2012 Update on the Action Plan for the Scunthorpe PM_{10} AQMA
North Lincolnshire Council

In fulfillment of Part IV of the Environment Act 1995
Local Air Quality Management

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Executive Summary

This Action Plan review covers all the actions presented in the 2008 Air Quality Action Plan submitted by North Lincolnshire Council. The action plan was produced following the declaration of a Scunthorpe wide Air Quality Management Area (AQMA) in 2005 because of continued exceedances of the daily mean objective for PM_{10}. Local industry has been identified as the biggest contributor to the air quality issues within Scunthorpe. Further work using focussed monitoring around the Integrated Steelworks boundary also identified breaches of the annual mean objective and led to the subsequent declaration of an AQMA in the small village of Low Santon. This work has included the following reports:

- 2008, 2010 & 2011 Progress Reports
- 2009 Updating & Screening Assessment
- 2011 Further Assessment of PM_{10} at Low Santon
- 2010 AEA Low Santon Modelling Report
- 2009 Openair Software Report on the Integrated Steelworks
- 2011 Low Santon Action Plan

The main aim of this Action Plan was to reduce PM_{10} concentrations within the AQMA demonstrating compliance with the relevant Air Quality Objectives as soon as possible, the measures put in place would also ensure continuing compliance. The original document set out a list of actions that the Council intended to pursue in order to achieve the required improvement in air quality within the AQMA.

Each action point has been presented within this report and details responsibility, timescales and supporting evidence indicating its progress. Actions were gathered in to a number of sections of which various parties held responsibility. The sections included:

- Air Quality Monitoring and Reports
- Information to the Public
- Bonfires & Non-Permitted Process Emissions
- Industry
- Development Control
- Tailpipe Emissions

North Lincolnshire Council has actioned all of the points within the original report. Many are now complete, some have been successful and extended whilst others are still ongoing. Due to the nature of the exceedance relating to emissions from the integrated steelworks many of the actions have fallen upon Tata Steel and the Environment Agency. Following the declaration of a further AQMA at Low Santon a second Action Plan is required for submission. This second Action Plan will focus on operator improvements and will compliment the ongoing actions presented within this action plan.

Current Position

Clarification on the compliance position of all sites across North Lincolnshire including those within the AQMA can be found at www.nlincsair.info. This is the councils dedicated air quality site and holds all review and assessment reports since this plan was produced. Low Santon remains the site of most concern with East Common Lane the only other site within the AQMA that has measured concentrations close to or above the Daily Mean Objective. Both sites are located in close proximity to the Integrated Steelworks boundary.

The concentrations at all PM_{10} sites within North Lincolnshire as reported in the 2011 Progress Report are as follows:

Site ID	Location	Within AQMA?	Data Capture for monitoring period [a] %	Data Capture 2010 [b] %	Number of Exceedences of daily mean objective (50 μg/m^3) If data capture < 90%, include the 90th percentile of daily means in brackets.		
					2008	2009	2010
1.	Scunthorpe Town TEOM	Y		95.2	22	11	16
1.	Scunthorpe Town FDMS			83.2			14 (42)
2.	East Common Lane	Y		96.4	40	17	11
3.	Low Santon TEOM	Y		92.5	73	78	52 (62)
3.	Low Santon FDMS		82.2	47.1			21(62)
4.	High Santon	Y		81.1	34	27	8 (38)
5.	Redbourn Club	Y	97.8	36.5			6
7.	Appleby	Y		77.6	5	5	2 (33)
8.	Killingholme	N		94.3	11	4	3
x	Lincoln Gardens	Y		81.8	21	7	3 (35)
x	Broughton	N	81.5	45.4	6	2	1 (35)
x	Allanby Street	N	99.6	26.3	20	5	0

[a] i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)

Given the nature of the Integrated Steelworks it has been difficult to provide any performance indicators on the individual actions provided below. A true measure of success has been the general reduction in exceedence days and continued compliance at most monitoring sites within the AQMA. However it should be noted that exceedence days are influenced by meteorological conditions and the significant downturn in production at the integrated steelworks due to the recession. Unfortunately Low Santon continues to breach the Daily Mean Objective and these issues have been assessed in the 2011 Further Assessment of PM_{10} at Low Santon available at www.nlincsair.info

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Action	Action Detail	Lead Role	Timescale	Progress
A1	Maintain network of ten PM_{10} analysers at nine locations. Four locations are within the AQMA and five outside.	NLC	Ongoing	Ongoing
A2	Boundary monitoring of PM_{10}, $PM_{2.5}$, PM_1 and Total Suspended Particles at Part A2 and 5 PPC Sites within the AQMA. Including a $PM_{2.5}$ (TEOM) monitor at Low Santon.	NLC / EA	2008	Ongoing
A3	Traffic count and visual observations at Santon to assess likely contribution from re-suspended road dust.	NLC	2008	Complete
A4	PPC Permit Improvement Programme IP 9, 15, 17 & 22 Tata UK Ltd shall undertake a further investigation to monitor and quantify point source and fugitive particulate matter including PM_{10} and PM2.5 emissions from the BOS Plant, Sinter Plant, Blast Furnaces, Appleby/ Dawes Lane Coke Ovens point source emissions and associated activities. The investigation should aim to confirm and establish typical release rates/ emission characteristics from significant sources and include localised ambient air quality monitoring. The proposed scope and method to be adopted, with timescales, should be submitted in advance of any study and agreed with the Environment Agency. A report of the investigation shall be sent to the Environment Agency	EA / Tata	2008	Complete
A5	Study into a local TEOM to Partisol correction factor. Consideration of alternative measurements techniques or correction factors as developed.	NLC	2008	Complete
A6	PPC Permit Improvement Programme IP 33 Tata UK Ltd shall assess the monitoring data recorded by the air quality monitoring stations and the local NETCEN station (including triangulation between stations) to identify process areas/outside influences making significant contribution (short and/or long term) to the pollutant levels measured. The operator shall submit quarterly reports of interpreted monitoring to the Environment Agency. (format to be proposed with the first submission).	EA / Tata	2008	Complete

A7	PPC Permit Improvement Programme IP 37 Tata UK Ltd shall review annually the emissions to air impact assessment and amend as necessary following progressive completion of relevant improvement programme requirements contained within this permit or the identification of any other relevant information or data concerning emissions, dispersion or environmental impact. An annual review report shall be submitted to the Environment Agency	EA / Tata	2008	Complete
A8	PPC Permit Improvement Programme IP 38 Tata UK Ltd shall formulate an air quality management plan for the installation aimed at reducing the impact of pollutants emitted from the installation and ensuring it does not significantly contribute to breaches of the national Air Quality Strategy standards/objectives or EU Directive Limits. Initially, the plan should be based on current emissions and impact assessment knowledge and developed further from the conclusions drawn from the responses made to relevant improvement programme requirements contained within this Permit. The plan should take account of any Local Authority air quality management plans. The operator shall review the air quality management plan annually and include actions to ensure the aim of the plan is delivered. The initial plan and annual reviews shall be submitted to the Environment Agency.	EA / Tata	2008	Complete
B1	Launch and maintain North Lincolnshire air quality website with: • Access to real time & historical data, • Production of graphs and pollution roses • Access to air quality reports and latest news updates • General information	NLC	2008	Complete Ongoing
B2	Review existing methods of communication of real time data to the public and consider alternatives to internet access. Implement one further method.	NLC	2009	Ongoing
B3	Investigate the potential for air pollution forecasting in Scunthorpe	NLC	2009	Ongoing
B4	Provide information to the public through publicity campaigns about how they can improve air quality from domestic situation e.g. bonfires and heating fuels	NLC	2008	Complete Ongoing

