

This form will report compliance with your permit as determined by an NRW officer

Site	Tata Steel Port Talbot steelworks	Permit Ref	BL7108IM (as amended)
Operator/ Permit holder	Tata Steel UK Ltd		
Date	18 November 2015	Time in	13.30 Out 16.00
What parts of the permit were assessed	See below		
Assessment	EPR - inspection	EPR Activity:	Installation X Waste Op Water Discharge
Recipient's name/position	Jason Heatman, Lead Environmental Engineer, Tata Steel Port Talbot		
Officers names	DMP Broom, DE Cowie and G Baskerville	Date issued	04 April 2016

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our [Compliance Classification Scheme](#) (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your [local office](#).

Permit Conditions and Compliance Summary

Condition(s) breached

a) Permitted activities	1. Specified by permit	N	
b) Infrastructure	1. Engineering for prevention & control of pollution	N	
	2. Closure & decommissioning	N	
	3. Site drainage engineering (clean & foul)	N	
	4. Containment of stored materials	N	
	5. Plant and equipment	N	
c) General management	1. Staff competency/ training	N	
	2. Management system & operating procedures	A	
	3. Materials acceptance	N	
	4. Storage handling, labelling, segregation	N	
d) Incident management	1. Site security	N	
	2. Accident, emergency & incident planning	N	
e) Emissions	1. Air	A	
	2. Land & Groundwater	N	
	3. Surface water	N	
	4. Sewer	N	
	5. Waste	N	
f) Amenity	1. Odour	N	
	2. Noise	N	
	3. Dust/fibres/particulates	N	
	4. Pests, birds & scavengers	N	
	5. Deposits on road	N	
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	A	
	2. Records of activity, site diary, journal & events	A	
	3. Maintenance records	N	
	4. Reporting & notification	N	
h) Resource efficiency	1. Efficient use of raw materials	N	
	2. Energy	N	

KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk),
A = Assessed or assessed in part (no evidence of non-compliance), N = Not assessed, NA = Not Applicable

Number of breaches recorded

-

Total compliance score
(see section 5 for scoring scheme)

-

If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with directly applicable legislation
- details of any multiple non-compliances
- information on the compliance score accrued inc. details of suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

Site description

Tata Steel UK Ltd (Tata) operates an integrated iron and steel works at Port Talbot, Neath Port Talbot. The site is permitted as an installation under the Environmental Permitting Regulations (EPR). The steelworks has several identifiable permitted processes which are carried out sequentially across the installation to convert raw iron ores and coal to semi finished (slab) and finished steel products (such as hot rolled, pickled and oiled, cold rolled and annealed). The permit also covers coke making and the reception, stockpiling and blending of raw iron making materials. Two other companies, Cambrian Stone and Harsco, undertake separately-permitted slag handling and iron plating activities at the steelworks on Tata's behalf.

Purpose of visit/assessment

To review the releases from the Tata Steel Port Talbot's combustion plants on two PM₁₀ exceedance days in 2016 and compare Tata's data with the Margam Fire Station AURN (air quality) monitoring data.

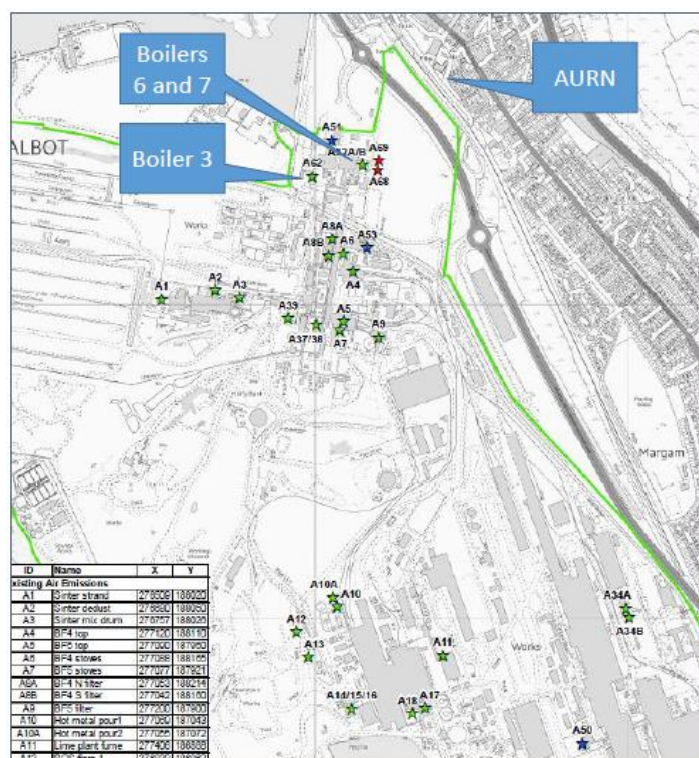
Person(s) present (Office based)

Tata Steel Jason Heatman
Georgina Brooks
Claire Grainger
Mathew Herbert

NRW Mark Broom
Doug Cowie
Guy Baskerville
Andrew Collins

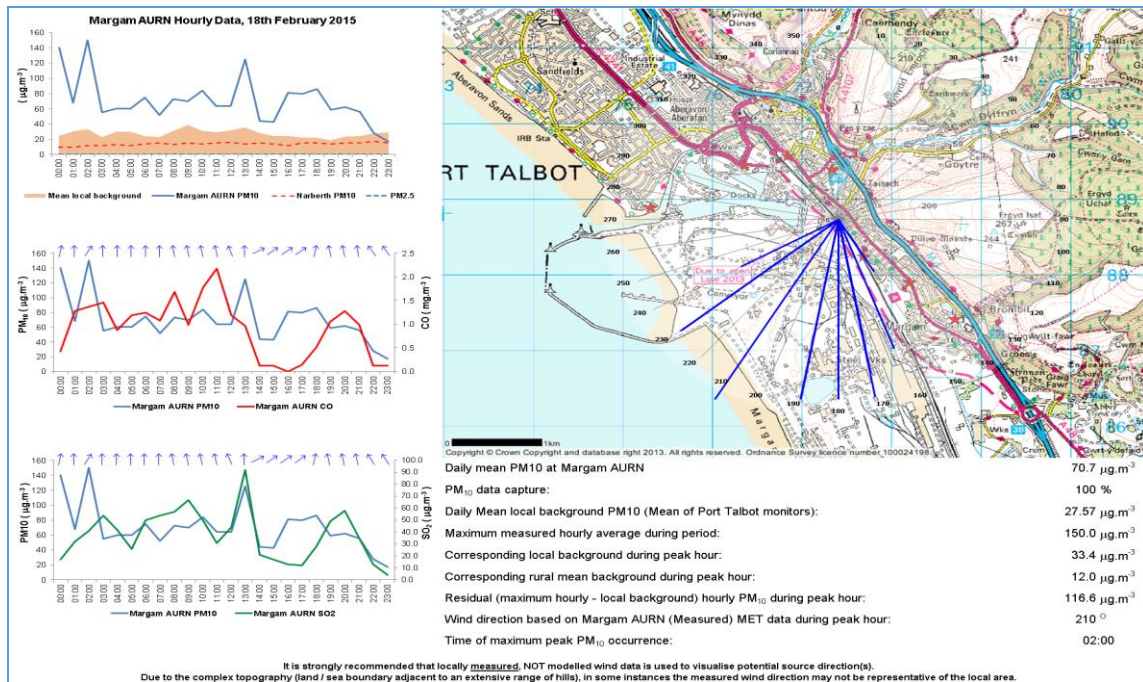
Summary of the work carried out

Two exceedance days were selected: 18 February 2015 and 1 June 2015. Both these days had high recorded levels of carbon monoxide (CO) and sulphur dioxide (SO₂) as well as high levels of PM₁₀. Openair software (<http://www.openair-project.org/>) was used to examine the data from Tata's continuous emissions monitors (CEMs) for combustion plants A52A, A52B and A62 and identify any relationships between the stack (point source) emissions and the monitored AURN data. A map showing the location of the relevant combustion plant stacks is shown below.



