



BILLET D'ÉTAT

WEDNESDAY, 30th JUNE, 2004

REQUÊTE

ENERGY FROM WASTE FACILITY

XI
2004

B I L L E T D ' É T A T

TO THE MEMBERS OF THE STATES OF THE ISLAND OF GUERNSEY

I have the honour to inform you that a Meeting of the States of Deliberation will be held at **THE ROYAL COURT HOUSE, on WEDNESDAY, the 30th JUNE, 2004,** immediately after the meetings already convened for that day.

REQUÊTE

ENERGY FROM WASTE FACILITY

THE HUMBLE PETITION of the undersigned members of the States of Deliberation **SHEWETH THAT:**

1. The overall cost of the proposed Energy from Waste plant and associated facilities ("Plant") will be a considerable financial burden to the people and commerce of Guernsey.
2. The Plant will have a significant effect on the environment, coastline and landscape of Guernsey.
3. The arrangements for, and costs of dealing with, toxic wastes produced by the Plant, including storing them in Guernsey, have not yet been detailed or quantified.
4. A Solid Waste Management Plan, intended to be debated in the States, is in the course of preparation, and is nearing completion.

THESE PREMISES CONSIDERED your Petitioners humbly pray that the States may be pleased to resolve as follows:-

- A To direct the Policy Council, as a matter of urgency, to commission a suitably qualified and experienced independent panel to report into
 - (i) the current proposals for an energy from waste facility; and
 - (ii) the practicable alternatives and licensing issues surrounding those alternatives.

and to lay the panel's report before the States for debate as a matter of priority;
- B To direct the Environment Department to defer contractually committing the States pursuant to Resolution 4 on Billet d'Etat No. XX of 2003 (by which the Department, either directly or through its special purpose company, was authorised, following completion of the Initial Services period, to contract with Lurgi for the construction of an Energy from Waste facility) until that review and report has been considered by the States.

AND YOUR PETITIONERS WILL EVER PRAY

GUERNSEY

This 28th day of May, 2004

S J OGIER

D P LE CHEMINANT

J P LE TOCQ

T M LE PELLEY

D E LEWIS

D STAPLES

B BREHAUT

S MAINDONALD

(NB The Policy Council, by a majority, opposes the Prayer of the Requête)

(NB The Treasury and Resources Department, by a majority, opposes the Prayer of the Requête - Deputies Trott, Dorey and Honeybill oppose the Prayer of the Requête and Deputies Parkinson and Le Tocq support the Prayer of the Requête.)

(NB Attached are the views of the Environment Department on the Requête)

The Chief Minister
 Policy Council
 Sir Charles Frossard House
 La Charroterie
 St. Peter Port

9th June 2004

Dear Sir

ENERGY FROM WASTE FACILITY – DEPUTY OGIER’S REQUÊTE

I refer to the Requête dated 28th May signed by Deputy Ogier and seven other signatories, concerning the proposed Energy from Waste Facility project. The Requête seeks to defer the signing of the contract for the construction of the Energy from Waste Facility pending a report to be prepared by a qualified, experienced and independent panel, on the current proposals and practical alternatives. As such, this Requête is extremely wide-ranging and, if supported by the States, necessitates a re-examination of virtually all of the work previously undertaken by the then Advisory & Finance Committee and Board of Administration.

The Environment Department recognizes that new States members need not necessarily be aware of, and existing States members maybe unable to recall, the vast amount of work and reports that have been commissioned on behalf of the States since prior to the States debate of the Advisory & Finance Committee’s 1998 Waste Strategy Assessment Report. As a consequence, and in an attempt to ensure that any decision taken by the States is made on the basis of the best facts available, the Environment Department’s response to the Requête seeks to set out, as succinctly as possible, the work that has been carried out and how that impacts on the various elements of the Requête. Copies of all key reports will be made available in the foyer to the Royal Court prior to the States debate. The Environment Department believes that, based on the facts set out in this letter, members of the States will be able to form their own opinion as to whether or not an independent review, as called for in the Requête, can add any additional value to the wealth of work conducted to date.

1. Previous Studies

Attached as Appendix 1 is a comprehensive list of all the work streams conducted from 1994 through to the present day, the findings of which, having been reported to the States, have led to the States resolving in favour of an Energy from Waste facility. This Appendix not only demonstrates the vast amount of analysis and, in some cases, re-analysis, of the position as it relates to Guernsey, but also provides an indication of the

time taken to complete the studies, and hence should assist in informing States members of the likely time consequences involved should an independent review be commissioned to fully explore the available alternatives to Energy from Waste.

The starting point in the preparation of any sustainable waste disposal strategy, and therefore any review of the current proposals, is to identify the waste arisings that must be handled by the infrastructure and services resulting from that strategy. It is highly relevant, therefore, that the first 15 bullet points listed in Appendix 1 relate to studies carried out in order to provide a qualitative and quantitative assessment of Guernsey's waste arisings. What is also clear from the work streams set out in Appendix 1 is that a number of studies were commissioned in order to investigate the potential waste management options open to the States.

The work streams referred to above, which were conducted between 1994 and 1997, resulted in the publication of the Advisory & Finance Committee's Waste Strategy Assessment (WSa2), as contained in Billet D'État XII 1998. Any member wishing to have a greater understanding of the work carried out at that time can, of course, access the original reports as well as the Advisory & Finance Committee's policy letter. It is not, therefore, necessary for the Environment Department to dwell on the findings of the report, or the matters considered by the States. It is sufficient to note that the States accepted that Les Vardes Quarry was unsuitable for landfill with putrescible waste and that a sustainable waste disposal strategy must be centred on waste volume reduction by incineration in an Energy from Waste facility with Mont Cuet being the islands last putrescible landfill site.

As a consequence of the above, it is a simple fact that a waste strategy was considered by the States prior to the States deciding to support the commissioning of an Energy from Waste facility.

It is clear, therefore, that any call for the commissioning of the Energy from Waste Facility to be deferred pending the Waste Management Plan is ignoring the work carried out by the Advisory & Finance Committee between 1994 and 1998 and the States' consideration of the solid waste strategy.

2. Waste Arisings

Notwithstanding the previous resolutions of the States resulting from the work commissioned by the Advisory & Finance Committee, as referred to above, the Environment Department considers it would be beneficial for States members to be provided with an analysis of the projected waste arisings by category, on which the sizing of the proposed Energy from Waste Facility has been based. This information, which was derived from the studies referred to above, is attached in summary form at Appendix 2, along with the tonnage figures of waste deposited at Mont Cuet in recent years. The proposed Energy from Waste Facility is specified to have an operating capacity of between 50,000 and 70,000 tonnes per annum. It can be seen from the Mont Cuet landfill figures that in 2003 the waste arisings, at 60,000 tonnes per annum, were at the mid-point of this capacity range. Also worthy of note is the reduction in waste

arisings at Mont Cuet during the period 2001 to 2003. This reduction coincides with the charging policies introduced by the former Board of Administration, the increased waste separation activities undertaken by commercial businesses and the construction industry, and the introduction of the Fontaine Vinery Materials Recovery Facility. However, notwithstanding these public and private initiatives and the resultant reduction in waste tonnage, the 2003 tonnage is still far in excess of the 50,000 tonnes per annum set by the Board of Administration as the desirable starting tonnage for the Energy from Waste Facility. It should be noted that the capacity of the Energy from Waste Facility was set at 50,000 tonnes at year 0, allowing an increase in waste arisings at 1.3% per annum (which is in accordance with the increase in waste arisings throughout Europe and the United Kingdom) over a 20 year period, resulting in the Facility being at its full 70,000 tonnes per annum capacity (inclusive of 4,400 tonnes per year of sewage sludge) towards the end of the life of the internal plant.

