3rd Party sub on Obj (1)

Noeleen Keavey

From: Wexford Receptionist
Sent: 06 April 2006 13:46
To: Noeleen Keavey
Cc: infomail
Subject: FW: Objection-AVR-Safeway Waste Licence Proposed Decision-No. 50-2
Attachments: AVR objection to EPA.doc

Noeleen
Recd today.

tku

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ENVIRONMENTAL PROTECTION AGENCY WASTE LICENSING
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06 APR 2006
INITIALS...NK.....

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From: Process & Industrial Design Consultants [mailto:process.idc@indigo.ie]
Sent: 06 April 2006 13:28
To: Web info mail
Subject: Objection-AVR-Safeway Waste Licence Proposed Decision-No. 50-2

Dear Sirs,

Please find objection attached.

Regards,

Peter H. North

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0 6 APR 2006
INITIALS NK

Process & Industrial Design Consultants Ltd
"An Sciobol"
Cloyne
Co Cork

5 April 2006

Ref: Objections and Comments on Proposed Decision for a Waste Licence for AVR-Safeway Ltd, Fermoy. Register number 50-2.

On behalf of Mrs. H. Riordan, Corrin, Fermoy and Mr. S. O'Sullivan, Corrin Veterinary Clinic, Corrin, Fermoy.

Dear Sirs,

1. Introduction

First, the EPA should be admonished.

One of my clients contacted the EPA on several occasions to enquire about the progress of the proposed decision- but no date was ever given.

The EPA were therefore aware of my client's interest.

However, it took two weeks from the date of the decision until my client was advised that a proposed decision had been issued – thereby reducing the time for objection from 4 weeks to less than two weeks. This is not acceptable.

Second, it is apparent that professional consultants have been involved in the preparation of AVR's application and it is presumed that professionals within the EPA reviewed it and prepared the proposed decision.

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The quality of the work on both sides is regarded as disappointing.

It is not the function of objectors to point out obvious deficiencies or to provide the proper engineering consultancy required, by the applicant or the EPA, at no cost.

Both parties (the EPA and AVR) should be invoiced by my client for the advice proffered in the objection.

Third, the EPA should note that AVR now proposes to expand its facility into something more closely resembling a full-service chemical facility than a simple waste transfer station.

It proposes, however, to do this without much of the infrastructure or resources normally required of a chemical facility.

Irrespective of the licensing regulations, this cannot be regarded as acceptable.

Fourth, the EPA is further advised to review its proposed decision in the light of the EPA's own assessment of other such facilities, especially the Indaver incinerator and waste transfer facility. If BAT is to be employed, as stated by AVR, then the Indaver facility provides a minimum level for assessment of BAT.

Finally, there are too many typographical, and other, errors in the licence application.

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2. **Waste Licence Application and Attachments:**

2.1 **Attachment A:**

2.1.1 **DCM Recovery:** DCM is separated by a very crude phase separation. The following points should be noted;

- the producer can easily undertake this work on its own site, thereby obviating the need for substantial transport and extra handling – with concomitant risks of spillage and significant loss by emissions to atmosphere. (DCM is highly volatile).
- The aqueous phase contains 1% - 2% w/w DCM and is presumably sent for incineration (a waste of energy) or biotreatment (in which most DCM is allowed to evaporate as a fugitive emission).
- There are both physical and thermal technologies which can be used to significantly improve recovery (and waste water). These are then BAT.
- Emissions treatment is inadequate (see below)

2.1.2 **WWT Sludge:** it appears that AVR receive skips of pressed sludge from chemical and pharmaceutical plants and are bulking this for use as RDF. The following is noted:

- most, if not all, producers can only dewater such sludges to some 15% - 20% w/w solids. At this level the sludge becomes septic in a matter of hours, generating H_2S and methane – flammable and toxic and highly odorous.
- It should be transferred to sludge drying facilities, at the producing site or as close as possible. Otherwise it requires agitation and aeration to prevent anaerobic digestion commencing.
- At the level of 80% water this material cannot be regarded as RDF. Feeding it directly to power plants or even kilns is wasteful of energy.
- The material requires extensive screening for heavy metals, chlorinated organics etc. (Some sludge has been found to contain high levels of solvents). It must also be confirmed that it has not been contaminated with other waste process sludge - a prime example of mislabelling or error appears to have occurred at Wyeth.