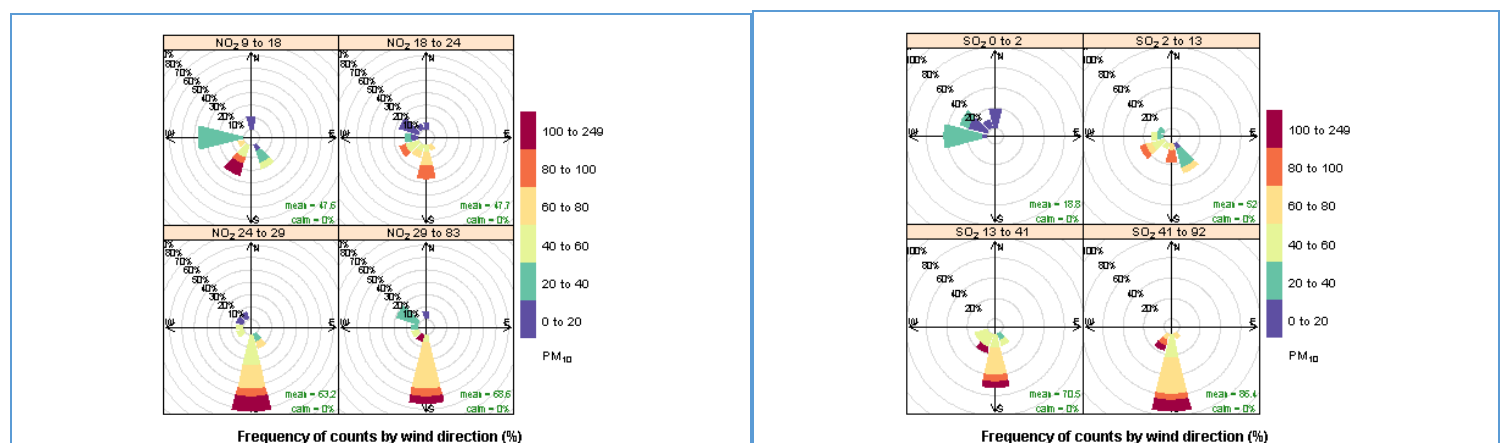
18 February 2015 PM₁₀ exceedance day data analysis

Measured wind data from the Margam AURN monitoring station was inputted into the Openair software tool for the 18 February 2015. The data was cross-referenced with Tata's CEMs emissions data for indicative purposes. The tool was then used to examine directional patterns and trends at the AURN monitoring station that could suggest steelworks contributions for the following measured pollutants (SO₂, NO_x, Particulates and CO).



The above NRW exceedance day data plot shows that PM₁₀ levels measured at the AURN monitoring station are significantly higher than the background levels measured at Narberth, Pembrokeshire, and also significantly higher than the average of the other monitors based in the Air Quality Management Area (AQMA) in Port Talbot. There is a good correlation between PM₁₀ levels and CO and SO₂ levels, with the highest PM₁₀ levels occurring when the wind is emanating from a due south direction, but with other peaks occurring from south-westerly directions. This data plot would suggest that one or more emission sources from a south/south-westerly direction could have contributed significantly to the PM₁₀ exceedance day experienced at the AURN site on 18 February 2015.

The next two plots show how the PM₁₀ levels change at the AURN with increasing concentrations of NO_x (left) and SO₂ (right):

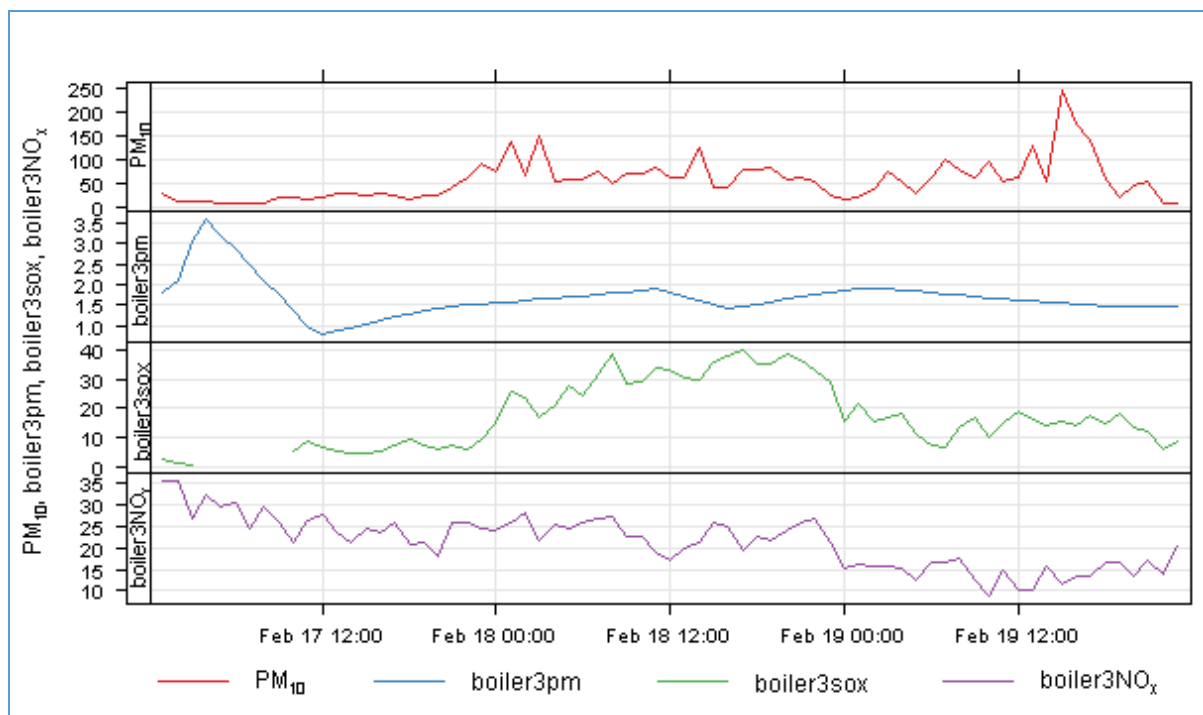


The left-hand pollution rose conditioning plot shows that the highest PM₁₀ concentrations measured at the AURN site are emanating from due southerly directions, and when the NO_x concentrations are in their own highest quantities. This would suggest NO_x levels are linked to the patterns shown by the PM₁₀ exceedance day tool, and would indicate any potential source is process related. The right-hand pollution rose shows a very similar relationship between SO₂ and PM₁₀.

