

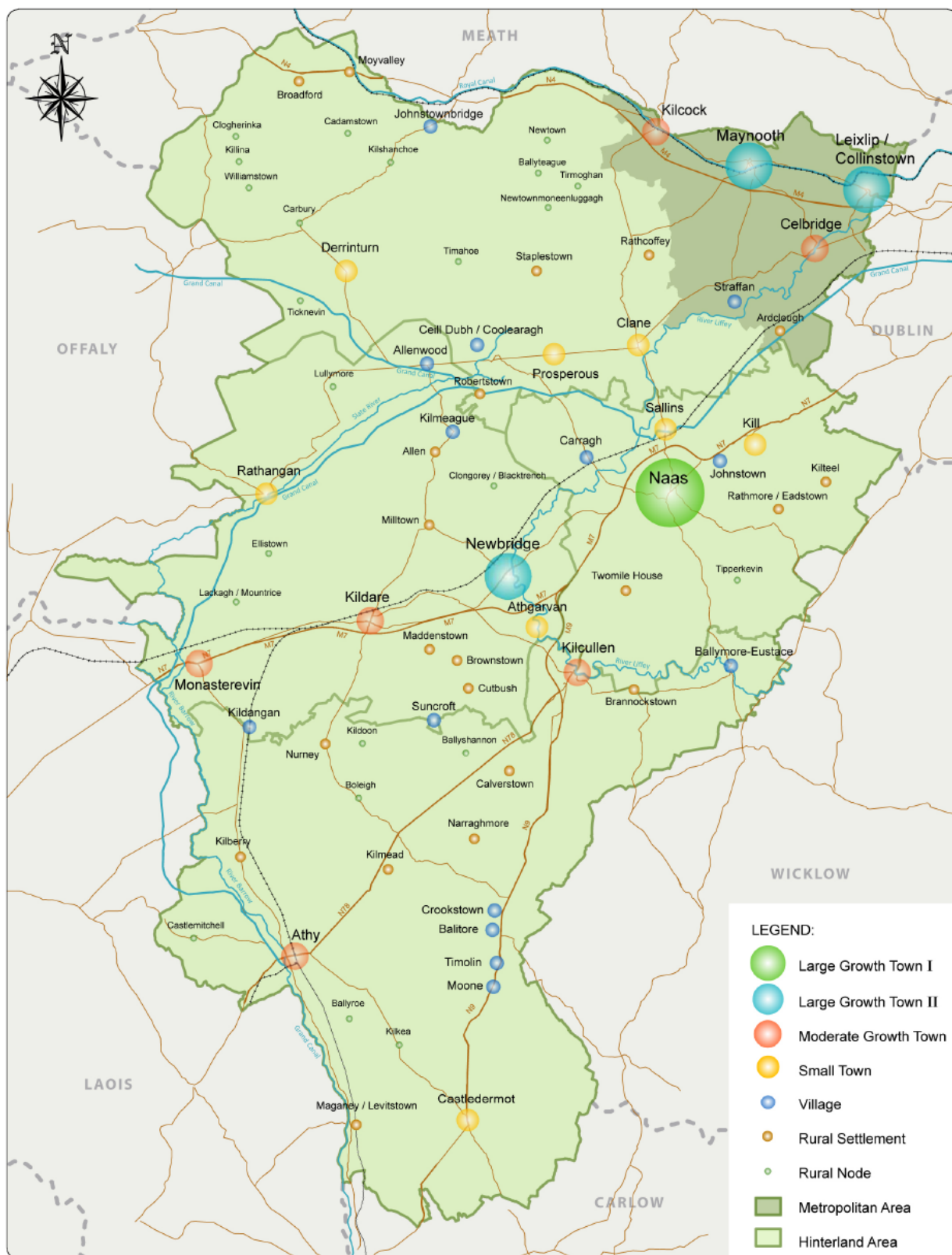


**BALLYMORE EUSTACE WASTEWATER DISCHARGE LICENSE
GRANTED ON 17TH FEBRUARY 2011
(EPA Ref: D0238-01)**

Local Authority
Project Title
Document Title
File

Kildare County Council
Ballymore Eustace Wastewater Discharge License
Annual Environmental Report 2012
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Kildare CDP 2011 - 2017

Settlement Hierarchy Map

Scale: N.T.S.

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Date: 02 May 2011

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Drawn by: G.M.G.