- BAT is either anaerobic digestion to methane or drying using waste heat (such as flue gases).

2.1.3 **Plastic Drums:** these are generally PP or PE, both thermoplastics and recoverable. Disposal as fuel does not appear to accord with the waste hierarchy or BAT.

2.1.4 **Alumina:** BAT may be recovery via a plant such as Aughinish Alumina.

2.1.5 **Waste oils:** again these may be contaminated with heavy metals and other organics and inorganics. Testing may need to be more extensive.

2.1.6 **Seveso:** the plant appears to be tier 2 at least (see below).

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2.1.7 **Management:** with the proposed type of operations, the facility requires engineers – preferably chemical. There does not appear to be any proposal to properly staff the plant - especially for 24 hours/day, 7 days/week.

2.1.8 **Infrastructure:**

- fire water retention: there appears to be fire water storage but no fire water retention.
- storage vessels: the potential for exotherms and corrosion is noted. Large waste storage tanks should be equipped with cooling coils in case of delayed or slow exotherms. BAT, as introduced by Indaver, may be double-walled storage vessels.

  These vessels should be inerted, via the PVSV, and should be on skirts or legs with dished bottoms to permit base inspections and leak detection.

  A higher design pressure would reduce emissions and is preferable to emissions treatment.

  Of most concern is the absence of separate over- and under-pressure relief. A PVSV cannot be employed both for operational and safety use. Overpressure relief is sized on fire case (or exotherm).

- storage bunds: these should be double contained (as per EPA recommendations to Indaver), in view of the vulnerability of the local ground.

  Sizing needs to take account of the potential for pinhole leaks at various levels, with the resulting jet being suitably contained in the bund.

  Bund volume must also be sufficient to cater for tanks which are manifolded within the bund. A failure of the manifold could allow more than one tank to empty to the bund.

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2.2 **Attachment B-3:** sludge bulking and DCM separation were not included in the original licence.

Despite EPA approval they should be considered new activities under the current licence.

The EPA should not have authorized such a material change of activity without public notification, if not consultation.

2.3 **Attachment B-9:** Seveso:

In accordance with Annexe 1, section 4:

For toxics: $\sum q_i/Q_i = 0.4+0.7 = 1.1 > 1.0$

For flammables: $\sum q_i/Q_i = 0.2+0.36+0.4+0.3+0.5 = 1.76 > 1.0$

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For environmental hazards: $\sum q_i/Q_i = 0.5+0.8 = 1.3 > 1.0$

Thus on the combination rule the site is tier 2.

It is fair to point out that these calculations are based on coincident maxima. Nevertheless the HSA must advise that the site be regarded as a Seveso site.

In addition, many industrial wastes contain quantities of known toxics or chemicals whose toxicological properties are not known. Most waste streams are not toxicologically tested so that mixtures may also be toxic.

The precautionary principle must apply.

On this basis it is entirely credible to anticipate that the level of toxics may exceed tier 1 thresholds. The plant should thus be classified as tier 1.

2.4 **Attachment C3:** The 24 hours/day, 7 days/week operation has wide implications, in terms of both adequate technical supervision and emissions, noise and light pollution.

Light levels have not been considered but the site will be highly visible at night in what is a rural, rather than residential and industrial, area.

2.5 **Attachment D-1-1:**

2.5.1 **Septic tanks:** the EPA is advised to check the septic tank design and operation, in particular the soakaway, and that percolation tests have been carried out correctly.

The area is noted as vulnerable.