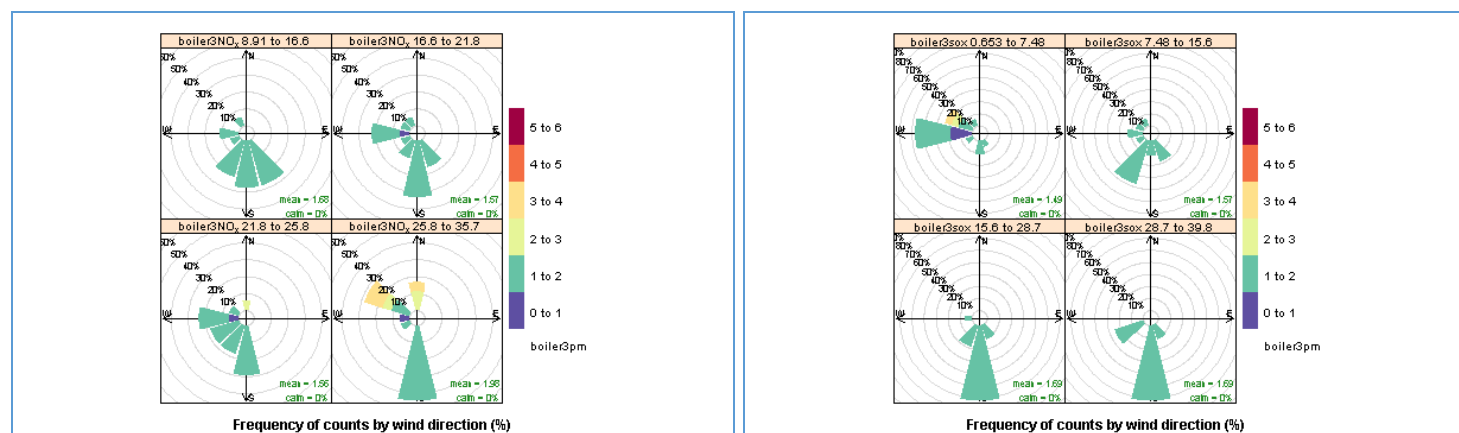
Boiler 3 data analysis

The associated permitted emission point for Boiler 3 is A62 at National Grid Reference SS 7698 9947. At the AURN the bearing towards Boiler 3's stack would be to the south-west at approximately 240°.

The following data plots show the relationship between PM₁₀ at the AURN and SO₂, NO_x and Particulates from Boiler 3's CEMS between 17 – 19 February 2015:



The above time plot shows a comparison of PM₁₀ data measured at the AURN site on 18 February 2015 with particulates and combustion gas concentrations from Boiler 3 at the steelworks. There is no real correlation between any of the parameters.



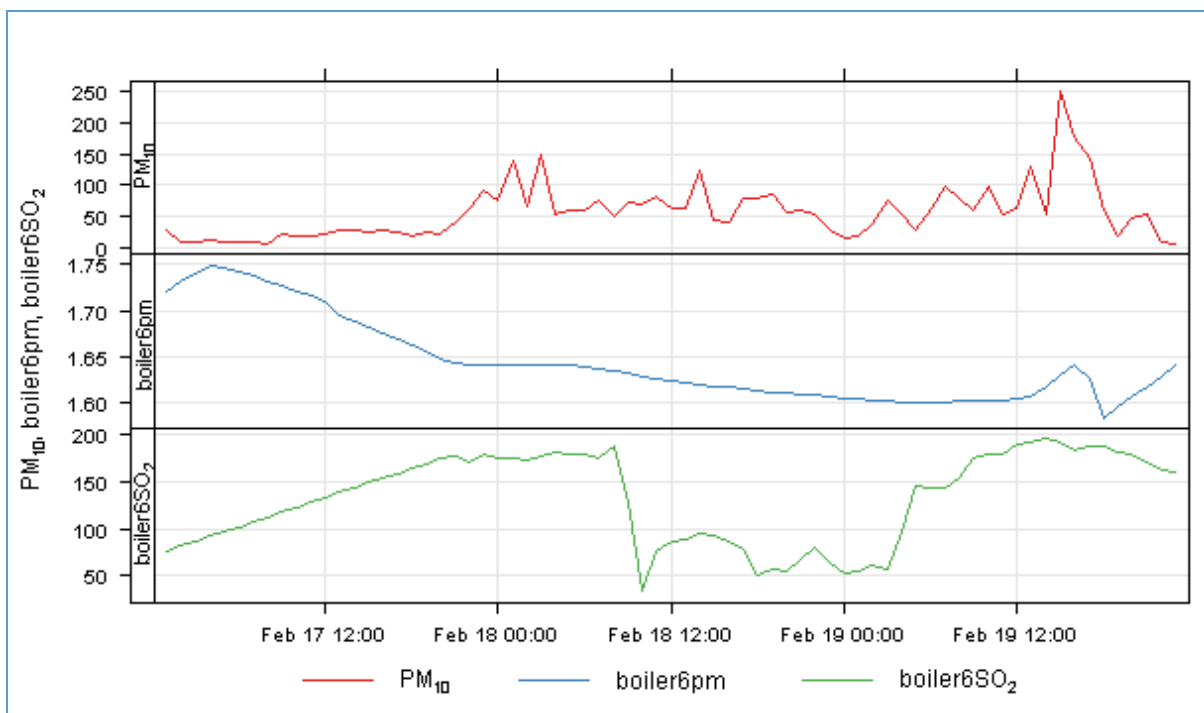
The left-hand plot above shows that the highest frequency of measured particulates emanate from due south, coinciding with the highest NO_x measurements from Boiler 3. It should be noted that higher particulate levels are found from a north/north-westerly direction (yellow colours) whilst the NO_x levels are at their highest, but the frequency of these counts is less. The right-hand plot shows the highest frequency of particulates emanates from a due south direction when SO₂ levels are at their highest.

The concentration ranges of both parameters from Boiler 3 are such it is unlikely they have made a significant contribution to the PM₁₀ exceedance day at the AURN on 18 February 2015.