The Environment Department would also draw attention to the schedule of waste by category attached at Appendix 2, from which it can be seen which wastes must be removed from the Mont Cuet Waste Stream in order to achieve the desired 50,000 tonnes per annum starting position. As indicated above, some significant success in this area has already been achieved. However, whether or not the remaining tonnages can, in practice, be removed from the Mont Cuet Waste Stream is questionable and will depend on the pricing strategies, penalties, incentives etc introduced by the States as part of the detailed Waste Management Plan. **However, what would appear to be clear from the figures is that it is highly unlikely that waste arisings could be reduced below the starting capacity of 50,000 tonnes per annum, and therefore there would appear to be no case to suggest that the proposed Facility has been over-sized.**

3. The Role of Recycling

Attached at Appendix 3 is a schedule which sets out the quantities of household waste recycled by Guernsey through the “bring bank systems” and which compares these recycling figures with those of the top performing councils in the United Kingdom. It is noteworthy that Guernsey, with a recycling rate of 19%, performs comparatively well when compared against U.K. councils where a country average of just under 15% is achieved, but of more relevance is the fact that the best performing council in the United Kingdom only achieves a 27.9% household recycling rate through the application of a kerbside collection round. **It can clearly be seen from the figures that if Guernsey was to achieve this same recycling rate, that is, to equal the best in Britain, then only an additional 1,615 tonnes of material would be recycled per annum.** Whether or not it is desirable to invest the funds and resources in order to achieve this degree of recycling is a matter for the States to consider as part of the detailed Waste Disposal Plan. However, it is quite clear that even if this degree of recycling was adopted, the reduction in waste would be nowhere near sufficient to eliminate the need for the Energy from Waste Facility, or to suggest that the Facility had been over-sized.

4. Energy From Waste Size-Cost Comparison

Notwithstanding the above observations, the Environment Department considered that it would be beneficial to set out in the form of a schedule the savings that could be achieved should it be possible to manage the Island's waste in such a way that a smaller Facility was required. This schedule is attached at Appendix 4. The Facility specified by the Board of Administration and its consultants is based on a nine tonnes per hour grate which, taking into account normal shut down periods for maintenance etc, provides the annual capacity of 50-70,000 tonnes. The cost of that grate, the resulting height of the building, as well as the length and width, are set out in the schedule. The contractor approved by the States in September 2003 can provide grates of smaller sizes as shown in the attached schedule. It can be seen that these smaller grate sizes have no impact on the height and length of the building but do enable the width to be marginally reduced, but, more significantly, result in a minimal saving on capital cost for a marked reduction in annual capacity.

It is clear, therefore, that any suggestion that increased recycling through kerbside collection or other waste reduction methods can achieve a significantly smaller and cheaper Energy from Waste facility, is in conflict with the evidence.

5. Alternative Technologies

During the period of tendering for the proposed Energy from Waste Facility, and during the subsequent States debates, a significant amount of interest and discussion centred around the alternative technologies available for combusting waste. There are many such alternative technologies, but the only significant alternatives fall under the categories of gasification and pyrolysis.

The Board of Administration commissioned Juniper to provide a report (and, at a later date, an addendum report) setting out the viability of these alternative technologies for Guernsey. Those reports found in favour of Energy from Waste as opposed to gasification and pyrolysis. Once again, any member wishing to explore these issues in more detail can peruse the original reports. The Environment Department has not had cause to challenge these reports or to commission further studies. However, Fichtner, a leading U.K. consultancy firm, was commissioned by the Environmental Services Training and Education Trust to review and report on The Viability of Advanced Thermal Treatment of MSW in the U.K.. The Environment Department has obtained a copy of this report, which was published as recently as March 2004, and the management summary is attached at Appendix 5. The nature of these reports, which are essentially technical, does not make for easy reading and it is unsurprising that any given manufacturer would challenge the findings of a report if those findings do not find in favour of those manufacturers. However, in general, the findings of the Fichtner report closely supports the recommendations of the Juniper reports commissioned by the Board of Administration.

It is worthy of note that at the time of the original Juniper report, there was an expectation in many quarters that the alternative technology companies would achieve a breakthrough within a period of one to two years. Fichtner's report demonstrates that, some two years on, the breakthrough has not been forthcoming.

Once again, therefore, members must consider whether or not there is merit in introducing further delay with the optimistic hope that a breakthrough in the alternative technologies is on the horizon, or to enable further reports to be commissioned, again in the optimistic hope that a new report will bring to light issues missed by Juniper and Fichtner.

6. Summary

From the above 5 points a number of reasonable conclusions can be drawn:-

- i) Substantial work was carried out to consider the available options before the Advisory & Finance Committee recommended to the States a strategy based on waste reduction through combustion via an Energy from Waste facility. The States agreed to the proposed Energy from Waste facility as the only sustainable solution for Guernsey.
- ii) The capacity of the Energy from Waste facility at 50,000 to 70,000 tonnes accords very closely with the annual waste arisings.
- iii) Recycling cannot reduce waste arisings to a level whereby a smaller facility is desirable.
- iv) Smaller facilities do not result in significant cost savings or a significant reduction in visual impact.
- v) Nothing has happened in the alternative technology market which should lead the States to overturn the previous two decisions taken in 2002 and 2003.

7. Environmental Impact Assessment

Returning to Appendix 1, members will note that in 1999 environmental impact assessment consultants were appointed. Over an 18 month period those consultants examined potential locations for the siting of an integrated waste management facility, including the Energy from Waste facility. As part of that work, the consultants considered the alternatives. The conclusion was that an integrated waste management facility, incorporating an Energy from Waste facility, sited at Longue Hougue, presented the best environmental option. The work was subject to peer review.

The environmental impact assessment formed a substantial element of the subsequent Planning Inquiry into the zoning of Longue Hougue, and the independent Planning

Inspector supported the proposal to locate an integrated waste management facility and Energy from Waste facility at Longue Hougue.

Once again, therefore, the strategy and proposal to site a Waste Management facility at Longue Hougue was subject to independent examination and the proposals met with approval, both by the independent examiner and by the States.

8. Export as an Option

The export of waste, either as a key element of a waste disposal strategy or as a fallback position in the event of the adopted strategy failing (for example, if alternative technology was adopted and proved to be unable to deal with the Island's waste arisings) was considered by the States both in June 2002 and September 2003. The indicative costs, as set out in the policy letters considered by the States at that time, resulted in a gate fee of £99 per tonne. However, those costs excluded the administration costs, sampling, financial guarantees etc that would have been necessary to meet the regulatory controls pertaining at that time. In addition, the States noted that in 1998 Jersey had tested the costs of export as part of an emergency plan and had calculated costs to be in excess of £100 per tonne, excluding some on-Island costs.

Notwithstanding the fact that export was likely to result in costs in excess of on-Island incineration, the Board of Administration contacted 14 French incinerator facilities and 10 U.K. incinerator facilities, being those nearest to the key ports to which Guernsey had access. Between those 24 facilities, only 20,000 tonnes of Guernsey's waste could be accommodated (approximately one-third of the current waste arisings).

Since the date of those policy letters, the U.K. government has, in support of its own waste strategy, stated that it would not wish to import waste for disposal from other jurisdictions. As a consequence, any waste strategy that relies on exporting to the U.K. normal putrescible household waste is unsustainable. The logistics alone of such a strategy are fraught with risk. In order to process 1,000 tonnes of combustible waste per week (equivalent to the projected starting capacity of the Energy from Waste facility at 50,000 tonnes per annum), approximately 1,250 bales of waste would need to be transported weekly. This would result in 30 return container/lorry movements per week, along with the weekly importation of some 200-250 rolls of plastic film and netting for bale construction.

It is quite clear that even if the export of waste for disposal was only relied upon in times of emergency, a substantial facility along with the processing plant would need to be constructed and transport facilities would need to be readily available at a moment's notice.

9. Cost of the Facility – Requête point no. 1

In the Board of Administration's policy letter dated 24th September 2003, Billet D'État XX 2003, the outcome of the tendering exercise and the cost of the proposed facility as tendered by the Board of Administration's preferred tenderer was set out. The capital cost was identified as £72,796,480, which sum included the design costs incurred during the nine month Initial Service Period.

