

Cost Benefit Analysis of a Public Inquiry into the Nantygwyddon Landfill Site

Introduction

This document accompanies the motion put forward by the Plaid Cymru – the Party of Wales group proposing that the National Assembly set up a public inquiry into the Nantygwyddon Landfill Site, in accordance with Standing Order 23.4. The paper sets out the background to the issues and an estimate of the costs of a range of options that are available to the National Assembly.

A: Objectives

The Objectives of an inquiry into the Nantygwyddon landfill site would be to:

- **Review in public the history of the establishment and management of the landfill site**
- Why was the landfill site located at Nantygwyddon in preference to other possible locations?
- What were the management decisions which resulted in the problems at the tip and who was responsible?
- How effective were the regulatory bodies in their roles at all stages in the development and management of the tip?
- To make relevant personnel/individuals and public bodies accountable for their actions which have brought about the problems associated with the tip and, if necessary, to pass on the findings of the Inquiry on to other agencies for appropriate action
- To establish who was responsible for the alleged flaws in the design and/or construction of the landfill site
- An overall assessment of the cost to the public purse of this landfill site by all the agencies involved and an examination of the propriety of the use of public money?
- **Review the evidence on the potential health hazard presented by the landfill site**
- An open examination of all the published evidence of the health risks associated with Nantygwyddon and an assessment of those which are unique to this site and those which may be common to similar landfill sites
- **Review the design and safety of the landfill site**
- What are the alleged flaws in the design and or construction of the landfill site?
- What exactly has been tipped at Nantygwyddon and which materials are causing the problems in the surrounding communities?
- **Produce a set of recommendations relating to the future use and management of the tip**
- What lessons can be learned from Nantygwyddon for the management of the other landfill sites?
- Improve the regulations for the management of existing landfill sites in general within the requirements of the EU directives on Waste framework and Landfill
- To recommend an action plan to mitigate or eliminate the harmful effects on residents and the local environment of the existing materials deposited at Nantygwyddon
- To address the problem of a loss of property values highlighted at the valuation tribunal which have occurred since the problems associated with the tip have become evident

The outcome of the inquiry would be a report to the Assembly recommending a course of action for the relevant agencies with the associated costs.

B: Site Background

Nantygwyddon was established as a waste landfill by Rhondda Borough Council (RBC) in 1988. Initially, the council operated and managed the site as a waste disposal authority. Under the Control of Pollution Act 1974, waste regulation was then also the council's responsibility. It was required to pass a resolution which set conditions to ensure that waste was disposed of at the site without causing environmental pollution or harm to public health. The council's resolution was issued in 1987.

In 1995, to comply with the requirements of section 32 of the Environmental Protection Act 1990, RBC let a contract to Rhondda Waste Disposal Ltd, a Local Authority Waste Disposal Company (LAWDC), a company wholly owned by RBC, which retained ownership of the site.

The system of waste regulation under the Control of Pollution Act 1974 was subsequently replaced in 1994 by the waste management licensing system introduced under the 1990 Act. Rhondda Waste Disposal Ltd was granted a licence to operate the site by RBC in March 1995. Regulatory supervision of the site transferred to the Environment Agency on 1 April 1996. Ownership of Rhondda Waste Disposal Ltd passed to Rhondda Cynon Taff County Borough Council (RCT) with local government reorganisation.

On the 23 September 1999, the Environment Agency transferred the waste management licence for the Nantygwyddon site from Rhondda Waste Disposal Ltd to Amgen Rhondda Ltd. It did so in accordance with the provisions of section 40 of the 1990 Act. Amgen Rhondda Ltd is a subsidiary of the Cynon Valley Waste Disposal Company Ltd. The latter is wholly owned by RCT but was originally set up as a LAWDC in 1993 by the former Cynon Valley District Council.

The Environment Agency is required by section 42 of the Environmental Protection Act 1990 to supervise all waste management licences which are in force to ensure that the authorised operations do not cause environmental pollution or harm to human health. Section 37 of the 1990 Act makes provision for the variation of licence conditions by the Agency either on its own initiative or following a request from the licence holder. This and other provisions of the 1990 Act enable the Agency to take any action considered necessary to ensure that waste continues to be disposed of at any particular site in a way which ensures protection of the environment and human health.

Alleged Health Effects

Local residents have, for some years, complained of noxious smells emanating from the site. More recently, they have suggested that the chemicals causing these odours are also having an effect on health. In particular, they cited increases in symptoms such as stress, fatigue, headaches, eye irritation, coughs, stuffy nose, dry throat, and nausea. They also alleged that there was an increased incidence of gastroschisis, (a congenital malformation of the gut), spontaneous abortions, asthma, and sarcoidosis (a chronic multi-system disease of unknown origin).