C1	Raise profile & encourage attendance at organised community bonfire celebrations rather than individual bonfires.	NLC	2008	Complete
C2	Conduct a publicity campaign advising commercial organisations about their legal obligations in relation to their waste arisings with particular reference to burning of trade waste. To be conducted in co-operation with the Environment Agency.	NLC	2008	Complete
C3	Complaints in respect of dust and smoke from commercial premises (not regulated under IPPC regime) will be investigated as a priority and enforcement action taken in accordance with the enforcement property.	NLC	Ongoing	Ongoing
C4	Identify current road sweeping schedules within the Scunthorpe AQMA a realign schedules as appropriate to minimise resuspended dust emissions from areas such as Brigg Road	NLC	2009	Complete
C5	Conduct a publicity campaign advising local residents the implications of living in a domestic smoke control area and encourage people to complain if they are affected by smoke from domestic chimneys.	NLC	Ongoing	Ongoing
C6	Complaints in respect of domestic smoke control will be investigated as a priority and enforcement action taken in accordance with the enforcement policy.	NLC	Ongoing	Ongoing
D1	The Council will organise strategic air quality management meeting with other relevant organisations with an interest in air quality issues, including the Health Protection Agency, Primary Care Trust and the Environment Agency. The purpose of the group will be to identify key air quality issues and agree measures for reduction. Meetings to be scheduled approximately quarterly.	NLC EA PCT Tata HPA	2009	Complete Ongoing
D2	Set up a Local Industry Forum involving the Environment Agency, North Lincolnshire Council and Local Industry representatives with the potential to emit $PM_{10.}$ The purpose of the group is to identify key issues, agree measures for reduction of PM_{10} and formulate a memorandum of understanding between all industrial operators particularly in respect of issues falling outside the scope of permitting. Meetings to be scheduled approximately every six months. This group may include representatives from other steelwork area sites (Council, EA and Tata)	NLC	2009	Complete Ongoing

D3	Formulate an industry overview for the integrated steelworks site. Identifying process areas, haul routes, vehicle flows and operating hours to consider in conjunction with monitoring data. Identify areas of responsibility within general areas of the steelworks site, areas outside the permit regime and regulatory responsibility for the same.	NLC	Ongoing	Complete Ongoing
D4	Continue to lobby central government in relation to permitting of mobile plant and look to identify improved mechanisms of regulation and enforcement.	NLC	2008	Complete
D5	Ensure that the requirements of the PPC permitting regime are appropriately enforced with inspections prioritised on a risk basis taking account of PM_{10} emissions. Regulators will work closely with process operators to minimise PM_{10} emissions and seek long term solutions to address dusty operations.	NLC	Ongoing	Ongoing
D6	Ensure permits issued under LA-IPPC are reviewed in accordance with guidance, with particular attention to processes within the AQMA with the potential to emit PM_{10}.	NLC	Ongoing	Ongoing
D7	Work with local industry and EA towards the development of relevant measurable indicators of changes in significant emissions of PM_{10}	NLC	2009	Ongoing
D8	Work with local industry and EA to develop targets for the reduction of the area covered by the AQMA so that the number of properties affected will be reduced.	NLC	2010	Ongoing
E1	The impact of development within the Air Quality Management Area shall be considered in relation to air quality. Exposure of new receptors or the introduction of significant new sources of PM_{10} will need to be appropriately until such time as action E2 has been completed.	NLC	Short Term	Complete Ongoing
E2	Develop a Supplementary Planning Document (SPD), which identifies the constraints and mitigation to development within the Air Quality Management Area	NLC	2009	Complete Ongoing
F1	Review new and existing development sites, to monitor the impact of road, rail, air and water traffic and their emission levels.	NLC	Short Term	Complete Ongoing

F2	Implementing bus priority measures as appropriate at new residential developments to help ensure that public transport is a quicker and more direct transport than the car	NLC	Ongoing	Complete Ongoing
F3	The main measures to implement are improving facilities for pedestrians and cyclists, school and workplace travel planning, promotional work such as travelwise, implementation of school safety zones, bus and infrastructure enhancements and simplification of the network, ticketing in Scunthorpe and the main rural routes and managing our car parks and tariff structure.	NLC	Ongoing	Ongoing
F4	The implementation of an urban traffic control system will assist the traffic manager in delivering a smoother flow of traffic in the urban area of Scunthorpe and reduce levels of congestion. This has been programmed for delivery during the period of this and the next Local Transport Plan	NLC	Ongoing	Ongoing
F5	Reducing incidents of dangerous driving and enforcing compliance with speed limits will also help maintain a smooth flow of traffic and minimise sudden braking acceleration	NLC	Ongoing	Ongoing
F6	Through the North Lincolnshire Road Safety and Safety Camera Partnerships we will deliver continued enforcement of speed limits and driving standards	NLC	Ongoing	Ongoing
F7	Through the quality bus partnership we will work with the operators to encourage the replacement of vehicles to the latest European emission standards wherever possible	NLC	Ongoing	Ongoing
F8	A fleet of vehicles that are powered by LPG already operates (predominantly in waste management), we will continue to update and operate our fleet vehicles to use more environmentally friendly forms of fuel. Particulate traps on our vehicles are also used and we will continue to promote their use to reduce particulate matter	NLC	Ongoing	Stopped
F9	The council will aim to: • Reduce traffic flows through promotion of sustainable travel and demand management measures • Reduce transport related emissions by reducing traffic flows and making more efficient use of the network • Deliver environmental improvements • Improve the street scene • Make communities places where people want to live	NLC	Ongoing	Ongoing

Section A: Air Quality Monitoring & Reports

Action Reference: A1
Action: Maintain network of ten PM_{10} analysers at nine locations. Four locations are within the AQMA and five outside.
Lead Role: North Lincolnshire Council
Impacts: N/A
Cost: Medium (£75,000 per year)
Timescale: Ongoing
Progress: Ongoing

North Lincolnshire Council has operated an extensive air quality monitoring network over the last few years. This network has evolved as the understanding of individual sources and the scale of exceedances has increased. PM_{10} is the primary focus of the monitoring network with 10 analysers at 9 locations operating at the height of the network data capture. This has now been scaled back to better reflect understanding following years of useful monitoring. Table 1 presents every PM_{10} monitoring station operated within North Lincolnshire since the Action Plan was published:

Site	Grid Reference	Method	Sample Start	Sample Ceased	Compliance
1. Allanby Street	X489228 Y411447	TEOM	01/07/05	**06/04/10**	✓
2. Appleby Village	X495075 Y414767	TEOM	07/02/07	Ongoing	✓
3. Broughton	X496046 Y409410	TEOM	10/03/06	**22/07/10**	✓
4. East Common Lane	X490663 Y409789	TEOM	01/04/05	Ongoing	X
5. High Santon Partisol	X492945 Y411931	Partisol	05/01/07	Ongoing	✓
6. Killingholme	X514880 Y416133	TEOM	06/03/03	Ongoing	✓
7. Lakeside	X491750 Y408127	TEOM	09/06/11	Ongoing	✓
8. Lincoln Gardens	X489464 Y408939	TEOM	01/12/04	**03/04/11**	✓
9. Low Santon (TEOM)	X492945 Y411931	TEOM	01/10/05	Ongoing	X
10. Low Santon (FDMS)	X492945 Y411931	FDMS	07/06/10	Ongoing	X
11. Redbourn Club	X490002 Y410069	TEOM	17/08/10	Ongoing	✓
12. Scunthorpe Town (TEOM)	X490320 Y410831	TEOM	04/06/04	Ongoing	✓
13. Scunthorpe Town (FDMS)	X490320 Y410831	FDMS	04/01/10	Ongoing	✓
14. Scunthorpe Town (Partisol)	X490320 Y410831	Partisol	23/08/06	**06/04/10**	✓

Table 1 Monitoring Overview

At present the network consists of two TEOM's outside of the AQMA and five TEOM's, two FDMS' and one Partisol within the AQMA. Justification for the removal of the absent sites can be found within both the 2010 and 2011 Progress Reports. Review and assessment reports submitted over the last few years document results from these stations. All review and assessment reports can be found on the North Lincolnshire Council Air Quality Website; www.nlincsair.info. Further monitoring has also taken place over the last 18 months using non permanent Osiris particulate monitors. These have been placed at strategic locations around the AQMA to populate areas that were otherwise unmonitored. Further information on these sites can also be found the *2011 Progress Report*. It is North Lincolnshire Councils intention to continue to monitor PM_{10} at known locations of exceedance should budget constraints allow this to happen.

