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Trust in water

Guidelines on the abstraction incentive mechanism

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About this document

The abstraction incentive mechanism (AIM) has the objective of encouraging water companies to reduce the environmental impact of abstracting water at environmentally sensitive sites when water is scarce. The AIM will start in reputational form from **1 April 2016**.

These guidelines explain how water companies should operate the AIM. It reflects the proposal drawn up by the AIM taskforce in July 2015 and the responses to our consultation on the taskforce's proposals in November 2015.

No water company wholly or mainly in Wales has proposed an AIM site, and the environmental information we currently have does not suggest there is a need for them to do so. We therefore expect the AIM guidelines will only apply to water companies wholly or mainly in England. However, if a water company wholly or mainly in Wales chose to volunteer an abstraction site for the AIM we would expect that company to follow the AIM guidelines.

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1. Introduction

1.1 The objective of the AIM

The abstraction incentive mechanism (AIM) has the objective of encouraging water companies to reduce the environmental impact of abstracting water at environmentally sensitive sites during defined periods of low surface water flows. This will help to improve the resilience of water supply and ensure that it is provided in a more sustainable way. The AIM is a reputational incentive which seeks to harness a water company's aspiration to enhance its reputation by demonstrating that it is changing its operating practices in a way that benefits the water environment

Water companies proposed abstraction sites for inclusion in the AIM. No water company wholly or mainly in Wales has proposed an AIM site, and the environmental information we currently have does not suggest there is a need for them to do so[1]. We therefore expect the AIM will apply only to water companies wholly or mainly in England. However, if a water company wholly or mainly in Wales chose to volunteer an AIM site we would expect that company to follow these AIM guidelines.

The AIM is a regulatory incentive mechanism which complements the existing tools to reduce abstraction from sensitive sites, such as abstraction licence changes or licence conditions which require abstractions to cease during periods of low flows. The AIM also complements our water trading incentives by discouraging exports from environmentally sensitive sites not covered by other regulatory processes.

Many environmentally damaging abstractions have already been addressed through the Environment Agency and Natural Resources Wales's (NRW's) Restoring Sustainable Abstraction (RSA) programme. Some of the sites included in the AIM are sites where the RSA programme solution has not yet been implemented, or where the environmental impact was not sufficiently large to justify a cost-beneficial scheme under the RSA programme. We would therefore expect the AIM to deliver targeted benefits to the environment.

[1] No water company wholly or mainly in Wales has an abstraction site impacting a Water Framework Directive Band 1, 2 or 3 surface water body according to the information we have.

The reputational AIM will contribute to our new resilience duty, for example, by encouraging companies to manage water resources in sustainable ways in response to increasing environmental pressures and population growth.

We intend that the reputational AIM will reveal useful information which could inform the UK Government's and Welsh Government's planned abstraction reforms[2]. This information could also help the development of a version of the AIM with financial incentives such as penalties and/or rewards which might form part of PR19.

Further detail on the background to the AIM and the AIM taskforce is available in our November 2015 consultation[3].

1.2 How the AIM works

The following example illustrates how the AIM works. It is based on the example in the AIM taskforce's proposal.

A water company identifies an abstraction site for the AIM. Abstracting water from this site has an impact on a surface water body, in this case, a river. The company sets a trigger point for the AIM on the river at a flow rate based on environmental assessments and/or the views of local stakeholders. The AIM is considered to be "switched on" when the flow rate of the river is at or below the trigger threshold.

To establish a baseline for the AIM at this abstraction site the company identifies its historical abstraction at times when the AIM would have been switched on had it applied in the past i.e. the times when river flows were below the trigger threshold.

As an example, during the historical period in question average abstraction when river flows were below the trigger threshold would have been 5 Ml[4]/day for this abstraction site - this is the AIM baseline.

