

Boolaglass
Askeaton
Co.Limerick
15-10-2007

**Environmental Protection Agency
Johnstown Castle Estate
Co.Wexford**

Dear Sir

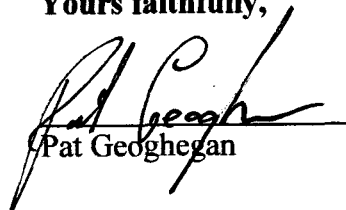
We wish to object to the granting of the Proposed Determination on the application for a review of an IPPC license **P0035-04** from Aughinish Alumina Ltd of Aughinish Island, Askeaton, Co.Limerick. In respect of an activity at Aughinish East, Aughinish West, Island Mac Teige, Glenbawn West and Fawnamore Askeaton Co.Limerick, by the EPA Board.

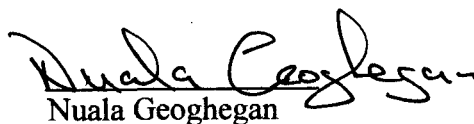
We are also requesting an **Oral hearing** in relation to the granting of this review.

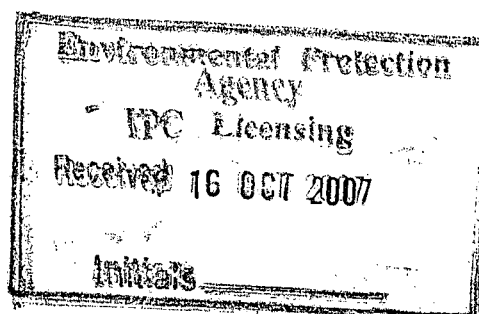
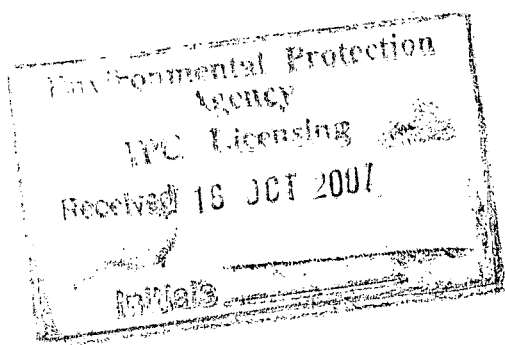
Our objection is contained in **section 1** and **2**

Our objection is supported by Cappagh Farmers Support Group in **section 3** and Bleach Lough Water retention committee in **section 4**.

Yours faithfully,


Pat Geoghegan


Nuala Geoghegan

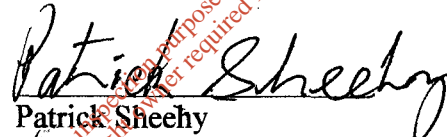


Pat and Nuala Geoghegan
Boolaglass
Askeaton
Co.Limerick


Pat Geoghegan

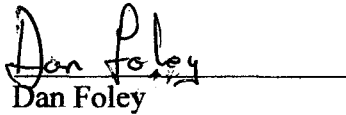

Nuala Geoghegan

Cappagh Farmers support group
Patrick Sheehy (Chairman)
c/o Pat & Nuala Geoghegan
Boolaglass
Askeaton
Co.Limerick


Patrick Sheehy

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Kildimo/Pallaskenry Water Retention Committee
Dan Foley (Secretary)
c/o Pat & Nuala Geoghegan
Boolaglass
Askeaton
Co.Limerick


Dan Foley

Please find enclosed our grave concerns and observations in relation to our objection. Section 1 deals with the EPA inspectors report.

Italics shows sections taken from Inspectors report
Our comments are in bold and ordinary type

BRDA1 existing Mud Pond and BRDA2 new Mud Pond extension

The older part of Phase 1 is unlined (except for in-situ low-permeability glacial and marine clays and silts). The Phase 1 extension (SE corner of Phase 1, see Figure 2) was engineered with a composite liner.

It is totally unacceptable that BRDA 1 has an area of approx 165 acres unlined since production started in 1983 a total of 24 years destruction to the groundwater. The licensee has 18 years of that with BRDA 1 under the supervision of the EPA. The EPA have not enforced the law in stopping the red dust blow from BRDA 1 on to our lands causing serious problems to our animals and destroying our livelihood.

There were no proposals by the EPA to inspect the condition of the section of lining in BRDA 1 to see how it lasted the test of time before even granting the new BRDA 2.

Dust is controlled at the BRDA via a sophisticated network of sprinklers as per the Inspectors report this statement is incorrect.

It is clear from EPA audit reports that sprinklers have been off for a considerable amount of time which would lead to a drying out period and thus causing the toxic dust to blow of site contaminating our lands and others.

The proposed Phase 2 development will be composite lined (mineral and synthetic liner combination) to EPA standards. In the very south of the development hydrogeological assessment determined a potential risk of groundwater contamination due to the expansion. The applicants propose a double composite liner system for this part of the site.

It is clear that the New BRDA 2 cannot now be guaranteed that it will not leak and contaminate, this is backed up by the licensee proposing a double liner in part of BRDA2 in trying to contain these leaks.

A precedent has been set by the licensee AAL management of BRDA 1, their mismanagement record of the Aughinish Alumina plant and the concealment of spillages and numerous other breeches under their existing IPPC licence is a indictment to the fact that they are not fit and proper persons to be relied upon to give proper and accurate accounts of the happenings and the management of BRDA 2.

The EPA should not have granted the extension to BRDA2 on this basic. The licensee will loose what ever interest they had in BRDA1 once BRDA2 is granted, Thus insuring that our farm, our animal and our family will be exposed to even greater levels of environmental pollution.

The EU has instructed Ireland to reduce the amount of waste going into landfill by 2010. This begs the question how then can the Irish EPA justify allowing this licensee to extend their waste landfill to a further 80 hectares on top of their existing 100 hectares toxic mud pond BRDA 1 and still implement the EU waste directive. The EPA board has total disregard for Europe in this incidence.

As part of the BRDA extension works the applicants propose to close the existing salt cake (hazardous waste) disposal area in the BRDA and construct a special 1ha disposal cell for the salt cake in another part of Phase 1 of the BRDA. The codisposal of compatible hazardous waste with non-hazardous waste is permitted under the terms of the EU Landfill Directive subject to regulatory approval. This practice has been approved by the Agency.

