



22nd March. 2012

Kiltha River, Castlemartyr, Co. Cork

Incident Report and Observations

(Further Discharges into the Kiltha River from
Castlemartyr Waste Water Treatment Plant - February and March 2012)

Produced by: Womanagh Angling & Development Association



Womanagh Angling & Development Association

Castlemartyr & District

Co. Cork

The Womanagh Angling & Development Association are not the watchdogs of the Kiltia River and its environs. The European Water Framework Directive gives us no commission. We are not, unlike the Statutory Authorities, tasked with such a function. Yet, de facto, if the Association were not alert and motivated, the Kiltia River would become an open sewer.

It needs to be sorted. We will not, repeat, not go away.

We would like to place emphasis on a number of issues in respect of this licensing application.

a) The Cork County Council application included details of 2 possible alternative options for improving the plant. Option 1 was a "Super Pipeline" to carry all primary treated product to Ballycotton - estimated cost €2million. Option 2 was a major infrastructure upgrade of the existing plant - estimated cost < €1m. They then go on to say they don't intend implementing either of these options in the lifetime of the license!!

(Ref http://www.epa.ie/licences/lic_eDMS/090151b28036b3d7.pdf Application Reg. No. D0134-01 Page 8 Point viii).

Cork County Council have not provided any tangible, concrete proposal of how they are going to solve the problem of the plant operating at over-capacity and causing regular pollution incidents. In fact, they have stated that their proposed solutions will not be implemented in the lifetime of the license - it should be a condition of the granting of any license that this be resolved with proper infrastructural development.

Extract from the Cork County Council response to clarifications sought by EPA...

"A full review of the Assessment of needs for Cork County Council has been prepared by Cork County Council for the Dept. of the Environment, Community & Local Government and a new document for the period 2010 to 2012 is now with the Dept. awaiting approval. In the 2007 – 2009 programme funding had been set aside for the upgrading of facilities at Castlemartyr under the Serviced land Initiative. However, due to the current economic climate, the Dept. have withdrawn all funding for schemes that had been granted funding under the SLI. The upgrading of facilities at Castlemartyr is on the 2010 - 2012 programme but if funding is made available it will not advance beyond planning stage."

b) The data provided by Cork County Council in relation to adherence to acceptable limits shows that they have breached these limits - proof that the plant is not operating correctly.

(Ref http://www.epa.ie/licences/lic_eDMS/090151b28036b3d7.pdf Page 10 and Page 13 BOD levels Table items in red)

Ref: Submission from WADA in 2011 documenting incidents from 2009,2010,2011 and now 2012.

c) We have had a meeting with Cork County Council and the plant operators and while they have undertaken to keep us informed of any plans or developments they have not provided any long-term tangible solution to what they themselves have admitted is a plant operating at and above capacity for which it was designed. They admitted to us and to a representative of IFI that they currently have a problem with the quality of discharge which, while within the imposed limits, is having and will continue to have a long-term detrimental effect on the river, river bank and the wildlife in the river environs. This includes risks to the increased numbers of salmon spawning in gravel beds downstream of the WWTP.

In the light of the above, we would expect and, indeed, anticipate that the Environmental Protection Agency will hold true to its title and withhold licencing this WWTP until these issues are satisfactorily resolved. Preventative actions are always preferable to remedial actions.

The following pollution incidents are indicative of the on-going litany of such events. These are latest incidents for which we have photographic evidence.

Once again the following emails and photos will be listed as close to the chronology as is possible.

Regards,

David Burke

Environmental Officer,

Womanagh Angling & Development Association.

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Gillian,

Having had time to study the implications and inferences of the contents of your email shown below, we have the following observations and questions. We would very much appreciate your response to same.