Action Reference: A2
Action: Boundary monitoring of PM_{10}, $PM_{2.5}$, PM_1 and Total Suspended Particles at Part A2 and 5 PPC Sites within the AQMA. Including a PM2.5 (TEOM) monitor at Low Santon.
Lead Role: North Lincolnshire Council/ Environment Agency
Impacts: Low but essential to process
Cost: Medium
Timescale: 1st monitor to be in by 2008.
Progress: Ongoing

It was the intention of North Lincolnshire Council to install a network of monitoring stations close to PPC sites within the AQMA. A number of Osiris monitors were purchased to allow for semi permanent stations to be easily located close to sites suspected of adding to the heavy particulate load within the area. The sites identified were:

- Civil & Marine (Heidelberg Cement)
- Tarmac Roadstone Coating Plant
- Russell Ductile Castings
- Bradken UK
- Carbon International
- Tata Steel
- Harsco

The Osiris monitors for this project were purchased but they have not been placed at all of the above locations due to difficulties with power sources and health and safety constraints on the integrated steelworks . They have however, been placed at strategic locations close to all these sites in order better understand the scale of exceedances within the AQMA as described in **Table 2 Osiris Monitoring Locations**

Site	Grid Reference	Located close to	Compliance
Dawes Lane Coke Oven Store Osiris	492403, 411866	Tarmac, Tata, Harsco	X
Grange Lane Osiris	490823, 409366	Civil & Marine, Carbon Int., Tata	✓
Leisure Centre Osiris	490003, 411380	Russell Ductile, Bradken, Tata, Harsco	X
Amvale Osiris	491374, 408786	Civil & Marine, Tata, Carbon Int	X
Station Road Osiris	489831, 410988	n/a	✓

Table 2 Osiris Monitoring Locations

The introduction of these monitoring sites has been useful in source identification. Major investment on the Integrated steelworks is being focussed by results from the Dawes Lane Coke Oven Osiris and the triangulation with the Low Santon TEOM. Further monitoring sites to the West of the Integrated Steelworks has allowed for a planning policy to be produced to inform developers about residential planning applications within the AQMA. Details of this policy can be found within the *2010 Progress Report* along with results from the Osiris study.

A $PM_{2.5}$ TEOM was operated at Low Santon for approximately 18 months between 2008 and 2010 in partnership with the Environment Agency. Data from this study served to prove that combustion processes were not a significant cause of the problem and that the coarse fraction of PM_{10}, likely to have originated from other processes, makes up much of the dust. Full details of this study can be found within the recently submitted *Further Assessment of PM_{10} Issues at Low Santon*.

Action Reference: A3
Action: Traffic count and visual observations at Santon to assess likely contribution from re-suspended road dust.
Lead Role: North Lincolnshire Council
Impacts: Low but essential to process
Cost: Low
Timescale: Start Summer 2008.
Progress: Complete

Traffic counts at Low Santon were carried out in 2009 and all review and assessment predictions have been made based on these figures. Internal traffic counts have been carried out by operators on the Integrated Works. These counts were supplied to AEA by local operators to produce a modelling report focussed on Low Santon. The report is publicly available from DEFRA. The report identifies resuspended road dust as a potential contributor to the issues at Low Santon.

Much of the onsite traffic is in the form of raw material movements carried out by large plant. Investigations such as the 'Tea Break Report' available on the North Lincolnshire Council air quality website, also highlight the contribution made by such movements. Many of the actions submitted in the 2011 Low Santon Action Plan have been focused by the operators to deal with these issues, an example of which is that dumper trucks operated under the responsibility of Tarmac have seen their speeds limited as well as site wide GPS systems fitted to most vehicles designed to identify and reduce double handling. The areas of roads closest to the Low Santon

monitoring station are now controlled via a road wetting program courtesy of Tarmac. Actions concerned with this road wetting program were submitted in the 2011 Low Santon Action Plan available on the North Lincolnshire Council website.

Action Reference: A4
Action: PPC Permit Improvement Programme IP 9, 15, 17 & 22 Tata UK Ltd shall undertake a further investigation to monitor and quantify point source and fugitive particulate matter including PM_{10} and PM2.5 emissions from the BOS Plant, Sinter Plant, Blast Furnaces, Appleby/ Dawes Lane Coke Ovens point source emissions and associated activities. The investigation should aim to confirm and establish typical release rates/ emission characteristics from significant sources and include localised ambient air quality monitoring. The proposed scope and method to be adopted, with timescales, should be submitted in advance of any study and agreed with the Environment Agency. A report of the investigation shall be sent to the Environment Agency
Lead Role: Tata UK Ltd/ Environment Agency
Impacts: For Tata to determine, potentially high.
Cost: Not disclosed
Timescale: Initial report due January 2008.
Progress: Complete

In order to satisfy the requirements of the improvement conditions Tata commissioned a study producing a report entitled *"Final report to the UK Environment Agency on the measurement of diffuse emissions from Scunthorpe Works and their local impacts"*:

A requirement of the PPC improvement programme was for Tata Scunthorpe Works to monitor and quantify diffuse particulate emissions from a number of processes operating on the site, and to assess the impact of these emissions through localised ambient air monitoring.

Stack emissions from these operations, namely the BOS plant, the ore preparation plant, the blast furnaces and coke oven battery operations, were already well characterised and reported to the Environment Agency on a regular basis. The focus of the improvement programme was therefore on diffuse sources of particulate, and included the measurement of diffuse particulate emissions from these operations.

Total diffuse emissions from the blast furnace cast house roofs, the BOS plant roof vents, and the coke oven doors and lids were estimated to be 785 tonnes per annum. The diffuse emissions from the blast furnace cast house roof are comparable with the European benchmark values, but emissions from the coke ovens and BOS plant are high compared to these values.

The emissions were composed predominantly of PM_{10}, at around 90% of the total diffuse emissions from each source. In addition, a significant proportion of the PM_{10} is composed of $PM_{2.5}$. In the case of the diffuse particulate emissions from the BOS roof and the coke oven lids and doors this is around 70% of the total particulate emissions, for the blast furnaces this was about 40 %.

Ambient particulate matter concentrations were measured in three six month sampling phases, at a number of sites around key areas of plant operations, namely steel making, iron making and ore preparation, and coke making. Wind direction and speed data was also collected at a selection of the monitoring sites.

Data collected during the study was analysed in a number of different ways to identify sources of particulate that may have an impact on the particulate concentrations measured at each monitoring site. This included the calculation of the variation in mean particulate concentration by wind direction, analysis of PM_{10} percentile concentrations and the calculation of the variation in the ratio of $PM_{2.5}$ to PM_{10}.

Phase 1, in the south of the site identified impacts from the area of the BOS slag and scrap handling. Phase 2, in the centre of the site, identified impacts from the ore blending beds, but due to the proximity of various different activities it was not possible to separate any other specific sources. Phase 3, in the north of the site, identified impacts from coke making operations, including the coal stockyards, and also Tarmac slag processing and storage activities.

The sources identified were primarily operations giving rise to ground level emissions of particulate. Notably no impacts were seen from the BOS roof emissions. In addition, although impacts were observed from the direction of coke making operations, further analysis indicated that these did not originate from diffuse emissions from the coke oven batteries, but rather from emissions from sources of coarse dust located in the area of the coke ovens. These could potentially include coke pushing, coke quenching and dust re-suspension.

The Environment Agency submitted their view on the effectiveness of this study:

"For the purposes of the improvement programme requirements, this is now deemed satisfactory and completed. Tata reported in compliance with Improvement Conditions 9, 15, 17, 22 and 31 to Permit BL3838. IC31 was related to the boilers and power station so given these were point sources releases with well established monitoring and no associated fugitive releases, we agreed not to require this report. The report was submitted, as agreed on 31 January 2008. A presentation detailing the scope and summary findings of the report was given on 26 February 2008.