Research Undertaken and In Hand

Between April and October 1997 the Welsh Combined Centres for Public Health (WCCPH), commissioned by Rhondda Cynon Taff CBC, undertook epidemiological research to review the concerns of residents living near Nantygwyddon landfill site. The method chosen was to compare ill-health in 5 local authority wards (electoral divisions), selected as the most likely to be exposed to any pollutant which might emanate from the site ("exposed wards"), with 22 other wards in the same local authority area, ("unexposed wards").

As a purely observational epidemiological study the WCCPH research was not able to establish any causal relationship between the health problems found, and the Nantygwyddon site. On 1 January 2000 the authors of this report published a retrospective analysis in the British Medical Journal.

The WCCPH 1997 report concluded that "there are currently no routinely available health data which can answer the public concern over sarcoidosis". In response to this, Bro Taf Health Authority undertook a study to ascertain the incidence of sarcoidosis and geographical variations in rates across the area.

Sarcoidosis is a relatively rare condition. Bro Taf did find that the prevalence of sarcoidosis in the area close to the landfill site was higher than elsewhere in the studied area. This applied both before and after the commencement of industrial waste disposal in 1995. The explanation behind this finding was that there was a higher proportion of familial sarcoidosis in the wards closer to the site. Bro Taf concluded that there was no evidence that the Nantygwyddon landfill site had contributed to the relatively high level of sarcoidosis.

In July 1997, in response to the large numbers of complaints it received concerning the site, the Environment Agency commissioned Entec, a firm of specialist environmental consultants to carry out the following work: an analysis of the composition of the site; an appraisal of the controls and management of the site; an assessment of the air quality within the boundary of the site. The final version of the report, received by the Agency in January 1998 found that levels of hydrogen sulphide within the site were substantially above those found in landfill sites elsewhere in the UK.

Bro Taf Health Authority organised "Health Clinics" for residents living in the area over an 8-week period in 1998. The information gathered

revealed that living near to the site was associated with a higher frequency of self-reported symptoms, and that residents linked these to exposure from odour and fumes from the landfill. This study relied on people's perceptions of past and present events, and it was not possible to calculate the incidence rates of illness in the populations studied. This data provides an indication of public perception of the problem, but it is not a means of establishing a casual link with the site.

In response to wider public concerns about the possible health effects of living close to landfill sites, the Department for the Environment, Transport and the Regions, the Department of Health, the Environment Agency and the National Assembly for Wales announced a programme of research to investigate the potential risk to human health of landfills. The process of letting this work is underway.

The Small Area Health Statistics Unit (SAHSU) is currently undertaking a UK-wide study at the request of the former Welsh Office into the incidence of birth anomalies and some cancers in populations living near landfill sites. At the request of the National Assembly, SAHSU has now agreed to undertake a second analysis, including Nantygwyddon, of the sites in the UK which were investigated in the EUROHAZCON study (this study investigated the risk of congenital anomalies associated with residence near hazardous waste landfill sites in Europe). The findings of both analyses are expected in June 2000.

C: Description of Options

The options considered in this analysis are:

Option 1. Do nothing

Option 2. Small scale desk-based investigation

This would involve the appointment of an expert advisor who would review the evidence available on paper or seek further written contributions from individuals. A previous example of this type is the investigation into the incidence of congenital malformations in the Torfaen area of South Wales in the mid-1980s (in response to local concerns of the siting of the Re-Chem factory).

Option 3. Small scale investigation with public visits and interviews

This would again require the appointment of an expert advisor or expert group, who as above would review the paper based evidence, but would also carry out some work in public, visiting interested parties and perhaps holding some public meetings to review the evidence and receive representations and perhaps commission further work. A previous example of this type of investigation would be the Pennington investigation into the E-Coli Outbreak in Scotland.

Option 4 Investigation, with Assembly Committee involvement

An Assembly investigation would take place under Section 40 of the Government of Wales Act. This would combine consideration in public by the Environment, Planning and Transport Committee (EPT) and private investigation conducted by an independent expert. If the committee were established as a sub committee of EPT it could exercise the powers contained in sections 74 and 75 of the Government of Wales Act. These would give the committee the power to compel certain bodies to appear.

