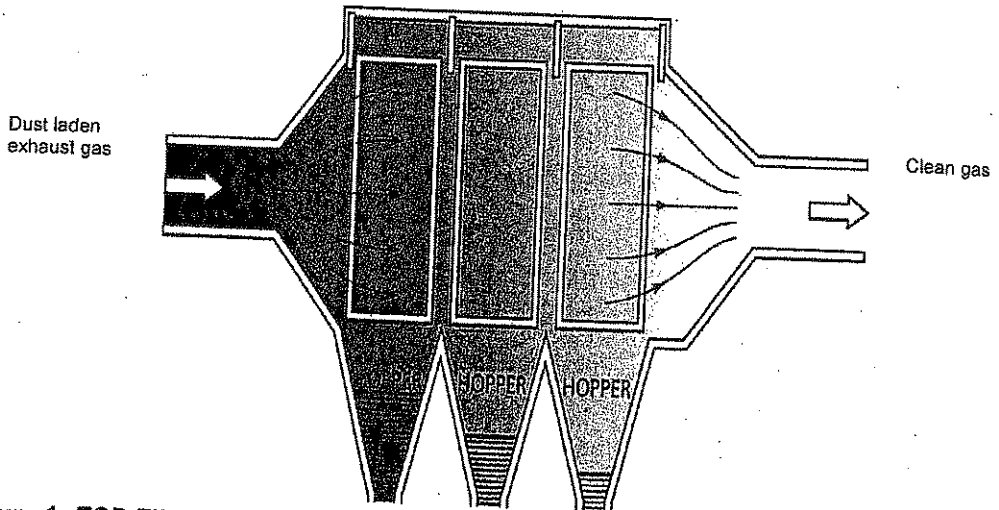


Figure 1: ESP Filtration System

The exhaust gases pass through 4 such electrically charged fields, where each field has an efficiency of between 85 – 95%, and where the effect is to reduce the dust in the exhaust to some 1,000 th of the incoming dust load.

The four ESP banks were installed at the Rugby works as part of the approved replacement/upgrade of the former plant, and have operated effectively within the design criteria and emission limits set out in the existing IPPC permit, relating to the burning of coal/petcoke fuel (55 mg/m^3). These emissions are continuously monitored and measured at the main exhaust stack to ensure compliance with those limits, in accordance with the requirements of the IPPC permit.

3.4 The New Bag Filter

Currently, particulate emission concentrations from the main kiln stack are between 45 and 55 mg/m^3 . As noted above, this concentration complies with the current PPC limits relating to emissions when the fuel is confined to coal/petcoke (55 mg/m^3), but will not comply at all times with the more stringent limit of 30 mg/m^3 imposed by the WID and Regulations for cement kilns co-incinerating waste i.e. in this case, utilising waste tyres as part of the fuel.

At present, the main kiln exhaust ESP is the largest contributor to emissions, representing approximately 60% of the flow through the main stack. In order to ensure compliance with the

particulate WID limits for co-incineration, the ESP system therefore needs to be replaced by a more efficient dust collection system.

It should be noted that the new system will only reduce emissions of particulates i.e. dust from the main kiln stack. Other emissions e.g. nitrogen oxide, carbon monoxide, sulphur dioxide etc will be unaffected. However, the emissions of those elements, which are also controlled under the current IPPC permit, already meet the requirements of the WID.

The focus of the development is therefore confined to reducing overall emissions of particulate matter ie dust, from the main stack.

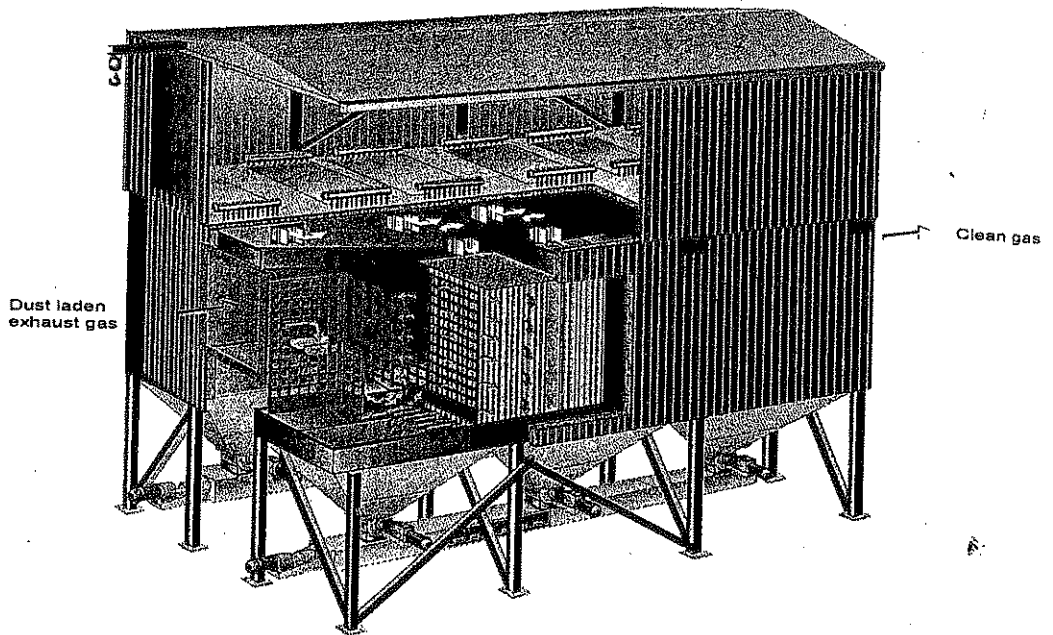
It is therefore proposed that a new bag filter and exhaust fan will be installed to replace the ESP System. This would be constructed adjacent to the existing ESP, and would be integrated into the process during a stoppage, on completion of the construction work. Upon the integration of the new filter system, the existing ESP would no longer be connected to the process, and the ducting and upper parts of the existing structure would be removed.