We found, in general, the report is a good representation of the significant effort that has gone into understanding emissions of fine particulate matter from fugitive sources. We commended the innovative methods utilised, particularly for collection of emissions from the coke oven doors and for the plant wide fugitive monitoring exercise.

Many lessons were learned during phases 1,2 and 3 as some developments in fugitive particulate ambient monitoring were new in an industrial environment. Whilst we were disappointed with some of the poor data capture such as at the MultiServ garage site and limitations of wind data, we were pleased with the successes achieved and recognised that this study is of interest to all those who work to assess and understand particulate emissions from large and complex industrial sites. The data added to the knowledge bank on PM_{10} particulate matter."

Action Reference: A5
Action: Study into a local TEOM to Partisol correction factor. Consideration of alternative measurements techniques or correction factors as developed.
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: Discuss in review and assessment reports
Progress: Complete

North Lincolnshire Council has operated two Partisols in recent years. One co-located with a TEOM at Scunthorpe Town AURN site and one situated at High Santon 300m from the Low Santon site. A lot of work was carried out in order to produce a correction factor suitable for the data at Low Santon. This was done using the co-located TEOM and Partisol at Scunthorpe Town. This correction was never used due to the complexities of the issues at Low Santon and the existing 1.3 gravimetric equivalence correction used by most authority's pre Volatile Correction Model (VCM).

Since 2008 North Lincolnshire Council reported all its TEOM data VCM. Initial concerns were raised over this correction given the closest FDMS for correction purposes was over 100km away. The overall number of exceedence days were vastly reduced by this correction and led to North Lincolnshire Council installing two FDMS sites in order to localise the correction for all existing TEOMS in the network. The FDMS' are located at Scunthorpe Town and Low Santon and will report their first year's data at the end of 2011.

Action Reference: A6
Action: PPC Permit Improvement Programme IP 33 Tata UK Ltd shall assess the monitoring data recorded by the air quality monitoring stations and the local AURN station (including triangulation between stations) to identify process areas/outside influences making significant contribution (short and/or long term) to the pollutant levels measured. The operator shall submit quarterly reports of interpreted monitoring to the Environment Agency. (format to be proposed with the first submission).
Lead Role: Tata UK Ltd/ Environment Agency
Impacts: For Tata to determine, Potentially high.
Cost: Not disclosed
Timescale: Ongoing
Progress: Complete

Updates on the progress of this improvement conditions were submitted by the Environment Agency:

"For the purposes of the improvement programme requirement IC33, this is now deemed satisfactory and completed. IC33 was to be built on the foundations of IC32 though technically difficult to carry out triangulation as it assumed a capable internal site monitoring network when the permit was first issued that was later shown to be insufficient for the purposes. This delayed work on IC33 so we asked that the external NLC network monitors to be supported and used to provide data. A methodology was then trialled and we received quarterly reports for Q1, Q2, Q3 and Q4 where the last one was a review of the work done and what added knowledge could be taken from this to close out this improvement requirement."

Action Reference: A7
Action: PPC Permit Improvement Programme IP 37 Tata UK Ltd shall review annually the emissions to air impact assessment and amend as necessary following progressive completion of relevant improvement programme requirements contained within this permit or the identification of any other relevant information or data concerning emissions, dispersion or environmental impact. An annual review report shall be submitted to the Environment Agency
Lead Role: Tata UK Ltd/ Environment Agency
Impacts: For Tata to determine, Potentially high.
Cost: Not disclosed
Timescale: Ongoing
Progress: Complete

Updates on the progress of this improvement conditions were submitted by the Environment Agency:

"For the purposes of the improvement programme requirement IC37, this is now deemed satisfactory and completed, however, we would like to retain this review of current knowledge and reporting in our future variation on particulate matter. These are a series of annual reviews of the AQ dispersion modelling based on other related improvement conditions 35 and 36 so have provided a series of reports that have been continuously improved with new knowledge of the particulate matter inventory. It is also targeted at other AQ pollutants as part of the UK AQ Strategy so not particulate matter specific."

Action Reference: A8
Action: PPC Permit Improvement Programme IP 38 Tata UK Ltd shall formulate an air quality management plan for the installation aimed at reducing the impact of pollutants emitted from the installation and ensuring it does not significantly contribute to breaches of the national Air Quality Strategy standards/objectives or EU Directive Limits. Initially, the plan should be based on current emissions and impact assessment knowledge and developed further from the conclusions drawn from the responses made to relevant improvement programme requirements contained within this Permit. The plan should take account of any Local Authority air quality management plans. The operator shall review the air quality management plan annually and include actions to ensure the aim of the plan is delivered. The initial plan and annual reviews shall be submitted to the Environment Agency.
Lead Role: Tata UK Ltd/ Environment Agency
Impacts: For Tata to determine, Potentially high.
Cost: Not disclosed
Timescale: Ongoing
Progress: Complete

Updates on the progress of this improvement conditions were submitted by the Environment Agency:

"For the purposes of the improvement programme requirement IC38, this is now deemed satisfactory and completed. The last report on an AQ Management Plan 14 September 2009 was the fifth required under the BL3838IW permit that brought together several elements of the AQ work and we asked that they prioritise on Particulate Matter. We agreed this was the last submission as we planned and carried out a PM_{10} permit review and these are to be formalised again in the future permit variation as a FEMP: Fugitive Emissions Management Plan condition."

Section B: Information to the Public

Action Reference: B1
Action: Launch and maintain North Lincolnshire air quality website with:

- Access to real time & historical data,
- Production of graphs and pollution roses
- Access to air quality reports and latest news updates
- General information

Lead Role: North Lincolnshire Council
Impacts: High (in terms of potential exposure).
Cost: Low
Timescale: January 2008
Progress: Complete & Ongoing

North Lincolnshire Council has operated and maintained an air quality website since January 2008. The website is provided by AEA Technology. The website offers real time air quality data at all locations within the network. Live data is presented using the Air Quality Index and an easy to follow traffic light system of pollution levels. Data can be retrieved in daily, hourly and 15 minute formats. Each site has its own subsection describing its location and monitoring method as well as exceedance statistics. Time series graphs and pollution roses can be generated for each site.

As well as comprehensive details of each site the website also contains all submitted review and assessment reports and further reports commissioned by North Lincolnshire Council. Details on the responsibilities of local authorities can also be seen. Information can be found on each of the measured pollutants and their potential health effects. The site also contains a list of FAQs designed to answer probable questions from the public. A list of useful links is also available should further information on air quality be required.

Usage statistics available on the website show that the site is well used with over 400 unique visitors to the site each month. North Lincolnshire Council currently participates within a technical working group created to tackle air quality issues at Low Santon, an area of high PM_{10} exceedance. The website offers an online portal in which details of meetings, minutes and actions can all be uploaded. This allows for efficient action completion and helps to share the latest research.

Action Reference: B2
Action: Review existing methods of communication of real time data to the public and consider alternatives to internet access. Implement one further method.
Lead Role: North Lincolnshire Council
Impacts: High (in terms of potential exposure).
Cost: Low
Timescale: 2009
Progress: Ongoing

North Lincolnshire Council has investigated a number of ways in which to supply the public with real time air quality information. The use of social media websites was the best and cheapest option, investigations in to its feasibility are still ongoing.

A small scale alert system was set up in March 2011 designed to serve operators around Low Santon. This scheme has been a success with operators registering interest in an improved scheme which would increase the volume of alerts to the site. At present an alert is sent if an 80ug/m^3 threshold is exceeded before 12:00pm. 80ug/m^3 was set as the threshold following an investigation in to exceedance day signatures. The 80ug/m^3 allows 70% of exceedance days to be captured whilst vastly reducing the number of false alarms over other trigger points. The justification for this threshold can be found within the appendix of this document. Tata, Tarmac and Harsco all currently participate in the scheme taking up all the available text alerts. The scheme offers unlimited email alerts of which a number of interested parties, including the Environment Agency, use to monitor the situation.