Email received on 20/09/2011 in response to email enquiry as to remedial work carried out at Castlemartyr Waste Water Treatment Plant in light of the recent pollutant release incident. Copy was circulated to Brendan Kissane, EPA

Denis,

Further to your email below regarding the above, I have been advised by the Waste Water Engineer for Castlemartyr area that the following work was carried out:

- 1. The dissolved oxygen limits in the Aeration Tank were raised to give a cut in limit of 2 mg/l for the aerators*
- 2. Additional sludge was diverted to the Picket Fence Thickener Tank to lower the level of Mixed Liquor Suspended Solids in the Aeration Tank and therefore increase the food to matter ratio in the Aeration Tank*
- 3. Polyelectrolyte was dosed at the outlet from the Aeration Tank to improve settlement*
- 4. A piping modification was carried out to the outlet from the clarifier to enable the area outside the outlet channel be cleaned and the residual material be discharged to the inlet sump*

Kind Regards,

Gillian Vaughan

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Womanagh Angling & Development Association Response:

The overall impression of the stated work carried out would indicate that the bacteria died/sickened due to lack of oxygen. The sludge (bacteria) would settle in the clarifier and discharge in the effluent as solids. The works as stated above would merely be immediate/minor modifications to get the plant back up and running. We do not see any/all of the works listed above as a long term, permanent solution to the litany of noxious discharge incidents from this WWTP.

The bacteria which breakdown the waste (food for bacteria) need to be in an aerated environment. There should be a probe/s in the aeration tank which measures the excess dissolved oxygen and a limit should be set at which the aeration pumps kick in. This should be set at typically 2mg/l or higher to ensure there is always enough oxygen for healthy bacteria. If the oxygen level is too low the bacteria will die or get sick and will be discharged as solids in the effluent.

In respect of Item 1:-

This is a simple change which should have been in place from day 1 - probes must be cleaned and calibrated regularly to give accurate readings or the plant can fail catastrophically.

(1a) What is the maintenance/calibration frequency for the dissolved oxygen probes?

(1b) Why was the limit of 2mg/l not operated at up to now?

(1c) Was low dissolved oxygen the cause of the excess solids in effluent?

(1d) If so, why did levels go so low, did air pumps fail, did probes fail, other reason?

In respect of Item 2:

It would seem that there was a build up of excess sludge (bacteria) in the aeration basin and this action is merely a temporary measure to get the bacteria level back to where it should have been in the first place. The Mixed Liquor Suspended Solids (mlss - i.e. concentration of bacteria) should be maintained at a predetermined optimum level by diverting some sludge from the aeration tank daily.

(2a) Why was the mlss concentration not maintained in the first place?

The food to mass ratio refers to the amount of waste(food) to bacteria(mass) which should be maintained at a constant level if the plant is well managed. It is clear the plant was not managed well resulting in high bacteria mass levels and they diverted more to bring the levels back to where it should have been in the first place.

(2b) What corrective measures are being taken to ensure the food mass ratio and Mixed Liquor Suspended Solids are maintained in future?

(2c) Was this the reason for the low dissolved oxygen, too much bacteria, not enough air?

In respect of Item 3:

Polyelectrolyte is a chemical which coagulates suspended solids in the clarifier and helps improve settlement of the solids and prevent the solids discharging in the effluent. This was obviously a temporary measure to try to deal with the excess solids (bacteria/sludge) discharging in the effluent probably caused by lack of oxygen in the first place.

(3a) What was the root cause of the excess solids in the effluent/mlss and what measures are being taken to prevent a similar issue happening again?

In respect of Item 4:

The pipe modification just allows the operator to clean the solids in the discharge pipe/sump back to the plant and not into the river. This would appear to suggest that it is expected there will be solids discharged in the effluent again in the future which is not acceptable.

(4a) What changes are going to be made at the front end of the plant to prevent solids from discharging to the outlet?

(4b) Should the operator refer to items 1 and 2, then they need to clarify why they did not operate at 2mg/l up to now and how will they ensure this dissolved oxygen level is measured accurately and continuously going forward

and how will they ensure Mixed Liquor Suspended Solids and food to mass ratios will be monitored regularly and maintained at optimum levels in future.

Best Regards,

Denis Long, Hon. Sec.,

Womanagh Angling & Development Association

N.B. We did not receive any response to this email. Perhaps it should be the EPA asking those questions. Would the EPA be ignored?

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Hi all,

this is a copy of an email sent today to Cork county council, EPA and Andrew Gillespie.