The new bag filter would be of a compartmentalised design that allows for an individual compartment to be isolated from the exhaust gases to carry out maintenance and repair work without impact on either operational performance or production. Each compartment contains a large number of woven fibreglass bags with a specialised (PTFE) membrane; inside each bag is a steel cage to maintain the bag shape during operation. Exhaust gases are directed proportionally to all compartments, where the gases pass from the outside to the inside of the bags depositing the dust as a cake layer on the outside of the bags. Dust is removed from the bags by intermittently and briefly blowing compressed air inside each bag forcing the dust to fall into hoppers located below.

The performance of bag filters introduces an increased energy requirement because the suction pressure required to draw the gases through this type of filter is greater than that of an ESP. However this is also related to an increased overall efficiency in the capture of dust across the filter. The emissions from this bag filter, when burning alternative fuels, will be guaranteed to ensure an overall dust emission level at the stack outlet of less than $30\text{mg}/\text{Nm}^3$ as a daily average at reference conditions.

The new filter building is proposed to be located to the east of the existing ESP as shown upon drawing number 510-M1-01-001 REV B. The overall dimensions of the building would be 27m long x 19m wide. (see figure 2 below). The overall height would be 29m due to the need to accommodate vehicular access beneath the equipment. However, the ridge height would remain lower than the existing ESP. New ducting would link the Pre-Heater Tower to the unit at its southern end delivering exhaust gas, while a new main fan/motor and ducting would link the northern (clean gas outlet) part of the unit to the existing stack.

Figure 2 Typical Bag Filter Building, similar to that proposed



4.0 ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

4.1 Introduction

The purpose and objective of the proposed development is to reduce overall particulate emissions from the main stack, and to comply with the WID. The development is not associated with any alterations to the manufacturing process, or to the scale of manufacturing throughput. The underlying principle of the development is one of environmental improvement and amenity benefit, and the consideration of overall environmental affects therefore starts from that positive context.

Nevertheless, as advised by Warwickshire County Council, the Applicants recognise that there are a number of environmental issues which need to be addressed, most notably the need to:

- i. Demonstrate that the air quality/particulate emission improvements can be realised, and that dispersal of emissions will be acceptable;
- ii. Consider the noise associated with the new filtration system and associated fans, and assess whether this will be acceptable in comparison to noise emitted from the current EPC system; and
- iii. Assess the visual effect of the new bag filter building and associated ducting/pipe work.

This section of the ES therefore addresses those 3 topics, together with a brief overview of other environmental issues.

4.2 Atmospheric Emissions

4.2.1 Introduction

A study of the effect of particulate emissions arising from the proposed development has been undertaken by Gair Consulting Limited, who are a specialist firm of air quality consultants. A complete copy of their report is produced as appendix 2.3.

4.2.2 Rugby Town Air Quality Management Area (AQMA)

The context of the study, and the principal reason for undertaking the EIA in support of the current application has been the concern expressed by Warwickshire County Council in their EIA screening opinion that Rugby Town has been designated as an "Air Quality Management Area" (AQMA), and, consequently, there is a need to consider whether the development would have an impact, either positive or negative, on the reasons for the AQMA designation, and its objectives to enhance air quality.

The AQMA stems from a requirement for Local Authorities to periodically review and assess the current and future quality of air in their area (reference Environment Act 1995, section 88(1)). Where it is determined that an air quality objective is not likely to be met within the relevant time period then the Authority must designate an AQMA, and produce a local action plan.

Rugby Borough Council (RBC) have carried out a series of assessments of air quality, relating in particular to nitrogen dioxide (NO₂), sulphur dioxide (SO₂) and fine dust particulates (PM₁₀). Those assessments have been carried out on their behalf by Faber Maunsell, and have been based upon both traffic emissions (for NO₂), and industrial emissions, including emissions from Rugby Cement Works (RCW), for PM₁₀ and SO₂. The assessment has included a detailed dispersion modelling study to predict concentrations, which indicated that the annual mean NO₂ air quality objective for 2005 (40ug/m³) was at risk of being exceeded at the facades of certain buildings in Rugby Town centre, as a result of vehicle emissions. In contrast, the model predicted a maximum contribution to annual mean NO₂ concentrations due to emissions from RCW of only 1.15ug/m³ to the north of the town centre. That area was not identified by the traffic modelling as an area of high NO₂ levels, and was therefore not an area at risk of exceeding the 2005 air quality standards.

The modelling study did not predict exceedances of the PM₁₀ annual mean air quality objective at any location throughout Rugby (40ug/m³). Furthermore, the model predicted a maximum contribution to annual mean PM₁₀ concentrations, due to emission from RCW, of only 0.05ug/m³ to the north of the town centre. When compared to the background concentration measured in Rugby, this was deemed to be negligible. These results are set out in the Rugby Borough Council 'Detailed Air Quality Assessment Report' dated June 2004.

This section of the ES reproduces the content of the noise survey report and assessment. Appendix 4 describes the noise units and sound power levels, the instrumentation used, the existing noise levels, proposed noise limits, calculated site noise levels with and without mitigation, the noise calculation methods, and the noise measurement locations.