The EPA has facilitated the codisposal of hazardous waste with non hazardous waste under the EU landfill directive. Here the EPA uses the EU directive when it helps the licensee to mix hazardous waste and on the other hand ignores the 2010 EU reduction on landfills.

The EPA should have classed BRDA1 as hazardous. As per EPA Inspectors reports the Red Mud was classed as Hazardous by them. The Salt Cake is Hazardous and the Groundwater monitoring to the north of this pond indicated some loss of effluent to the ground. No figures are produced to show what the losses are on a monthly or yearly as per this loss.

It is proposed to restore the BRDA to nature conservation use. The EPA have been aware for years that no vegetation can be grown on BRDA1. Studies throughout the world have shown this. An Alumina Industry have tried the making of bricks for the building of a house from the mud ponds material. The only problem was when the house was built no one could live in it because of how high radioactive it was.

The EPA and the licensee have together bought time on this for years knowing that what you have now is what you will have in 20 -50 years time. BRDA1 and BRDA2 will be opened to the wind elements for many years to come the damage been caused will be devastating especially to our farm who receive it frequently.

The BRDA is located close to the Estuary and behind a tidal and flood defence wall. The base of the BRDA is close to sea level. and parts of the phase 2 footprint are currently subject to tidal ingress As part of the IPPC review application the applicants were asked to undertake a detailed failure risk assessment that factored in sea-level rise scenarios. The results of the study indicated acceptable factors of safety for such constructions. The BRDA is designed to withstand a 1:200 year storm event. Recommendations arising from this failure risk assessment report are included in the conditions of the Recommended Determination.

On such a serious matter the EPA should have carried out their own Independent failure risk assessment and not the licensee especially since the Inspector states that the AAL could continue to operate for up to 90 years or so.

*Modelling of potential dust emissions from the extension to the BRDA suggests emissions will be within acceptable limits by the Inspectors report **but this is contradicted in the next line by the Inspector stating that the modelling predicted a potential for increase in dust deposition (with metals) in the area of the local water treatment plant.***

*Chemical anomalies in the groundwater north **again no amount shown on a monthly or yearly for such leakage**-and west of the BRDA indicate some losses from the BRDA. This is the older unlined part of the BRDA. **Further proof of serious contamination from the unlined part-***

Approximately 2t of red mud and sand waste is produced for every 3 tonne of Alumina produced. The current red mud and sand waste production rate is 1,274,000 tonnes per annum and this is expected to rise proportionate to the annual production increase to 1.95Mt alumina. Both these waste streams are classed by the applicant as non-hazardous which conforms with entries in the EU waste catalogue and hazardous waste list.

*It's clear from the EPA Inspectors stating that the applicant has classed red mud and sand waste as non-hazardous. **The Inspector himself has not classed the red mud or the sand waste as non-hazardous in this report because the EPA Inspectors Audit reports have classed the red mud as Hazardous.***

*The total volume of the Phase 1 and 2 BRDA is estimated at 20,million tonnes. The Phase 1 area is c.100ha and the Phase 2 extension is c.80ha. **Has the EPA board not lost the run of its self for this Industry in granting this review which will now give in total an estimate of 20 million tonnes of a toxic dump over 180 hectares equivalent to 427 acres.** The Inspector comments that total area 180ha is equivalent to 140 times the size of Croke Park pitch.*

Air:

The main point emissions on the site are the three HFO boilers (one stack), the gas powered CHP plant, and the HFO operated Calciner stack (three flues in one). SO_x, NO_x and dust are the main emissions. Compliance with ELVs is good. Abatement technologies are BAT for the sector.

Also monitored on site is dust deposition, odour and sodium hydroxide (NaOH). 10 No. ambient air monitoring stations in the area of the installation indicate NO_x and SO_x levels that are well within EU air quality standards. Ambient dust gauges indicate an average dust deposition rate of 65mg/m²/day (TA Luft is 350 mg/m²/day). Dust levels in suspension are also well within ranges typical of a rural area. Emissions are also within the limits specified in the EU Air Quality Directive (1999/30/EC) for the protection of ecosystems.

A summary to date of Audit reports by EPA Inspectors over the years questions the reliability of the above monitoring. The monitoring by the Licencee and their past performance in regard to the furnishing of results, calibration of equipment, masking of results and not reporting incidences under their licence shows clearly that the results quoted above should and can be view with a lot of scepticism.

The EPA have between these Audit reports and the huge volume of Non Compliances on file between the EPA and this licensee, since the EPA first issued AAL with a IPPC Licence back in the 90s, but still the EPA body went ahead in granting this review.

Company

Aughinish Alumina Ltd. (AAL) is 100% owned by Glencore International AG, a private Swiss based trading company. **From press statements and media coverage has part or not all of Aughinish Alumina Ltd/ Glencore changed ownership since this review was requested by Aughinish Alumina Ltd/ Glencore. Has the EPA taken this change of ownership into account when granting the review to this licence.** The Inspector has referred to this below(next paragraph) which we have presented in bold print. **The inspector had completed his report before sale was agreed.**

*In relation to the financial status of the operation the company have demonstrated sufficient insurance cover in relation to accidental liabilities. In relation to known liabilities (closure, restoration & aftercare), a closure plan for the existing facility (plant site & BRDA) has been agreed with the EPA under the existing licence and has been costed in 2001 at €5.08M. This is currently guaranteed by company pledge. The current closure costs (in 2006) are estimated at €8.9M. The costs for the extended facility (new Phase 2 extension to BRDA) brings the closure cost to €14.2M. These sums are significant liabilities and a company pledge for all its good intentions is not a fail-safe financial mechanism in the event of forced closure or insolvency or transfer of interests (**sale of company is currently under discussion**). The RD requires the establishment of a 'ring-fenced' (not available to liquidator or other creditors) bank guaranteed fund/financial instrument to ensure sufficient capital is available to safely close the site and provide for aftercare.*

It is my view, and having regard to the provisions of Section 84(5) of the EPA Acts and the conditions of the RD, that the applicant can be deemed a Fit and Proper person for the purpose of this review as per Inspector report.

The Bond agreed between the licensee has not been made available to the public to have it independently looked at WITHIN THE REVIEW PERIOD, thus precluding the public from having an opportunity to assess the legitimacy of the bond.