Because the Board of Administration was proposing a design build and two year operate contract, the tenderer had also tendered for the two year operation element in the sum of £7,513,106. It is clearly inappropriate to add this operation cost to the design and build cost and, as a consequence, suggest that the facility costs in the order of £80,000,000. As an analogy, one would not add the costs of the teachers' salaries to the cost of constructing the schools in order to arrive at the capital cost of the schools programme. In addition to the £72,796,480 capital cost, the Board of Administration identified and tabulated all the associated costs, including consultants' fees, enabling works etc. These costs came to a figure of £2,570,000. The Board of Administration also requested a contingency sum equivalent to 10% of the capital cost of the facility, i.e. £7,279,648. These costs are set out in schedule form at Appendix 6, which schedule also provides the costs as they stand at today's date. Members will note that the cost remains within the overall budget approved by the States.

The Environment Department understands that claims have been made that the facility will cost in excess of £100,000,000, with some suggestions that the facility will cost £140,000,000. **There are no facts which substantiate claims that the facility will cost in excess of the sum approved by the States.**

The Waste Strategy Assessment approved by the States in 1998 supported the construction of an integrated waste management facility. At that time it was envisaged that the integrated waste management facility would include an Energy from Waste facility, a Composting facility, a Materials Recovery facility and Civic Amenity Sites. In the Board of Administration's consultation documents on the waste disposal plan, capital estimates were provided for some of these facilities. It is possible that some members have chosen to add these capital costs to the cost of the Energy from Waste facility, thus arriving at a hypothecated cost of the integrated waste management facility, but then suggesting that this cost was attributable to the Energy from Waste facility alone.

The Requête states that the overall cost of the facility will be a considerable financial burden to the people and commerce of Guernsey. It is an unavoidable fact that sustainable waste disposal cannot be conducted as cheaply as unsustainable waste disposal methods such as landfill. The information provided in the various sections above also demonstrates that recycling and export of waste carries a tonnage cost figure comparable, if not in excess of, the cost of incineration. The sections above also demonstrate why the States, both in 2002 and 2003, rejected alternative technologies as a potential solution for Guernsey. **The unavoidable conclusion from the above is that**

the sustainable solution previously approved by the States is also the right solution for Guernsey based on economic grounds.

The Environment Department has heard it suggested on a number of occasions that the cost of waste disposal resulting from the Energy from Waste facility will result in a tripling of the refuse rate. A simple calculation demonstrates this claim to be false. The average household disposes of 0.64 tonnes of waste per annum. At current landfill gate fees in the order of £33 per tonne, this results in an annual cost to the householder of £21. The refuse rate that that householder pays obviously depends on the rateable value of the property and the parish in which that person lives, but a reasonable average would be in the order of £70 per year. As such, the disposal element equates to less than one third of the rate bill, with the remaining two thirds being attributable to the collection costs. If the gate fee at the Energy from Waste facility is set at £100 per tonne, then the disposal element would increase from £21 to £64, with the overall refuse rate bill increasing from (in this example) £70 to £113. It can readily be seen that a tripling of the disposal cost results in just over a 50% increase in the rate fee, as opposed to the 300% increase put forward by some quarters.

10. Impact on the Environment – Requête point no. 2

As indicated in section 7. above, a full environmental impact assessment was conducted in order to identify the best location on Guernsey for the integrated waste management facility. That environmental impact assessment was subjected to peer review, and was tested in a Planning Inquiry. In addition, the proposed facility will be licensed by the environmental health officers of the Board of Health and the environmental health officers and the project team have, during the nine month initial services period, been working jointly to identify the plant, processes and standards that must be met in order to achieve the requisite licence. The environmental health officers have insisted that the plant not only meets the European emission standards, but that the plant conforms with best available technology.

It is understandable that a facility such as the Energy from Waste facility will raise concerns on health grounds. Attached at Appendix 7 are the key findings of a report commissioned by the United Kingdom government which analysed and compared the available data on the health effects of incinerators and other waste disposal facilities. The conclusion of that report is that the environmental and health effects of an Energy from Waste facility are minimal and certainly below those of a landfill.

In September 2003 the States voted in favour of accepting the Lurgi proposal, the architectural treatment of which was included in the Policy Letter, noting that the alternative architectural concept previously prepared on behalf of the Board of Administration by SPACE, which involved burying a substantial proportion of the facility and providing a high level of architectural treatment to the elements of the facility above land, carried an additional capital cost in the region of £15,000,000. The Environment Department fully accepts that the proposed facility will constitute a significant structure in a prominent position on the Northern coastline. The structure

will dominate the approaches to our harbour, will be visible from the east coast road and will be visible as part of the distant views from the South coast cliffs. It is, however, a fact that the height of the building was identified as 33 metres within the Board of Administration's policy letter submitted to the States in September 2003, and that policy letter also included a colour image of the Lurgi concept architecture. The Environment Department also understands that the Board of Administration presented the architectural concept at public meetings prior to the States debate, and that during those public meetings the issue of the size and massing of the building were discussed.

Prior to the Machinery of Government review, a Formal Consultation for the Energy from Waste facility, was submitted to the Island Development Committee from the Board of Administration, in accordance with the provisions of the States' Resolution of 1st August 1991 concerning development by States' Committees. The Environment Department is now responsible for both the Board's and the IDC's former responsibilities in this matter and is progressing consideration of the Formal Consultation. In fulfilling its planning functions the Department is gathering additional information to assist it in considering the proposal within the wider context of the Integrated Waste Management Facility, of which it forms part. Although the IDC previously expressed concern as to the massing and architectural treatment of the Energy from Waste facility, it recognised that the facility complied with the States' resolution and agreed not to challenge the States' decision.

Publication of the proposals has been undertaken by the Board of Administration and by the former IDC as part of the Formal Consultation. The Facility Architecture developed by Lurgi, photomontages from 8 viewpoints showing the facility once built and after 15 years of tree growth, elevations and a section, were published on the States of Guernsey Website and put on display in 3 locations:

Guilles Alles Library

St Sampsons Douzaine Room

Vale Douzaine Room

As a result the Board of Administration received no written comments or submissions and the IDC has received two comments on the appearance of the facility.

11. Disposal of Hazardous Waste – Requête point no. 3

Disposal of hazardous waste arising in Guernsey has been problematical for a number of years. Attached at Appendix 8. is a copy of a duly motivated request prepared for submission to the United Kingdom Environment Agency under the provisions of the Basle Convention, seeking the U.K.'s agreement to accept hazardous waste arisings that are currently held in Guernsey and which are expected to arise over the next few years. **The key point to note is that hazardous waste disposal is a problem regardless of whether or not the Island commissions an Energy from Waste facility.**

The Basle Convention and European Legislation allows for the export of hazardous waste for disposal only if the exporting jurisdiction can demonstrate that it is unable to deal with its own hazardous waste and could not reasonably be expected to put in place

the facilities necessary to deal with that waste. The Environment Department will be commissioning an Environmental Impact Assessment in order to identify whether or not it is possible to construct a hazardous waste disposal facility on Guernsey. If it is possible to construct such a facility, then that facility will, subject to States approval, be constructed and will take the Island's hazardous waste arisings, including the fly ash currently arising from the Princess Elizabeth Hospital incinerator, and also the hydroxide sludge which results from the treatment of fly ash resulting from the proposed Energy from Waste facility. However, if as a result of the Environmental Impact Assessment it can be proven that it is not possible to construct a hazardous waste disposal facility on Guernsey, then this proof will act as the gateway to export hazardous waste to the United Kingdom for disposal.

Whilst the Environment Department is fully committed to obtaining a long-term solution to dealing with the Island's hazardous wastes as soon as possible, this in itself should not be seen as grounds for deferring the commissioning of the proposed Energy from Waste facility.

12. The Role of the Solid Waste Management Plan – Requête point no. 4

As previously indicated in sections 1., 2., 3., 4. and 5., those elements of the waste disposal plan which set the overall strategy have already been subjected to significant studies and have been approved by the States. As such, a sustainable waste disposal strategy has been approved by the States, and that strategy relies on Energy from Waste incineration. The Waste Management Plan which is currently in draft has been prepared with the Energy from Waste facility as a core element. As such, there is nothing in the draft Waste Management Plan which would challenge the decision to procure an Energy from Waste facility.