4.3.2 *Scope and Summary of the Noise Study*

This section of the ES considers the environmental noise implications of the proposal to replace an existing dust filtration system with a new bag filter operation.

Since the proposed plant will operate 24 hours a day, the night-time has been assessed as the most noise sensitive period for the nearest dwellings to the site.

Noise measurements have been taken by WBM in the vicinity of Rugby Cement Works and the measured noise levels are presented. Night-time environmental noise measurements were made in August 2005 near to dwellings, to define the existing noise climate numerically and descriptively. Measurements in August 2005 near to the fan and motor associated with the existing system are also reported.

Noise measurements for daytime and night-time periods were obtained in 2001 as part of an assessment for the proposed clay extraction area to the west of the site (Lodge Farm). Noise levels from a 24 hour monitoring exercise undertaken by WBM in May 2001 are presented within Appendix 4 to the ES.

Noise limits are discussed with reference to guidance documents, night-time background noise levels and target limits proposed for the upgrade of Rugby Cement Works, which took place in the year 2000. The noise limits proposed for the new bag filter operation at the nearest dwellings are those used in the noise assessment for the upgrade of the works.

Noise levels have been calculated at the nearest dwellings, based on measurements of the existing fan and motor and the separation distances between the plant and the dwellings, with no barrier attenuation considered. The calculated noise levels are compared with the proposed noise limits and an excess is identified at the nearest dwelling. Noise mitigation measures are therefore considered to reduce the calculated noise levels for the new bag filter operation so that they comply with the proposed noise limits at the nearest dwellings considered.

4.3.3 *Existing Noise Levels*

The locations selected for the purpose of this assessment are No. 30 Townsend Lane, No. 10 Bridle Road and No. 256 Parkfield Road. Sample noise measurements were made near to these locations and are shown on Plan WBM 1 in Appendix 4.8.

The nearest dwellings to the site are affected by road traffic noise, train movements and by noise from operations at the existing cement works.

The levels presented in this report are the statistical indices $L_{A10,T}$ and $L_{A90,T}$, together with the Equivalent Continuous Noise Level, the $L_{Aeq,T}$. An explanation of the noise units presented is given in Appendix 4.1.

Sample night-time measurements were made at three locations, from Monday 1st to Tuesday 2nd August 2005. Noise from operations at the existing cement works was clearly audible at all three locations during the attended night-time measurements.

Sample measurements were undertaken on three days in April and May 2001 and a full 24 hour monitoring exercise was undertaken at one of the dwellings in May 2001 in connection with an application for an extension to the clay extraction area at the site. The noise levels from the 24 hour noise monitoring exercise are reported since they contain night-time measured noise levels.

The instrumentation and calibration details are shown in Appendix 4.2. The survey dates, weather conditions during the survey and the start and end times of the measurements are shown along with the results in Appendix 4.3.

Measurements in August 2005 near to the fan and motor associated with the existing system are also reported in Appendix 4.3.

A summary of the measured background noise levels during the night-time periods are set out in Appendix 4.4. Proposed noise limits for the new bag filter are set out in Appendix 4.5 for each location considered.

4.3.4 **Guidance and Noise Limits**

The primary guidance on the planning aspects of noise is set out in PPG 24 "Planning and Noise" (1994). For noise from industrial and commercial developments, the guidance note states that "The likelihood of complaints about noise from industrial development can be assessed, where the Standard is appropriate, using guidance in BS4142: 1990". British Standard BS 4142: 1997 "Method for Rating industrial noise affecting mixed residential and industrial areas" came into effect on 15th September 1997. It superseded BS 4142: 1990, which was withdrawn.

BS 4142: 1997 deals with the rating of a noise of an industrial nature, with an appropriate allowance for the acoustic features present in the noise based on the margin by which it exceeds a background noise level. As this margin increases, so does the likelihood of complaint. The rating level of the noise source under investigation is determined by

measurement or calculation of the specific noise level plus any adjustment for the characteristic features of the noise.

BS4142: 1997 states that: "*The greater this difference the greater the likelihood of complaints. A difference of around +10 dB or more indicates that complaints are likely. A difference of around +5 dB is of marginal significance. If the rating level is more than 10 dB below the measured background noise level then this is a positive indication that complaints are unlikely.*"

Target limits for noise were proposed in a noise assessment in 1997 for the upgrade of Rugby Cement Works and were based on values 0 dB above the lowest measured background noise levels at night. The proposed noise limits are set out in Appendix 2.5 of this ES. The proposed noise limits can be compared with the night-time background noise levels measured by WBM in May 2001 and August 2005.

4.3.5 **Noise Sources and Sound Output Levels**

A site visit was made on Tuesday 2nd August 2005 to view the existing dust filtration system. The main noise sources identified were the fan and motor associated with the dust filtration system.

Sample noise measurements were made at a variety of distances from these two plant items and the survey results are presented in Appendix 4.3 for inspection.

From analysis of the measurements of the existing plant items, both the fan and the motor have been assigned a sound output level that equates to a noise level of 75 dB $L_{Aeq, 5 \text{ minutes}}$, free field at a distance of 10 metres.

Noise levels have been calculated at the nearest dwellings, based on measurements of the existing fan and motor and the separation distances between the plant and the dwellings.

The calculations are based on BS5228: Part 1: 1997 "Noise and vibration control on construction and open sites Part 1. Code of practice for basic information and procedures for noise and vibration control" and an outline of the calculation methods are set out in Appendix 4.7 to this report.

All the calculations have been carried out for adverse wind conditions, with a penalty of 2 dB $L_{Aeq,T}$. In other words, it is assumed that an unfavourable wind component exists from each noise source in every phase of the site development, towards each dwelling.

