WEST DUNBARTONSHIRE COUNCIL

Report by the Acting Director of Housing, Regeneration and Environmental Services (Land & Environmental Services)

Community Safety & Environmental Services Committee: 7 February 2007

Subject: Air Quality Monitoring, John Knox Street, Clydebank

1. Purpose

1.1 To inform the Committee of the results of air quality monitoring at John Knox Street, Clydebank.

2 Background

2.1 The UK government and Devolved Administrations published the Air Quality Strategy for England, Scotland, Wales and Northern Ireland in January 2000. It sets National Objectives for eight key air pollutants. They are Benzene, 1,3-butadiene,Carbon Monoxide, Lead, Nitrogen Dioxide, Particles (PM_{10} Gravimetric) Sulphur Dioxide and Ozone. Local Authorities are charged with the task of working towards meeting the objectives for first seven of these pollutants. Ozone is excluded from Local Authority activity.

2.2 In late September 2005 in response to reports from the local community that planes landing at Glasgow airport regularly discharge fuel over the area an air quality monitoring station was installed in John Knox Street, Clydebank. The unit was located directly underneath the flight path serving Glasgow Airport to establish the veracity of the allegations.

2.3 The unit carries out real-time monitoring of Nitrogen Dioxide (NO_2), Particulate Matter (PM_{10}), Total Hydrocarbons, Methane and Non-Methane Hydrocarbons. The data captured by the unit is downloaded to a dedicated computer in the Environmental Health Office. The data is screened, scaled and validated by AEA Energy and Environment on behalf of West Dunbartonshire Council.

3. Main Issues

3.1 A report to the Community Safety and Environmental Services Committee on 1 June 2005 provided information on the amount of data gathered in 2005. This data was included in the Councils 2006 Air Quality Update and Screening Assessment which was submitted to the Scottish Executive for approval. The Executive concluded that the report was thorough, accepted the conclusions reached and copies of this report were placed in members rooms. It should be noted however that the report to the Executive did not include results of hydrocarbon monitoring as hydrocarbons are not covered by the National Air Quality Strategy.

3.2 The results of air quality monitoring for NO_2, PM_{10} and hydrocarbons from the John Knox Street monitoring station are shown in Appendix 1. The PM_{10} and NO_2 monitoring units were removed from the site in November 2006.

3.3 The National Objectives for NO_2 and PM_{10} were met at the site but the 24-hour PM_{10} objective of 50µg/m^3 was exceeded on one occasion. This exceedence occurred on 8 May 2006 and was directly attributable to forest fires in Russia associated with easterly air flows affecting Scotland. Information taken from the John Knox Street air quality monitoring unit showing how the fires affected West Dunbartonshire is included as Appendix 2.

3.4 Hydrocarbon monitoring results at the site are consistent with UK background levels. The levels recorded are steady throughout the year. There is no evidence to support the allegation that planes flying overhead regularly dump fuel as they approach the airport. The results of hydrocarbon monitoring are shown in Appendix 3.

3.5 A full year of data at the John Knox Street site has shown that the National Objectives for NO_2 and PM_{10} are being complied with. The NO_2 and PM_{10} units were removed from the site in November and will be relocated at Kilbowie Roundabout in the near future. This intention was stated in the 2006 Update and Screening Assessment and was endorsed by the Scottish Executive.

4. Personnel Issues

4.1 There are no personnel issues.

5. Financial Implications

5.1 A £40,000 grant was provided by the Scottish Executive in April 2005 for funding the purchase and installation of the air quality monitoring unit and equipment at John Knox Street. A further grant of £41,500 was awarded in March 2006 part of which has been used to purchase a five year service contract for the unit.

6. Risk Analysis

6.1 There are no risks associated with the content of this report.

7. Conclusion

7.1 The results from the air quality monitoring station in John Knox Street indicate that monitoring of hydrocarbons has revealed that levels at the station remain constant and are no higher than the background levels.

8. Recommendation

8.1 The Committee is invited to note the content of this report.

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Date: 12 January 2007

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Appendices:

Appendix 1 Table comparing PM_{10} & NO_2 levels at John Knox Street against National Objectives

Appendix 2 Graph demonstrating West Dunbartonshire Council's experience of PM_{10} incident in May 2006

Appendix 3 Graph demonstrating hydrocarbon levels recorded at John Knox Street (1 January to 31December 2006)

Background Papers: Air Quality Update & Screening Assessment 2006 Report to the Community Safety & Environmental Services Committee on 1 June 2005

Wards Affected: 1 and 5

Appendix 1

Produced by AEA Energy & Environment on behalf of West Dunbartonshire

WEST DUNBARTONSHIRE JOHN KNOX ST
01 January to 20 November 2006

These data are provisional from 01/01/2006 and may be subject to further quality control