The suggestion to defer the procurement of the Energy from Waste facility pending the publication of the draft Waste Management Plan is fundamentally flawed. It would appear that what the Requêteurs are actually seeking is a complete review of the Waste Strategy Assessment presented by the Advisory & Finance Committee and approved by the States in 1998.

13. Cost of Review

Part B of the Requête seeks to direct deferment of entering into the second element of the contract, the construction phase, in order to allow the Policy Council to commission a suitably qualified and experienced independent panel to review the current proposals and the practical alternatives (Part A). Therefore, the key question is to what extent will this delay impact on the viability and cost of the project. The cost of the Requête, if supported by the States, will have two elements. The cost of delay, which can ultimately only be known after negotiation with the contractor and the cost of the independent review.

As set out in the Board of Administration's policy letter dated 9th August 2003, Billet D'État XX 2003, the Energy from Waste Facility is being procured in a two stage process, the first stage, which has been termed the Initial Services Period, constituting a formal contract with LURGI and enabling the detailed design to be progressed and the necessary permissions gained from the authorities. This element of the contract commenced in October 2003 and was scheduled to run for nine months, expiring June 2004. The contract sum for this Initial Services Period was £2,982,500 at an exchange rate of €1 = £0.725. This equates to approximately £330,000 per month.

As explained in the Board of Administration's policy letter, the original project brief and tender was based on a single stage design and construct contract which returned tender sums in excess of £100,000,000. By re-tendering the project with reduced architectural treatment, re-assignment of risk and placing the design element within the separate Initial Services Period contract, tenders were received which included, as a capital sum, a figure of £69,813,978 based on the Euro exchange rate as set out above. The important point to note is that this capital sum, known as the base contract price, only holds until the end of the nine month Initial Services Period, after which time inflation at RPIX takes effect. Taking an RPIX of just over 2% per annum, equates to £150,000 per month.

It is unclear as to the extent of the review being sought and the cost of the review can only be known once terms of reference are clear and have been tendered. However, the cost of studies to date provides a basis on which future costs could be projected. The costs of the work conducted between 1994 and 1998 leading up to the Wsa2 report was in the order of £500,000 Added to this are the consultants/study costs incurred since 1998 which were set out in the Board of Administration's policy letter and are reproduced below. If the review were to be limited to a literature review then these costs would be significantly reduced.

Description	Budget £
Waste Strategy Assessment	201,849
Environmental Impact Assessment	214,444
Norwest Holst - Site Investigations	153,757
Juniper Report – Alternative Technologies	30,000
Ramboll	500,000
Ramboll - Health & Safety Plan	25,000
S'Pace Fees - Concept Architects	55,000
Legal Advice	210,000
Insurance Services	30,000
	<u>1,420,050</u>
	<u><u>1,420,050</u></u>

Of equal importance to the financial cost of any delay in commissioning the construction of the Energy from Waste facility is the cost of lost space at Mont Cuet. As stated above, the States agreed strategy is that Mont Cuet will be the Island's last putrescible landfill site. Because of the 10 fold volume reduction that results from the commissioning of an Energy from Waste facility, each year of landfill life lost now equates to 10 years of lost life once the site is being operated alongside the Energy from Waste facility. In September 2003 the Board of Administration advised that the remaining life of the site at the time of commissioning the Energy from Waste facility would only be 7 years which taking into account the 10 fold volume reduction factor would give a future landfill life of 70 years. Every year of delay reduces that life by 10 years.

Conclusion

In responding to the Requête, the Environment Department has not set out to present the case against the Requête and therefore against the two recommendations. Rather, the Environment Department has set out the relevant facts and information in order that States members can form their own opinion as to whether or not a delay in procuring the Energy from Waste facility in order that additional reports can be commissioned is justifiable. The Environment Department would suggest that the facts speak for themselves.

Yours faithfully

B M Flouquet
Minister
Environment Department

APPENDIX 1

Work undertaken from 1994 to date

July 1994 States Resolution

“To carry out a comprehensive assessment of the Island’s most appropriate future strategy for the disposal of all island waste”

Investigations into determination of a Liquid Waste Strategy were commenced in July 1995 (Waste Strategy Assessment 1) –. Liquid waste was considered before solid waste because the installation of sewage treatment would result in the generation of a sludge waste stream that should be taken into account by the solid waste strategy.

March 1997

Publication of WSa1.

Work contributing towards the development of the Solid Waste Strategy (WSa2)

- Green Waste Composting by Composting Working Party;
- Imports Survey Vol 1 and 2 by WSa team;
- An Audit of Solid Waste Streams in the States of Guernsey - monitoring exercise by AEA Technology; Sept 1994
- An Audit of Solid Waste Streams in the States of Guernsey - Phase II, weighing and monitoring campaign by AEA technology; Jan 1995
- An Audit of Solid Waste Streams in the States of Guernsey - Phase III, Physical Analysis and Further Weighing of Household, Commercial and Industrial Wastes; Nov 1995
- A Waste Audit by WRc plc;
- Recycling Audit by WSa team;
- Kerbside Recycling Trial, May-July 1996 by WSa team;
- Waste Management in Guernsey: Status and Strategies by CalRecovery Inc;
- Agricultural Wastes by ADAS;
- Disposal of Liquid Hazardous Wastes by WS Atkins;
- Disposal of Leachate from Landfill Sites by WS Atkins;
- Report on Disposal of Liquid Hazardous Wastes by WS Atkins Water;
- Waste Classification by WSa team;
- Sampling and Analysis of Wastes by WSa team;
- Examination of Waste Minimisation and Waste Avoidance Opportunities by Scott Wilson Kirkpatrick and Co Ltd; Dec 1996

- Investigation and Assessment of Solid Wastes Management Options - Stage 1 Report by Integrated Skills Ltd;
- Investigations and Assessment of Solid Wastes Management Options - Final Report by Integrated Skills Ltd;
- Landfill Techniques by Scott Wilson Kirkpatrick and Co Ltd;
- Review of Charging and Operational Management Practices for Solid Waste Management Services by Integrated Skills Ltd.

April 1998

WSa2 was published.

June 1998 - Waste Strategy Assessment (Billet XII 1998)

The States considered the Solid Waste Strategy prepared by the Advisory and Finance Committee (Billet XII 1998) and resolved, in principle, that Les Vardes Quarry was unsuitable for the landfill of putrescible waste. The report investigated strategy for Waste Management at every stage of the process from collection, through separation, recycling and pre-treatment to final disposal. The Committee's report acknowledged that export of waste for disposal was not sustainable and that there were no other suitable landfill sites after Mont Cuét available on island. As a consequence, the report recognised that a sustainable waste disposal strategy must be centred on waste volume reduction by incineration in an Energy from Waste (EfW) facility. The States directed the Board of Administration to investigate the feasibility of commissioning an EfW facility.

The States Resolved

To direct the Board of Administration to introduce measures that achieve all economically justifiable recycling measures as described in section 4.3 of the report.

To direct the States Board of Administration to investigate the feasibility of installing a tunnel composting system for "green waste" as described in section 4.5 of the report.

To agree in principle to the installation of a Waste to Energy facility and to direct the States Board Of Administration to pursue the feasibility of its installation for an intended operational date of 2002

To agree in principle that les Vardes Quarry will be unsuitable for the disposal by landfill of putrescible wastes.

To direct the Advisory and Finance Committee to commission environmental impact assessments of suitable sites for the location of a Waste to Energy facility.

To direct Advisory and Finance Committee to prepare the relevant amendments to the strategic and corporate plan.

To direct the Island Development Committee to identify appropriately located sites in the Island for the collection, sorting, transfer and recycling of solid wastes.

To direct the States Board of Administration to review the charges for the collection and disposal of all Island wastes according to the principles set out in the Waste Strategy Assessment, Report No. 2, and to report to the States its findings and recommendations.

To direct the States Board of Administration to prepare a Waste Disposal Plan based on the contents and recommendations of that report.

November 1999 - Appointment of EIA Consultants

Terence O'Rourke plc was appointed by the Board of Administration to undertake an Environmental Impact Assessment (EIA) of the proposed Integrated Waste Management Facility, including the proposed EfW facility, Materials Recovery Facility and Civic Amenity Site.