To date the alerts have been sent on 85% of exceedance days. 25% of alerts sent did not go on to be exceedance days and 15% of exceedance days were missed. The new system will focus on an alert being issued at a specific time so that all parties look for the warning. Should an alert be issued by 09:00 operators on the integrated steelworks have a number of interventions at their disposal in order to prevent an exceedance day. The completion of this alert system forms an action included within the 2011 Low Santon Action Plan

Action Reference: B3
Action: Investigate the potential for air pollution forecasting in Scunthorpe
Lead Role: North Lincolnshire Council
Impacts: High (in terms of potential exposure).
Cost: High
Timescale: 2009
Progress: Complete

North Lincolnshire Council developed an air quality forecasting tool at the end of 2010. This tool has now been integrated in to the Tata Steel Environmental Management System and is being used to inform the interventions as discussed in action B2.

The tool is risk assessment based and has been developed by bringing together historical data and current understanding of the issues on the integrated site. The forecast is broken down into 7 components:

1. Forecasted wind direction.
   The Met Office issues a forecast using a 16 point compass rose. An average concentration was calculated for each of these sectors. A low, medium or high score was given to each sector dependant on the magnitude of the concentration.

2. Forecasted wind speed.
   This is only triggered if the wind direction falls within high & moderate risk. It was set using a Scatter plot between 180° and 270° which showed a relationship between wind speed and concentration. The risks were set at; 0-2m/s low, 2-5m/s moderate, >5m/s high.

3. Forecasted rainfall/snow.
   This was based on current understanding of the sources and the importance of ground level fugitives. If a day is forecasted to experience snow or rain it will score lower.

4. Month.
   We knew from historical data that certain months were more likely to exceed than others. Each month was put in one of three categories; low, medium or high.

5. Weekday.
   Historical data again proved that certain days were more likely to exceed than others. Each day was again put in to one of three categories dependant on its exceedance risk.

6. Site activity.
   Input was required from site operators in this category.

7. Site exceptions.
   This section again required input from operators and was designed to account for any exceptional activity or a-typical activity on site.

As with the alert system, this scheme has been integrated into the Tata Steel particulate response. Updates to this scheme are currently being implemented in order to make its completion more efficient allowing for easier availability across this site. Results to date have been encouraging showing a high level of accuracy in the prediction of an exceedance.

While this system is currently only available to site operators on the integrated steelworks it could potentially be rolled out to members of the public living close to monitoring stations within Scunthorpe.

Action Reference: B4
Action: Provide information to the public through publicity campaigns about how they can improve air quality from domestic situation e.g. bonfires and heating fuels
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: June 2008
Progress: Complete

North Lincolnshire Council has run a number of articles through its Direct Magazine designed to inform members of the public about air quality and their impact upon it. This is seen as the most efficient way of communicating issues to members of the public as well as offering advice to improve activities that may have a negative impact on local air quality. Below is a table of articles published in direct magazine.

Direct Issue	Article Title	Content
February 2008	Don't Choke on Smoke	Smokeless Zones, AQMA, Domestic Chimneys.
May 2008	The Burning Issue Good Neighbour Rules	Burning of Domestic Waste, Statutory Nuisance
August 2008	Environmental Action	Smoke Pollution, Fines & Costs, Dark Smoke
October 2008	A Breath of Fresh Air?	NLC AQ Website, Indicator Pollutants, Review & Assessment
November 2008	Remember, Remember	Bonfire Safety, AQ Impact, Attendance at Organised Events

Table 3: Direct Magazine Articles

All of the above articles can be found within the appendix of this document. Further articles are planned as part of an ongoing program.

Section C: Bonfires & Non-Permitted Process Emissions

Action Reference: C1
Action: Raise profile & encourage attendance at organised community bonfire celebrations rather than individual bonfires.
Lead Role: North Lincolnshire Council
Impacts: Accident reduction, Low AQ impact.
Cost: Low
Timescale: November 2008
Progress: Complete

As discussed in action reference B4 a number of leaflets and publications have printed advice on bonfire celebrations. This comes from not only an air quality point of view but also from a health and safety perspective.

Figure 1 Direct Magazine – November 2008

Action Reference: C2
Action: Conduct a publicity campaign advising commercial organisations about their legal obligations in relation to their waste arisings with particular reference to burning of trade waste. To be conducted in co-operation with the Environment Agency.
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: April 2008 and ongoing
Progress: Complete

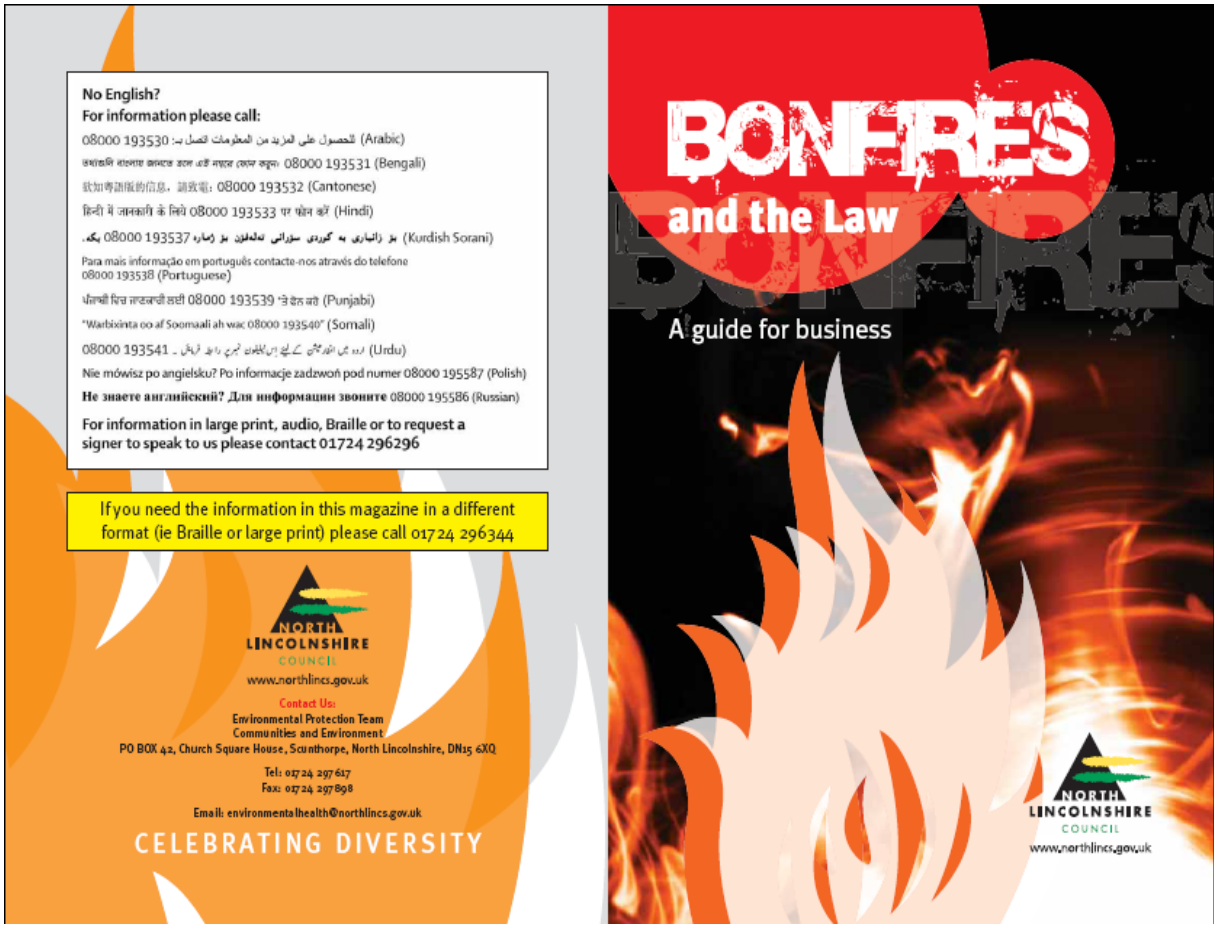

Figure 2 North Lincolnshire Council Bonfire Leaflet

North Lincolnshire Council issued this leaflet in 2008 designed to inform local businesses in relation to their trade waste obligations. The leaflet outlines:

- Bonfires and Air Pollution
- Bonfires and the Law
- Case Studies of Prosecuted Companies
- Definitions of Business Waste

Copies of this leaflet were delivered to all local businesses and continue to be distributed as a matter of course during the investigation of complaints. A copy of this leaflet can be found within the appendix of this document.