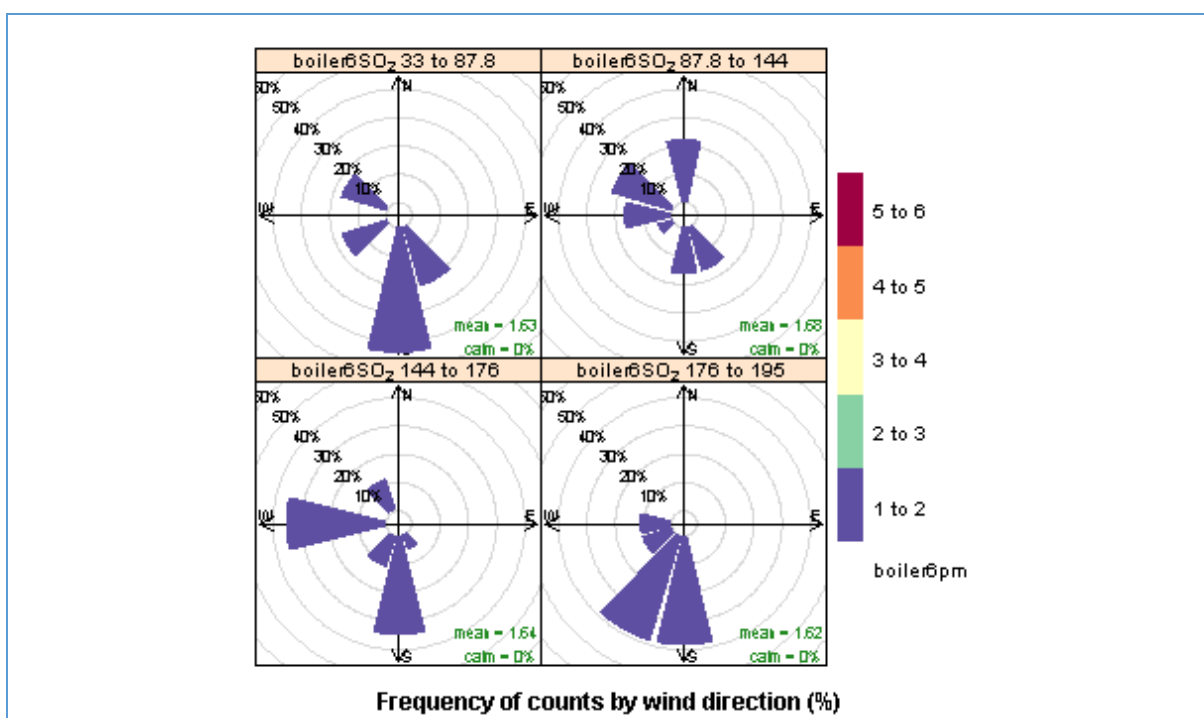
Boiler 6 Data analysis

The associated permitted emission point for Boiler 6 is A52A at National Grid Reference SS 7714 8845. At the AURN the bearing towards Boiler 6's stack (Margam C) would be south-west at approximately 225°.

The following data plots show the relationship between PM₁₀ at the AURN and SO₂ and Particulates from Boiler 6's CEMS between 17 – 19 February 2015:



The above time plot shows a comparison of PM₁₀ data measured at the AURN site on 18 February 2015 with particulates and SO₂ concentrations from Boiler 6 at the steelworks. There is no real correlation between any of the parameters.

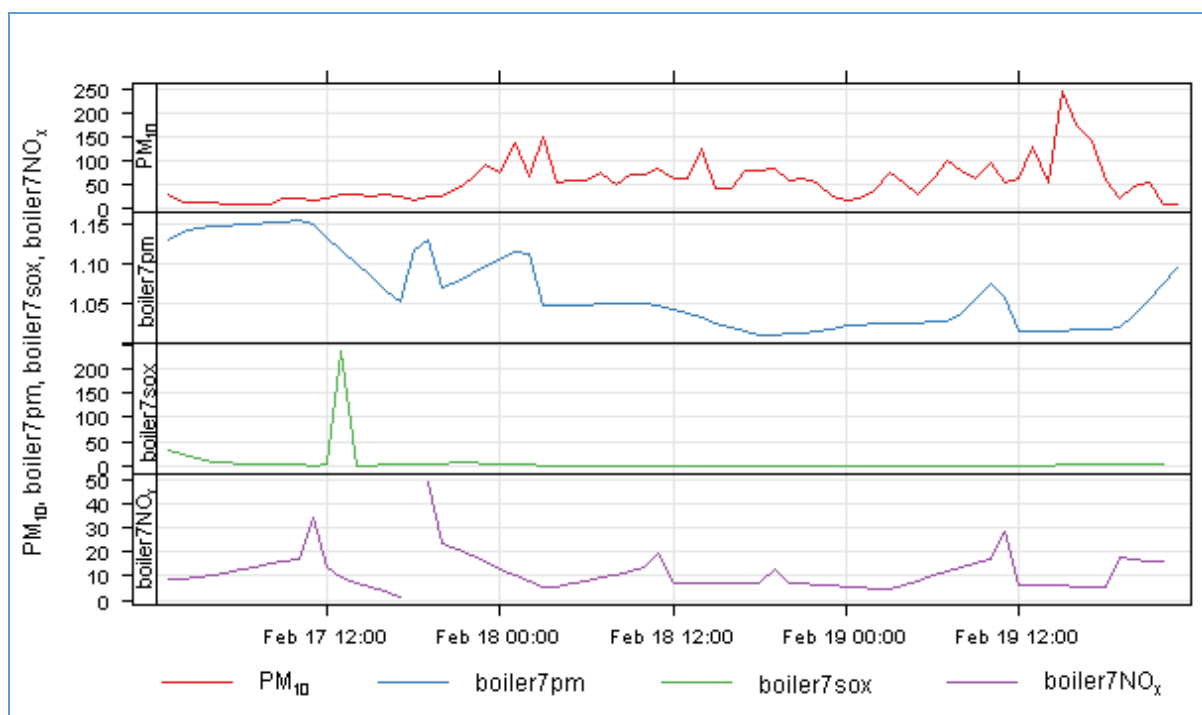


The above plots show that there is a high frequency of counts of particulates from Boiler 6 at all SO₂ concentrations, and from a range of wind directions. There was not enough Boiler 6 CEMs data for the openair software to do a successful comparison of NO_x and Particulates on 18 February 2015. It should be noted that the SO₂ levels are especially high on this particular day from Boiler 6, and could have potentially contributed to the high SO₂ levels experienced at the AURN site.

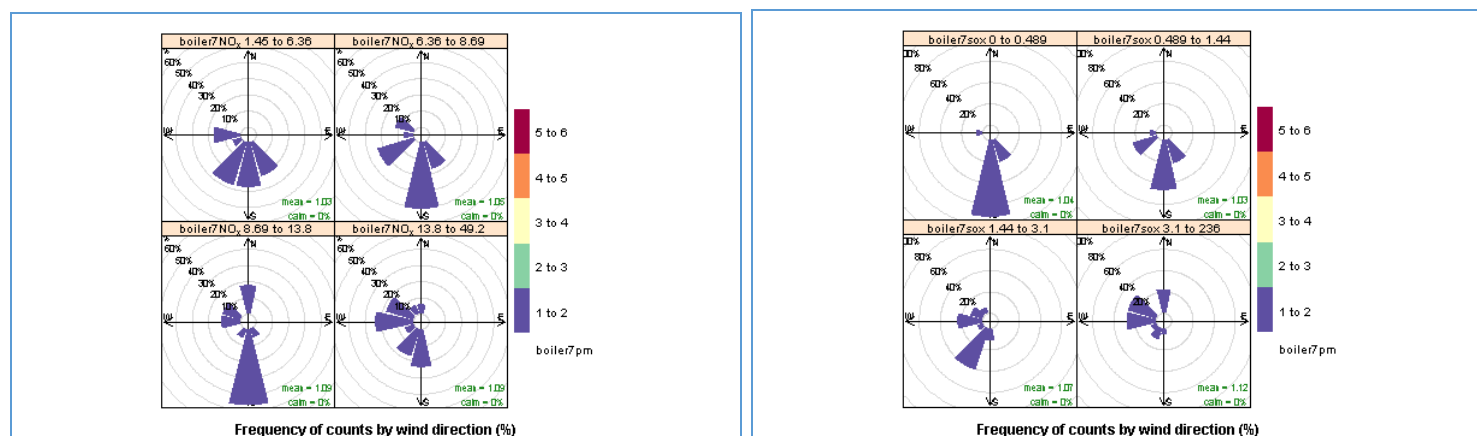
Boiler 7 data analysis

The associated permitted emission point for Boiler 7 is A52B at National Grid Reference SS 7714 8845. At the AURN the bearing towards Boiler 7's stack (Margam C) would be south-west at approximately 225°.