Emissions

The review application under consideration is primarily focussed on the extension to the BRDA. No changes to the plant site or emission limits are anticipated. The expansion of production to 1.95Mtpa is not expected to yield higher annual emission.

As a family we feel this comment is underestimated and that the further expansion to 1.95Mtpa will have further consequences for us as a family and that of our animals and our livelihood.

The EPA and the Licencee have known for years that pollution from the licensee site comes on to our farm regularly causing devastations to our family, our animals and our livelihood and the decision by the EPA Board to grant this review to the licensee is nothing more than reckless. This licensee is not a fit and proper person to hold a licence and the same must apply to what ever members of the EPA Board facilitated the granting of this review to this licensee knowing the damage this licensee has caused to our family.

Storm Water:

The storm-water pond is scheduled to be raised and re-lined as part of the developments. No report exists as to what leakage is happening and has now precipitated this view that it should be relined.

The applicants state that these essential repairs will not be possible if extension does not proceed. It would appear from reading this that the licensee was trying to hold some form of ransom over the EPA Board by implying that if they were not allowed the expansion they would not be relining the storm water pond?

Emissions to ground:

The east of the Aughinish property is on a Regionally Important Aquifer, and the west of the property is on a Locally Important aquifer.

There are no authorised process emissions to ground. There is evidence in parts of the plant site of groundwater contamination by caustic and aluminium. The operator has programs in place to manage these issues. Historical contamination around the fuel storage area has been addressed in recent years. The Inspector should have used the words historical in relation to the plant site been contaminated by caustic and Aluminium. This has been happening since 1983 and for 9 years under the EPA supervision. Again no monthly or yearly quantities of the level of these leaks are provided in this determination by the EPA.

Has problems developed in the fish industry in the vicinity of Aughinish in relation to the above. The granting by the EPA board of this expansion would certainly add further to this problem.

SAC

The Phase 2 extension will involve destruction of 0.4ha of protected salt-marsh habitat. The applicant proposes compensatory measures in consultation with the National Parks & Wildlife Service. Protected species of grass located in the footprint area of the new waste area will be translocated.

The proposed development would impinge upon of a number of European sites.(pNHA, SPA and Csac) from this expansion

Environmental Impact Statement

I have examined and assessed the EIS and having regard to the statutory responsibilities of the EPA, I am satisfied that it complies with Article 94 and Schedule 6 of the Planning and Development Regulations 2001 (SI 600 of 2001) and EPA Licensing Regulations (SI 85 of 1994, as amended) as per Inspectors report.

The Environmental Impact Statement is flawed in many area and it does not comply with 94 and Schedule 6 of the Planning and Development Regulations 2001 (SI 600 of 2001) and EPA Licensing Regulations (SI 85 of 1994, as amended) We will set out the flaws in both above at an oral hearing.

In relation to a request by Mr.Liam Fleming of Aughinish Alumina ltd on the 11th September 2006 letter. We believe that Mr Flemings information that he requested to be kept confidential by the EPA has hampered us in our ability to make a complete and thorough objection and is infringing our right to view all material that was made available by AAL to the EPA in their request for a review of their licence. The EPA Board by agreeing to the company request has openly and willingly disrespected their own rules. We also have been precluded from drawing our own conclusion as to whether or not this confidential report influenced the EPA final decision on granting this reviewed licence

Included in the submission is a communication from a P Davis of the Chemical Hazards & Poisons Division in the UK Health Protection Agency. This communication concluded that dusting is likely to be the greatest public health risk associated with the BRDA development, and that these risks could be managed under the IPPC licence.

The HSE has not produced sampling results of the red dust, Salt cake and other toxic substances that are contained in the BRDA1 in their submission in this review nor have they produced any sampling results of air emissions and their contents. Other countries know which could cause damage to human and animal health.

It was also concluded that there was little available and relevant published information on the health effects of bauxite residue disposal. It is difficult to sustain the HSE argument that the applicants did not adequately address this area when their own advisor stated difficulty in sourcing published work on health impact of such sites

A literature review of health impact of similar facilities world wide was not given sufficient consideration by the applicants and no statistics were presented to support internal occupational health statements.

We also find it unbelievable that the HSE and Ms Tess Greely along with their colleagues in England would not be able to locate other Alumina Industries throughout the World whose Mud ponds or emissions can caused problems to human health. We can locate some no problem. Also the Mid western Health Board under Dr Kevin Kelleher director of public health headed up a study on health problems in Askeaton during a 2 year period.

From the Inspectors it is stated report that no baseline health survey on human Health was undertaken in the area, reliance on the human health section of the Askeaton Animal health report is inappropriate, and dust levels could result in health impact

In 1997 during the 2 year Investigation the question was raised by the Mid Western Health Board to the EPA- had they the EPA assessed the damage to human health from the doubling of the World Health organization of SO2?

Not alone did Dr.Keleher not leave behind a base line study of the area after him it was under Dr Kevin Kelleher watch as director of public Health that he failed to address the serious situation of SO2 himself and the affects it had on the local community. Instead **Dr.Keleher who headed up the Health side of the Askeaton asked the EPA, what the effects to human health were when SO2 was found to be double the World health limits in the area back in 1997 and to date we have not been informed of the damaged it caused to our health and that of the community.**

We now find that 10 years on the HSE and Ms Tess Greely acting Director of Public Health have nothing on record of other Alumina Industries around the world causing human health problems.

*It's no wonder that the EPA inspector has stated in his report that **It is difficult to sustain the HSE argument that the applicants did not adequately address this area when their own advisor stated difficulty in sourcing published work on health impact of such sites.***

We will show other health problems been caused by other Alumina factories throughout the world at an oral hearing,

It is also quite clear from the Inspectors report that the agreement that the EPA and the HSE entered into in 2006 may be lacking good will in some cases. The HSE have the gift to bring forward information or concerns regarding a project that might influence the EPA in relation to the acceptance of a proposal for an area or the setting of ELV's. **The question that arises here has the likes of Ms Greely brought the relevant gift forward to influence the EPA decision in this matter?**

From the Inspectors report one could get the impression that she may not have brought the gift.