Action Reference: C3
Action: Complaints in respect of dust and smoke from commercial premises (not regulated under IPPC regime) will be investigated as a priority and enforcement action taken in accordance with the enforcement policy.
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: Ongoing
Progress: Ongoing

All dust and smoke complaints are investigated as a priority. Since 2008 North Lincolnshire Council has investigated a number of incidents reported by officers of

the council and members of the public. Below is a table of incident frequency across North Lincolnshire by category:

Incident Type	Dates Inclusive	Number of Incidents
Dust from a PPC Installation	01/01/2008 to 06/09/2011	13
Dust from Tata Steel	01/01/2008 to 06/09/2011	34
Trade bonfires	01/01/2008 to 06/09/2011	187
Smoke from a PPC Installation	01/01/2008 to 06/09/2011	3

Table 4 Smoke and Dust Incident Frequency

The above table indicates the commitment of the Environmental Protection Team in responding to dust and smoke from commercial premises. The above incidents have resulted in 7 simple cautions and 12 prosecutions. It is the intention of North Lincolnshire Council to continue in the pursuit of commercial offenders. Publicity of the prosecutions has seen a dramatic reduction in overall incidents in the last 12 months.

Action Reference: C4
Action: Identify current road sweeping schedules within the Scunthorpe AQMA and realign schedules as appropriate to minimise resuspended dust emissions from areas such as Brigg Road
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: Summer 2009
Progress: Ongoing

Brigg Road was identified as an area of high priority prior to the submission of the Action Plan in 2008. Given the nature of the vehicles using Brigg Road and, in many cases where the vehicles have come from, Brigg Road is swept on a once weekly schedule. Roads directly off Brigg Road are also treated as priorities and swept as appropriate.

There are no plans for this schedule to change and roads adjacent to the Integrated Steelworks boundary will continue to be cleaned at regular intervals or following specific requests.

Action Reference: C5
Action: Conduct a publicity campaign advising local residents the implications of living in a domestic smoke control area and encourage people to complain if they are affected by smoke from domestic chimneys.

Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: Ongoing
Progress: Ongoing

As with Action C1 an article was published within the North Lincolnshire Council Direct Magazine. The purpose of this article was to inform residents of their obligations regarding domestic fuel use and waste removal. The full article can be viewed in the appendix of this document.

Figure 3: Direct Magazine – February 2008

Action Reference: C6
Action: Complaints in respect of domestic smoke control will be investigated as a priority and enforcement action taken in accordance with the enforcement policy.
Impacts: Low
Cost: Low
Timescale: Ongoing
Progress: Ongoing

North Lincolnshire Council has made domestic smoke control complaints a priority. Since 2007 North Lincolnshire Council has investigated 512 incidents.

Section D: Industry

Action Reference: D1
Action: The Council will organise a strategic air quality management meeting with other relevant organisations with an interest in air quality issues, including the Health Protection Agency, Primary Care Trust and the Environment Agency. The purpose of the group will be to identify key air quality issues and agree measures for reduction. Meetings to be scheduled approximately quarterly.
Lead Role: North Lincolnshire Council, Health Protection Agency, Primary Care Trust and the Environment Agency
Impacts: High
Cost: Low
Timescale: Ongoing
Progress: Ongoing

North Lincolnshire Council arrange strategic meetings involving Council Service Directors and Officers, Environment Agency, Health Protection Agency and the Director of Public Health. The purpose of these meetings is to discuss monitoring results, review progress and set priorities across the stakeholder organisations. The frequency of these meetings has been reduced to six monthly to coincide with the Local Industry Forum. The meeting now has an opportunity to assess each operator's improvements enabling a strategic appraisal of each site with the relevant regulatory bodies.

A further technical meeting to discuss monitoring results around the Low Santon area has also been set up. This meeting is attended by AEAT, National Physics Laboratory, Environment Agency, North Lincolnshire Council, Tata, Tarmac, DEFRA, Lancaster University and Leeds University. As a result of these meetings a number of initiatives have been put in place in order to reduce the impacts of the Integrated Steelworks. These initiatives have been incorporated into the 2011 Low Santon Action Plan.

Action Reference: D2
Action: Set up a Local Industry Forum involving the Environment Agency, North Lincolnshire Council and Local Industry representatives with the potential to emit PM_{10}. The purpose of the group is to identify key issues, agree measures for reduction of PM_{10} and formulate a memorandum of understanding between all industrial operators particularly in respect of issues falling outside the scope of permitting. Meetings to be scheduled approximately every six months. This group may include representatives from other steelwork area sites (Council, EA and Tata)
Lead Role: North Lincolnshire Council
Impacts: High
Cost: Low
Timescale: Low
Progress: Ongoing

The Local Industry Forum was designed to bring all interested parties around the table and share monitoring results and discuss views on the likely origins of the problems. It is an opportunity for local industry to share best practice and report on ongoing site improvements with other local operators.

The first meeting was held in July 2007 and has run six monthly ever since. Representatives from other steelworks have attended as well as high level officers at the Environment Agency.

Action Reference: D3
Action: Formulate an industry overview for the integrated steelworks site. Identifying process areas, haul routes, vehicle flows and operating hours to consider in conjunction with monitoring data. Identify areas of responsibility within general areas of the steelworks site, areas outside the permit regime and regulatory responsibility for the same.
Lead Role: North Lincolnshire Council
Impacts: Medium
Cost: Low
Timescale: Ongoing
Progress: Ongoing

The Environment Agency carried out a PM_{10} review of the Tata and Harsco operated areas of the Integrated Steelworks during 2010. North Lincolnshire Council also carried out a PM_{10} review of the processes under its regulation; Tarmac and Civil and Marine. Further to this, areas of the integrated steelworks site that had otherwise fallen outside of the process boundaries of the relevant site permits were identified with including measures to control issues. The conclusions of these reviews identified regulatory shortfalls at each site. Many areas on the Tata Works were identified as falling short of Best Available Technique (BAT). Work to identify the sources on site continue. A number of initiatives have been put in place following actions set by the Technical Working Group. Ongoing investigations and work to date include:

- Daily episode reviews
- 5 day weather forecast risk assessment
- Alert system
- 'Tea-break' report
- Review and assessment reports including Further Assessment at Low Santon
- Modelling of PM_{10} at Low Santon

All possible parameters have been considered against monitoring data captured at Low Santon. All of the above work has been brought together within the Further Assessment of PM_{10} at Low Santon which has been used to inform the 2011 Low Santon Action Plan. These documents are available on the North Lincolnshire Council air quality website – www.nlincsair.info

Action Reference: D4
Action: Continue to lobby central government in relation to permitting of mobile plant and look to identify improved mechanisms of regulation and enforcement.
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: 2008
Progress: Ongoing

North Lincolnshire Council has corresponded with a number of parties over this matter. Unregulated areas of the Integrated Steelworks site in which permitted crushers are located have been identified as sources of PM_{10}.

A letter was sent to DEFRA in 2007 highlighting the issue and raising concerns over future regulation. The intended outcome of this process was a working group charged with a greater understanding of responsibility within these areas and an action plan to ensure their emissions were reduced. The Environment Agency, Tata Steel, Neath Port Talbot Council and North Lincolnshire Council have all been involved in dealing with these issues.

Action Reference: D5
Action: Ensure that the requirements of the PPC permitting regime are appropriately enforced with inspections prioritised on a risk basis taking account of PM_{10} emissions. Regulators will work closely with process operators to minimise PM_{10} emissions and seek long term solutions to address dusty operations.
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Potential to be high
Timescale: Ongoing
Progress: Ongoing

Industrial processes subject to an EPR permit within the AQMA are a major focus for North Lincolnshire Council. Processes likely to give rise to PM_{10} emissions are the responsibility of two officers with a solid understanding of the air quality issues within the area. These processes include a foundry, roadstone coating plant and a carbon storage facility. These sites have all had recent permit reviews ensuring each site meets BAT with the exception of the roadstone coating plant which is the subject of a review which may result in the possible transfer to EA regulation.