The following data plots show the relationship between PM₁₀ at the AURN and SO₂, NO_x and Particulates from Boiler 7's CEMS between 17 – 19 February 2015:



The above figure shows a slight correlation between particulates measured by the Boiler 7 CEMs and PM₁₀ measured at the AURN site. However, there is little correlation between the particulates concentrations and combustion gases measured at Boiler 7. Overall combustion gas levels from Boiler 7 are shown to be low on 18th February 2015.



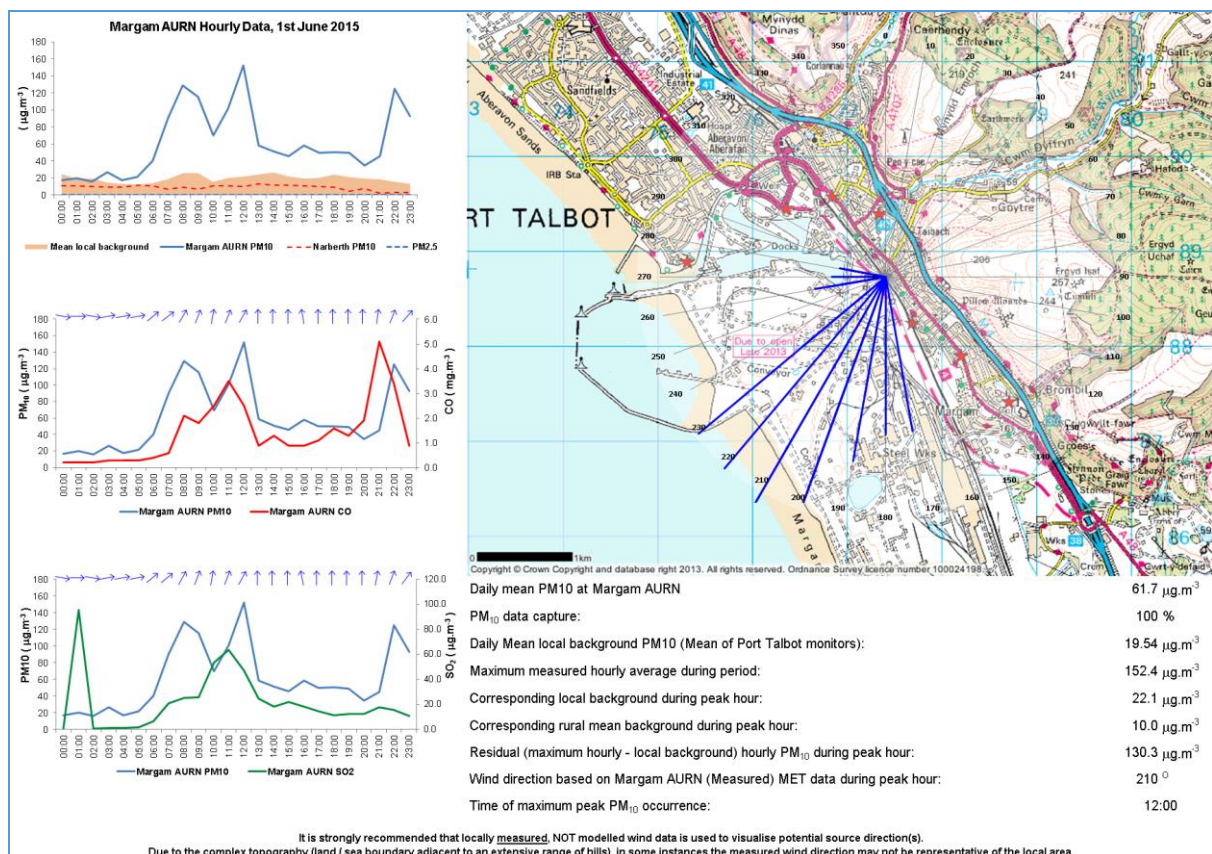
The left-hand plot shows that the highest frequency of particulates from Boiler 7 occurs when the NO_x levels are within the middle quartiles on this particular day. Both ranges of particulates and NO_x are low, suggesting Boiler 7 would not have had a significant effect on the PM₁₀ breach day experienced at the AURN on 18 February 2015. The right hand plot shows that the highest frequency of counts of particulates occur when the SO₂ levels are in their lowest quartile from Boiler 7. The low ranges of both parameters suggest they have not made a significant contribution to the PM₁₀ exceedance day on 18 February 2015.

Conclusions from the data analysis for the 18 February 2015

The combination of plots show that there is little relationship between the CEMs data for Boilers 3, 6 and 7 and the AURN data. Therefore we can conclude that these combustion plants are not major contributors to the elevated PM₁₀ levels for this exceedance day. However there appears to be a combustion-related source to the south of the AURN that could be a source of PM₁₀ on this exceedance day.

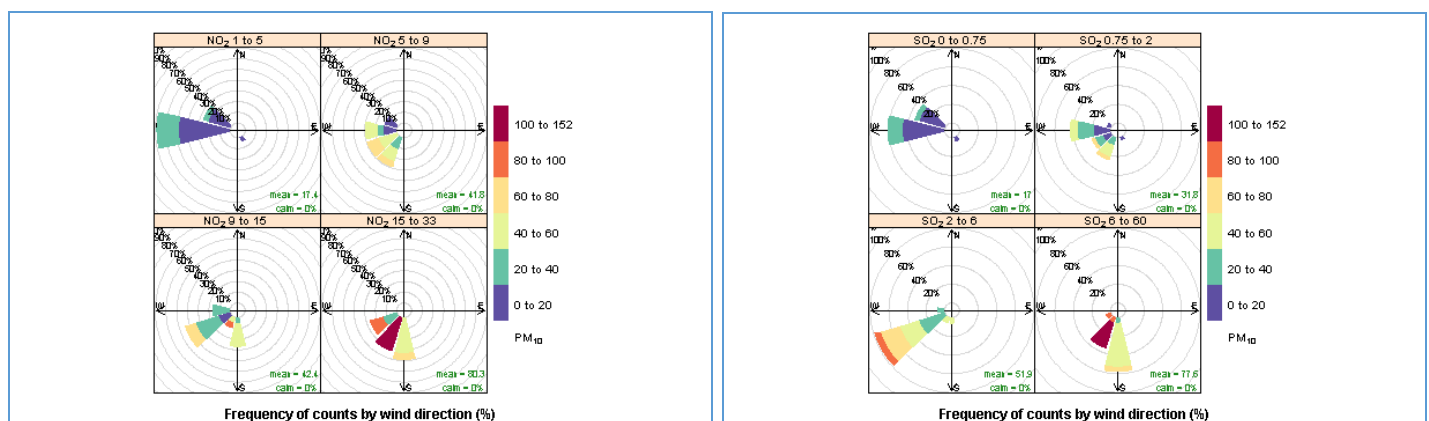
1 June 2015 exceedance day data analysis

Measured wind data from the Margam AURN monitoring station was inputted into the openair software tool for the 1 June 2015. The data was cross-referenced with Tata's CEMs emissions data for indicative purposes. The tool was then used to examine directional patterns and trends at the AURN monitoring station that could suggest steelworks contributions for the following measured pollutants (SO₂, NO_x, Particulates and CO).