If this is so the likes of Ms Greely should be held accountable or any official within the HSE that are not forthcoming with information regarding the seriousness of this licence and the devastations it will have to human health especially families in the area including ours.

Limerick County Council has serious question to answer in relation to granting this expansion to Aughinish and in doing so calls into question the integrity of their own planning and Environmental Department.

Section 2 of our objection relates to the EPA Board proposed determination of review of license P0035-04 and the conditions contained therein

Our comments are in Bold.

Sections taken from EPA Board Decision document in ordinary type

Condition 2. Management of the Installation

2.2.2.2 Schedule of Environmental Objectives and Targets

The Schedule of Objectives & Targets shall in particular address the following:

(i) Elimination of sources of groundwater contamination which have the potential to cause environmental pollution and remediation of any contamination which represents an unacceptable risk to the environment.

The EPA is well aware that the above is not going to happen as the EPA has failed to date to have it achieved. With higher production levels it can only get worse.

(ii) Caustic Mass Balance.

We are led to believe that this caustic balance is been reduced. The amount of caustic leaving the plant causing damage to human and Animals at the moment leads us to believe differently.

(iii) Reduction in BOD loadings discharged to the River Shannon through W1-1 with the aim of achieving BOD levels of 1500kg/day as a minimum.

This reduction should have been demanded in earlier reviews of the AAL IPPC license by the EPA with lower level than the 1500 been achieved due to the damage that over production of BOD can cause to marine and fish life.

(v) The commissioning of a neutralisation step for process residue sands and mud's prior to deposition in the BRADA.

The inclusion of such a condition in this review of this license goes along ways to back up the conclusion we and others have drawn regarding the waste contents of the mud stored in BRADA1 as been highly toxic in nature and the same will apply to BRDA2 .

2.2.2.5 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this license not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with this license shall be defined.

Again the EPA failed to tell the public what action and fines will be issued in this case- privately it will be agreed when the object period for the public has closed. There is no reference made to penalties been imposed for breach of conditions by the licensee?

2.2.2.7 Communications Programme

The licensee shall maintain a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the installation, at all reasonable times, concerning the environmental performance of the installation.

To date the licensee has not entered into public consultation with the CFSG group or individuals who are affected personally by this Industry. The licensee have informed the EPA and through the EIS that they engage with the public. They have failed to engage with the Cappagh Farmers support group, who has been the main group raising concerns regarding the running of this facility in relation to Environmental issues in the locality nor have we been made aware of any meetings between AAL and the local community by the company.

They engage with a few members locally and 2 local communities. They have stated that 200 are present to their meetings on site. Our group is led to believe its more like 20 than 200. This is born out when the EPA mentioned in their Audit reports that no minutes have ever been kept. This is totally against the Aarhus convention and Agenda 21.

The EPA is also aware that 3 individuals called separately to the public area at the gate house in Aughinish to view public files. Mr Fleming refused to make photocopies or allow these persons to use the photocopying facilities situated at the Gate house of documents required. Approx 10 euros would have covered cost which all would have paid for. Dr Mary Kelly was made aware of this. This is how the public are dealt with and certainly it is not in the spirit of Aarhus and

Agenda 21 and certainly it could not be classed as good community spirit.

2.2.2.8 Maintenance Programme

The licensee shall maintain a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

The EPA knows the above to be quite different from the EPA audit reports. Again no reference is made to the kind of penalties that will be imposed should the licensee fail to comply.

2.2.2.9 Efficient Process Control

The licensee shall maintain a programme to ensure there is adequate control of processes under all modes of operation. The programme shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

The EPA has not made this programme available to the public to see what this programme contains and how it will identify problems. This is another private agreement between the EPA and the licensee

3.2.1 The licensee shall within six months of date of grant of this license provide and maintain an Installation Notice Board so that it is legible to persons outside the main entrance to the installation. The minimum dimensions of the board shall be 1200 mm by 750 mm.

No one is going to go down to the entrance to see what's on this board. A leaflet should be sent to every house in the locality and to the local papers where this information would be seen by the public. The emergency phone number has not been identified if it's the licensee or the EPA.

3.3 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

The EPA has again failed to give a clear definition to the public as to what conditions will be required by the Agency.

3.9 The provision of a catchment system to collect any leaks from flanges and valves of all over ground pipes used to transport material other than water shall be examined. This shall be incorporated into a schedule of objectives and targets set out in Condition 2.2.2.2 of this license for the reduction in fugitive emissions

This section has huge consequences for the Environment as most of these pipes are pressurized so that when a leak occurs through flanges and valves the emission to air can be high powered. Here again the EPA states that it will be examined again. This is another example of where the EPA have allowed for the final condition to be decided outside of the 28 day public objection period. We object to this exclusion.

3.11 The licensee shall, within three months of the date of grant of this license, install in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.

What does this wind sock achieve for the EPA or the public or our family?

3.14 In advance of the development of any undisturbed area (including development of the compensatory habitat due to sea-wall realignment), the advice and consent of the Heritage Section of the Department of the Environment, Heritage and Local Government shall be sought.

This is one of the most preserved SAC in the country and it is now been destroyed by the extension of BRDA2. Again this is a prime example of how the system provides for this Licensee while ordinary people have the law forced on them when they own land in an SAC.

Condition 4. Interpretation

4.1 Except where there is a prior agreement with the Agency, emission limit values for emissions to atmosphere in this license shall be interpreted in the following way:-

4.1.1 The value of the 95% confidence intervals determined at the emission limit values shall not exceed the following percentages of the emission limit value:

Sulphur dioxide 20%

Nitrogen dioxide 20%

Dust 30%

The values of the percentages for the above are set too high. Prior agreement not seen by public

Condition 5. Emissions

5.1 No specified emission from the installation shall exceed the emission limit values set out in *Schedule B: Emission Limits* of this license. There shall be no other emissions of environmental significance.

The EPA has failed to quantify what other emissions of environmental significance could be or which past breach are they alluding to?

5.2 No emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary.

The EPA IS well aware that the licensee has interfered with amenities or the environment beyond their facility boundary. This 5.2 has shown total disregard by the EPA in protecting human and animal health and the Environment as a whole.

5.3 No substance shall be discharged in a manner, or at a concentration that, following initial dilution, causes tainting of fish or shellfish

We believe damage to shellfish and mussels already exists. The EPA granting this review will have disastrous consequences for all types of fish in the area for years to come. We are aware of reports which state that fish and shellfish has been contaminated in and around Aughinish in the past.