The site selection process

In Stage 1 of the EIA, candidate sites were identified by screening using negative and positive filters:

Negative Filters:

Surface Water Catchment Area
 Airport
 Mineral Deposits
 Archaeological Sites
 Proposed Housing
 Urban and Building Conservation
 Green Zones

Positive Filters

Greenhouses over 2000m² in area
 UAP land Reclamation Site
 Sites Reserved for Waste Disposal
 UAP Key Industrial Areas
 Industrial Development
 States Owned Land Over 1.5 Hectares

Stage 1 of the EIA identified the following sites as candidates for the EfW facility.

- Land west of Mont Cuet landfill site, Chouet
- Land either side of La Rue de la Hure Mare, Northside, St Sampson
- Griffith's Yard and other nearby land, Northside, St Sampson
- Land within the existing Ronez site, Northside, St Sampson
- Existing reclaimed land at Longue Hougue reclamation site, St Sampson
- Future reclaimed land at Longue Hougue reclamation site, St Sampson
- Land north of Pitronnerie Road Industrial Estate, St Peter Port

In Stage 2 of the EIA, these sites were subjected to examination under 26 separate criteria which were grouped under four broad headings reflecting:

- developmental matters
- operational matters
- land use planning matters
- environmental issues

On the basis of the Stage 2 work, Longue Hougue (incorporating land already reclaimed plus land due to be reclaimed within the next year or two) was identified as the preferred site which was taken forward for detailed assessment in Stage 3. The main advantages identified were:

- degree of integration that could be achieved with other existing and future solid waste infrastructure
- scope for co-location of industrial uses
- relative remoteness from sensitive land uses
- fact that no existing land use would have to be relocated
- degree of control over the site available to the Board of Administration
- good potential air dispersion

In Stage 3, the suitability of Longue Hougue was assessed against a range of environmental criteria including:

- Air quality
- Landscape and visual effects
- Land use and community effects
- Water environment
- Management of solid residues
- Cultural heritage
- Natural heritage
- Traffic
- Noise and vibration

The results of these specialist studies were combined into the Stage 4 'Environmental Statement', completed in May 2001, which was used by then Board of Administration as evidence at the Longue Hogue Planning Inquiry in December 2001. (see below)

The Environmental Statement identified standards and thresholds that must be met by the EfW facility to ensure that it does not have a significant detrimental effect on the environment.

The Longue Hogue Outline Planning Brief approved by the States required a Compliance Document to be produced demonstrating how the standards and thresholds identified by the Environmental Statement and Outline Planning Brief would be achieved.

January 2001 - Appointment of EfW Consultants

Rambøll, a leading Danish Engineering consultancy with excellent experience of EfW projects was appointed as Technical Consultants. Ramboll investigated Guernsey's situation and produced a Project Definition Brief (PDB) to define the facility's technical and operational requirements. The PDB was used to develop the Tender Documents for the facility

2001 - Selection of Preferred Bidders

Expressions of Interest invited from appropriately qualified and experienced technology lead bidders. Suitable companies were selected for interview and selection to a list of preferred bidders.

The list of selected preferred bidders was as follows

Alstom Power Generation Ltd

Lurgi (UK) Ltd. (lead contractor/technology supplier) / SITA and/or Guernsey Electricity (operator);

Babcock Borsig Power Environment GmbH. (lead contractor/technology supplier) / CGEA-ONYX (operator) / Garenne Group; and

Martin Engineering Systems Ltd. (technology) / MES Environmental Ltd. (operator).

Changes to list of preferred bidders

The EfW division of Alstom was bought by CNIM, owners of MES, during 2002. Alstom was therefore withdrawn from the list and replaced with

AMEC Capital Projects Ltd. (lead contractor/operator) / Volund (technology. (operator).

AMEC then informed the Board that they were no longer prepared to tender for Government let turnkey contracts. Volund, the technology supplier were not prepared to take the turnkey risk.

Prior to the issue of tender documentation Babcock Borsig Power Environment experienced serious trading difficulties and were unable to tender due to insolvency.

As a result the final tender list was reduced to two:

Lurgi (UK) Ltd. (lead contractor/technology supplier) / TIRU and/or Guernsey Electricity (operator);

Martin Engineering Systems Ltd. (technology) / MES Environmental Ltd. (operator).

Changes in the EfW Market

The preferred bidder list was not able to be expanded due to changes in the EfW market place, arising from unprofitable turnkey project experience, major groups leaving the EfW field or restructuring of group companies:

Alstom. EfW part of the business bought by CNIM 2002.

Amec. Withdrew from EfW turn-key during the Guernsey tendering.

Babcock Borsig Power. Insolvency during the Guernsey tendering.

Seghers. Insolvency 2002.

Kvaerner. No longer bidding turn-key EfW

Volund. Will not take turn-key risk.

Von-Roll. Would not bid for Guernsey.

May 2001

Environment Statement (Stage 4 of the EIA) published.

June 2001 - Appointment of Architects

Appointment of S'PACE to develop Conceptual Architecture. The Architectural Concept was developed for a number of reasons:

To demonstrate to the Planning Inquiry the type of architecture that might be developed for the Energy from Waste facility.

To provide a level playing field for tenderers and to remove subjective architectural decisions from the tender evaluation process.

August 2001 - Appointment of Specialist Lawyers

Tods Murray appointed as legal advisers to draft bespoke design, build and 2 year operate (DB2O) contract.

A bespoke Design Build and 2 year operate contract has been drafted to ensure that the facility is constructed not only to a high technical specification but that consideration has been given to the operation of the facility as the contractor will be operating the facility for 2 years. The States of Guernsey requires a facility that will be attractive to future operators.

October 2001 - IDC publish Draft OPB

Alteration to the Urban Area Plan and the Draft Outline Planning Brief (OPB) for Phase 1 of the development of the Longue Hougue Land Reclamation Site and Key Industrial Area, published by the Island Development Committee.

December 2001 - Planning Inquiry

Planning Inquiry held to consider the proposed Alteration to the Urban Area Plan and the OPB for Phase 1 of the development of the Longue Hougue Land Reclamation Site and Key Industrial Area to allow an Integrated Waste Management Facility to be developed at Longue Hougue.

The Planning Inquiry was held over 4 days and heard 16 representations and 17 counter representations.

April 2002 - Alteration to UAP and OPB (Billet V 2002)

The States considered a report from the Island Development Committee (Billet V 2002) setting out the proposed Alteration to the Urban Area Plan and the OPB for Phase 1 of the development of the Longue Hougue Land Reclamation Site and Key Industrial Area. The report included the findings of the Planning Inquiry and the Planning Inspectors report and recommendations.

The States resolved:

To adopt the draft alteration to the Written Statement (Industry Chapter) of the Urban Area Plan 1995.

To adopt the Outline Planning Brief for the Longue Hougue Land Reclamation Site and Key Industrial Area, subject to the amendments recommended by the Planning Inspector as set out in “Amendment schedule 1” and “amendment to figure 5 of Outline Planning Brief resulting from Planning Inquiry” attached to that Report.

April 2002 - Report on State of New Technologies Commissioned

Juniper Commissioned to respond to questions raised by the Board of Administration and to consider Incineration vs Emerging Technologies as the most suitable waste management option for Guernsey.

Juniper concluded that incineration with energy recovery is the most appropriate route for Guernsey in light of the requirements of the Island Community.

10 June 2002 - Presentations of Policy Letter

Presentation of the Board of Administration’s policy letter regarding the procurement of an EfW facility to Members of the States and the public, held at the Mallard Conference Centre.

June 2002 - Energy from Waste Facility (Billet XIII 2002)

States considered the Board of Administration’s policy letter (Billet XIII 2002) Energy from Waste Facility.

