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Your ref
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RWE Pembroke Power Station - Environmental Monitoring Regime

Dear Gareth,

Below is a summary of environmental monitoring undertaken by RWE for Pembroke Power Station in 2012 as agreed with the then Environment Agency. This includes the monitoring agreed under pre-operational condition four (PO4) parts a and c, and the entrapment monitoring agreed under the abstraction licence. Also included below is a summary of the reporting outputs from the 2012 programme, information on progress with their completion and the agreed programme for 2013.

Monitoring Programme

Survey	Frequency as executed in 2012	Date completed	Differences to the original PO4 submission	Agreed programme for 2013
Water Quality	4	Feb, June, Aug & Dec	Some additional parameters added	As 2012
Bathymetry	4	Feb, May, Sep & Dec	None	The recommendation from the 2012 results is to reduce to a single annual survey for 2013.
Haven temperature monitoring	Continuous	N/A	Location 8a has replaced 3b due to issues with 3b being sheltered by a jetty and not producing accurate results, see attached map.	As 2012
Intertidal and Subtidal Fisheries	4	Feb, May, Aug & Nov (sub) Dec (int)	Additional subtidal trawl sites added as a result of discussions following submission of PO4.	As 2012

Phytoplankton	2	May and October	None	Will increase to 12 (monthly) for 2013
Zooplankton	2	May and October	None	As 2012
Ichthyoplankton	3	May, Jun & July	None	As 2012
Eels	0	N/A	Stopped as a result of discussions following submission of PO4.	None
Intertidal Ecology	1	September	Additional sites added as a result of discussions following submission of PO4.	As 2012
Eel grass	1	September	Carried out in conjunction with the EA	As 2012
Subtidal Benthic Ecology	1	July	Additional sites added as controls and some sites removed due to adequate coverage. All changes agreed with EA / CCW. Net result - same number of monitoring sites with greater resolution.	As 2012
Subtidal Epifauna (dive) Surveys	1	July	None	As 2012
Macroalgae	0	N/A	N/A	Methodology agreed early in 2013, 1 overwintering and 1 peak growth survey will be completed.
Nutrients	0	N/A	N/A	Methodology agreed early in 2013, 12 monthly samples will be completed.
CBP (water)	11	Monthly Feb to Dec (inclusive)	Additional samples taken Feb and March prior to any dosing taking place	9 samples April to December (inclusive) as PO4c
CBP (biota)	1	Feb	None	As 2012
Impingement	15 x 24hr	Various	N/A	40x 24hr
Entrainment	10 x 24hr	Various	N/A	6 x 24hr to compliment ichthyoplankton surveys (May to July inclusive)

Report outputs for 2012

Surveys	Reporting output	Expected completion date
Water quality (including CBPs and nutrients), phytoplankton and zooplankton.	Annual interpretive report	1 July 2013
Fisheries (subtidal & intertidal) and ichthyoplankton.	Annual interpretive report	1 July 2013
Intertidal ecology	Annual interpretive report	1 July 2013
Eel grass	Annual interpretive report	1 July 2013
Subtidal Benthic Ecology	Annual interpretive report	1 July 2013
Subtidal Epifauna (dive) Surveys	Annual interpretive report	1 July 2013
Impingement and Entrainment	Impingement only – Monthly data Annual interpretive report	1 July 2013
Bathymetry	1 interpretive report	1 July 2013
Haven temperature monitoring	Annual interpretive report	1 September 2013

The completion of the reports for 2012 is the first suite of reporting since the station has been operational and has been an extensive and complex exercise. It has involved considerable interaction and working together with, in the first instance, the Environment Agency and more lately NRW. Discussion has taken place on the basis of the initial results reported and this has continued through the drafting phase of the work. As a result the time required for drafting has been longer than anticipated which has led to delay in the completion of the final reports. However we feel it is vital that the scope and context of these reports, especially as these are the first of their kind, is correct. We will endeavour to complete the reports as soon as possible and will submit them to you individually as they are completed.

I trust you will find this information useful. If you have any questions please get in touch.

Yours Sincerely,



Ben Williams
Environmental Compliance Engineer
Pembroke Power Station