5.4 For each boiler, start up periods shall not exceed 60 minutes in any 24 hour period and such soot blowing periods shall not exceed 60 minutes in any 24 hour period.

The EPA has not furnished the public with a detailed breakdown of the heavy metals and other hazardous substances used in the soot blowing periods. This is one of the most polluting incidences on this licensee premises which happens every day for 365 days a year.

5.5 The licensee shall report the total annual emissions of SO₂ and NO_x annually as part of the AER. When continuous monitoring is used, the licensee shall add up separately for each substance the mass emitted each day, on the basis of the volumetric flow rates of waste gases. Where continuous monitoring is not in use, estimates of the total annual emissions shall be determined by the operator on a basis acceptable to the Agency.

The EPA from their letter to Mr Liam Flemings clearly shows that Aughinish has breached their AER. What action has the EPA taken against Aughinish for such breaches or recommendation to Europe on the matter or visa versa.

5.6 The total sulphur dioxide emission from vents A1, A2, A3-A and A3-B (as detailed in *Schedule B.1 Emissions to Air*) shall not exceed 1000 kg/h.

This limit has been set too high by the EPA and have all vents been covered and marked under 5.6

5.8 The licensee shall continue the ambient air monitoring programme as agreed with the Agency at locations shown on Figure 9.3 of the EIS submitted with the IPPC Licence Review application for License Register

The EPA P0035-04. The programme shall provide for representative monitoring of SO₂, Suspended Dust, Deposited Dust, and PM₁₀. This programme shall within six months of date of grant of this license be extended to include representative monitoring of PM_{2.5}. This program shall in particular provide for the monitoring of SO₂ on an hourly basis at least at two monitoring locations.

The importance of monitoring of PM_{2.5} again shows how the EPA is failing over the years to have this included in their monitoring. Reports have shown that monitoring units have been put in the wrong location

5.9 The licensee shall undertake a feasibility study on the monitoring of sodium hydroxide emissions from the site. The recommendations of this study must be agreed with the Agency prior to implementation and shall include the provision of continuous monitors on site and off site. This study shall be submitted to the Agency within twelve months from the date of grant of this license.

Again more evidence that the EPA have not made public the feasibility study on the monitoring of sodium hydroxide emissions from the site. Caustic one of the main pollutants from the Aughinish site and its will be 10 years on since the EPA took serious charge of Aughinish in relation to caustic.

5.11 The licensee shall ensure that all or any of the following:—

- mud
- dust

which are associated with the activity do not result in an impairment of, or an interference with amenities or the environment at the installation or beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.

The EPA are aware that the dust travels beyond the licensee boundary and on to properties and in giving the extension to BRDA2 the EPA have ensured that this will get even worse especially on our farm.

Condition 6. Control and Monitoring

6.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring* of this license.

We have addressed this under the Inspectors report

6.2 Sampling and analysis of all pollutants as well as reference measurement methods to calibrate automated measurement systems shall be carried out in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards which will ensure the provision of data of an equivalent scientific quality shall apply

6.3 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. Agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.

6.4 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission or discharge

The EPA is aware that this licensee through their Audit reports has shown that results supplied have not been correct. Results have been masked and calibration of certain equipment has not taken place and monitors have been turned off and still the EPA have not imposed sanctions or penalties against the licensee for breeches under their existing license. There is still no mention of penalties to been imposed under this review?

6.12 Ground Water

6.12.1 No potentially polluting substance or matter shall be permitted to discharge to ground or groundwater under the site.

6.12.4 The licensee shall within 24 months of date of grant of this licence complete to the satisfaction of the Agency the necessary repairs to the Storm Water Lagoon sufficient to prevent uncontrolled leakage of contaminated waters to groundwater. Prior to the commencement of such repairs the licensee shall submit a comprehensive construction plan for the repairs, incorporating environmental controls which must be agreed in advance with the Agency.

The EPA has given 24 months to the licensee to repair the Storm water lagoon to prevent uncontrolled leakage of contaminated water to ground water. The question arises here why wait to grant a licensee and

give 24 months when the EPA should have requested that the storm water leaks should have taken place immediately.

6.12.3 The licensee shall maintain groundwater monitoring wells at the locations referenced in *Schedule C.7 Groundwater Monitoring*, or as may be instructed by, or modified with the agreement of, the Agency. All areas of known contamination or other high risk zones must be included in the monitoring network established.

The groundwater monitoring wells still continue to be polluted

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Summary

The following is our grounds for our objections and our reasons, considerations and arguments, we have based these on our personal experience and that of factual documented evidence and our observations set out in sections one and two of this our objection and of below.

Evidence that has been accumulated over the life time of this company and by us personally shows that a precedent exists that this licensee has failed totally in the running of their facility under their IPPC licences, resulting in numerous breaches and non compliances to have been recorded over many years. This Facility has caused damage to the environment and the people who live in it including our family in terms of human health. They have caused detrimental damage to our ability to farm in a safe environment and to conduct our farm life in a normal manner.

This licensee has again been facilitated by the Board of the EPA in granting the review to this licensee knowing the damage been caused, the board have even on this occasion gone against their inspectors recommendations in granting this review.

We hold that the licensee is not a fit and proper person to hold this licensee based on our views enclosed and the supporting documentation from the other two applicants enclosed under our objection.

We also hold that the EPA agency has a conflict of interest and are biased to this company due to the fact that they (The EPA) headed up the Askeaton Investigation at a cost of 5.3 million euros. This investigation has been found to have been flawed in many areas and these flaws have been highlighted in independent reports since its publication.

We also strongly object to the conditions laid down under condition 12 financial charges and provisions. We find these to be totally inadequate on all levels.

We wish to end by stating our total lack of confidence in the Board of the EPA and the enforcement unit that were set up to protect the Environment

The Cappagh Farmers Support Group wish to support this objection and further add

Our group feels that the licensee failed to continue to examine other alternatives for the waste been generated. The licensee are well aware of the damage that an Alumina Industry like this has on a community of this size.