The policy letter set out the work that had been undertaken since the Solid Waste Strategy report was considered by the States in 1998 including:

- Environmental Impact Assessment and Identification of Longue Hougue as the most appropriated site for the Energy from Waste facility.
- Consideration of the alternatives to Incineration in the form of Export of Waste and treatment by Pyrolysis and Gasification.
- Specification of an Energy from Waste facility to meet Guernsey’s needs.
- Preparation of DB2O contract

The States agreed

- i.) To approve in principle the procurement of a mass burn Energy from Waste (EfW) facility as detailed in this report.
- ii.) To approve in principle the procurement of the facility referred to in i) above by means of a Design-Construct and two year Operate (DC2O) contract as described in section 16 of this report.
- iii.) To direct the States Board of Administration to seek tenders for the provision of the DC2O contract and to enter into post tender negotiations with the preferred tenderer.
- iv.) To approve the formation of a Special Purpose Company in the manner and for the purposes described in section 16 of this report.
- v.) To authorise the Special Purpose Company to sign the DC2O contract on behalf of the States with conditions precedent, pending consideration of the outcome of the tendering exercise by the States.
- vi.) To direct the States Board of Administration to seek tenders in respect of enabling works as described in section 21 and to direct the Board to execute those works subject to obtaining necessary approvals or consents.
- vii.) To delegate authority to the States Advisory and Finance Committee to approve the capital votes in respect of those enabling works referred to in v.) above and consultants fees as set out in this report, which votes shall be charged to the capital allocation of the States Board of Administration.
- viii.) To approve the concept architecture for an EfW facility located at Longue Hougue as detailed in section 20 of this report and to direct the States Island Development Committee to take due regard of the concept architecture when considering detailed applications submitted in accordance with the requirements of the Environmental Impact Assessment.
- ix.) To authorise the States Advisory and Finance Committee to take account of the States Board of Administration's balance of capital allocation and its other capital priorities at the relevant time and, if necessary, to release to that allocation appropriate sums from the Capital Reserve.
- x.) To direct the States Advisory and Finance Committee, in consultation with the States Board of Health and Law Officers, to take all necessary steps to expedite the implementation of the proposed Control of Environmental Pollution Law and its associated Ordinances.
- xi.) To direct the States Board of Administration to report back to the States within twelve months on proposals for a long term Waste Management Plan including any proposals for an integrated waste management contract as set out in section 15 of this report.

15 July 2002 - Tender Documents issued

Tender Documents issued to Martin Engineering Systems and Lurgi (UK) Ltd

July 2002 – Jan 2003 -Tender Period

The Board of Administration undertook a tendering exercise for the procurement of an EfW facility in accordance with the proposals approved by the States in June 2002.

24 January 2003 - Tender Return

Tenders received from two companies, Lurgi and MES, for the design, construction, two-year operation and provision of essential spare/wearing parts, for a mass burn EfW facility. Tender sums were in the order of £100m and were not considered viable.

Subsequently, the Board progressed post tender negotiations with both tenderers with a view to establishing the scope for significant cost reductions and to identify a preferred partner for the construction of the facility.

Following post tender negotiations and examination of options for reducing the cost of the EfW facility, whilst maintaining the key objective of constructing a robust reliable plant capable of meeting European emission standards and meeting the needs of Guernsey, the tenderers agreed to a further tendering stage against a revised brief and procurement route.

The original tender specification was amended as follows

- Revised architectural treatment.
- Simplified building type.
- Reduced waste storage bunker capacity.
- Eliminate need for deep basements.
- Allow above ground bunker with ramp access.
- Accept a possible visible building height of 33 m (concept 27.5 m).
- Reduce tipping bays to two plus one manual tipping bay (concept 4 bays).
- Amended flue gas treatment system for NOx abatement but still complying with European emission standards.
- Allow vertical as opposed to horizontal boiler.
- Exclusion of the animal carcass incinerator.
- Client obtains planning and environmental permits.
- Contract terms to be rewritten to reflect “partnering” approach.

April 2003 - Juniper Addendum Report

Juniper produced an addendum to their April 2002 report charting the progress of New Technologies over the year since their last report.

Juniper Concluded:

The failure of some companies and the slower than forecast progress at others, should, in our view, make the States of Guernsey less inclined to consider novel solutions instead of proven incineration processes which have been tendered.

27 May 2003 - Revised Tender Return

Amended Tenders were submitted to the Board of Administration in the following amounts:

Lurgi -	Design and Construct	£72,254,178
	Two year operation	£ 8,696,000
MES -	Design and Construct	£74,346,819
	Two year operation	£ 6,258,082

Following post tender negotiations, inclusion of cap-ex capitalisations and the assumption of 60,000 tpa throughput the following amounts were derived.

Lurgi -	Design and Construct	£72,713,545
	Two year operation	£ 8,199,406
	Less electricity income	(£ 1,322,933)
MES -	Design and Construct	£73,184,869
	Two year operation	£ 6,215,175
	Less electricity income	(£ 1,536,187)

It should be noted that the MES tender was submitted not as a turnkey contractor but as a Limited Liability Partnership.

Following consideration of the tender appraisal report, the Board of Administration identified Lurgi as its preferred tenderer and commenced a series of detailed negotiation and clarification meetings.

10 September 2003 - Presentation of Policy Letter

Lurgi's proposed architecture displayed at Les Cotils during the presentation of the Board's policy letter to politicians and the public.

It was confirmed at these presentations that the building would be 33m high an extra 6m above the original concept height of 27m.

September 2003 - Energy from Waste Facility Status and Way Forward (Billet XX 2003)

The States considered the Board of Administration's policy letter Energy from Waste, Status and Way Forward (Billet XX 2003).

The policy letter set out the work that had been undertaken since the Solid Waste Strategy report was considered by the States in 1998 including:

The tender process, amendment of tender specification, tender evaluation and final selection of contractor.

Investigation into deferring the procurement of an EfW facility and the extension of landfill on Guernsey.

The development of new landfill as an alternative to incineration.

Progress made by new technologies over the preceding year.

The States resolved:

- 1 To reaffirm its previous in principle decision to procure an Energy from Waste facility under a Design Build and Two year operate contract.
2. To direct the States Board of Administration to proceed in accordance with the provisions of the Letter of Intent signed with Lurgi as set out in section 9.14 of that report and to commence the Initial Services period at a sum not to exceed £2,982,500 (€1 = £0.725).
3. To direct the States Board of Administration to obtain all necessary approvals from the States Board of Health and Island Development Committee as part of the facility design process.
4. Following completion of the Initial Services period, to authorise the States Board of Administration either directly or through its SPC, subject to the approval of the States Advisory and Finance Committee, to contract with Lurgi, for the construction of an EfW facility at the capital sum being not more than the negotiated figure of £69,813,978 (Base Contract Price plus + Cap Ex Capitalisation, €1 = £0.725) excluding contingency inflated as set out in section 9 of that report.
5. Following completion of the initial services period, to authorise the States Board of Administration either directly or through its SPC, subject to the approval of the States Advisory and Finance Committee, to contract with Lurgi, for the two year

operation of the EfW facility at the negotiated sum of £7,513,106 (£1 = £0.725) inflated as set out in section 9 of that report.

6. To approve as a contingency sum a figure of 10% of the tendered capital sum in respect of the design and construction phases of the facility.
7. To direct the States Board of Administration, to procure, subject to the approval of the States Advisory and Finance Committee, project specific insurances and consultancy services, as set out in section 9.16 and 9.17 respectively of that report.
8. To authorise the States Advisory and Finance Committee to advance to the States Board of Administration or the SPC a loan to the maximum sum of £80 million for the purpose specified in that report; such loan to be advanced in stages as necessitated by the contract requirements and repaid over a 25 years amortisation period and attracting interest at the Treasurer's interest rate.
9. To resolve a general exclusion of liability against any director, member or officer of the Special Purpose Company as set out in section 11 of that report.
10. (1) That the provisions of section 65 of the Housing (Control of Occupation) (Guernsey) Law 1994, shall be suspended in respect of the temporary accommodation referred to in section 9.5 of that report.

(2) To direct the preparation of such legislation as may be necessary to give effect to their above decision.