The above NRW exceedance day data plot shows that PM₁₀ levels measured at the AURN monitoring station are significantly higher than the background levels measured at Narberth, Pembrokeshire, and also significantly higher than the average of the other monitors based in the Air Quality Management Area (AQMA) in Port Talbot. There is a good correlation between PM₁₀ levels and combustion gases, especially for CO. The highest PM₁₀ levels occurring when the wind is emanating from a south-westerly direction. This data plot would suggest that one or more emission sources from a south-westerly direction could have contributed significantly to the PM₁₀ exceedance day experienced at the AURN site on 1 June 2015.

The next two plots show how the PM₁₀ levels change at the AURN with increasing concentrations of NO_x (left) and SO₂ (right):

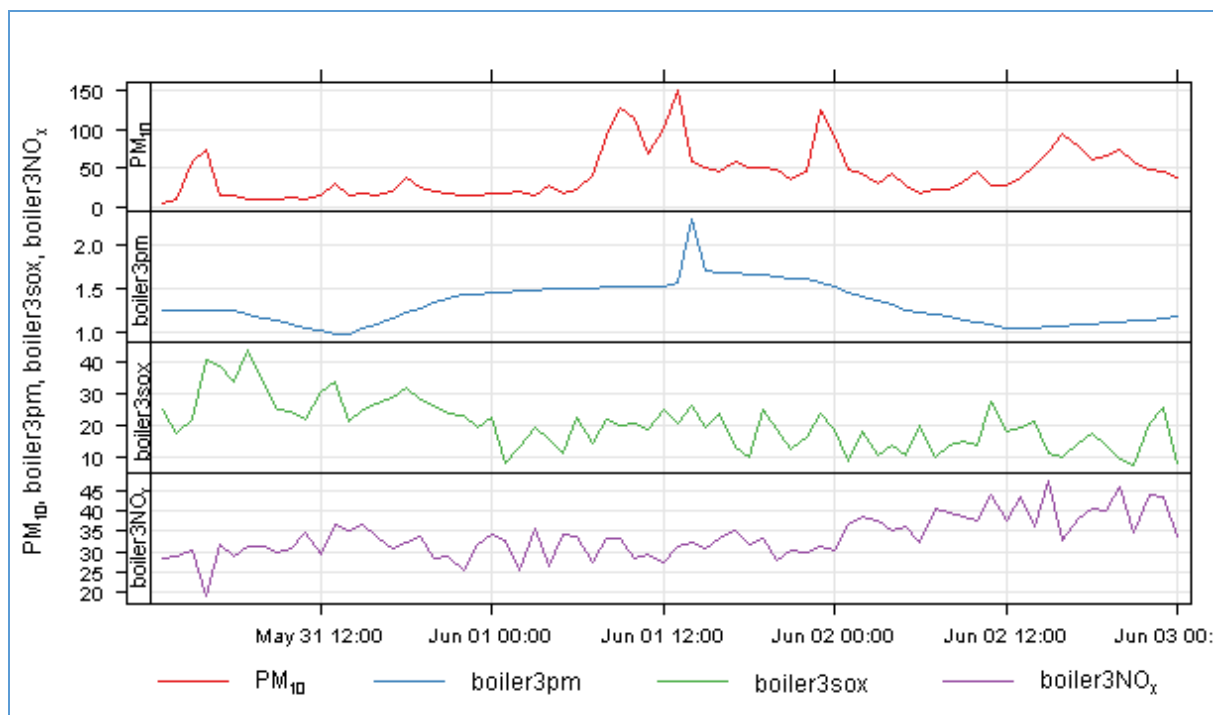


The left-hand pollution rose conditioning plot shows that the highest PM₁₀ concentrations measured at the AURN site are emanating from due southerly directions, and when the NO_x concentrations are in their own highest quantities. This would suggest NO_x levels are linked to the patterns shown by the PM₁₀ exceedance day tool, and would indicate any potential source is process related. The right-hand pollution rose conditioning plot shows that the highest PM₁₀ concentrations occur when the SO₂ concentrations are also within their highest respective concentrations band – also from a southerly direction. This suggests the potential source is process related, due to the close relationship between the two variables.

Boiler 3 data analysis

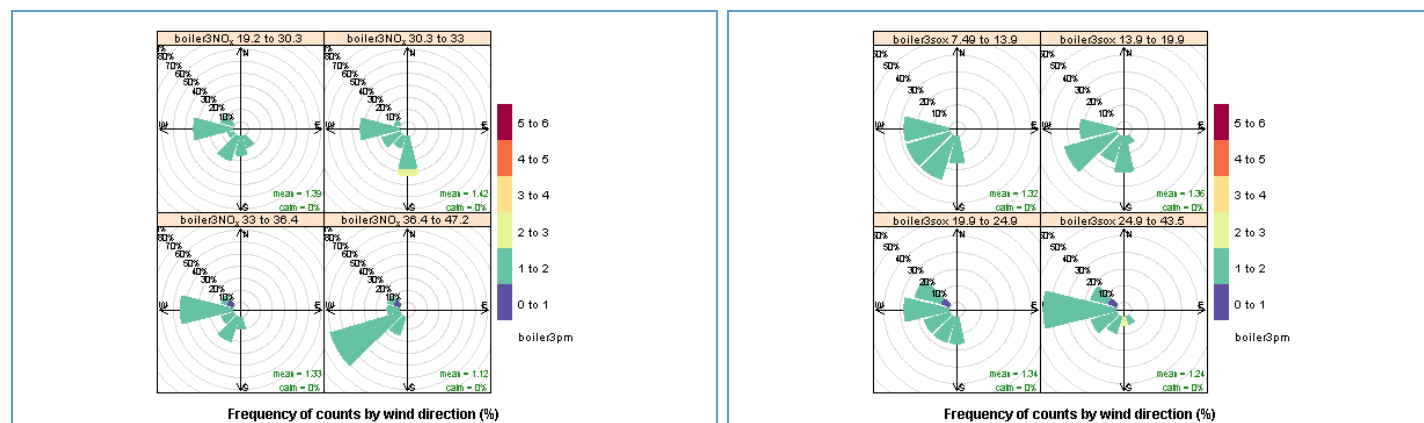
The associated permitted emission point for Boiler 3 is A62 at National Grid Reference SS 7698 9947. At the AURN the bearing towards Boiler 3's stack would be to the south-west at approximately 240°.

The following data plots show the relationship between PM₁₀ at the AURN and SO₂, NO_x and Particulates from Boiler 3's CEMS between 31 May and 2 June 2015:



The above time plot shows a comparison of PM₁₀ data measured at the AURN site on 1 June 2015 with particulates and combustion gas concentrations from Boiler 3 at the steelworks. There is a slight correlation between particulates monitored at Boiler 3 and PM₁₀ monitored at the AURN; however there is no correlation between the data for combustion gases from Boiler 3 and PM₁₀.

As before, the same set of analyses were carried out for the data from 1 June 2015 showing the relationship between measured PM₁₀ at the AURN and NO_x & SO₂ measured by the CEMs at each of the combustion plant stacks.