There are a number of further sites within the AQMA that pose a lesser risk in terms of PM_{10} emission. All sites are inspected in a timely manner and their permits are reviewed every six years as per DEFRA instruction. Tarmac Low Santon, being the site closest to the area of exceedance, has focused a lot of effort into reducing its impact. As a result of the PM_{10} review carried out by North Lincolnshire Council, Tarmac have actioned a number of improvements including:

- Site wide hard surfacing
- Spray bars at major vehicle junctions
- Wheel washes
- Bunding (wind deflection)
- Housing of dusty processes
- Dust suppression foam within crushers
- Raw material transfer changes
- Focused site boundary misting system

All of these changes can be found within the attached 2011 Action Plan for Low Santon which includes all operator completed and forthcoming operator improvements.

Further improvements are still required to ensure ongoing compliance yet major steps have been taken across EPR sites within the 2005 AQMA.

Action Reference: D6
Action: Ensure permits issued under LA-IPPC are reviewed in accordance with guidance, with particular attention to processes within the AQMA with the potential to emit PM_{10}.
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: Ongoing
Progress: Ongoing

See action reference D5. All permits have been reviewed within the correct timescales.

Action Reference: D7
Action: Work with local industry and EA towards the development of relevant measurable indicators of changes in significant emissions of PM_{10}
Lead Role: North Lincolnshire Council, Environment Agency & Local Industry
Impacts: Low
Cost: Potential to be high
Timescale: 2009
Progress: Ongoing

Developments within this action have been the result of technical discussions at the Low Santon Technical Working Group. It was the remit of the group to provide advice to local operators regarding where best to focus capital. Due to the volume of data within the North Lincolnshire Council Air Quality Network it was considered that we were data rich without any solid focus. A number of pieces of work have enabled directed improvements at areas on site known to be areas creating PM_{10}.

The focus of the Technical Working Group has identified areas in which these changes have made a real difference.

Indicators to date have included:

- Daily episode reviews
- Comparison of raw TEOM data year on year
- Exception analysis
- Normalise specific wind directions and speed

Further details regarding these indicators can be found within the minutes of the Low Santon Technical Working Group located within the appendix of this document.

Action Reference: D8
Action: Work with local industry and EA to develop targets for the reduction of the area covered by the AQMA so that the number of properties affected will be reduced.
Lead Role: North Lincolnshire Council, Environment Agency & Local Industry
Impacts: High
Cost: Potential to be high
Timescale: 2010
Progress: Ongoing

The overall reduction of PM_{10} concentrations has been the focus of all the parties involved. Investigations are taking place in to the overall reduction of the 2005

AQMA. Evidence in order to justify this reduction is being gathered using a network of Osiris monitors placed at strategic locations to compliment the existing permanent monitoring stations. The Osiris monitors have been deployed at previously unmeasured areas of the AQMA in order to fully understand concentrations throughout what is a large AQMA incorporating a number of residential properties.

These investigations have highlighted that concentrations close to the boundary of the Integrated Steelworks are still very high and warrant the AQMA but as the distance increases from the boundary the likelihood of exceedance reduces. The current AQMA has been zoned to incorporate this new information to inform the planning process and prohibit residential development within 600m of the Works boundary. This was combined with previous modelling information submitted to the Environment Agency by Tata to produce an agreed Zone 1. Areas beyond this zone but still within the AQMA are known as Zone 2 and residential development shall only be permitted following the submission of an Air Quality Assessment.

This piece of work is continually evolving as new data is captured. A copy of the current zone map can be found within the appendix of this document. It is intended that this piece of work will form a supplementary planning document.

Section E: Development Control

Action Reference: E1
Action: The impact of development within the Air Quality Management Area shall be considered in relation to air quality. Exposure of new receptors or the introduction of significant new sources of PM_{10} will need to be appropriately addressed until such time as action E2 has been completed.
Lead Role: North Lincolnshire Council
Impacts: High
Cost: Low
Timescale: Short Term
Progress: Ongoing

All development within the AQMA has been appropriately addressed and continues to be so following the completion of E2. The Environmental Protection Team considers each application on an individual basis. If a commercial activity is the subject of the application its likely impact on air quality is scrutinised. If there will be a negative impact on air quality and in particular PM_{10} concentrations the recommendation will be appropriate mitigation or refusal. If the building of domestic dwellings is the subject of an application, monitoring results at nearby stations are considered.

Action Reference: E2
Action: Develop a Supplementary Planning Document (SPD), which identifies the constraints and mitigation to development within the Air Quality Management Area
Lead Role: North Lincolnshire Council
Impacts: High (for new sites)
Cost: Directly low, indirectly high
Timescale: April 2009
Progress: Ongoing

In order to inform both the spatial planning and development control process it was agreed that further guidance was required to quantify constraints to residential development within the 2005 Scunthorpe Air Quality Management Area. The boundary of the Integrated Steelworks Works was used as a guide. A number of significant processes lie within the boundary of the site, some may pose a more significant risk than others. Investigations are currently ongoing to identify the relative importance of specific plants / site areas on PM_{10} concentrations within Scunthorpe

An initial report was issued in May 2010 using existing monitoring data and modelling carried out by Tata Steel. The modelling data produced by Tata identifies areas within Scunthorpe that are likely to exceed the air quality objectives. The modelling is primarily based on emissions from point sources on the site, as the understanding of fugitive emissions has increased through data capture it is generally accepted that the contours of this work do not fully cover areas of exceedance. Monitoring data was used to refine these zones following a number of Osiris placements designed to fill in the gaps.

After the data was brought together the AQMA was spilt into 3 zones. This has now been refined to two zones following a number of successful and compliant ambient monitoring periods. Zone 1 restricts residential development. Zone 2 allows residential development following the submission of an appropriate AQ assessment. Details of this draft document can be found within the appendix of this document.

Section F: Tailpipe Emissions

Action Reference: F1
Action: Review new and existing development sites, to monitor the impact of road, rail, air and water traffic and their emission levels.
Lead Role: North Lincolnshire Council
Impacts: High
Cost: Low
Timescale: Short Term
Progress: Ongoing

North Lincolnshire Council is committed to assessing air quality impacts prior to development taking place. This has been further aided by the preparation of the AQMA zoning exercise discussed in action E2.

The Environmental Protection Team act as consultees to all planning applications received by North Lincolnshire Council. A list of planning applications is released by Development Control on a weekly basis. This list is studied for likely environmental impacts, if an issue is identified at a particular site the planning application is passed to the relevant Environmental Protection Officer for comment.

If an air quality issue is identified a number of matters are considered. Should a development be detrimental to air quality within a known area of exceedance then the Council takes account of the AQ when determining the application.

Action Reference: F2
Action: Implementing bus priority measures as appropriate at new residential developments to help ensure that public transport is a quicker and more direct transport than the car
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Medium
Timescale: Ongoing
Progress: Ongoing

Since the submission of this Action Plan two major residential developments have been built or are in the process of being built; the Lakeside Housing Development and the Gallagher Retail Park Development.

There are excellent existing public transport links around the Lakeside Housing estate given the location close to a busy retail park. The whole development has a number of bus stops which have been added to existing routes.

The planning consent for the Gallagher Park Residential Development does not include a requirement for the developer to implement bus priority measures. There is a condition however requiring them to subsidise new bus services for a five year period. This development is also close to a retail park and already has excellent public transport links.