We would agree with the Inspector that this waste should be sent back to the mineral source where it came from. Looking at Alumina Industries around the world most if not all are set up near Bauxite mines and we feel that this Alumina Plant has outstayed its welcome. Is it not the case that this Alumina Factory in Askeaton had a Life expectance of 25 years.

If it went into production in 1983 then it should have only over a year left. Such a plant of this age will have more leaks and nothing is shown in the EIS or from the company as to what the investment to upgrade this plant for the year or so that should be left.

A serious health and safety risk exists with a plant of this age and we see no Health and Safety document independently produced showing that this plant can produce to 1.95 mtpa. The workers on this plant lives are been put at risk and the Environment.

It is clear that this Area in Askeaton has been used as a dumping ground for an Industry who has shipped out the Alumina reaping huge profits and left the waste to destroy Our Environment.

We have seen no request by the EPA to check the condition of the lining in BRDA1 of what ever area it covers and see how it stood up to time before giving the go ahead to the new BRDA2. If there are defects then they should be repaired. Sections should be outlined in a map. Maybe no lining can stand the test of time due to ware, weight of pressure, toxic substances and the corrosive nature that exists with these chemicals even the sealing of the joints where the lining is joined may cause problems.

No independent report has been produced by the EPA to prove that the lining will be adequate in BRDA2 and will stand the test of time. It's the same old story get it down and the mud will cover it.

Because of time restraints in objecting as we may have overlooked it was the red mud to be taken from BRDA 1 where it has not been lined and stored safely in order that this area would be lined in BRDA1 then and sealed and the red mud replaced. We would expect this to be done.

We object to the height that BRDA 1 is taken to in facilitating this licensee and the damage it will cause to the Environment when it dries out and blows from the site on to our lands

We object to the increase in production and emissions to 1.95mtpa and the untold damage it is having on our farming community and the community as a whole.

Members of our group have seen the devastation that these emission have already done to our livelihood under the supervision of the EPA and in granting a section within the EPA still exists to protect and support this Industry what ever way they can even against their own Inspector.

The burning to our trees and our grass has been huge in the last 5 weeks in Cappagh. As chairman I can verify that my Grass on my farm alone and my tress have been burned and here the EPA continue to facilitate this licensee in allowing them to produce to 1.95mtpa. No one has ever assessed what one tonne of Alumina production with their emissions can do to our health our animals not to mention that we are now heading for nearly 2mtpa. This must be the biggest cover up ever to take place.

I like my colleagues have had my farming livelihood wiped out. All this has happened under the Watch of the EPA since 1989 and before that Limerick County Council. This Industry has been facilitated by all sectors since setting up here in Askeaton and the granting of this review is no different.

This BRDA2 is been built on an SAC while one of our members whose lands are in an SAC cannot touch or move a stone on his lands or he would face serious prosecutions even jail. Here Aughinish Alumina can move what ever they like in the 80 hectares and are facilitated by the same people who enforces the same law against this member of our group.

The granting of this licence review has breached European Directives.

The EPA has not included the matter of dredging in Aughinish. Should dredging take place in the future will the public be made aware well in advance and will samples be taken before dredging and after by Independent people. Has the EPA carried out an Independent evaluation in relation to toxic substances on the sea bed and have they spoken to the fishery board and the Dept of the Marine in relation to this matter.

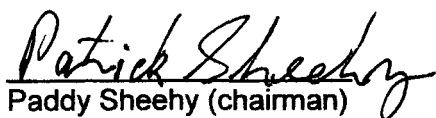
There is no mention what so ever by the EPA of having Independent die testing carried out on the licensee site. Such testing would show the extent of the leakage and the distance which many believes are miles that this leakage from this site is traveling.

Other countries know the full extend of what's been emitted by Alumina Refineries and here in Askeaton only a handful of substances are been mentioned. This is a disgrace on its own that the full list is not shown to us the public.

The European petition committee having visited and seen for its self the existing mud ponds and the destruction to the area were astonished that the Irish Authorities have let this Company destroy this area. The Petition group described it as a blithe in the area.

We have enclosed views from Professor Rory Finegan on the EPA licence decision and how vague the EPA left it for the licensee.

Yours Sincerely,


Paddy Sheehy (chairman)

EXAMINATION OF A LICENCE FOR INSTALLATIONS AND WASTE LANDFILL
AT AUGHINISH ISLAND, ASKEATON, COUNTY LIMERICK

R.P.Finegan

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October 2007

Conservation Advisory Service

Examination of a Licence for Installations and Waste Landfill
at Aughinish Island, Askeaton, County Limerick

R.P.Finegan

9 October 2007

INTRODUCTION

A copy of the licence subject of this brief report was received on the 28th of September 2007, with a note explaining that only 20 days remained to make submissions to an EPA (Environmental Protection Agency, Ireland) Review of the Licence.

The licence is Registration No.P0035-04 and the licensee is named as Aughinish Alumina Limited, Aughinish Island, Askeaton, County Limerick,

The licence is a 44 page document with a preceding one page Table of Contents. It is a complex document commencing with a Glossary of Terms that occupies the first four pages. The time available does not allow a detailed examination of each section and subsection of the document, and for that reason only salient features are the subject of comment here.

DESCRIPTION OF THE DOCUMENT

The Table of Contents is reproduced below to show the arrangement of the sections of this complicated document.

Glossary of Terms	Page No.	1
Part I Schedule of Activities Licensed		5
Part II Conditions		6
Condition 1. Scope		7
Condition 2. Management of the Installation		7
Condition 3. Infrastructure and Operation		10
Condition 4. Interpretation		11
Condition 5. Emissions		13
Condition 6. Control and Monitoring		14
Condition 7. Resource Use and Energy Efficiency		17
Condition 8. Materials Handling		17
Condition 9. Accident Prevention and Emergency Response		20
Condition 10. Decommissioning & Residuals Management		20
Condition 11. Notifications, Records and Reports		21
Condition 12. Financial Charges and Provisions		24
SCHEDULE A: Limitations		26
SCHEDULE B: Emission Limits		27
SCHEDULE C: Control & Monitoring		33
SCHEDULE D: Annual BDRS Status Report		43
SCHEDULE E: Annual Environmental Report		44

Below Schedule E is Note 1: Content may be revised subject to the agreement of the agency.