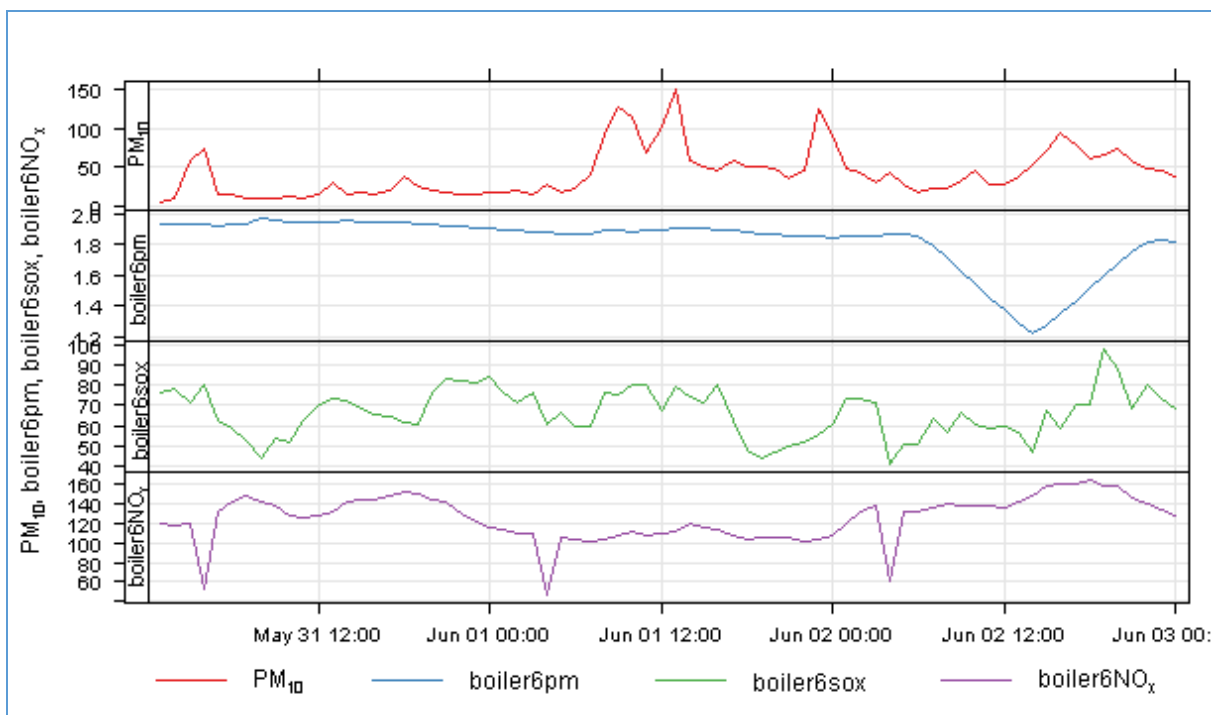


The left-hand plot above shows that the highest frequency of particulates emanate from the south-west, coinciding with the highest NO_x measurements from Boiler 3. The right hand plot shows the highest frequency of particulates emanates from a westerly direction when SO₂ levels at Boiler 3 are at their highest levels. Even so, both parameters are present in fairly low concentrations, indicating Boiler 3 is unlikely to have made much of a contribution to the PM₁₀ exceedance day on 01 June.

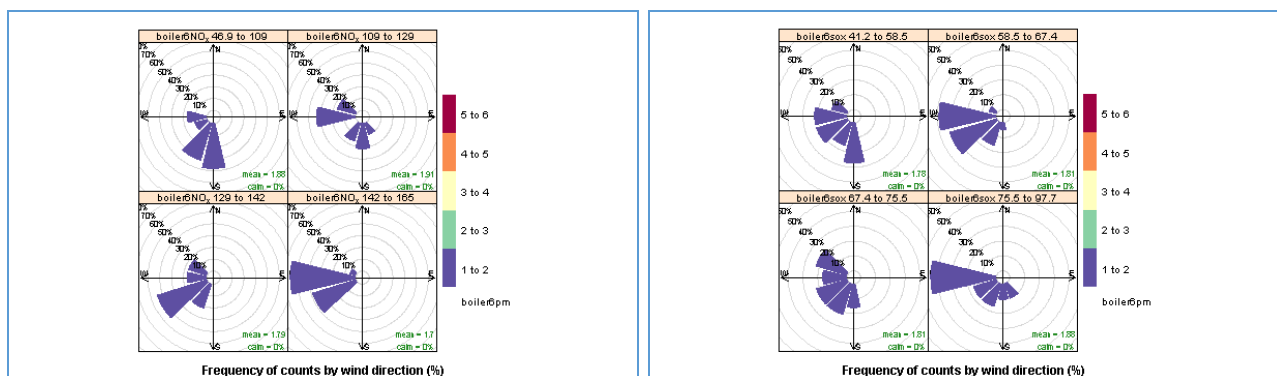
Boiler 6 data analysis

The associated permitted emission point for Boiler 6 is A52A at National Grid Reference SS 7714 8845. At the AURN the bearing towards Boiler 6's stack (Margam C) would be south-west at approximately 225°.

The following data plots show the relationship between PM₁₀ at the AURN and NO_x, SO₂ and Particulates from Boiler 6's CEMS between 31 May and 2 June 2015:



The above time plot shows a comparison of PM₁₀ data measured at the AURN site on 1 June 2015 with particulates and combustion gases from Boiler 6 at the steelworks. There is no real correlation between any of the parameters.



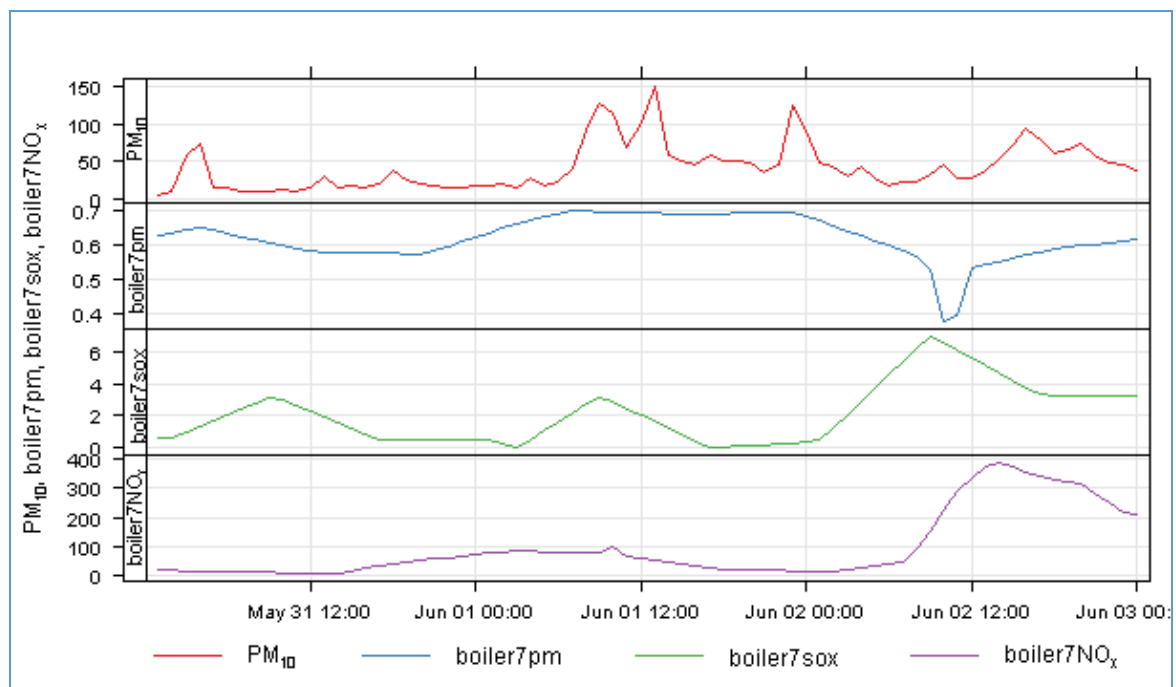
The left hand plot shows that the highest counts of particulates coincide with the highest NO_x concentrations from Boiler 6. It should be noted that the NO_x concentrations are higher than the other boilers on this particular date, and potentially could be linked to the exceedance day, which saw high combustion gas levels associated with high PM₁₀. The right-hand plot shows that there is a high frequency of counts of particulates at higher SO₂ concentrations, and from mainly westerly wind directions.