Option 5. Full Public Inquiry

In a public inquiry a review of the issues set out in the terms of reference would be carried out in public by an expert advisor or group of advisors with evidence supplied in writing and in person. Such an inquiry could be held on a statutory or non-statutory basis. In both cases participants are usually provided with legal representation.

- **Powers**

Section 35 of the Government of Wales provides the Assembly with powers to set up a public inquiry. Section 250 (subsections 2 to 5) of the 1972 Local Government would apply to an inquiry set up by the Assembly and confer the power to summons witnesses to attend and provide written statements. The Act allows the Assembly to direct a local authority or party to the inquiry to meet some of the costs of the inquiry, although further legal advice on these provisions would be needed

- **Conduct**

Once a public inquiry is set up its procedures are the responsibility of the chair of the inquiry. Decisions which affect the cost and scope of the inquiry will be taken by the chair without reference to the commissioning minister and in this case the Assembly. The procedures of a public inquiry generally comply with most or all of the six Salmon principles (set out in the report of the Royal Commission on Tribunals of

Inquiry, 1966). These principles, which relate to the fair treatment of witnesses at public inquiries, are appended as Annex B to this paper. Participants at public inquiries are entitled to legal representation. Legal aid is not available for public inquiries. In general, the Government has agreed that reasonable costs of participants at inquiries should be met out of the public purse.

Options and Assessment of Benefits

Objectives	<i>Option 1:</i> <i>Do nothing/do minimum</i>	<i>Option 2:</i> <i>Desk based investigation</i>	<i>Option 3:</i> <i>Small scale Investigation with some public involvement</i>	<i>Option 4:</i> <i>Investigation, with Assembly Committee involvement</i>	<i>Option 5:</i> <i>Full Public Inquiry</i>
<i>Review management history of the tip in public</i>	Would not achieve this	Would only have access to papers that relevant parties chose to make available. Would not achieve "public" review	Would only have access to papers and people on a voluntary basis. Would take some evidence in public	Might not have sufficient time or expertise to review complex technical evidence (although could do this with expert advisor)	If Statutory could compel parties to appear and to produce evidence Even if not statutory experience suggests that witnesses would chose to appear and present evidence in public
<i>Review the independent evidence on the health hazard presented by the tip.</i>	Would allow for new evidence for SAHSU to be considered ++ +DETR work on hazardous tips	As Option 1 and bring together all expert and reported evidence in one coherent document with further analysis	As Option 2, with possibility of expert and public views being heard in public	As Option 3 Might not have time or expertise to review complex technical evidence in full (although expert advisor could help here)	Would be able to draw on expertise to review the range of evidence, including technical evidence, unearthed in various reports.

Options and Assessment of Benefits (cont)

Objectives	<i>Option 1:</i> <i>Do nothing/do minimum</i>	<i>Option 2:</i> <i>Desk based investigation</i>	<i>Option 3:</i> <i>Small scale Investigation with some public involvement</i>	<i>Option 4:</i> <i>Investigation, with Assembly Committee involvement</i>	<i>Option 5:</i> <i>Full Public Inquiry</i>
<i>Review the design and safety of the landfill site</i>	Would allow for new evidence from the DETR work on hazardous tips to be considered in due course	As Option 1 and bring together all expert and reported evidence in one coherent document with further analysis	As Option 2, with possibility of expert and public views being heard in public	As Option 3 Might not have time or expertise to review complex technical evidence in full	Would conduct a full review of technical evidence available, investigating alleged flaws and seeking to established what materials have been tipped.

<i>Produce a set of recommendations relating to the future use and management of the tip</i>	Not within the Assembly's gift to do anything on this without an inquiry	Recommendations could be produced, however these would not be based on new evidence.	Recommendations could be produced, however these would be based on limited new evidence	As Option 3	Recommendations would be seen to have been reached after a full and public consideration of all the issues
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Costs

A broad assessment of costs is set out in the table below. There are uncertainties over the volume of evidence that would need to be taken and the allocation of costs between the various agencies and organisations. The assumptions behind each option are set out in Annex A.