06 October 2003 - Commencement of 9mth Initial Services Period

Lurgi commenced work on Initial Period Services, including:

Detailed Architectural Design

Detailed Engineering Design

Site Survey

Modelling of Noise and Emissions

Finalisation of Contract Documents

Hazop Study

Preparation of data for input to planning process

13 March 2004 - EfW Facility architecture published.

The Facility Architecture developed by Lurgi, photomontages from 8 viewpoints showing the facility once built and after 15 years of tree growth, elevations and a

section, were published on the States of Guernsey Website and put on display in 3 locations:

Guilles Alles Library

St Sampsons Douzaine Room

Vale Douzaine Room

19 March 2004 - Formal Submission of Architecture to IDC

The Facility Architecture developed by Lurgi and the Compliance Document are submitted formally to the IDC.

23 March 2004 - Compliance Document published

The Compliance Document which demonstrates how the facility will meet the requirements set out in the OPB and Environment Statement is made available to the public. Copies are held at the Guille Alles Library and Sir Charles Frossard House.

14 April - IPPC

Notification received from Board of Health that IPPC permission in principle will be granted on the basis of no Flue Gas Recirculation but with Selective Catalytic Reduction rather than Selective Non Catalytic Reduction as submitted.

Lurgi are advised of the change from SNCR to SCR

APPENDIX 2

Waste Arisings

Summary of waste arisings resulting from then WSa2 studies.

Waste Category	Projected Landfill Tonnage	EfW Starting Tonnage	Waste diverted from EfW
Animals	27	0	27
Asbestos (Bonded ASB)	681	0	681
Asbestos	100	0	100
Builders	16026	5000	11026
Bags	589	589	0
Cardboard	200	200	0
Chemicals	10	10	0
Coastal	218	218	0
Cardboard/Paper	25	25	0
Hard core	980	0	980
Horticultural	5875	0	5875
Fridges	3	0	3
Industrial/commercial	12548	10000	2548
Household/trade	24	24	0
Ind./Comm compacted	15545	13000	2545
Liquid (non-special)	4	4	0
Street cleansing	286	286	0
Private Household	5563	4000	1563
Parish	14446	14446	0
Slaughter House	7	7	0
Sewage Sludge	11	11	0
Glass	5	0	5
Wood	293	293	0
Annual Total	73,466	~48,000	25,466

It should be noted that since the WSa2 studies the amount of waste entering Mont Cuét landfill has dropped as per the attached table. This drop in waste indicates that a substantial amount of the waste has already been diverted as a result of pricing and other initiatives.

APPENDIX 2**Waste Arisings****Mont Cuet Weighbridge Data (Tonnes)****1999**

Industrial and Commercial - 55,637

Parish - 14543

Other - 1091

Total - 71271

2000

Industrial and Commercial - 57963

Parish- 14446

Other - 1240

Total - 73649

2001

Industrial and Commercial - 59249

Parish - 14247

Other - 1399

Total - 74895

2002

Industrial and Commercial - 44991

Parish - 14543

Other – 1614

Total - 61148

2003

Industrial and Commercial - 43132

Parish - 14787

Other – 1969

Total – 59888

NB “Other” includes refuse bags and other waste delivered by private vehicles.

Appendix 3

Quantities of material recycled by Guernsey through the “bring bank” systems

YEAR	PARISH WASTE DISPOSED	PARISH WASTE RECYCLED	TOTAL PARISH WASTE PRODUCED	ANNUAL GROWTH IN WASTE ARISINGS	PERCENTAGE OF PARISH WASTE RECYCLED
1999	14,543.15 t	2,717.51 t	17,260.66 t	-	15.7%
2000	14,446.23 t	2,908.50 t	17,354.73 t	+0.54%	16.76%
2001	14,247.85 t	3,097.75 t	17,345.60 t	-0.05%	17.86%
2002	14,543.99 t	3,387.31 t	17,931.30 t	+3.38%	18.89%
2003	14,787.35 t	3,482.06 t	18,269.41 t	+1.89%	19.06%

For 2003

Actual	Waste Arising	18269.41	Percent Recycled	19.06	Tonnage Recycled	3482.06
Theoretical	Waste Arising	18269.41	Percent Recycled	27.9	<u>Tonnage Recycled</u>	<u>5097.16</u>
Extra Tonnage Recycled						1615.10

Appendix 3

Local Authority Recycling - English League Tables (2002-03)

Position	Authority	Household Waste - Percentage Recycled
1	Eastleigh	27.90
2	Chiltern	27.13
3	East Hampshire	23.00
4	New Forest	23.00
5	Windsor & Maidenhead	22.70
6	Fareham	22.06
7	Reigate & Banstead	21.10
8	Tandridge	21.00
9	Stroud	20.50
10	Kings Lynn & West Norfolk	20.06
11	Wyre	20.02
12	Bath & N E Somerset	19.96
13	South Oxfordshire	19.90
14	Blaby	19.72
15	South Bucks	19.64
16	Lichfield	19.20
17	Waste Devon	19.17
18	Mid Sussex	19.02
19	Surrey Heath	18.83
20	Melton	18.60

Data taken from official Audit Commission statistics

Appendix 4**Schedule of Capacity vs Cost for an Energy from Waste facility for Guernsey**

Capacity t/hr	Capacity t/year	Cost £M	Width metres	Length metres	Height metres
9	50,000 - 70,000	69.5	61.0	109.9	33.5
8	44,500 - 62,200	66.9	58.0	109.9	33.5
7	38,800 - 54,500	64.4	55.1	109.9	33.5
6	33,300 - 46,700	61.8	52.3	109.9	33.5

APPENDIX 5

FICHTNER

**The Viability of
Advanced Thermal
Treatment of MSW in the UK**

This work was commissioned by the Environmental Services Training and Education Trust (ESTET) as a positive contribution to the debate on the role that advanced thermal treatment technologies can play in the management of MSW in the UK.

MANAGEMENT SUMMARY

The UK government is committed to reducing the quantity of waste going to landfill to meet the requirements of the landfill directive. Practical and financial considerations limit the quantity of waste that can be re-used, recycled or composted. Thermal treatment will therefore play a role in the achievement of landfill diversion targets.

There is considerable interest in new ways to dispose of waste using alternative conversion technologies, particularly gasification and pyrolysis. Gasification and pyrolysis are established processes but are not widely deployed for the thermal treatment of residual municipal solid waste (RMSW). There is a general perception that pyrolysis and gasification technologies have many advantages over combustion, are proven and that they are widespread in Continental Europe. These perceived advantages include higher recycling rates, lower emissions, higher energy efficiencies, lower costs, smaller footprints and reduced visual impact. They are also said to be more suited to small capacity projects. Few of these perceptions are based on hard evidence. The information available on gasification and pyrolysis technologies for the thermal treatment of waste is often incomplete and based on widely varying assumptions, so comparisons between different technologies on a consistent and common basis are very difficult.

Fichtner was therefore commissioned to assess the commercial viability of gasification and pyrolysis technologies for the processing of RMSW to help those seeking to procure a commercial waste management service in the UK. The assessment starts with a review of the main steps involved in preliminary screening of technologies for a project including a review of uncertainties and their management. Different gasification and pyrolysis technologies are then compared against each other and against a benchmark modern combustion technology. Impediments to the further development of gasification and pyrolysis technologies for the treatment of RMSW in the UK are identified. Potential areas for further development are also suggested.

This review concludes that the commercial application of gasification and pyrolysis technologies for the treatment of RMSW is not widespread in the UK or in Europe. Only a few plants operate at a commercial scale. The risks associated with using less developed technologies for the treatment of waste are considered to be higher than for more established technologies.

The development of the gasification or pyrolysis technology is not the only challenge in striving for an improved thermal process. To be commercially successful, the technology must be incorporated into a complete solution that is better in overall terms than that achievable with technologies that are already mature. In comparing technologies, all components of the process (pre-treatment, thermal conversion, solid residue generation and syngas utilisation) and all factors (energy efficiency, economics and environmental performance) must be considered simultaneously.