There is also the potential for chemicals to be discharged to the septic tank, deliberately or inadvertently. Connection to a sewer or a proper tertiary treatment plant on-site is essential.

2.5.2 **Sewer:** AVR have emphasized their desire, and need, for a sewer connection to the Fermoy WWTP.

They have, in the past, indicated that an on-site WWTP was under consideration or even being designed.

In light of the new processes and increased scale, one of these options must be made a condition of the licence.

2.5.3 **Storm water:** bund water and storm water are routed through an interceptor and then discharged.

The interceptor will only remove free oil or immiscible solvents.

Tests appear only to be carried out for TOC, pH and conductivity, but should include heave metals – especially aluminium.

2.5.4 **Wash Water:** AVR insist that all wash waters are removed for off-site treatment. The EPA has, however, noted in a letter that some wash waters are routed to surface waters.

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This should be clarified.

Similarly, there appears to be a significant disparity between water consumed and water sent off-site for disposal. This has not been satisfactorily explained

2.6 **Attachment D-1-2:** It is noted that corrosion of the storage vessels would imply that corrosive blended fuels had been sent to power plants or cement kilns

This cannot be countenanced.

Corrosivity must be determined prior to blending.

2.7 **Attachment D-2-2:**

2.7.1 **Fuels:** The presence of up to 2% w/w halogens in fuels would exceed the requirements for high temperature (as opposed to moderate temperature) incineration.

The halogenated contaminants need to be speciated – they could be PCDD/PCDF.

Blending wastes as fuel supplements cannot be used to circumvent the Wastes Incineration Directive.

Similarly, the presence of solids in fuel supplements implies higher molecular weight organics or inorganic salts. Neither should be permitted in blended fuels unless speciated

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2.7.2 **Fire protection:** tank farms are often equipped with an automatic deluge system. Fixed, manually operated monitors are regarded as inadequate.

2.8 **Attachment E:**

2.8.1 Receiving waters: the stream flow is 240 -480 m^3/day.

However, storm water run-off is given as up to 600 m^3/day and up to 150 m^3/hour.

This suggests that the receiving water is insufficient for this site.

Furthermore, the discharge limits of TOC would substantially exceed the calculated waste assimilative capacity.

This suggests a serious problem.

(It is noted that the relevant figures have been given in disparate units, as if to deliberately cover up a problem. This is not acceptable).

2.8.2 **Effluent:** the anticipated sewer loads of 30 – 50 m^3/day and 3 m^3/hour max. substantially exceed the current loads supposedly sent off-site.

There is no explanation of this disparity.

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It is also noted that the EPA have ignored the desirability or necessity of a sewer.

2.9 **Attachment F:**

2.9.1 **Emissions treatment:** a water scrubber is employed for HCl removal at the $AlCl_3$ tank.

These wastes may contain organic contaminants, such as toluene, which will not be removed by the scrubber. In addition, a recirculating water scrubber has minimal capacity for HCl – especially if large volumes of air are then passed through it or if temperature rises because of reaction.

It is standard practice to employ alkaline scrubbers for acids, followed by adsorption or oxidation for organics. That would be BAT.

Similarly, the use of water scrubbers and non-regenerable carbon drums for general tank and processing vents is not acceptable.

The scrubbers operate only by physical absorption for miscible organics, which are then stripped by following air.

The adsorbers are not recommended for mixed organics, due to variations in adsorption efficiencies and are most certainly not recommended for high concentrations (typical of vents), when overheating and fires may occur.

(The comments regarding the scrubbers inerting the adsorbers is incorrect. Water may displace organics, thereby reducing capacity, but the presence of air will be sufficient to permit a fire).

The stack heights are all inadequate, in view of the surrounding tanks and buildings and the efflux velocities are too low to ensure dispersion.

Tank emissions are created by diurnal out-breathing, filling and line blowing. The latter may create high, intermittent flowrates, overloading the adsorber.

Periodic monitoring is not acceptable.