Cost Category (annual costs except where stated)	<i>Option 1:</i> <i>Do nothing/do minimum</i>	<i>Option 2:</i> <i>Desk based investigation</i>	<i>Option 3:</i> <i>Small scale Investigation with some public involvement</i>	<i>Option 4:</i> <i>Investigation, with Assembly Committee involvement</i>	<i>Option 5:</i> <i>Full Public Inquiry</i>
<i>Direct costs</i> <i>(Costs falling on the Assembly which are directly attributable to the option)</i>	None	£15,000 Secretariat £13,000 Chair £10,000 Printing Costs £1,000 Travel and Subsistence	£36,000 Secretariat £50,000 Chair and sub chair £10,000 Printing Costs £5,000 Travel and Subsistence	Investigator's Fee £36,000 Technical Assessors £20,000 Administration £50,000 Consultancy, Technical Support £50,000 Accommodation, travel and subsistence £25,000 Printing costs £10,000	Up to £3 million Based on a pro rata share of BSE Enquiry Assumes - <ul style="list-style-type: none"> • 200 Written submissions • 30 days of taking statements in public.
<i>Indirect costs</i> <i>(Costs falling on the Assembly which cannot be directly attributed.)</i>	None	Accommodation costs. In-house copying, telephones etc	Accommodation costs. In-house copying, telephones etc	Accommodation costs. In-house copying, telephones etc. Marginal Translation and clerking costs	Included above

Costs (Contd)

Cost Category (annual costs except where stated)	<i>Option 1:</i> <i>Do nothing/do minimum</i>	<i>Option 2:</i> <i>Desk based Investigation</i>	<i>Option 3:</i> <i>Small scale Investigation with some public involvement</i>	<i>Option 4:</i> <i>Investigation, with Assembly Committee involvement</i>	<i>Option 5:</i> <i>Full Public Inquiry</i>
<i>Opportunity costs</i>	None	Policy support staff time. Time of those providing evidence	Policy support staff time. Time of those providing evidence.	AM and committee time. Policy support time. Time of those providing evidence.	Time of those supporting and appearing before the inquiry
<i>Other costs (including costs falling on other bodies and unquantified costs)</i>	None	None	Costs for those producing written submissions	Costs of participants appearing before the Committee, including legal representation	£1 to £2 million costs for other participants (based on BSE inquiry costs model)
<i>Total costs (including unquantified costs)</i>	Not identified - would be incurred in any event.	£39,000	£101,000 plus costs to other bodies	£191,000 plus costs to other organisations	£3million to £5million

D Summary Justification of Proposed Course of Action

Controversy has surrounded the Nantygwyddon landfill site ever since its establishment 12 years ago. Serious questions have been raised relating to the siting, design, management and the potential health hazard presented by the tip.

Previous research and a series of technical reports into the site have not addressed the concerns of local residents and have failed to establish that there is no danger to the health of the community living near the site.

Arguably, the reports, investigations and legal proceedings to date have served to reinforce the concerns and anxiety of residents. Collectively they have not determined what materials have been tipped at the site over the years, yet one of the reports (the Entec report, January 1998) found that levels of hydrogen sulphide (H₂S) within the site were substantially above those found in landfill sites elsewhere.

Furthermore, whilst a former operator of the site has been found guilty of breaching its waste management licence, there remains no confirmation of what dangers are posed by the waste at the site.

The impact of the Nantygwyddon landfill site on the people of the Rhondda and the potential risks presented should not be underestimated. There are some 15,000 adults living within the proximate zone of 3km around the site. There are 33 schools within the same area, with a total of 7,500 pupils.

It is felt that public confidence would be further undermined were there to be no comprehensive independent inquiry into the Nantygwyddon landfill site. The balance of evidence favours the setting up of such an inquiry, as it is by far the most comprehensive and wide-ranging option.

Unlike the other options, which would focus on certain key issues, it would not be selective and limited in the evidence it could consider. A public inquiry alone would possess the necessary depth and capacity to ensure that the issues identified in section A of this document may be examined thoroughly in the public domain in order to determine the full facts relating to the site's management and regulation.

E Draft Terms of Reference

"To conduct an inquiry into the siting, design, construction and management of the Nantygwyddon landfill site and the effectiveness of the regulatory bodies in dealing with its problems. To investigate the nature and extent of the nuisance it has caused to surrounding communities and the alleged affects on the health of the local population. In light of the findings of the inquiry, to recommend a plan for the future of the site and

similar problem landfill sites."