The final page, Page 44 of 44, concludes with the statement
"Signed on behalf of the said Agency _____
on the 19th day of September, 2007 Authorised Person",
and is signed accordingly.

The document contains no maps or diagrams to show the location of the various installations, structures and monitoring points mentioned in the text. Users and readers of the document are instead referred to sources of that information.

DISCUSSION & COMMENT

The licence displays a general excellence and thoroughness in its preparation, with comprehensive coverage of the various aspects of the operation and management of Aughinish Alumina Limited, the licensee.

There are nevertheless some features of the document that can be considered as unsatisfactory and capable of improvement.

Those features include:

1. The classification of the landfill as non-hazardous.
2. The meaning of the word "shall".
3. The absence of limits that may be set on the quantity and type of products.
4. The meaning of the phrase "To be agreed with the Agency", (pages 37, 38, 390) and "As agreed with the Agency" (page 40)
5. Lack of definition in the Glossary, for example the word "Kelvin" on page 3. (also eg Heavy Metals on p.2, referring to elsewhere)

To those actively involved in the observance and enforcement of the terms and conditions of the licence the meanings are familiar and understood, but to the lay person and members of the public generally there are shades of meaning that can lead to misunderstanding. It is beneficial to all concerned if there is clarification that reduces possible confusion or confrontation that might otherwise arise.

1. The classification of the landfill as non-hazardous.

The final paragraph of Part 1 Schedule of Activities Licensed on page 6 is a statement that

"For the purposes of Article 48 of the Waste Management Licensing Regulations 2004 (S.I.No.395) the landfill associated with the activity is classed as a non-hazardous waste landfill".

The wording of that Article is not provided, which would assist in interpretation - there is no definition of hazardous or non-hazardous under the terms of Article 48, and no definition is provided in the Glossary. Elsewhere in the document the words hazardous and non-hazardous are used in a context that indicates hazardous materials are involved in the operations of Aughinish Alumina Limited. No doubt suitable precautions are taken in the disposal of those acknowledged hazardous materials, but that does not cover the disposal of materials of intrinsically dangerous nature in the waste landfill. In particular that applies to the red mud and salt cake that is deposited in the Bauxite Residue Impoundment Area (BRDA), in which, however, the disposal of salt cake is given special consideration in Condition 8.3.4., on page 17. That in fact the disposal of waste in the on-site landfill (BRDA) is recognized as of materials of a hazardous nature is illustrated by the conditions on pages 17 to 19 of the document.

The health hazards that arise from exposure to aluminium compounds and fluorides are well known (1,2) and these materials are present in red mud and salt cake, as shown in the appendix to this report. For that reason the opinion expressed here is that the landfill should be classified as hazardous.

2. The meaning of the word "shall"

The meaning of the word "shall" is not defined in the glossary, but is used frequently in the text. For example it is used fifteen times on page 8 of 44. In the context of what is written on that page it can be taken to mean "must".

Unfortunately a different connotation can be put on it - that it means the action involved will be carried out at some time in the future. Somewhere it needs to be made plain that when "shall" is used it pertains to the coming into effect of the terms of the licence, the date on which performance of the action to which it refers becomes obligatory.

The word "shall" is made frequently on other pages, in some cases appropriately in sentences which recognize its connotation for the future, as in Condition 6.12.4 (page 16) where it is used twice to indicate a future event: "The licensee shall within 24 months of grant of this licence ..." and "Prior to the commencement of such repairs the licensee shall submit a comprehensive construction plan ...". The word "must", with unequivocal meaning, could equally well be used instead of "shall" in those examples also.

This is a matter of definition, in which no ambiguity or uncertainty of meaning should be allowed in planning conditions, as in other legal documents. The glossary could be used to make plain the meaning(s) of this word as employed within the document.

3. The absence of limits that may be set on the quantity and type of products

It may be that a limit has been placed on the annual production by Aughinish Alumina Limited of its finished product, refined alumina, by the Planning Authority. Thus in 1974 the original grant of planning permission to Alcan Ireland Ltd., No.8580 in Limerick County Planning Register, modified on appeal No.13/5/4983, placed a limit of 800,000 tonnes per year on the amount of product, and that amount was increased to 1 million tonnes per year in 1984.

A number of products are listed in Part I Schedule of Activities Licensed on page 6, where Class 5.13(e) cites the production of basic inorganic chemicals, such as: non-metals, metal oxides or other inorganic compounds such as calcium carbide, silicon, silicon carbide, (Principal Class). Alumina falls within this classification but is not named, nor are amounts specified for any of them.

If the example of previous years is followed then limits on the amounts of each finished product should be stated, and the expectation would be that those limits would be included in the list of conditions in the document, for enforcement by the Environmental Protection Agency.

Lacking in this document is any reference to the penalties that will be, or should be, imposed for breach of conditions by the licensee.

4. The meaning of the phrase "To be agreed with the Agency"
and "As agreed with the Agency"

Pages 37 to 42 within schedule C: Control & Monitoring of the document contain numerous "To be agreed with Agency" provisions, and on page 40 and 42 in C.2.3 and C.7 respectively there are "As agreed with the Agency".

In the latter case this refers to the analytic method for monthly monitoring of soda in Storm Water Emission and the methods for soda and organics in Groundwater Monitoring. The question arises why, if the methods are agreed, they are not identified? That would replace guesswork and uncertainty with the certainty needed to appraise the worthiness of the method to be employed. It seems therefore that the methods have not been decided but there is agreement that monitoring will be performed.

In the case of "To be agreed with the Agency" there is an extra degree of uncertainty. That is, it is not clear if there is any agreement at all, whether there is an agreement pending, whether there is a disagreement between the Licensee and the Agency with regard to methods or frequency of monitoring, or of feasibility, or cost. Perhaps other wording would dispel these uncertainties concerning the meaning of the phrase. Footnotes could be used for that purpose to avoid confusion over the meaning of the phrase, and to replace uncertainty with the certainty which is an essential ingredient for regulation and enforceability in planning conditions. As it is the sections thus labelled cannot receive the benefit of public review.