Action Reference: F3
Action: The main measures to implement are improving facilities for pedestrians and cyclists, school and workplace travel planning, promotional work such as travelwise, implementation of school safety zones, bus and infrastructure enhancements and simplification of the network, ticketing in Scunthorpe and the main rural routes and managing our car parks and tariff structure.
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: High
Timescale: Ongoing
Progress: Ongoing

All of the above are covered within the most recent Local Transport Plan (LTP3) which can be found at:

http://www.northlincs.gov.uk/NorthLincs/Transportandstreets/transportplanning/LocalTransportPlan20112026.htm

Action Reference: F4
Action: The implementation of an urban traffic control system will assist the traffic manager in delivering a smoother flow of traffic in the urban area of Scunthorpe and reduce levels of congestion. This has been programmed for delivery during the period of this and the next Local Transport Plan
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: High
Timescale: Ongoing
Progress: Ongoing

Phase 1 of the Urban Traffic Control System has been installed from Angerstein Road north to Pittwood House (via Messingham Road, Ashby Turn and Ashby Road) all close to Scunthorpe Town Centre.

The plan is to expand the system to other areas in North Lincolnshire, however this is dependent upon future funding and also political commitment.

Action Reference: F5
Action: Reducing incidents of dangerous driving and enforcing compliance with speed limits will also help maintain a smooth flow of traffic and minimise sudden braking acceleration
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Medium
Timescale: Ongoing
Progress: Ongoing

The overall responsibility of reducing dangerous driving is handled by the North Lincolnshire Road Safety Partnership. The North Lincolnshire Road Safety Partnership was established to; Significantly reduce the numbers of people killed and seriously injured on roads in North Lincolnshire, raise public awareness of road safety issues, encourage safer driving behaviour through a combination of education, training, publicity and enforcement and to ensure the effective utilisation of resources and a co-ordinated approach to road safety in North Lincolnshire. The partnership brings together all organisations with an interest in road safety to work together to reduce the number of incidents on the area's roads.

These include:

- North Lincolnshire Council
- Humberside Police
- Humberside Fire & Rescue Service
- East Midlands Ambulance Service NHS Trust
- The Highways Agency
- Tata
- The Scunthorpe Telegraph

The partnership aims to; promote safe road use and respect for other users, work with young people to develop skills, understand safe attitudes to the road, provide advice and information on all aspects of road safety, work with local drivers to raise awareness of what causes accidents and encourage respect for all road users, look at ways to improve the roads in North Lincolnshire through engineering safety schemes to reduce casualties and tackle poor driving through enforcement to reduce the risk of casualties.

Action Reference: F6
Action: Through the North Lincolnshire Road Safety and Safety Camera Partnerships we will deliver continued enforcement of speed limits and driving standards
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Medium
Timescale: Ongoing
Progress: Ongoing

See action reference F5.

Action Reference: F7
Action: Through the quality bus partnership we will work with the operators to encourage the replacement of vehicles to the latest European emission standards wherever possible
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: High
Timescale: Ongoing
Progress: Ongoing

North Lincolnshire Council and local bus operators are part of a Quality Partnership. Within this partnership the council has certain responsibilities including; providing bus timetable information for all operators in leaflet form, at stop displays and via the Traveline website, the provision of bus infrastructure, i.e., stops, shelters and kerbs, Helping bus punctuality by providing bus lanes and bus priority measures, subsidise bus services that would not operate commercially, particularly in rural areas where it is harder for private operators to make a profit.

Action Reference: F8
Action: A fleet of vehicles that are powered by LPG already operates (predominantly in waste management), we will continue to update and operate our fleet vehicles to use more environmentally friendly forms of fuel. Particulate traps on our vehicles are also used and we will continue to promote their use to reduce particulate matter
Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: Ongoing
Progress: Stopped

North Lincolnshire Council does not operate any LPG fuelled vehicles and there are no plans to introduce any.

Particulate traps are also now not required given the advances made in engine technology and the current Euro IV class engines. The Council used to retrospectively fit these to large goods vehicles when the exhaust PM_{10} emissions were at 0.15 - 0.1 g/kWh (Euro II - III standards) as the cost of the particulate trap was offset by a reduction in vehicle excise duty as these vehicles were issued with a reduced pollution certificate. Since the introduction of EURO IV PM_{10} emissions have been reduced to 0.02 g/kWh on the production line.

North Lincolnshire Council has just completed a green fleet review. Further details on the current fleet can be found on the North Lincolnshire Council website: www.northlincs.gov.uk

Action Reference: F9
Action: The council will aim to**:**

- Reduce traffic flows through promotion of sustainable travel and demand management measures
- Reduce transport related emissions by reducing traffic flows and making more efficient use of the network
- Deliver environmental improvements
- Improve the street scene
- Make communities places where people want to live

Lead Role: North Lincolnshire Council
Impacts: Low
Cost: Low
Timescale: Ongoing
Progress: Ongoing

All of the above are covered within the most recent Local Transport Plan (LTP3) which can be found at:

http://www.northlincs.gov.uk/NorthLincs/Transportandstreets/transportplanning/LocalTransportPlan20112026.htm

Conclusions & Further Work

Since the submission of the Action Plan in 2008 understanding of the sources involved in particulate generation has changed. This is the result of a number of focused workshops and reports designed to interrogate the vast quantity of data North Lincolnshire Council has captured.

Many of these focused workshops have been the result of actions planned within the original document. These workshops have helped in the identification of sources on and around the Integrated Steelworks site allowing for capital expenditure to be directed at areas making the greatest particulate contribution. Consistent quality monitoring has also helped this process as directed within action A1.

Following the declaration of the 2005 AQMA work continued to identify sources. The introduction of a monitoring station at Low Santon identified a further area of daily mean exceedance and an annual mean exceedance. Many of the actions within this plan are now relevant to the Low Santon area.

Air Quality Monitoring and Reports
North Lincolnshire Council continues to run a large air quality monitoring network. This has enabled many of the actions presented in the plan to be completed given the quality data it captures. The network is an evolving entity and changes according to current understanding. Air quality reports continue to be completed in a timely manner and are public available. A number of joint projects ensure that resources are focussed to achieve the most effective outcomes.

Information to the Public
North Lincolnshire continues to offer a specific air quality website giving the public an opportunity to see real time data at stations near to their properties. New methods in which to present the data to the public are being investigated with pilots in real time alerts and forecasting being offered to local industry as a trial. All reports are available on the North Lincolnshire Council air quality website ensuring the public can stay up to date with current understanding and strategy.

Bonfires & Non-Permitted Process Emissions
North Lincolnshire Council continues to educate the public on the health impacts of incorrect trade waste disposal. A number of publicity campaigns highlighting the correct disposal, health impacts and penalties for non-compliance have led to an overall reduction of trade bonfires within the area. North Lincolnshire Council has shown a commitment to prosecuting persistent offenders again reducing the overall number of offences.

Industry
North Lincolnshire Council continues to work closely with industry to achieve efficient reductions in particulate concentrations within the AQMA. Local industry representatives are involved in a number of meetings that continue to help us understand what is being done and the best way to tackle the issues. The Environmental Protection Team continue to effectively regulate local Part A2 and B processes ensuring their activities are not detrimental to particulate loading within the area.

Development Control

North Lincolnshire Council see it as a priority to prevent the introduction of further receptors in to the AQMA as well as allowing particulate generating activities in to the area. The Environmental Protection Team continues to review air quality and its impact on development control.

Tailpipe Emissions

Given the nature of the issue within the Scunthorpe wide AQMA tailpipe emissions have not been the focus of much of the ongoing work within Scunthorpe. North Lincolnshire Council is still focused on controlling its emissions where possible as well as ensuring traffic associated with new developments is kept to minimum.

It is the intention of North Lincolnshire Council to continue to follow this Action Plan. A overall reduction in exceedances within the AQMA can in part be attributed to the continued commitment to the plan. Further actions will be presented within the forthcoming Low Santon Action Plan which will primarily be the responsibility of operators on the Local Integrated Steelworks. It is hoped that this will have an impact site wide so the benefits will be seen across the works and ultimately the AQMA.

Appendix

1. Alert Threshold Justification
2. North Lincolnshire Council Direct Magazine Articles
3. North Lincolnshire Council Bonfire Leaflet
4. Low Santon Technical Working Group Minutes
5. Scunthorpe AQMA Zone Map
6. Scunthorpe AQMA Zoning Document