This drawing is to be read in
conjunction with the written statement



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1. EXECUTIVE SUMMARY AND INTRODUCTION TO 2012 AER

1.1 Introduction

A Wastewater Discharge License was granted for the Ballymore Eustace agglomeration on 17th of February 2011 under the Waste Water Discharge (Authorisation) Regulations 2007. This is therefore the second AER compiled since the grant of the license.

1.2 Brief Description of Wastewater Treatment Works

The existing Ballymore WWTP is approximately 41 years old and comprises of a gravity feed from an inlet pipeline into an open-top Imhoff primary settlement tank, which is located at ground level. The tank comprises a perimeter overflow weir across which the wastewater flows, following settlement, followed by gravity flow to discharge to the adjacent river Liffey.

The design capacity of the Ballymore WWTP is 500 population equivalent (PE) and the current agglomeration was found to be 1509PE in 2008 and is therefore significantly overloaded. There is no effective treatment of the wastewater, and this is acknowledged in the Inspector's report prior to grant of the discharge license. It is stated however in the license application that a new 2000PE WWTP will be constructed. This new 2000 PE WWTP was commenced in Q4 of 2012 and will be completed and commissioned by Q4 of 2013.

The present plant is therefore considered not to meet the requirement of “*Appropriate Treatment*” in terms of the level of treatment necessary to protect water quality

1.3. Discharge License Limits

The following limits have been applied to the Ballymore Eustace Agglomeration under License D0238-01:

Parameter	Emission Limit Value
PH	6.0 – 9.0
CBOD	25ppm
COD	125ppm
Suspended Solids	35ppm
Ammonia (as N)	5ppm
Total Phosphorous (as P)	2ppm
Orthophosphate	1ppm

1.4. Discussion of Results and Monitoring Frequency

The Inlet and Outlet of the Ballymore Eustace WWTP were tested on a monthly basis for the parameters set by the Discharge License, which were BOD, COD, S.S., pH, NH₃, TN, TP, and Ortho-P. It can be clearly noted from the Outlet results obtained, that these results did not meet the limits as set out in Ballymore Eustace WWTP License. This is the main reason for the upgrade of the WWTP, which is taking place presently and will be finished by the end of 2013.

Ambient samples were taken 50m Upstream and 50m Downstream of the WWTP on a weekly basis for visual examination, and on a monthly basis for parameters listed in the License. The parameters that were tested are as follows, pH, BOD, COD, S.S., Ammonia, TP and Ortho-P. It can be observed from the monitoring results that despite the lack of adequate treatment of effluent; the WWTP had no significant impact on the River Liffey 50m downstream.

It is clear from all of the monitoring results at Ballymore Eustace that the WWTP at Ballymore is not capable of treating the influent to the Plant to the parameters as set out in the License, hence the reason for the upgrade which is taking place at the moment.

2 SUMMARY OF MONITORING RESULTS

A tabular presentation of waste water treatment plant monitoring results for 2012 will be submitted for all WWTP's >500PE as per the annual Urban Wastewater Treatment Returns, at the end of February this year. It can be clearly observed from the results that were obtained from Ballymore that the existing WWTP does not work as it is overloaded but it is expected that the new WWTP that commenced towards the end of 2012, will meet the requirements of Ballymore Eustace Waste Water Discharge License issued in February 2011.

2.1 Summary Report on Monthly Influent Monitoring

2.1.1 License Requirements

Condition 4.14 requires that the following parameters are monitored on the inlet to the works: BOD, COD, SS, Total Nitrogen, and Total Phosphorous on a monthly basis so as to assess the Mass Loading and Removal Efficiency. The averages of these parameters can be observed in the table below. Since there is not any flow monitoring equipment available at Ballymore Eustace in the existing Plant, the Hydraulic Loading, and the Organic Loadings for the Plant cannot be worked out at this stage. The new Plant will however have Flow monitoring equipment and these figures will be able to be worked out when the upgrade is completed.

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	TP (mg/l)	TN (mg/l)	Hydraulic Loading (m3/d)	Organic Loading (PE/day)
Number of Samples	12	12	12	12	12		
Annual Max.	511	1211	390	3.7	45	n/a	n/a
Annual Mean	193	463	243	3.17	35	n/a	n/a

2.1.2 Hydraulic Loading and Organic Loading:

Unfortunately due to the lack of an Influent Flow meter; hydraulic organic loadings at this stage were not able to be worked out. There will be however flow meters in the new Plant, and both the Hydraulic and the Organic Loadings, will be able to be worked out when the new Plant is completed.