A sample calculation sheet, for the nearest dwelling to the proposed plant items, is included after Noise Calculation Methods in Appendix 4.7.

4.3.6 *Unmitigated Noise Levels*

Noise levels have been calculated at the nearest dwellings, based on measurements of the existing fan and motor and the separation distances between the plant and the dwellings and no barrier attenuation considered.

The unmitigated calculated noise levels use a noise level of 75 dB $L_{Aeq, 5 \text{ minutes, free field}}$ at a distance of 10 metres for both the fan and the motor.

Calculated noise levels are presented in Appendix 4.6 "Calculated Site Noise Levels – Without Mitigation" and can be compared with the proposed noise limits taken from Appendix 4.5.

For the nearest dwellings on Townsend Lane, Thurnmill Road and Parkfield Road, the calculated noise levels for the fan and motor associated with the bag filter comply with the proposed noise limits. The calculated noise levels are also below the measured night-time background noise levels from May 2001 and August 2005.

For the nearest dwellings on Bridle Road, the calculated noise level for the fan and motor associated with the bag filter exceeds the proposed noise limit for these dwellings.

Noise mitigation measures need to be considered to reduce the calculated noise levels for the new bag filter operation so that they comply with the proposed noise limit at the nearest dwellings on Bridle Road.

4.3.7 *Noise Mitigation and Resulting Noise Levels*

The mitigation measures considered are barriers between the proposed plant items and the nearest dwellings on Bridle Road and noise reduction at source.

If existing or proposed landforms, buildings or other structures in the direction of Bridle Road can reduce the noise levels from the proposed fan and motor by 10 dB(A), then the calculated site noise level at Bridle Road would be below the proposed noise limit for this dwelling, using noise levels of 75 dB $L_{Aeq, 5 \text{ minutes, free field}}$ at a distance of 10 metres for the fan and the motor.

If the proposed fan and the motor could each be limited to a sound output level that equates to a noise level of 65 dB $L_{Aeq, 5 \text{ minutes, free field}}$ at a distance of 10 metres, then the calculated site noise level at Bridle Road would be below the proposed noise limit for this dwelling, without the need to consider barrier attenuation.

The fan suppliers have been requested to supply a unit that complies with a noise level of 65 dB $L_{Aeq, 5 \text{ minutes, free field}}$ at a distance of 10 metres and have indicated that they should be able to achieve that level with lagging to reduce noise from the fan.

The fan unit to be installed will be supplied with acoustic attenuation to provide the appropriate level of noise mitigation.

The motor suppliers have been requested to supply a unit that complies with a noise level of 65 dB $L_{Aeq, 5 \text{ minutes, free field}}$ at a distance of 10 metres. As an alternative to a quieter motor, a purpose built acoustic enclosure could be employed around the motor to achieve a noise level of 65 dB $L_{Aeq, 5 \text{ minutes, free field}}$ at a distance of 10 metres. The latest general arrangement drawing for the Kiln Filter shows a building enclosure for the motor. The motor unit will be enclosed in a housing that will be acoustically treated as necessary to provide the required level of noise mitigation.

4.3.8 Conclusions

This report considers the environmental noise implications of a proposal by CEMEX to replace an existing dust filtration system with a new bag filter operation.

Since the proposed plant will operate 24 hours a day, the night-time has been assessed as the most noise sensitive period for the nearest dwellings to the site.

Noise measurements have been taken by WBM in the vicinity of Rugby Cement Works and the measured noise levels are presented. Night-time environmental noise measurements were made in August 2005 near to dwellings, to define the existing noise climate numerically and descriptively. Measurements in August 2005 near to the fan and motor associated with the existing system are also reported.

Noise limits are discussed with reference to guidance documents, night-time background noise levels and target limits proposed for the upgrade of Rugby Cement Works, which took place in the year 2000.

Noise levels have been calculated at the nearest dwellings, based on measurements of the existing fan and motor and the separation distances between the plant and the dwellings and no barrier attenuation considered.

The calculated noise levels are compared with the proposed noise limits and an excess is identified at the nearest dwelling, without mitigation considered. The fan unit to be installed will be supplied with acoustic attenuation to provide the appropriate level of noise mitigation. The motor unit will be enclosed in a housing that will be acoustically treated as necessary to provide the required level of noise mitigation. These noise mitigation measures are considered to reduce the calculated noise levels for the new bag filter operation so that they comply with the proposed noise limits at the nearest dwellings considered.

4.4 VISUAL IMPACT

4.4.1 Background

A detailed landscape and visual impact assessment was undertaken as part of the EIA which accompanied the 1995 planning application for the upgrading of the former Rugby Cement Works. That development, which is manifested in the present works, included the construction of a new kiln, preheater tower, cooler, material and fuel stores, raw milling plant, cement mill, two clinker silos, four cement silos, office and workshop building, various ancillary structures and plant, an extension to the millhouse and bagging plant, the demolition of redundant plant and buildings, and the construction of a new access on to Lawford Road. This clearly constituted a substantial development, which the landscape and visual impact analysis noted would represent a significant visual change, particularly from locations close to the site which have clear views towards the works.

The visual assessment accompanying the 1995 EIA included the consideration of views from 32 different locations, divided into zones at distances from the site of 0-2km, 2-5km and more than 5km. Photomontages were submitted with the EIA of 6 locations in the vicinity of the site, which depicted before and after views, to give an indication of the visual effects of the proposed new plant. Those photomontages are reproduced as Appendix 5, and are referred to further below.