BAT (and good – and standard- engineering practice) requires:

- all vents to be collected to a single treatment system
- treatment to consist of alkaline scrubbing followed by regenerative thermal oxidation
- stack height determined by dispersion modelling but at least 3m above adjacent structures
- continuous monitoring of TOC and HCl.

Finally sludge emissions, especially odours, will not be handled by water scrubbing.

2.9.2 **Fugitive Emissions: a** single point monitoring by PID, possibly downwind, at a height of 1.5 to 2.0 m is neither BAT nor standard practice.

Sources of fugitive emissions must be characterized and addressed.

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The site should be covered by the Solvent Directive and require a proper mass balance. This appears to have been overlooked.

2.9.3 **Surface and Groundwater Sediments:** these should all be tested regularly for aluminium.

The quantity and nature of aluminium compounds on-site must be of concern and should have been noted by the EPA.

2.10 **Attachment I-1a:**

2.10.1 **General:** In every case anomalous monitoring results are ignored; glibly explained as sampling or contamination errors (despite laboratory accreditation); or blamed on unspecified agricultural or other non-AVR activities.

The figures generally are of little value and can be used neither to convict nor exonerate AVR.

However, anomalous results should either be properly identified to source or repeated to eliminate errors.

Sediment analysis appears to be singularly useless, with all metals either increasing together or decreasing together and in fixed ratios for each pair of samples. (This has not been noted by anybody).

This suggests either a sampling problem or an analysis problem or both.

The most likely result is that metal levels are essentially constant, when all factors are taken into account, and may well be natural or the result of earlier human activity.

However, Aluminium should be measured.

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2.10.2 **Boreholes:** the gradient of the ground water may not have been properly (scientifically) determined – the GSI has no knowledge of this. Any data would be very useful.

pH levels below 6 and variations in DRH and metals should not be dismissed without proper explanation.

What is of concern is the paucity of data provided. More measurements might permit variations to be identified with rainfall or seasonal effects.

Extensive measurements do exist on one borehole in the area and these exhibit significant short-term variations that cannot be explained so readily by natural effects.

2.11 **Attachment I-2:** It is believed that RPS-Cairns did <u>not</u> examine the geology and hydrogeology in detail.

Again the GSI have little data on this area and no other physical data has been presented.

The RPS-Cairns work was probably little more than a desk study.

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2.12 **Attachment J:** The plant and design require far more than a mere HAZOP.

There should be a qualitative/quantitative risk assessment in accordance with Seveso requirements (HSA) and risk assessments of all procedures.

The HAZOP should be carried out by competent engineers.

2.13 **Attachment L:** the plant does not accord with BAT in its design but, more importantly, does not accord with BAT for solvents recovery.

99% of any solvents sent for disposal can be recovered for re-use either as a petrol supplement (or component) or as fresh solvent.

The plant does not have Fit and Proper management if it has no engineering personnel.

3.0 **General:**

3.1 **Ecology:** AVR noted an adverse impact on the ecology of the stream, between 2001 – 3, which was attributed to agricultural activities.

This should have been independently investigated and verified , in writing, by the EPA.

The precautionary principle would suggest AVR may well be responsible, in part at least, due to evolving activities. Agriculture has been with us for millennia.

Similarly, large variations in borehole tests, between boreholes, should be investigated, since all arise from the same aquifer.

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3.2 **John Dunlea:** Dunlea is listed as a wastes disposal contractor.

Dunlea did not have planning permission but was permitted to operate by the EPA.

The status of all those taking waste from AVR (as well as conveying it) should be checked by the EPA.

3.3 **Fuel compatibility tests:** these appear to be based largely around ASTM compatibility tests.

These tests are only for reactivity. There are many other parameters which should be considered, for example

- toxicity and carcinogenicity
- vapour pressure
- viscosity
- corrosivity
- dissolved solids etc

3.4 **Drainage:** Chemical facilities generally do not allow drainage from external areas around processing facilities to be treated as storm water. This is sent to effluent treatment.

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Peter H. North.

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