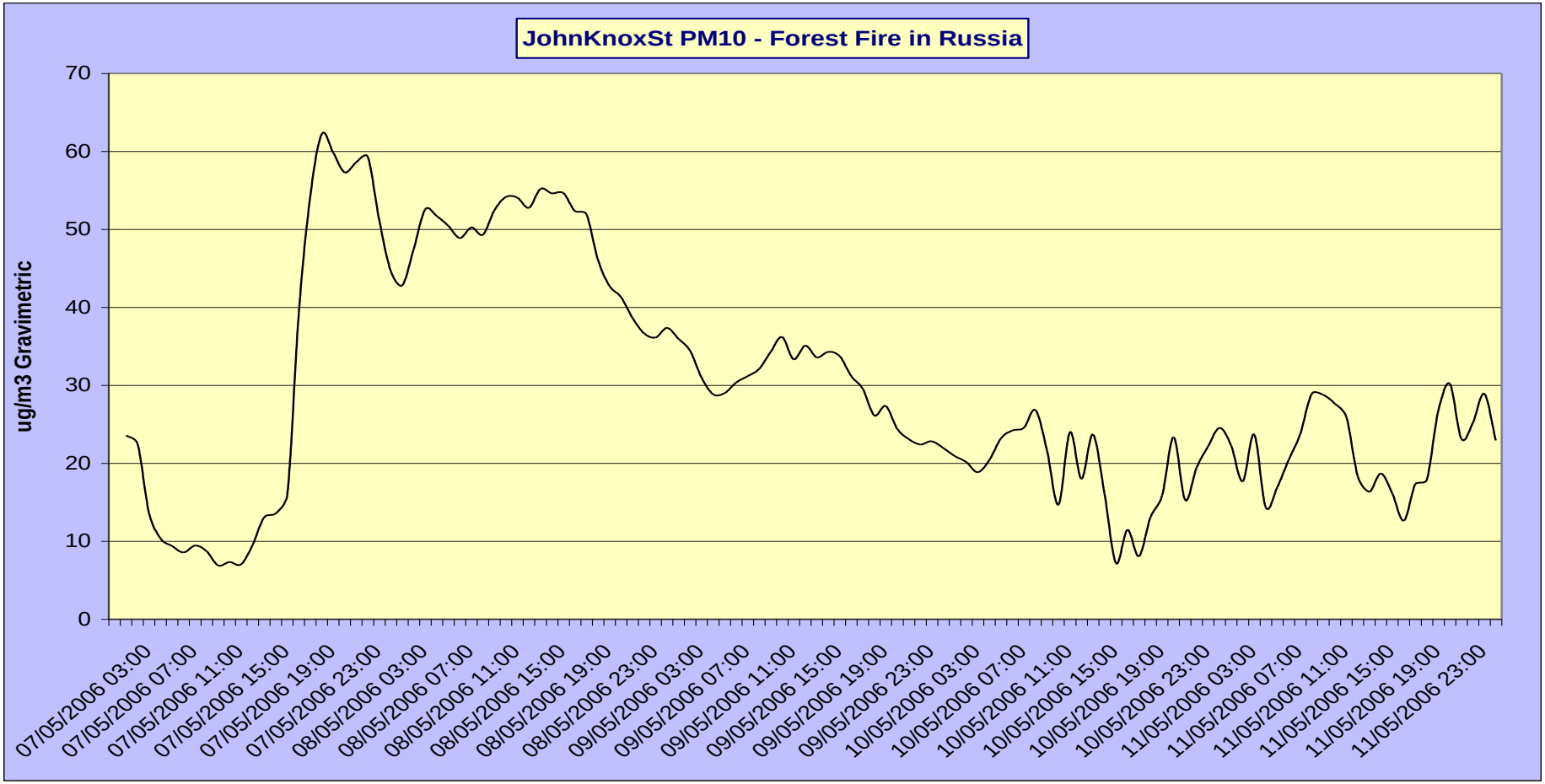
POLLUTANT	NO_2	PM_{10}+	PM_{10}*+
Number Very High	0	0	-
Number High	0	0	-
Number Moderate	0	8	-
Number Low	7735	7373	-
Maximum 15-minute mean	399 µg m^{-3}	309 µg m^{-3}	402 µg m^{-3}
Maximum hourly mean	96 µg m^{-3}	144 µg m^{-3}	187 µg m^{-3}
Maximum running 8-hour mean	83 µg m^{-3}	64 µg m^{-3}	83 µg m^{-3}
Maximum running 24-hour mean	70 µg m^{-3}	53 µg m^{-3}	69 µg m^{-3}
Maximum daily mean	67 µg m^{-3}	48 µg m^{-3}	63 µg m^{-3}
Average	19 µg m^{-3}	13 µg m^{-3}	17 µg m^{-3}
Data capture	99.5 %	94.9 %	94.9 %

* PM_{10} in gravimetric units
\+ PM_{10} instrument is a TEOM
All mass units are at 20'C and 1013mb
NO_X mass units are NO_X as NO_2

Pollutant	Air Quality Regulations (2000) and Air Quality (Scotland) Amendment Regulations 2002	Exceedences	Days
Nitrogen Dioxide	Annual mean > 40 µg m^{-3}	0	-
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	0	0
PM_{10} Particulate Matter (Gravimetric)	Daily mean > 50 µg m^{-3}	1	1
PM_{10} Particulate Matter (Gravimetric)	Annual mean > 40 µg m^{-3}	0	-
PM_{10} Particulate Matter (Gravimetric)	Annual mean > 18 µg m^{-3}	0	-

Appendix 2

Trace from WDC Air Quality Monitoring Station demonstrating local air quality during incident



Appendix 3. Graph demonstrating hydrocarbon levels recorded at John Knox Street