The visual impact of the new plant represented a key element in the determination of that planning application, and the visual assessment was afforded considerable attention in the Planning Officer's report presented to Warwickshire County Council's Environment Committee in September 1995. His report incorporated a summary of the key findings of the visual impact assessment, namely that:

"The main sources of visual change would be due to: the replacement of the existing single chimney by the preheater tower and two clinker silos of much greater silhouette; the locations of these elements about 200m apart at the eastern and western ends of the site and their construction closer to the northern site boundary. Nowhere were the proposals found to have an unacceptable visual impact, including from the three closest conservation areas and several listed buildings. The co-ordinated colour, material and form of the upgraded works would represent an improvement over the existing buildings and structures which are of various ages."

In his appraisal of the application, the Planning Officer noted that the larger elements of the proposed works could not be hidden, and that the development would be visible over a wider area. However, he noted that the shape and design of the plant, including the types and colour of cladding would minimise the impact.

The assessment of visual impact entered an overall balance of effects, where the increased visibility (and increased traffic) were weighed against improved atmospheric emissions, the strong planning policy presumption in favour of the development, and the economic advantages of securing a major manufacturing industry in Rugby. The visual effects of the development were deemed to be acceptable as part of that balance, and planning permission was granted accordingly. The new cement works has now been constructed in accordance with that planning permission, and the visual effects of the development are consistent with those anticipated as part of the 1995 EIA.

4.4.2 *The Current Visual Impact Assessment (VIA)*

The key issue for the current VIA is to place the new bag filter development in the context of the plant and infrastructure which currently exists, and to consider the extent and significance of the visual change to the appearance of the plant which would arise from the development.

The assessment has been undertaken by means of identifying the principal viewpoints towards the plant, concentrating on short and medium distance viewpoints within a radius of 2km. A total of 12 viewpoints have been selected for analysis, of which 6 represent the same locations as the photomontage views included within the 1995 EIA. Those 1995 photomontages A-F are reproduced as part of this ES for historical interest (Appendix 5), although it should be noted that certain elements of the plant which was modelled for those photomontages were subsequently amended as part of the final approved design, most notably the two clinker stores depicted on the photomontage C, (replaced with 1 store) and the reduced size of the silos compared to those illustrated on photomontage D. An interesting comparison can however be made between the photomontages and current views, which can be reconciled as follows:

Photomontage A = current viewpoint 10

Photomontage B = current viewpoint 6

Photomontage C = current viewpoint 8

Photomontage D = current viewpoint 7

Photomontage E = current viewpoint 12

Photomontage F = current viewpoint 11.

4.4.3 *Viewpoint Analysis*

The locations of the photograph viewpoints are illustrated on Figure 3, and the 12 photographs are produced as Figures 4-7 inclusive.

For the purpose of the analysis, it has been assumed that the development would incorporate a key mitigation measure of ensuring that the bag filter building was clad in steel sheeting of a

colour to match the existing plant ('mushroom'), thereby ensuring that the colour of the new building would not draw the eye to the new building.

Viewpoint 1: View south from bridge over Nuneaton to Rugby railway line on Parkfield Road.

This elevated viewpoint on Parkfield Road is some 600 metres north of the proposed bag filter building. The preheater tower dominates the centre of the view and the clinker store with conveyor can be seen to the right. The land between the railway line and the cement works is covered with woodland and scrub, and the ground rises to a small hill limiting views of the lower elements of the works.

The bag filter building would be located to the left of the preheater tower, below the level of the existing ESP unit at the base of the tower (screened in this summer photograph by intervening woodland).

Viewpoint 2: View south west from Parkfield Road

Hedge and scrub vegetation along the works boundary on Parkfield Road allow only intermittent views. This viewpoint (approximately 200 metres east of the proposed building) is just north of the highest point of Parkfield Road along the site boundary. This elevated viewpoint allows an open view of the site buildings at the foot of the preheater tower which dominates the view. The admixture building is in the foreground. To the right can be seen the vegetation along the site boundary which screens views from the public footpath adjacent to the London to Birmingham railway line. This would represent the most open view of the proposed bag filter building, but it would be seen against the more dominant backdrop of the preheater tower.

Viewpoint 3: View west along Parkfield Road.

This viewpoint (approximately 130 metres west of the proposed bag filter) is located just to the north of the level crossing on Parkfield Road. The centre of the view is dominated by the preheater tower with cement silos 6, 7 and 8 to its left and the admixture production building to the right. Views of lower works elements are limited by the vegetation running along the rear of the site boundary fence. The top of the bag filter building would be visible above the scrub, but again, would be seen against the backdrop of the side elevation of the preheater tower.

Viewpoint 4: View west from bus stop on A428 Lawford Road near Royal Oak public house.

Moving east from the junction of Parkfield Road with the A428 (Lawford Road), views of the site buildings are limited by a line of poplars running along the northern edge of the A428. At

the bus stop near the Royal Oak public house the preheater tower and stack can be seen through a gap between the poplars. Vegetation along Parkfield Road obscures views of the lower buildings, and the location of the bag filter building, although glimpses of the bag filter building may be possible during the winter months.

Viewpoint 5: View west from public open space on Bridle Road.

Views of the site from the south and east are limited by the residential areas of Rugby. This view (approximately 400 metres from the proposed bag filter) looks over a recreation area adjoining Bridle Road and Jubilee Street. The preheater tower and stack is seen above the vegetation marking the boundary of the recreation area and railway line. To the left two groups of cement silos are visible, and to the far left lie the terraced houses on Bridewell Place. The top of the bag filter building would just be visible above the vegetation (and there would be filtered views through the vegetation in winter months), but the building would not be prominent in the context of the preheater tower backdrop.