[2] In January 2015 the UK Government and the Welsh Government published the outcomes of their joint December 2013 consultation on abstraction reform for England and Wales respectively. Their publications are available here: https://www.gov.uk/government/consultations/reforming-the-water-abstraction-management-system-making-the-most-of-every-drop?cm_mid=5223784&cm_crmid=425f3878-e19c-e511-9c5e-00155d0001a8&cm_medium=email and here: http://gov.wales/consultations/environmentandcountryside/making-the-most-of-every-drop/?skip=1&lang=en&cm_mid=5223784&cm_crmid=425f3878-e19c-e511-9c5e-00155d0001a8&cm_medium=email

[3] http://www.ofwat.gov.uk/consultation/consultation-on-the-abstraction-incentive-mechanism/

[4] Ml means megalitre or one million litres.

During 2016-17, the company abstracts an average of 4 Ml/day from the abstraction site when river flows are below the trigger threshold. If flows were below the threshold for 100 days then the company has improved its performance relative to the baseline by (4-5 Ml/day)*100 days = -100 Ml. (A negative number signifies an improved performance as average abstraction is less than the baseline.)

During 2017-18, the company abstracts an average of 6 Ml/day from the site when river flows are below the trigger threshold, a period of 50 days in 2017-18. Therefore, the company has performed worse than the baseline by (6-5 Ml/day)*50 days = +50 Ml. (A positive number signifies worsened performance as average abstraction is more than the baseline.)

The cumulative AIM performance for the two years 2016-17 and 2017-18 would be minus 50Ml i.e. an improvement compared with the baseline over the two years combined.

In general to calculate performance on the AIM for a particular abstraction site the following formula applies:

> AIM performance in Ml = (average daily abstraction during period when flows are at or below the trigger threshold - baseline average daily abstraction during period when flows are at or below the trigger threshold) * length of period when flows are at or below the trigger threshold.

If we were to compare performance between abstraction sites, either within companies or between companies, the performance on the AIM would need to be normalised by the baseline average daily abstraction and the length of time for which flows were at or below the trigger threshold. This is because a performance of -1Ml is better if the AIM baseline is smaller or if the period for which flows are at or below the trigger threshold is smaller.

> Normalised AIM performance = AIM performance / (baseline average daily abstraction * length of period when river flows are at or below the trigger threshold)

Companies will report their AIM performance in their annual performance reports (see section 6.3 below).

1.3 Overview of the guidelines

These guidelines explain how water companies should operate the AIM. They reflect the proposal of the AIM taskforce in July 2015 and the responses to our consultation on the taskforce's proposals in November 2015.

In order for water companies to operate the AIM they need to:

- Identify the abstractions sites to which the AIM applies;
- Identify the trigger points for each AIM site;
- Identify the abstraction baseline for each AIM site;
- Capture abstraction data at each AIM site; and
- Report the data through their annual performance report.

The guidelines cover each of these five steps in the following five sections as shown in the diagram below.

2. Identifying abstraction sites for the AIM

Water companies must identify the abstraction sites to which the AIM applies. This section explains the starting list of abstraction sites a company should use, the filters companies should apply to their starting list and the assurance a company should provide.

2.1 The starting list of sites

Companies should take as their starting point the Environment Agency's lists of abstraction sites impacting Water Framework Directive (WFD) surface water bodies calculated to be in environmental flow Bands 1, 2 and 3 that we sent to water companies in October 2013. A Band 3 surface water body is where there is a high confidence the flow in that water body is not adequate to support good ecological status (GES). Band 2 bodies reflect moderate confidence and Band 1 bodies reflect low confidence that the flow is not adequate to support GES[5].

We recognise that the October 2013 lists of abstraction sites that we sent to water companies contained some sites that were not suitable for the AIM for various reasons. As a result companies should apply filters to the list as detailed in section 2.2.

Water companies are able to propose abstraction sites for inclusion in the AIM which were not in the October 2013 lists of abstraction sites impacting WFD Band 1, 2 and 3 surface water bodies. We welcome companies proposing such sites and some companies have already done so. In such cases companies would need to follow the assurance process described in section 2.3.