ANNEX A

Table of assumptions underpinning cost estimates

Factor influencing costs	<i>Option 2: Desk based investigation</i>	<i>Option 3: Small scale Investigation with some public involvement</i>	<i>Option 4: Investigation, with Assembly Committee involvement</i>	<i>Option 5: Full Public Inquiry All costs based on an assumption of 1/5 of the volume of the BSE enquiry</i>
<i>Time Frame</i>	3 months	6 months	6 months plus	6 months to a year
<i>Chair/Panel</i>	1 expert @£200 per day	2 experts @£200 per day	1 expert advisor @£300 per day	2 or 3 experts
<i>Secretariat</i>	½ Grade 7, 1HEO, 1AO	1 Grade 7, 1 HEO ,1 AO	Policy division support Marginal costs of support from Committee Secretariat	Policy team, plus dedicated legal support
<i>Printing Costs</i>	Based on recent costs of committee report – print run of 2,000 copies of 300 pages	Based on recent costs of committee report – print run of 2,000 copies of 300 pages	Based on recent costs of committee report – print run of 2,000 copies of 300 pages	Based on recent costs of committee report – print run of 2,000 copies of 300 pages
<i>Travel and Subsistence</i>	Cardiff Based . Limited Travel from Cardiff to visit Nantygwyddon, and other organisations	Cardiff Based includes cost of setting up local meetings, some travel costs for independent witnesses	Cardiff Based Includes some travel costs for independent witnesses	Cardiff Based
<i>Translation and Record of proceedings</i>	None beyond marginal cost of translation of final report	Marginal cost of translation of final report – simultaneous translation facilities for public meetings	Cost of providing a transcript of evidence sessions - assumption of 10 sessions of 2 hours each	Assume public meetings are held with full simultaneous translation

<i>Legal</i>	None – beyond marginal cost of background support from OCG	None – beyond marginal costs of support from OCG	None – beyond the marginal costs of OCG support to the committee – probably unsustainable assumption	Full legal support for all those appearing as witnesses, and for the panel
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Table of Assumptions on Number of Witnesses and written submissions for a public inquiry

Witness	<i>Payment of Legal Support Costs</i>	<i>Days of Evidence</i>	<i>Written submissions</i>
<i>Public (including RANT)</i>	NAfW	5 (30 witnesses)	100
<i>RCT</i>	RCT	5	25
<i>RWDL</i>	?RCT/ NAfW	2	10
<i>Contractors to RCT</i>	? RCT/ NAfW	2	20
<i>Environment Agency</i>	EA	3	20
<i>Amgen</i>	?RCT/ NAfW	3	5
<i>Bro Taf</i>	Bro Taf	3	5
<i>NAfW</i>	NAfW	3	10
<i>Independent Health experts</i>	NAfW	3	3
<i>Independent Environment experts</i>	NAfW	3	3
<i>Independent LG experts (Auditors etc)</i>	NAfW	2	1
<i>Total</i>			

These compare to figures of 800 witness statements, and 140 hearing days for the BSE enquiry, and have been used to provide the estimate for a Nantgywyddon inquiry at 1/5 of the (published MAFF) cost of the BSE inquiry.

ANNEX B

Salmon Principles

Principle 1: Before any person becomes involved in an inquiry, the inquiry team should be satisfied that there are circumstances which affect him and which the inquiry proposes to investigate.

Principle 2: Before any person becomes involved in an inquiry is called as a witness he should be informed of any allegations which are made against him and the substance of the evidence in support of them.

Principle 3:

(a): He should be given an adequate opportunity of preparing his case and of being assisted by legal advisers.

(b): his legal expenses should normally be met out of public funds.

Principle 4: He should have the opportunity of being examined by his own solicitor or counsel and of stating his case in public at the inquiry.

Principle 5: Any material witnesses he wishes called at the inquiry should, if reasonably practicable, be heard.

Principle 6: He should have the opportunity of testing by cross examination conducted by his own solicitors or Counsel any evidence which might affect him.

Sources:

1. Royal Commission on Tribunals of Inquiry 1966 (Report of the Commission under the Chairmanship of the Rt. Hon Lord Justice Salmon).
2. Forms of Investigatory Inquiry & the Scott Inquiry (House of Commons Research paper 96/22)
3. Public Inquiries Checklist (Cabinet Office 1999)
4. Government of Wales Act 1998.
5. National Assembly for Wales Standing Orders 2000.
6. Report on the Circumstances Leading to the 1996 Outbreak of Infection with E.COLI O157 in Central Scotland, The Implications for Food Safety and the Lessons to be Learned. (The Pennington Group, 1997).
7. The Incidence of Congenital Malformations in Wales, with Particular Reference to the District of Torfaen, Gwent (Welsh Office 1985).
8. Bonnybridge/Denny Morbidity Review (February 1985).
9. Lost in Care - Report of the Tribunal of Inquiry into the Abuse of Children in Care in the Former County Council Areas of Gwynedd and Clwyd since 1974 .(NAFW 2000)
10. MAFF Website