Viewpoint 6: View west from public open space on Bridle Road.

This view is a short distance south from Viewpoint 5. The preheater tower and stack dominate the view and the cement silos are visible to the rear of the terraced houses on Bridewell place. The top of the bag filter building may just be visible above the treeline along the boundary of the recreation area.

Viewpoint 7: View north west from Dryden Place.

This view is located within a quiet single storey residential area approximately 600 metres from the proposed bag filter. The cement works is visible to the rear of industrial units on Addison Road. The preheater tower and stack are at the centre of the view with the clinker store to the left. The plant at the foot of the tower is obscured by a group of cement silos. The bag filter building would not be visible from this location.

Viewpoint 8: View north from public open space on Johnson Avenue.

From the A428 the ground level rises as one travels along Addison Road. This elevated view, approximately 800 metres from the proposed bag filter, looks over the public open space bordered by Addison Road and Johnson Avenue. The cement works is at the centre of the view to the rear of a residential area with the preheater tower most apparent. Cement silos are visible between gaps in the ornamental planting. Open country to the north can be seen in the distance. The bag filter building would be just visible, to the right of cement silos in line with lower levels of the preheater tower.

Viewpoint 9: View south east from public footpath north of Peninsular Farm.

This view is located on the public footpath next to the cattle grid north of Peninsular Farm (approximately 1.2 kilometres from the proposed bag filter). The view looks across tranquil pasture with the buildings of Peninsular Farm in the foreground. Beyond, the clinker store and conveyor are at the centre of the view with the preheater tower to the left. The wooded hill north of the site obscures the lower plant elements at the base of the preheater tower, such that the bag filter building would not be visible from this viewpoint.

Viewpoint 10: View south east from footbridge over River Avon near Peninsular Farm.

This view is located a short distance from Viewpoint 9, where the public footpath crosses the River Avon. Peninsular Farm is on the left, and the cement works is seen at the centre of the view between the wooded hill on the left and woodland adjacent to the River Avon on the right. The houses of Long Lawford are visible on the horizon to the right. The clinker store is at the centre of the view with the preheater tower to the left.

The flue connection from the bag filter building may just be visible from this viewpoint.

Viewpoint 11: View east from field gate on Lawford Heath Lane.

This elevated view is from a roadside field gate is approximately 1.9 kilometres from the proposed bag filter building. The landscape is rural with the cement works visible above the treeline. The preheater tower, clinker store and cement silos are visible but lower elements of the plant are screened by vegetation in the middle ground. The bag filter would not be visible from this viewpoint.

Viewpoint 12: View east from Bilton Lane near Holmefield.

This roadside view is approximately 1.2 kilometres from the proposed bag filter. The landscape is largely flat with the houses of Long Lawford adjacent to the A428 on the left. The preheater tower and clinker store of the cement works can be seen but views of lower plant elements (including the bag filter building) are limited by intervening vegetation.

Visual Impact Conclusions

The principal conclusions to emerge from the visual analysis are:

1. The proposed location of the bag filter building, within the main plant complex, and in its juxtaposition to more dominant elements (notably the preheater tower), would ensure that the building would not become a prominent, or even particularly noticeable, new feature.
2. The height of the bag filter building would be generally consistent with or would be below the levels of other 'low level' plant and infrastructure, such that it would visually integrate with those existing elements.

3. The short distance views which are available (most notably viewpoint 2, 3 and 6) are towards the eastern end elevation of the preheater tower, which dominates the view, and where the bag filter would be a minor visual element at the base of that end elevation, at the level of the existing ESP building, which is currently located at the base of that end elevation.
4. From the majority of other viewpoints, the new bag filter building would be either screened, or would be difficult to differentiate from other plant items.
5. Overall, the location, scale and height of the bag filter building would be visually insignificant in the context of the greater mass of the cement works buildings and infrastructure.

4.5 OTHER ENVIRONMENTAL ISSUES

The Town and Country (Environmental Impact etc) Regulation 1999, requires that an ES should include a description of the development (this ES, Section 3); a description of the aspects of the environment likely to be significantly affected by the development including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets including the architectural and archaeological heritage, landscape, and the inter-relationship between the above factors; and a consideration of direct, indirect, secondary, cumulative, short, medium and long term effects, and positive and negative effects of the development (EIA Regulations Part II Schedule 4).

These requirements are amplified in Circular 2/99, which highlights the benefits of obtaining a 'scoping opinion' from the Local Planning Authority (Regulation 10), which would represent the considered view of the LPA as to the issues which should be covered in an EIA. By inference, it would also highlight those issues which do not represent 'significant' effects, and which are therefore not relevant to the development under consideration. It also emphasises that LPA's should satisfy themselves that the ES contains the "relevant information" set out in the Schedule, which "the developer can reasonably be required to compile" (para 109), but that, in any event, the Authority can request further information, either informally, or more formally via Regulation 19.

In this case, the Applicants have obtained an opinion from the LPA (Warwickshire County Council) as to the scope of the EIA, which has confirmed the Council's view that "*many of the issues that an EIA would normally be expected to address would not be relevant in this case. Issues including ecology, archaeology, geology, transport and hydrology are unlikely to be significant, and therefore would not need to be addressed within the EIA*", albeit there should be an explanation as to why they are not relevant. The scoping opinion continues by highlighting air quality emissions as the key issue for consideration, and that whilst "*noise and visual impact ... may in the greater context of operations at the plant be limited these issues would need to be addressed in the EIA*".