2.2 Identifying the abstraction sites through filters

Water companies should identify the abstraction sites to which the AIM applies by applying the following three filters to the abstraction sites in the October 2013 list for their company. Filters 1 and 2 are conditions that a site must meet. Filter 3 consists

[5] The precise definitions of WFD Band 1, 2 and 3 surface water bodies are set out on page 4 of http://www.geostore.com/environmentagency/Abstraction_and_Flow_Technical_Summary_v1_external.pdf

of conditions which can be used to filter sites out. The taskforce proposed using these filters so that local knowledge of the latest abstraction and environmental information could be used to filter the abstraction site information derived from a central database.

- **Filter 1** – possible AIM sites should be those causing, at times, a potentially unacceptable impact on the environment if operated at licensed or current rates. The AIM could also be appropriate for managing local concerns over the impact of an abstraction on the local environment.

- **Filter 2** – possible AIM sites will have an existing alternative source of water[6] or bulk supply readily available to meet the demand that would normally come from the AIM site, or some other realistic means of reducing abstraction from the AIM site, for example, demand management.

- **Filter 3** – companies may wish, or need, to apply further filters to the list of AIM sites to reflect local environmental or operating circumstances. Examples of sub-filters companies might apply under Filter 3 are contained below in Box 1. The open-ended nature of Filter 3 means that it is very important for companies to engage with their stakeholders on the sub-filters they propose to apply and to be very open about the sub-filters they apply in practice (see section 2.3 for more details).

Box 1 – examples of sub-filters which could be applied under Filter 3

3.1 The environmental problem is being addressed by another means such as an abstraction licence change.

3.2 There is an existing operating agreement or hands-off flow condition to address abstraction at low flows.

3.3 An environmental assessment has been completed and there is no longer an environmental problem or only a small environmental problem.

3.4 An environmental assessment is pending so it is not yet clear if there is an environmental problem.

3.5 An updated environmental classification means there is no longer considered to be an environmental problem.

[6] The alternative source of water would also need not to be environmentally sensitive.

3.6 There is no suitable gauging station available, either because there is no gauging station at all or because the gauging station is not representative of the impact of the abstraction site e.g. it is too distant from the site.

3.7 There are no timely data available for the abstraction site or the data are unreliable in some way.

3.8 There are existing river support or augmentation schemes which might mask the impact of abstraction at the site.

3.9 The groundwater abstraction site's impact on the surface water body is too complex to be addressed by gauging on the surface water body.

3.10 Changes in abstraction from the groundwater site will be ineffective in addressing short-term low flows in the impacted surface water body.

3.11 The abstraction site impacts a different water body than the October 2013 list states or the affected water body cannot be identified.

2.3 Assurance of the selection of AIM sites

One of our six principles for setting price controls is transparency and predictability[7]. Transparency in our regulation is very important to build trust and confidence in the water sector.

Many water companies are proposing a large reduction in the number of abstraction sites for inclusion in the AIM compared with the number in the October 2013 lists and the number of sites they proposed in their 2014 Price Review (PR14) business plans (see Appendix 1).

To ensure transparency in the application of the filters to the starting list of possible AIM sites companies should consult with their Customer Challenge Group (CCG), their local Environment Agency office[8] and, if appropriate, other local stakeholders. This is particularly important given the open-ended nature of Filter 3.

Companies should also consider adopting the approach to assurance they are using for their PR14 performance commitments and outcome delivery incentives which, in

[7] See pages 41-43 of 'Towards Water 2020 – meeting the challenges for water and wastewater services in England and Wales', July 2015: http://www.ofwat.gov.uk/wp-content/uploads/2015/10/pap_tec201507challenges.pdf

[8] Should a water company wholly or mainly in Wales volunteer an abstraction site for the AIM the company should consult with Water Resources Planning at Natural Resources Wales.

addition to discussions with their CCGs about their performance, often include third-party audits of their information. The three companies with AIM as a performance commitment in their PR14 company-specific appendices - Affinity Water, South East Water and Thames Water - and the two companies who have included AIM in a different performance commitment - United Utilities[9] and Wessex Water[10] - should adopt the approach to assurance they are using for their PR14 performance commitments and outcome delivery incentives.