5. Lack of definition in the Glossary

The Glossary is an important adjunct to understanding and interpreting the information contained in the document. Although it is already very useful in its existing state it is capable of improvement. An example is provided by the meaning given for "K" at the top of page 3, given as a single word "Kelvin". That may be sufficient for personnel engaged in monitoring activities or otherwise involved in the operation of the installations. For others it may not be a familiar term, and it would be an improvement to describe it in the glossary as a unit of temperature and that 273°K (as used in Section 4.2 on page 12) is the same as 0°C. Similarly, "kPa", which follows "K", given as "Kilo Pascals" in the glossary, can be described as a unit of barometric pressure. On page 1 the term "DB(A)" is defined as "Decibels (A weighted)" but this is well recognized as a measure of sound intensity, and therefore less needful to explain.

The glossary section perhaps could perhaps also be extended to include maps, as for example to aid in the understanding of Section 1.3 on page 7, or of Section 3.11 on page 11; and excerpts from other documents named in the document, but not easily accessible, for example the Golder Associates Report mentioned in Section 8.3.13 on page 19.

However, the Glossary is very useful in its existing state, and these are suggestions only for its extension as an aid to understanding of the complete document by the public.

CONCLUSION

The time made available for making submissions with respect to reviewing this document does not do justice to its length, its complexity and its importance. The comments made here are for that reason inadequate to cover the finer points of examination required, into the adequacy of each section and subsection to best achieve desired objectives, in the process of independent review.

Even so the review period has been of value to allow at least a cursory inspection of the terms and conditions under which Aughinish Alumina Limited will operate in the future.

It is hoped therefore that the comments made within this brief report will be found useful to all of the parties concerned not only with the operation of the plant itself, but also with its implications for the surrounding farmlands and townlands, and their inhabitants, the recipients of emissions and effluents generated by the industrial activities involved.

REFERENCES

1. Ursula Fogarty, Daniel Perl, Paul Good, Stephen Ensley, Alan Seawright & John Noonan: A Cluster of Equine Eosinophilic Granulomatous Enteritis Cases - The Link with Aluminium: Veterinary & Human Toxicology:40:[5]:297-305. October 1998.
2. Letter dated March 28, 1996, from Lennart Krook, DVM,PhD., Professor of Pathology, Emeritus, Cornell University, Department of Pathology, New York State College of Veterinary Medicine, Ithaca, New York, to Dr.Patrick J.Carroll, Waterford, Republic of Ireland:
para 4. "The brief account of the cattle on the farm of Liam Somers gives me a strong impression of chronic fluorosis. Read the reprints and you will see why."
Reprint: Devastation of a Mohawk Indian Reservation (pages 179-181 of *Fluoridation - Poison on Tap*) Cites research by Professor Krook and colleagues. Others cited include Prof. Albert Schatz (Cancer News, 1976) and U.S., Congress, House, Select Committee to Investigate the Use of Chemicals in Foods and Cosmetics, Hearings ... 82nd Cong., 2nd Session, 1952, p.1702.
3. R.P.Finegan: Brief Comments on Some Documents Relating to Industrial Spillage at Aughinish, County Limerick. August 2004.
p.24: Appendix, composition of salt cake, reproduced at the end of this report

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APPENDIX

(from: R.P.Finegan: Brief Comments on Some Documents Relating to Industrial Spillage at Aughinish, County Limerick, August 2004.)

COMPOSITION AND DISPOSITION OF SALT CAKE AT AUGHINISH

1993 Data

Source: Limerick County Council Environmental Section Report dated 1 June 1994 to Councillor David Naughton.

Production: Red mud (dry basis)	473949 tonnes
Salt cake (dry basis)	14783 tonnes
Per cent Salt cake to Red mud	3.12%

Composition			Disposition*	
Wet Basis	% Wet Wt	% Dry Wt*	Tonnes/yr*	Tonnes/day*
Water	44		-	-
Sodium oxalate	11.8	21.09	3117.73	8.542
Sodium sulphate	3.7	6.61	977.16	2.677
Caustic soda as NaOH	17.88	31.96	4724.65	12.944
Sodium carbonate	3.98	7.11	1051.07	2.880
Alumina	7.99	14.28	2111.01	5.784
Sodium fluoride	1.73	3.09	456.74	1.251
Sodium chloride	1.26	2.25	332.62	0.911
Silica	0.03	0.05	7.39	0.020
Vanadium oxide	0.11	0.20	29.57	0.081
Organic material estimate	7.47	13.35	1973.53	5.407
	99.95	99.99	14781.52	40.497

* Figures obtained by calculation from source document.

From: A Program for Investigation of Environmental Contamination at Issane, County Limerick. 3rd Report to Mr. Liam Somers. January 1995. Table 2 on page 8

Kildimo/ Pallaskenry Bleach Lough water retention committee wish to support this objection against this Licence P0035-04 and further add

The Board of the EPA in granting this Licence will put people at risk in Kildimo/Pallaskenry if Limerick County Council have their way. The water from the Water Treatment Plant in Askeaton near Aughinish is been forced on the people of Pallaskenry and Kildimo. The New Mud pond will be next to this treatment plant and the Letal toxic chemical dust will get into the Water treatment plant and contaminate the water source that these people are been forced to drinking against their wishes.

Our committee intends to fight this issue in order that people in our community are protected. Our community has enjoyed clear spring water for many years from Bleach Lough Lake and now the EPA and Limerick County Council intend to have the Deel water further contaminated by this expansion along with the heavy chemicals that Limerick County Council are already adding.

A question was raised to Mr Donal Brennan by his fellow colleague in relation to planning going through for Aughinish and the extra demand for water for this expansion. We have not seen Mr Brennans reply on record as to one of the basic fundamental rights for planning which is the supply of water.

Mr. Crowe's memo to County Councilors shows clearly that no water exists to cover this expansion as the extraction limits have been surpassed already because Aughinish has already used up its own limits and that of others.

Why did Limerick County Council grant the expansion to Aughinish knowing no water is there to cover it. The EPA has now gone along with LCC to look after Aughinish. This is a scandal.

Members of our community were nearly jailed in the high court because LCC wanted our water for another source and we all know what that source was. The decision by the EPA to grant this review will now bring further pressure on our community for our water.

We will resist such pressure by LCC and their heavy handed tactics as we have done in the past to protect our clean unpolluted Bleach Lough Water which we have enjoyed for many years. We are waiting on a judicial review which is due to take place early in 2008 to have this matter resolved to our satisfaction.

Yours Truly,


Dan Foley Secretary

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