The EIA has been prepared in the context of this agreed scope, with attention focused on air quality (ES Section 4.2), noise (4.3), and visual effects (4.4). The effects identified comprise direct and long term effects associated with an improvement in air quality, which would constitute a significant positive effect; direct and long term visual effects associated with the new bag filter building, but where the overall effects would be negligible in visual terms; and direct noise effects where the noise from the new bag filter would be below that associated with noise from the existing ESP filter, and where the effects would therefore be positive, with no adverse cumulative noise impact.

In relation to other environmental issues, the development would take place within an existing industrial area comprising hardstandings, operational and circulation areas. There is no flora present, and no known fauna. There are no soil resources, and no features of cultural heritage interest would be affected, either directly or indirectly in terms of setting. There would be no alteration to the surface water drainage arrangement in the vicinity of the plant building.

The scoping opinion has therefore correctly identified the three key environmental issues requiring assessment, and it is respectfully suggested that the planning application and supporting ES should be considered on that basis.

5.0 PLANNING POLICY CONSIDERATIONS

5.1 Introduction

When undertaking EIAs and preparing ESs, it is conventional practice to carry out a review of planning policy. - This is to allow the principle of the development and its details to be assessed against planning policy objectives and requirements.

Section 54A of the Town & Country Planning Act 1990 requires that planning applications should be determined in accordance with the content of the development plan, unless material considerations indicate otherwise. In effect, this introduces a presumption in favour of granting planning permissions for proposals which are in accordance with policies in the development plan. This has been further interpreted in the Courts which have established the principle that it is not necessary for a proposal to accord with each and every policy in the development plan, since there will be instances where policies pull in different directions. The key requirement is for a proposal to accord with the overall thrust of the development plan, taken as a whole.

This section of the ES sets out a general overview of the environmental policies of the development plan, and the context provided by national planning policy.

The formal 'development plan' comprises the Warwickshire Structure Plan 1996 - 2011, adopted in August 2001, and the Rugby Borough Local Plan 1989 - 2001, adopted in June

1997. The Borough Local Plan is currently the subject of a review, with a second deposit draft of the review published in May 2005.

5.2 National Planning Policy

National planning policy relating to the cement industry, and more particularly, the provision of raw material for the cement industry, is set out in Mineral Planning Guidance Note 10 (MPG10). This notes, *inter alia*, that the "cement industry is of major importance to the national economy as it supplies an essential product to the construction and civil engineering industries" (para 2), and that "the Government wishes to encourage domestic production (of cement) to counter the rising import trend and to provide employment" (para 3). However, it stresses that the "encouragement of cement production must be balanced against important environmental interests" (para 4) which, in the case of the proposed development, primarily relate to the environmental topics addressed in Section 4 of this ES.

MPG10 makes specific reference to the opportunities provided by cement kilns for the burning of industrial waste, together with the usual fuel (para 71). This is of direct relevance to the current proposal, and the future intention to burn a proportion of waste tyres, together with the conventional fuel of coal and petcoke. It emphasises however that careful consideration needs to be afforded to such proposals to ensure that emission limits are not exceeded (para 72). It notes that such proposals would need appropriate waste disposal licensing consents (PPC Permit), but that provided the necessary environmental criteria can be satisfied, "cement kilns may provide an attractive alternative to the environmental problems associated with other methods of disposal of these materials" (para 73). This is of particular relevance to tyres, where the EC Landfill Directive now prevents disposal of tyres to landfill sites. MPG10 therefore encourages the industry to "look for opportunities to dispose safely of waste in this manner" (i.e. via the kilns) (para 73).

The proposed development is fully consistent with these objectives of utilising a proportion of waste material as a fuel for the kiln, whilst, at the same time, reducing emission limits from the process.

Planning Policy Statement 23, Planning and Pollution Control (PPS23) was issued by the ODPM in 2004, and replaces previous policy guidance set out in PPG24 (Planning and Pollution Control: 1994). In terms of atmospheric emissions, it refers to a series of national and international obligations which control pollution (including the National Air Quality Strategy 2000), which have been referred to elsewhere in this ES. It also clarifies the relationship between planning and pollution controls, which are "separate but complementary". Pollution control is concerned with preventing pollution through the use of measures to prohibit or limit the release of substances to the environment from different sources to the lowest practicable level. It also seeks to ensure that ambient air and water quality meet standards that guard against impacts to the environment and human health. The

Planning system controls the development and use of land in the public interest. It plays an important role in determining the location of development which may give rise to pollution ... and ensuring that other developments are, as far as possible, not affected by major existing or potential sources of pollution. PPS23 therefore emphasises that the planning system should focus and on whether the development itself is an acceptable use of the land, and the impacts of those uses, rather than the control of processes or emissions themselves. It further notes that Planning Authorities should work on the assumption that the relevant pollution control regime will be properly applied and enforced. They should act to complement but not seek to duplicate it. (PPS23 para 10).

In the case of the proposed development, the emissions will be regulated via the PPC Permit, and the consideration of the planning application should therefore be largely confined to an assessment of whether the development is acceptable in landuse terms, in the context of its location and adjoining development. It is respectfully suggested that the development is wholly acceptable in those planning/landuse terms, but that its acceptability is reinforced by the design and underlying objective which is to comply with the more stringent emission limits relevant to the development (30 mg/Nm³).