In order for other stakeholders to be able to understand how companies have selected their sites for the AIM we expect companies to publish their reasons for rejecting abstraction sites in the October 2013 lists from inclusion in the AIM. This will require companies to explain the filters they have used, particularly any sub-filters of Filter 3, and how they have applied the filters. Companies should publish how they have engaged with, and responded to, stakeholders' views on the filtering of abstraction sites. We recognise that due to security considerations water companies might need to anonymise the names of the abstraction sites when they publish this information.

2.4 Adding AIM sites after April 2016

Some water companies have suggested that they would like to add further AIM sites after the AIM starts in April 2016. We would welcome companies doing so. For abstraction sites added within the financial year companies would need to report on a part-year basis for that financial year. A company would need to put its AIM performance in context. For example, if a company added a site to the AIM in October for the last 6 months of the financial year it might compare well to a baseline derived over the whole financial year which includes the typically lower flows in rivers during summer months.

[9] United Utilities has included 4 AIM sites as part of its wholesale water performance commitment "C1: Contribution to rivers improved (water programme)" which has a financial penalty and reward attached.

[10] Wessex Water's AIM site is contained in its wholesale water performance commitment "B5: Abstractions at Mere exported" which has a financial penalty attached.

3. Definition of the AIM trigger point

Water companies need to define the conditions under which the AIM applies for each identified abstraction site included in the AIM. The AIM will generally apply, subject to a hydrological trigger, when a reduction in abstraction from the abstraction site would be, or is likely to be, environmentally beneficial. Typically this will be a river flow condition, but equally it might be a groundwater level condition, drought trigger or other appropriate measure.

In any year the period over which the AIM applies will vary depending on the weather, and will differ from abstraction site to abstraction site depending on the nature of the site and its interaction with the environment. The triggers for the period when the AIM applies should be determined locally for each site, depending on the environmental needs.

Water companies should propose trigger points for their AIM sites following consultation with their CCG, the local Environment Agency office and, if appropriate, other local stakeholders.

Water companies should consider adopting the approach to assurance they are using for their performance commitments and outcome delivery incentives (see section 2.3).

We recognise that some companies have faced delays obtaining views from their local stakeholders on their AIM triggers. It is acceptable for water companies to operate the AIM on the basis of the proposal they have sent to their local stakeholders even if they not received a response back from them, provided the water company has allowed a reasonable time for those stakeholders to consider its proposal. We would expect the water company to take appropriate account of the views of local stakeholders when they receive them.

Water companies should publish their justification for the trigger points for each AIM site and an explanation of the engagement the company has done on its trigger points. We recognise that companies might need to anonymise their abstraction sites when they publish information on the AIM and that this might limit the amount of useful information they can publish about how they have derived their trigger points. However, companies can still publish information about how they have engaged with stakeholders when deriving their trigger points.

4. Definition of the AIM baseline

Water companies must define the AIM baseline for each identified abstraction site included in the AIM. The calculation of the AIM baseline will use the AIM trigger point (see section 3). A water company also needs to identify the historical period for the AIM baseline.

The AIM baseline can be calculated as follows:

1. Set the baseline historical period, for example, the previous five financial years.

2. Calculate the periods (most likely in days) during this historical period when the surface water body impacted by the AIM abstraction site had a flow at or below the trigger point.

3. Calculate the amount of water (in Ml) the company abstracted from the AIM site during the days when the surface water body flow was at or below the trigger point and the AIM applied.