2.1.3 Commentary of Results

It was noted that on some days of the year that the COD figures and BOD figures were significantly higher than normal. It is very difficult to pinpoint the exact reasons for this possibly due to farmyard washing, or Public House, or Restaurant washings.

2.2 Discharges from the agglomeration

2.2.1 License Requirements (Limits of New Ballymore WWTP)

Parameter	Frequency	Emission Value
Flow	Continuous	
Temp	Daily	
pH		6 – 9
Conductivity	monthly	
cBOD	monthly	25
COD	monthly	125
SS	monthly	35
Phenols	quarterly	Not stated
Ammonia	monthly	5
Total P	monthly	2
Ortho P	monthly	1
Colour	weekly	Not stated
Faecal coliforms	Monthly	Not stated
Metals & organic compounds	As required	Not stated
Visual	Weekly	Not stated

Table 2.2.1

2.2.2 Effluent Monitoring Summary Table (Existing Plant):

	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	Total P (mg/ l)	Ortho - P	NH3 (mg/l)	pH	Comment
WWDL ELV (Schedule A)	25	125	35	2	1	5	(6-9)	
ELV with Condition 2 Interpretation included	50	250	87.5	2.40	1.2	6	(6-9)	
Number of sample results	12	12	12	12	12	12	12	
Number of sample results above WWDL ELV	12	12	12	12	12	12	0	
Number of sample results above ELV with Condition 2 Interpretation included	12	12	12	12	12	12	0	
Annual Mean (for parameters where a mean ELV applies)	None	None	None	None	None	None	7.43	
Overall Compliance (Pass/Fail)	Fail	Fail	Fail	Fail	Fail	Fail	Pass	

Comments on Existing Plant Effluent Monitoring Summary Table:

It can be observed from the above table that there is virtually no treatment of Wastewater in the existing WWTP in Ballymore Eustace, but the new Plant that is in progress momentarily will yield full compliance of the Final Effluent.

2.3 Treatment Efficiency Report:

	cBOD (kg/day)	COD (kg/day)	SS kg/day	Total P (kg/day)	NH3 (kg/day)	Ortho-P (kg/day)
Influent mass loading (kg/day)	None	None	None	None	None	None
Effluent mass emission (kg/day)	None	None	None	None	None	None
%Efficiency (%reduction of influent load)	None	None	None	None	None	None

Comments:

Please note that all of the above have a reading of “None” as there are no flow readings to work out the loadings to the Plant, and because of this, loadings could not be worked out. The new Plant however will have a flow monitoring systems so all of these loading figures will be able to be worked out in future AER’s.

2.4 Treatment Capacity Report:

Hydraulic Capacity-Design as Constructed (m3/day)	None
Hydraulic Capacity-Current Loading (m3/day)	None
Hydraulic Capacity-Remaining (m3/day)	None
Organic Capacity-Design/As Constructed (PE)	500
Organic Capacity-Current loading (PE)	None
Organic Capacity-Remaining(PE)	None
Will the capacity be exceeded in the next three years (Yes/No)	Yes

Comments:

In the above table the Capacity figures could not be worked out as there are not any Flow Figures for this Plant, as there is not any Flow-Meter on site. The new Plant however will have Flow Recorders fitted into it.

2.5 Ambient Monitoring Summary:

The License requires testing of the River Liffey 50m Upstream, and 50m Downstream, of the Discharge point at Ballymore Eustace. The License Requirements can be observed from the table below. These Parameters are required to be tested 10 times a year, but are normally carried out on a monthly basis.

License Requirements

Parameter	Frequency	Analysis method
pH	10 samples/yr	pH electrode
DO	10 samples/yr	DO probe
BOD	10 samples/yr	Standard method
Ortho – P	10 samples/yr	Standard method
Ammonia	10 samples/yr	Standard method
Metals & organic compounds	As required	Standard method
Faecal coliforms	10 samples/yr	Standard method
Visual inspection	Weekly	Colour & odour
SSRS	Annually	To be agreed with Agency

Ambient monitoring Report Summary Table:

Ambient Monitoring Point from WWDL (or as agreed with the EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality
Upstream	292620E, 209713N	TPEFF 1400 DO238 SW 002	No
Downstream	292507E, 209822N	TPEFF 1400 DO 238 SW 003	No

Ambient Monitoring 50m Upstream and Downstream Average Results of Ballymore Summary Table:

Parameter	50m U/S results average	50m D/S results average	EQS value	Comments D/S Results
pH	7.50	7.54	None	High Quality
BOD	1.0mg/l	1.2mg/l	High <1.3 or <2.2 or Good <1.5 or 2.6 95%	High Quality
Ortho-P	0.045	0.07mg/l	High <0.025 or 0.045 or Good <0.035 or 0.075 95%	Reasonable Quality
Total P	0.12	0.16mg/l	None	High Quality
Ammonia	0.12	0.17mg/l	High <0.040 or 0.090 95% or Good 0.065 or 0.140 95%	Reasonable Quality
COD	21	27mg/l	None	High Quality
S.S	1	1.4mg/l	None	High Quality
Metals/ Organics	Tested for 2011 AER	Tested for 2011 AER	Reasonable Quality	Reasonable Quality
Fecal Coliforms	Tested 10 times	Tested 10 times	No EQS	High Quality
Visual Examination	Clear	Clear	No EQS	High Quality
SSRS Assessment	Not carried out	Not carried out	No EQS	Not carried out

Summary of Results:

In terms of the Downstream Results from the River Liffey at Ballymore Eustace, we can determine that there is little or no impact to the River from the Effluent Discharge at Ballymore. The reason for this is that the River Liffey at Ballymore is an extremely fast flowing River, with extremely high dilution. Therefore there is no real impact in the deterioration of the River water quality 50m Downstream.

In terms of Toxic Substances Results, we found that the levels of Dissolved Zinc were slightly high in the Outlet of the Plant i.e. at 39ug/l, and at 9.0ug/l for the Upstream, and at 7.0ug/l for the Downstream of the wwtp. However this value of Dissolved Zinc did not have any detrimental effect on the river water quality at Ballymore Eustace, as this River has an EQS value of 100ug/l. Toxic Substances both 50m Upstream and 50m Downstream were tested and submitted for the 2011 AER, and can be observed in Appendix 4 of the 2011 AER.

Total Coliforms were tested both 50m U/S and 50m D/S of the Discharge ten times during the year as part of the License agreement. There are not any EQS standards for this Coliform test but on the days the Upstream and the Downstream were sampled during the year the river water appeared to be of very good quality.

On a weekly basis the River Liffey at Ballymore Eustace WWTP both 50M U/S and 50 M D/S was examined for visual appearance and colour, and excellent results were obtained. It was determined each and every week that the Downstream was of very good visual quality, and did not show any deterioration in water quality. From these results it can be determined that the WWTP at Ballymore is not having a significant impact on the River Liffey quality Downstream, of the WWTP at Ballymore.

Unfortunately an SSRS assessment at Ballymore WWTP was not carried out this year due to resourcing issues but it is expected that this will be tended to in next year's AER.

2.6 Data collection and reporting requirements UWWTD

It is confirmed that the annual urban wastewater returns for agglomerations and treatment plants with a population equivalent greater than 500 is submitted electronically by the 26th Feb each year by Kildare County Council, and all of the data from Ballymore Eustace WWTP will be submitted by this date.

2.7 Pollutant release and transfer register (PRTR) – report for previous year

Due to the lack of both Influent and Outlet flow monitoring systems at Ballymore Eustace WWTP, it was not possible to carry out a PRTR report as part of the 2012 AER. However there will be Influent and Outlet Flow-meters in the new Ballymore Eustace WWTP, and a PRTR report will be carried out when this new WWTP is completed.

3. Operational Reports Summary

3.1 Complaints Summary:

Throughout 2012, there were no any complaints received about Ballymore Eustace WWTP to our Water Services Department, hence there were not any complaints logged for Ballymore in 2012.

3.2 Reported Incidents Summary:

Throughout 2012, there were no Incidents to report as the DL ELV's did not come into effect until 31st Dec 2012. Kildare County Council has signed up to the new EDEN system and all incidents will be uploaded to EDEN for any relevant incidents since that date.

4. Infrastructural Assessments & Programme of Improvements

4.1 Storm Water Overflow Identification and Inspection Report

As outlined in Appendix 5 of the 2011 AER, the upgrade of the BME WWTP, including the two SWO's had been part of the Kildare County Council WSIP for many years. These works commenced towards the end of 2012 and are expected to be completed by Q4 2013.

It was therefore deemed pointless to carryout a SWO assessment of the existing SWO's at this moment in time.

4.2 Report on Progress made to meet the Imp' Programme Requirements

As outlined in 4.1 above, major upgrade works have recently commenced at BME WWTP, and a full programme was issued as part of the 2011 AER. It is proposed by Kildare County Council to defer from reporting on this until the upgrade works have been completed. Instead, a full review will take place once the upgrade has been completed and this review will include for everything required by the EPA guidelines.