Cheers,
Dave

----- Forwarded message -----

From: **David Burke** <burkesat37@gmail.com>

Date: Mon, Mar 12, 2012 at 12:06 PM

Subject: Castlemartyr WWTP discharge

To: gillian.vaughan@corkcoco.ie

Cc: b.kissane@epa.ie, andrew.gillespie@fisheriesireland.ie, daveokeeffe2005@hotmail.com

Hi Gillian,

I am the environmental officer for the Womanagh Angling and Development association based in the East Cork. You have previously corresponded with my colleague Denis Long on serious pollution and operational problems relating to the Castlemartyr WWTP. Since reporting incidents at the end of last summer there has been an improvement in the general quality of discharge to the Kiltha river largely due to the introduction of offsite treatment - ie. a tanker has been arriving every day to remove "product" from the treatment plant.

Unfortunately for the past number of weeks we have noticed deterioration in the quality of water discharged in to the river along with seriously noxious discharge to the drains surrounding the plant which is open to the public. (photographic proof attached)

We all know the plant is incapable of treating the quantities of waste it accepts so a contingency has been put in place - ie. daily removal of excess by a tanker - logic would suggest the plant needs more careful monitoring as a result, however this has obviously not happened.

This treatment plant is supposed to be operated by Cork county council, funded through our taxes, yet you (Cork county council) seem patently incapable of doing so. Our association seems to provide the only proactive and honest monitoring system, perhaps motivated by our concern for the atlantic salmon and sea-trout eggs recently deposited in the Kiltha river by well-meaning but perhaps misguided adult salmon and sea-trout. They wont last long if Cork County council and EPS have anything to do with it! I'm sure Inland Fisheries Ireland are very interested in monitoring the progress of these salmon.

I would ask you to please ensure the pollution of our river and wood ceases immediately and that more robust processes are adopted to ensure these problems are adressed once and for all.

Yours
David Burke

----- Forwarded message -----

From: David Burke <burkesat37@gmail.com>

Date: Thu, 22 Mar 2012 19:46:06 +0000

Subject: Re: PAE2011/115 FW: Castlemartyr WWTP discharge

To: Gillian Vaughan <Gillian.Vaughan@corkcoco.ie>, Jack McCarthy <Jack.McCarthy@corkcoco.ie>, daveokeeffe2005 <daveokeeffe2005@hotmail.com>, "andrew.gillespie"

<andrew.gillespie@fisheriesireland.ie>, sbaccounts <sbaccounts@eircom.net>

Gillian/Jack,

please find attached photographs from the outflow of Castlemartyr WWTP taken today 22.03.12 From looking at the photographs the discharge to the river would not seem to me to be of an acceptable quality. I would be interested to see the results of the monitoring system from the 24 hour period including today.

If the monitoring system indicates that the quality of discharge from today is within accepted limits then the reliability of the monitoring system must be questioned.

I am not aware of any period of heavy rainfall in recent days to which this problem could be attributed.

Quite honestly we could probably send similar photographs every day or every week yet this problem persists. This has been our frustrating experience over the past number of years, with our claims of unacceptable discharge being ignored or not believed.

I sincerely hope the matter will be taken seriously and we will be presented with some long-term solutions at the proposed meeting next week.

Regards,

David Burke

Environmental Officer, Womanagh Angling & Development Association

On Tue, Mar 20, 2012 at 4:26 PM, Gillian Vaughan <Gillian.Vaughan@corkcoco.ie> wrote:

- > David,
- > Further to your email below regarding Castlemartyr Waste Water
- > Treatment Plant, please see report from the Waste Water Engineer for
- > Castlemartyr area below;
- >
- >
- > Castlemartyr WWTP is operated on a contract basis by EPS Ltd on behalf
- > of Cork County Council. As part of this contract the final effluent is
- > sampled and tested on a weekly basis by EPS and on a monthly basis by
- > the Council laboratory at Inniscarra, an accredited laboratory. The
- > results of the weekly and monthly sampling regime demonstrate that the
- > quality of the final effluent is consistently compliant with the Urban
- > Waste Water Directive.
- >
- > Cork County Council is aware of the situation with regard to
- > occasional overflows at the inlet works during periods of very heavy
- > rainfall. Funding has been applied for to enable works to proceed in
- > 2012 to alleviate this problem. It is anticipated that funding will be
- > provided and that the necessary works will be carried out in 2012.
- >
- > Kind Regards,
- >
- >
- > Gillian Vaughan

February 2012





March 2012



22nd March 2012 - Photos referred to in email of same date.