4. Divide the result of step 3 (in Ml) by the time when the AIM applied from step 2 (in days) to calculate the AIM baseline in Ml/day.

A water company can choose different baseline historical periods for each AIM site. The baseline needs to be considered over a range of hydrological and demand conditions. The period selected should be representative of future conditions. The company should justify how it has defined the baseline by reference to the data used, the number and nature of droughts and other events included, and any adjustments made to compensate for changes in the period of record used.

For some abstraction sites the past may not be a good predictor of the future, for example, where abstraction sites have been subject to sustainability changes to their licences, changes in demand or water quality, or where investment in the assets has caused substantial changes in abstraction patterns. In such cases, a water company might want to adjust the baseline, but the company would need to justify any adjustment it makes.

Water companies should propose the baseline for their AIM sites following consultation with their CCG, the local Environment Agency office and, if appropriate, other local stakeholders.

Water companies should consider adopting the approach to assurance they are using for their performance commitments and outcome delivery incentives (see section 2.3).

Water companies should publish the calculations underlying the AIM baseline for each of their AIM sites including the reasons for the baseline period chosen, the reasons for any adjustments made to the baseline period and an explanation of the engagement the company has done on its baseline.

We recognise that some companies have faced delays obtaining views from their local stakeholders on their AIM triggers. It is acceptable for water companies to operate the AIM on the basis of the proposal they have sent to their local stakeholders even if they not received a response back from them, provided the water company has allowed a reasonable time for those stakeholders to consider its proposal. We would expect the water company to take appropriate account of the views of local stakeholders when they receive them. This approach can also be applied if local stakeholders have not provided a response in relation to proposals for the selection of AIM sites and the calculation of the AIM baseline.

5. Capturing AIM data

During the financial year water companies will need to capture data at their AIM sites. In particular water companies will need to capture data as follows:

1. Data on whether the level / flow of the surface water body impacted by abstraction from the AIM site is above, below or at the trigger point for that site. These data might be weekly, daily or possibly more frequent[11].

2. Data on the water company's abstraction volumes from the AIM site. These data might be daily or possibly more frequent. For the operation of the AIM the company abstraction volume data is only strictly needed at times when the AIM has been triggered.

3. Matching the level / flow and abstraction data to the same point in time in order to measure the volume of company abstraction at the site happening when the impacted surface water body has a level / flow at or below the trigger point.

There can be gaps in level / flow data at surface water bodies for various reasons such as failure of telemetry equipment or flows that are too high or too low for the flow meters. In such cases companies should consider whether they have other information which tells them whether the level / flow is above, at or below the trigger point. For example, if the company considers the flow data are unavailable because flow levels in a river are too high, the company could reasonably assume the flow is above the AIM trigger point and that the AIM was not applying at the time of the data interruption. However, it is important for water companies to ensure the accuracy of the data they report for the AIM and this might involve companies improving how their data are collected.

[11] Where level / flow data is available less frequently than daily we encourage the development of more frequent data.

6. Performance reporting

In this section we set out which companies need to report on the AIM and what those companies need to report. We also explain that companies need to report on the AIM in their annual performance report and how we intend to publish information on the AIM.

6.1 The companies which need to report on the AIM

Any water company can volunteer abstraction sites for the AIM. The environmental information we obtained from the Environment Agency in October 2013 suggests that the AIM needs to apply to 13 of the 18 large appointed water companies[12] [13]. We therefore do not expect five water companies to report on the AIM in the period 2016-20, unless they volunteer to do so. The five companies which we are not requiring to report on the AIM are South West Water, Dŵr Cymru, Bristol Water, Dee Valley Water and Bournemouth Water.

6.2 What companies need to report: performance on the AIM and contextual information

In line with the AIM taskforce's proposal, we require water companies to report their performance on the AIM to us. We expect companies to report both their AIM performance and their normalised AIM performance as proposed by the AIM taskforce, and as described in section 1.2:

> AIM performance in Ml = (average daily abstraction during period when flows are at or below the trigger threshold - baseline average daily abstraction during period when flows are at or below the trigger threshold) * length of period when flows are at or below the trigger threshold.