5. Environmental Liability and Financial Provisions

5.1 Statement of Measures

As the upgrade is in progress, it is deemed inappropriate to comment on this section at the present moment.

5.2 Environmental Liabilities Risk Assessment

Kildare County Council are currently in discussions with our Insurance advisors to have an insurance policy in place to cover all risks associated with discharges from BME WWTP, and it is our understanding that this is being discussed in liaison with the CCME for a Nationwide policy. A copy of this policy will be forwarded to the EPA as soon as this policy has been agreed and signed off on.

In the meantime, Kildare County Council will ensure that funding is set aside in revenue budgets so as to comply with this condition for the short-term.

6. Licence Specific Reports

Licence Specific Report	Required in 2012 AER or outstanding from previous AER	Included in 2012 AER
Priority Substances Assessment	Yes	Yes
Habitats Impact Assessment	No	No
Shellfish Impact Assessment	No	No
Pearl Mussel Report	No	No
Toxicity/Leachate Management	No	No
Toxicity of Final Effluent Report	No	No

Comments:

An initial screening of toxic and organic compounds was carried out in 2011. This table of results can be observed in Appendix 4 of the 2011 AER for Ballymore Eustace. A screening of toxic and organic compounds was not carried out for this year's AER, as the WWTP at Ballymore Eustace is being upgraded at the moment.

Nothing of significance showed up during our 2011 screening for toxic and organic compounds, and at the time the only parameter that showed up in the screening for metals and organic compounds was the level of dissolved Zinc in the Outlet. This Level of Dissolved Zinc in was 40 ug/l, and the levels in the river were 9.0ug/l for the Upstream and 7.0ug/l for the Downstream respectively. This level of Dissolved Zinc was only a slightly elevated level and did not affect the quality of the river water at Ballymore Eustace in any way, as the EQS value for the River at Ballymore is 100ug/l. It can be observed from all of the testing that was carried out at Ballymore, that the River is still of excellent quality.

Condition 4.10.1 of the WWDL for Ballymore Eustace states that "A representative sample of effluent from the primary discharge point shall be screened for the presence of organic compounds and metals within 6 months of the completion of the proposed WWTP". Screening of metals and organic compounds was carried out for the 2011 AER, and due to the fact that the WWTP at Ballymore is being upgraded presently, a screening of toxic and organic compounds was not carried out for this year's AER. However 6 months after completion of the upgrade of the Ballymore WWTP, the effluent from the plant will be screened for toxic and organic compounds and a report of these results will be included in the AER for 2013.

6.1 Priority Substances Assessment

This is not a requirement as Condition 4.10.1 of the WWDL for Ballymore Eustace says that the Outlet of Ballymore Eustace has to be screened for the presence of toxic and organic compounds 6 months after the upgrade is completed, and since the upgrade will not be completed until the end of this year an Assessment of Priority Substances cannot be carried out at this stage. This will however be carried out when the new Plant is completed and will be documented in next year's AER.

6.2 Drinking Water Abstraction Point Risk Assessment

A Drinking Water Abstraction Point Risk Assessment Report is non applicable for this Licence.

6.3 Shellfish Impact Assessment Report

A Shellfish Impact Assessment Report is non-applicable for this Licence as discharge from the WWTP is into the River Barrow and not into the sea.

6.4 Toxicity/Leachate Management

A Toxicity/Leachate Management Report is non-applicable for this Licence.

6.5 Toxicity of the Final Effluent Report

A Toxicity of the Final Effluent Report is non-applicable for this Licence.

6.6 Pearl Mussel Measures Report

A Pearl Mussel Measures Report is non-applicable for this Licence.

6.7 Habitats Impact Assessment Report

A Habitats Impact Assessment Report is non-applicable for this Licence.

7. Certification and Sign Off

Pursuant to the provisions of the Waste Water Discharge (Authorisation) Regulations, 2007 I hereby submit the 2012 Annual Environmental Report (AER) for Ballymore Eustace Agglomeration (Licence Register Number: D0238-01).

Does the AER include an executive summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works?	Yes
Is there a need to advise the EPA for consideration of a technical amendment / review of the licence?	No
Reason	N/A
Is there a need to request / advise the EPA of any modifications to the existing WWDL?	No
Reason	N/A
Have these processes commenced?	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	N/A
List outstanding reports	N/A

I certify that the information given in this AER is truthful, accurate and complete.

Signed by: _____

(On behalf of the organization)

Print signature name: _____

Position in organization: _____

Date: _____