In that context, Appendix A of PPS23 sets out a comprehensive list of issues which may be material in the consideration of individual planning applications, including the effect on any Air Quality Management Areas, and the need to comply with any Statutory Air Quality objectives (addressed in Section 4.2 of this ES). However, Annexe 1 of PPS23 emphasises that consultation should take place with the relevant pollution control authority (in this case the Environment Agency) to ensure that planning controls do not duplicate conditions which would be more appropriately imposed through the pollution control authorisation (para 1.48).

Annexe 1 also notes that local planning authorities should be alert to the possibility that the pollution control authorisation may require an alternative to an existing development in order to satisfy new pollution control standards (para 1.51), and that it is essential for the LPA to gain an understanding of why the alteration to the plant is essential. This in turn will allow the development control decision to be based upon a proper understanding of the consequences of any refusal of the planning application (para 1.52). One of the objectives of this ES is to assist that understanding, as part of the desire to satisfy the new pollution control standards.

Annexe 1 also notes that where planning permission is required for the alteration to an existing process, an EIA may be required if the changes are likely to have significant effects on the environment in comparison with the effects of the existing development. This EIA has been prepared in accordance with the requirements of the County Council, and concludes that the effects are positive and beneficial in terms of reduced emissions of particulates (ES Section 4.2).

Finally, Appendix 1G of PPS23 confirms that "any air quality consideration that relates to land use and its development is capable of being a material planning consideration, and that "the impact on ambient air quality is likely to be particularly important:

- Where the development is proposed inside, or adjacent to, an Air Quality Management Area (AQMA) designated under Part (iv) of the Environment Act 1995;
- Where the development could in itself result in the designation of an AQMA; and
- Where to grant planning permission would conflict with, or render unworkable, elements of a local authorities Air Quality Action Plan" (para 1G.1).

Section 4.2.2 of this ES concludes that none of those considerations would be adversely affected by the proposed development. In any event, the text continues in para 1G.2 by noting that "it is not the case that all planning applications for developments inside or adjacent to a QMA should be refused if the developments would result in a deterioration of local air quality. Such an approach could sterilise development, particularly where authorities have designated their entire areas as a QMA" (which is the case in Rugby Town). However, for reasons explained elsewhere in this ES, it is not the case that the development would result in a deterioration in air quality (in fact, quite the reverse), and the AQMA has not been designated based upon concerns regarding emissions of particulates.

5.3 Warwickshire Structure Plan

The Warwickshire Structure Plan was adopted in August 2001, and covers the period 1996 – 2011. It does not contain policies of direct relevance to the proposed development but, in general terms, it seeks to support existing industry (Policy I.1), and to cater for the ongoing expansion needs of existing businesses, which recognises their importance to the health of the existing economy (Policy I.7).

Specific policies are however included which require the environmental impacts of developments to be thoroughly assessed, and that measures should be incorporated to mitigate any adverse effects to acceptable levels (Policy ER.2). This has been the objective and function of this ES.

5.4 Rugby Borough Local Plan

The Rugby Borough Local Plan was adopted in June 1997, and covers the period 1989 – 2001. It is currently being reviewed, and has reached the stage of a second 're-deposit' draft, issued in May 2005.

Again, there are no policies of direct applicability to the proposed development, and the Rugby Cement Works is not shown with any specific allocation on the proposals map. It follows that the current application can be considered on its individual merits, subject only to Policy R/G1(12), which requires that new development should be sympathetic to the scale

and character of its surroundings. The proposed development respects this requirement, particularly in the context of the elevations of the bag filter building, and the colour of the cladding, which would match that of the existing plant.

The re-deposit draft review contains a specific policy relating to pollution control (Policy GP11), which confirms that planning permission will not be granted for development which would result in air quality issues which would be detrimental to human health, the natural or cultural environment, or to other uses of land. It therefore confirms that a pollution assessment should be submitted with relevant proposals (para 4.42), albeit it notes that these issues are controlled via the PPC system (para 4.45).

Policy GP12 relates to the Air Quality Management Area (AQMA) and confirms that development proposals within the area, which are likely to hinder the Council's Air Quality Objectives, are required to demonstrate their impact on air quality, and that developments likely to have a net adverse impact will not be permitted, unless the effects are mitigated to the satisfaction of the Council. The supporting text does however confirm the comments made elsewhere in this ES that the AQMA has been established due to the prediction that levels of nitrogen dioxide (NO₂) in certain areas of the town may breach the annual objectives for 2005 (para 4.47), rather than emissions of particulates (dust) relevant to the proposed development.

6.0 CONCLUSIONS.

This Statement provides a detailed description of the proposed development (which is also to be regarded as the formal Planning Application Statement), and an objective analysis of the three key potential environmental effects which have been identified as being associated with the development. The Statement also considers the planning policy framework against which the proposal will be considered.

The Statement has been prepared to assist Warwickshire County Council and other interested parties to reach a decision on the merits of the development and the environmental implications associated with it. It sets out the results of very careful, detailed and systematic research into each of the identified potential environmental effects and, where relevant, sets out conventional methods for mitigating the effects.

The conclusions reached by the ES are that there would be a positive beneficial effect in terms of air quality via the reduction in particulate emissions; the effects in terms of noise would also be beneficial compared to noise levels associated with the existing ESP system; and the visual effect would be negligible both in terms of the context of the scale of the existing plant, and the significance of the viewpoints themselves.

The overall conclusion is that the development could proceed without giving rise to unacceptable environmental effects and that, more positively, the net balance of effects would be positive and beneficial.

In a wider planning policy context the Statement concludes that the development could proceed in accordance with national planning policy, and with development plan policies for the area. In those circumstances it is considered that there should be a firm presumption in favour of permission being granted.