It should be noted that SO₂ and particulate levels are not significantly high from Boiler 6, and hence are unlikely to have contributed significantly to the PM₁₀ exceedance day on 01 June.

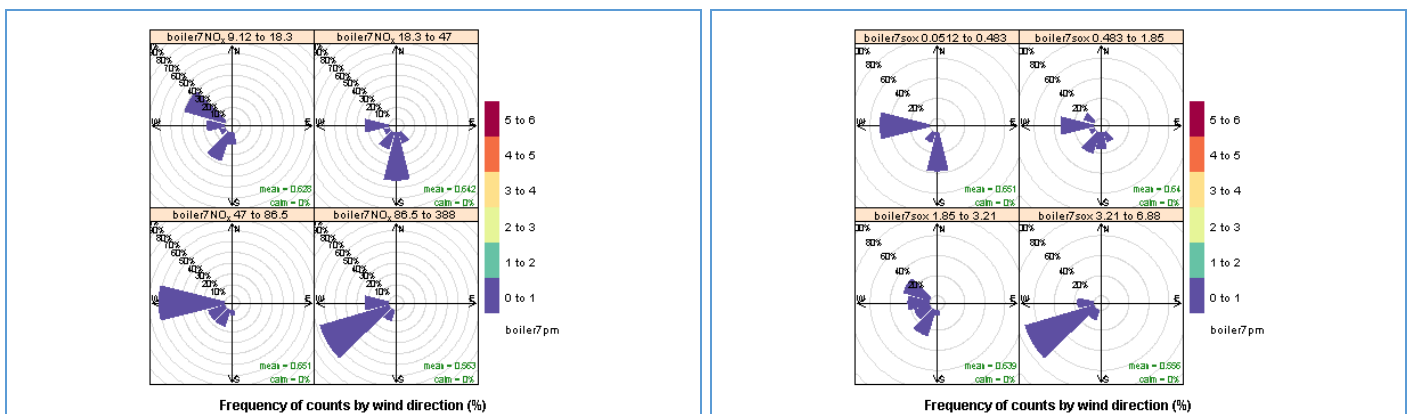
Boiler 7 data analysis

The associated permitted emission point for Boiler 7 is A52B at National Grid Reference SS 7714 8845. At the AURN the bearing towards Boiler 7's stack (Margam C) would be south-west at approximately 225°.

The following data plots show the relationship between PM₁₀ at the AURN and SO₂, NO_x and Particulates from Boiler 7's CEMS between 31 May and 2 June 2015:



The above figure shows little correlation between particulates and combustion gases measured by the Boiler 7 CEMs and PM₁₀ measured at the AURN site. Overall combustion gas levels from Boiler 7 are shown to be low on 18th February 2015.



The left-hand plot shows that the highest frequency of particulates from Boiler 7 occurs when the NO_x levels are within the higher ranges of concentrations on this particular day. The right-hand plot shows that the highest frequency of counts of particulates occur when the SO₂ levels are at their higher concentrations from Boiler 7. The low ranges of both parameters suggest they have not made a significant contribution to the PM₁₀ exceedance day on 01 June 2015.

Conclusions from the data analysis for the 1 June 2015

The combination of plots show that there is little relationship between the CEMs data for Boilers 3, 6 and 7 and the AURN data. Therefore we can conclude that these combustion plants are not major contributors to the elevated PM₁₀ levels for this exceedance day. However there appears to be a combustion-related source to the south-south-west of the AURN that could be a source of PM₁₀ on this exceedance day.

Conclusions and further actions required

For the days examined (18/2/2015 and 1/6/2015) there appears to be little or no correlation between the AURN data and the Tata Steel combustion plant CEMs data. However there also appears to be a combustion-related source to the south or south-south-west of the AURN that could be a source of PM₁₀ on these two exceedance days.

For the data on the 18/2/15 and 1/6/15, the AURN PM_{2.5} data could be assessed to see if this is also high in similar directions as for PM₁₀, CO, SO₂ and NO_x. The Environment Agency Prince Street air quality data and the AURN data could also be analysed using openair software for a high PM₁₀, CO and SO₂ exceedance day to see if a source/sources can be triangulated within the steelworks. NRW's own exceedance day tool should be enhanced by adding NO_x to the graphs to help show if any PM₁₀ peaks coincide with NO_x releases.

NRW will take these recommendations forward and provide feedback regarding this inspection to the Port Talbot Air Quality Data Team at its next meeting.

[END OF SECTION 2]

	EPR Compliance Assessment Report	Report ID: 6049	
This form will report non-compliance with your permit as determined by an NRW officer			
Site	Tata Steel Port Talbot steelworks	Permit	BL7108IM (as amended)
Operator/ Permit	Tata Steel UK Ltd	Date	04 April 2016

Section 3- Enforcement Response		Only one of the boxes below should be ticked
You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.		
Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.		n/a
In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.		n/a
We will now consider what enforcement action is appropriate and notify you, referencing this form.		n/a

Section 4- Action(s)			
Where a non - compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.			
Criteria Ref.	CCS Category	Action Required/Advised	Due Date
See Section 1 above			
N/A		Recommendation (NRW): For the data on the 18/2/15 and 1/6/15, the AURN PM _{2.5} data could be assessed to see if this is also high in similar directions as for PM ₁₀ , CO, SO ₂ and NO _x .	N/A
N/A		Recommendation (NRW): The Environment Agency Prince Street air quality data and the AURN data could also be analysed using openair software for a high PM ₁₀ , CO and SO ₂ exceedance day to see if a source/sources can be triangulated within the steelworks.	N/A
N/A		Recommendation (NRW): NRW's own exceedance day tool should be enhanced by adding NO _x to the graphs to help show if any PM ₁₀ peaks coincide with NO _x releases.	N/A

Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you.

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance which could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no potential environmental effect	0.1

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General Information

Data protection notice

The information on this form will be processed by Natural Resources Wales (NRW) to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). NRW may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line managers. If you wish to raise your dispute further through our official **Complaints** and Commendations procedure, phone our general enquiry number **0300 065 3000** (Mon to Fri **08.00–18.00**) and ask for the **Customer Contact team** or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on **(0845) 601 0987**.