[12] The 13 water companies to which the AIM applies are: Affinity Water, Severn Trent Water, Anglian Water, Southern Water, Thames Water, South East Water, Yorkshire Water, Wessex Water, Sutton and East Surrey Water, South Staffordshire Water, Northumbrian Water, Portsmouth Water and United Utilities.

[13] Although South West Water and Bournemouth Water have now merged, they are maintaining separate reporting on performance commitments during 2015-20 and we propose to treat them separately for the purposes of the AIM in 2015-20.

Normalised AIM performance = AIM performance / (baseline average daily abstraction * length of period when river flows are at or below the trigger threshold)

We expect water companies to report their AIM performance for individual sites on an annual basis starting in the financial year 2016-17. As the taskforce suggested companies should also report a company level figure for the AIM (that is, for all the company's AIM sites added together) and cumulative figures for the AIM when reporting in subsequent financial years.

We received feedback through our consultation on the AIM that customers and stakeholders would need contextual information in order to understand a company's AIM performance and to compare it with another company. We expect water companies to provide contextual information around their AIM performance. For example, water companies could explain the environmental challenges that affect their regions, the past, current and future measures they are taking to deal with unsustainable abstraction and other information they consider relevant to put their AIM performance into context.

6.3 Annual performance report

We require all 13 water companies to which the AIM applies to report their performance on the AIM in their annual performance report[14] to Ofwat from 2016-17 onwards.

The quality of the reporting on AIM will contribute to our assessment of companies' reporting and their level of variable assurance through our company monitoring framework[15].

The AIM taskforce proposes that reporting on the AIM would be through the companies' annual reviews of their Water Resources Management Plans (WRMPs) and the annual reporting process. We are not requiring water companies to report on the AIM through the WRMP annual review, but we encourage companies to do so.

[14] http://www.ofwat.gov.uk/regulated-companies/company-obligations/annual-performance-report/
[15] http://www.ofwat.gov.uk/publication/company-monitoring-framework-final-position/

6.4 Ofwat publication of AIM performance

To enhance the reputational impact of the AIM, we will collate the companies' AIM performance on our website including the contextual information that companies provide, where relevant and appropriate. This will allow customers and stakeholders to compare companies' performance while taking appropriate account of the environmental challenges that affect their regions, the past, current and future measures they are taking to deal with unsustainable abstraction and other information they consider relevant to put their AIM performance into context.

We will publish AIM performances after companies have submitted their annual performance reports (i.e. after July 2017). We expect to consult with the AIM taskforce on the particular details of how we publish AIM performance.

Appendix 1: Number of sites companies are proposing for the AIM

Company name	Abstraction sites impacting WFD Band 1, 2 and 3 sites which Ofwat sent to companies in October 2013 (from Environment Agency list)	Lists of sites submitted as part of business plan (Table W7, AIM) in December 2013	Sites water companies propose for AIM from 1 April 2016 or later (as at October 2015).
Affinity Water	80	62	23
Severn Trent Water	64	7	0
Anglian Water	49	13	2
Southern Water	46	18	4
Thames Water	33	28	5
South East Water	25	4	2
Yorkshire Water	16	2	2
Wessex Water	15	15	1
Sutton and East Surrey Water	14	14	0
South Staffordshire Water	13	2	2
Northumbrian Water	9	2	1
Portsmouth Water	2	2	1
United Utilities	2	4	4
South West Water	0	0	0
Dŵr Cymru	0	0	0
Bristol Water	0	0	0
Dee Valley Water	0	0	0
Bournemouth Water	0	0	0
Total	**368**	**173**	**47**

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales. Our vision is to be a trusted and respected regulator, working at the leading edge, challenging ourselves and others to build trust and confidence in water.

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