Many of the perceived benefits of gasification and pyrolysis over combustion technology proved to be unfounded. These perceptions have arisen mainly from inconsistent comparisons in the absence of quality information:

1. Differences in recycling rates are due to the use of front-end recovery systems that can generally be employed in conjunction with any thermal treatment technology to achieve similar results;
2. All waste treatment plants based on combustion, gasification or pyrolysis technologies are classified as incineration plants under WID and are therefore required to meet the same stringent emissions limits. Incineration plants based on all three types of technologies (gasification, pyrolysis and combustion) can generally comfortably meet the required emissions limits. The benefits of incremental improvements below the WID limits at the expense of reduced energy efficiency, increased use of resources, increased residue production or higher cost must be weighed against the economic and environmental costs.
3. In terms of energy efficiency of standalone plants when optimised for power generation, existing gasification and pyrolysis technologies are less efficient than modern combustion technology. Standalone power generation plants, using gasification or pyrolysis technology to supply fuel gas to a combined cycle gas turbine for power generation, may ultimately achieve higher energy efficiencies than combustion technology using a simple steam turbine. However, this application has yet to be successfully demonstrated anywhere in the world and ensuring that such applications comply with WID is a significant obstacle to their development.
4. Meaningful comparisons of capital and operating costs for the different technologies were not possible due to the scarcity of reliable and publicly available information, but there is no reason to believe that these technologies are any less expensive than combustion and it is likely, from information available, that the more complex processes are significantly more expensive;
5. Site footprints, building heights and stack heights are generally not determined by whether the thermal conversion technology is pyrolysis, gasification or combustion, but by the quantities of waste handled and the thermal energy released;
6. Regardless of the technology employed, plants will become more economical, more efficient and use less land overall when capacity is concentrated in fewer but larger plants. These economies and benefits of scale can be substantial. Nevertheless, in some situations a small plant is the best option, for instance the Shetland plant;
7. Some gasification and pyrolysis technologies are based on modular designs. Modular technologies avoid the risks associated with scaling up but do not fully benefit from the significant economies of scale that are available to scaleable technologies when large quantities of waste need to be processed.

Due to real or perceived technology risk and the rigorous requirements of private finance, standalone plants based on those gasification and pyrolysis technologies that are not commercially proven for thermal treatment of RMSW will generally be difficult to deliver in the UK in the near future. Lenders will be deterred by the limited track record and the scarcity of meaningful guarantees from established organisations with good credit ratings. Developers and waste contractors will be deterred by the lack of support from lenders, the lack of clear commercial justification for adopting these technologies and the risk that the adoption of unproven technologies poses to the achievement of contractual waste diversion and recovery targets.

In the short to medium term at least, the real potential of gasification and pyrolysis technologies is likely to be limited to:

- situations where, because of the benefits of the Renewables Obligation Order, they are commercially competitive with conventional combustion technologies;
- situations where the host community is willing to employ gasification or pyrolysis, but does not wish to use combustion;
- the treatment of selected homogenous waste streams such as plastics and possibly refuse derived fuels (RDF); and
- the treatment of small quantities of clinical and hazardous waste where energy efficiency is less important than in high volume applications.

An ideal application for gasification would be the use of the syngas as a fossil fuel substitute in an existing power station or in other industrial processes where the application would benefit from the higher energy efficiency of the host plant. However, the treatment of this application as co-incineration under the Renewables Order and the interpretation of WID by the Environment Agency will severely inhibit this opportunity.

A number of prospective long-term technological developments (syngas liquefaction, use as chemical feedstock or in CCGT generation etc) offer potential benefits in lower costs, lower environmental impact, and lower dependency on ever decreasing fossil fuel reserves. However, the market (as currently structured) is not able to support or deliver these developments. Indeed, even the continuing development of the core technologies is not guaranteed, as evidenced by the recent withdrawal of Lurgi from this market.

In the risk averse world of government contracts and private finance, these prospective developments are unlikely to take place. If the UK Government wishes to see progress in this field, it will need to deliver a more supportive framework within which long-term development is encouraged and fostered and a degree of technical failure is anticipated. It will also need to review and, where necessary, adjust those elements of its environmental regulatory regime which undermine the ability of the market to deliver and deploy these technologies.

Appendix 6

	Billet XX Sept 2003 Total £ Equivalent €1 = £0.725	15 June 2004 Total £ Equivalent €1 = £0.67
Initial Services Period	2,982,500	2,982,500
Base Contract Price + Cap Ex Capitalisations	69,813,978	66,772,919
Two year operation	7,513,106	8,002,680
Insurance	450,000	450,000
Contingency (10%)	7,279,648	5,399,353
Consultancy	1,500,000	1,500,000
SCR Capital (estimate)		1,981,880
SCR Initial Services Period Capped Fee		351,950
Landscaping (Bunding and Planting)		2,097,700
Total	89,539,052	89,539,052
Annual Income Electricity Sales	(1,322,933)	(1,743,866)

APPENDIX 7

Review of Environmental and Health Effects of Waste Management:

Municipal Solid Waste and Similar Wastes

Extended Summary

May 2004



DEFRA PUBLISHES REVIEW OF HEALTH AND ENVIRONMENTAL EFFECTS OF WASTE MANAGEMENT

The Government today published a comprehensive review of the environmental and health effects of municipal waste management. The research, peer reviewed by the Royal Society, fulfils a government commitment to commission an independent review of the available evidence.

The review has brought together a huge range of evidence from existing literature about the effects of waste management from the UK and abroad. It looks at all of the major municipal (see notes to editors 5 for definition) waste management activities including incineration and landfill.

The review and its authors conclude that the weight of evidence from the studies so far, indicates present day practice for managing municipal waste has at most a minor effect on human health and the environment, particularly when compared with everyday activities.

Key findings include:

- dealing with municipal solid waste by incineration accounts for less than 1% of UK emissions of dioxins, while domestic sources such as cooking and burning coal for heating account for 18% of emissions;
- less than 1% of UK emissions of oxides of nitrogen, which reduce air quality, come from municipal solid waste management, while 42% come from road traffic.
- There are some areas where there has been less work and the science is less certain. These include emissions to soil and water (rather than air) and releases from forms of waste management other than landfill, such as composting, mechanical biological treatment or anaerobic digestion.

Incineration

The review found no evidence to suggest that the current generation of municipal solid waste incinerators is likely to have an effect on human health. Cancer, respiratory diseases and birth defects were all considered and no evidence was found for a link between the incidence of the disease and the current generation of incinerators.

Compared with other waste management technologies, incineration produces the largest emissions of oxides of nitrogen and hydrogen chloride per tonne of municipal solid waste. However the potential negative effects, such as dust, poor air quality and effects on flora/fauna, soils and water quality can be controlled under normal operating conditions.

Landfill

Many epidemiological studies have been carried out to investigate the health effect of landfill sites, but have found no convincing evidence to suggest that emissions from modern facilities harm human health.

Detailed studies have found that living close to a landfill site does not increase the chance of getting cancer to a level that can be measured.

This report indicates that the most important impact from landfill sites at the national and global level is caused by emissions of greenhouse gases such as methane. Methane emissions from landfill account for about 27% of the national total.

The report recognises that there is more that can and should be learnt and identifies the most important areas for further research. The Environment Agency is already undertaking research to look at composting and a continuing programme of work on landfill.

Other areas of research will be taken forward as part of the Defra waste research strategy in line with our continual efforts to refine the evidence base for policy making.

The Royal Society was asked to comment on the report's comprehensiveness, familiarity with new science, objectivity and general robustness.

The Royal Society's comments were approved on behalf of the Royal Society Council by Professor John Enderby CBE, Vice President and Physical Secretary.

Prof. Howard Dalton, Defra's Chief Scientific Advisor, has provided Ministers with advice on the scientific analyses.

Elliot Morley, Environment Minister, said:

"This is an independent report and I am grateful to the authors and to the Royal Society for their work. The Royal Society contributed to the Review's publication by commenting on the efficacy of the research data.

"The research takes us a good way forward in our understanding of the impact waste management practices have on air quality and emissions, although there will be a need for further research.

"I am particularly encouraged by the report's conclusion that, on the evidence from studies so far, the treatment of municipal waste has at most a minor effect on health in this country particularly when compared with other health risks associated with ordinary day-to-day living. The evidence on environmental effects is limited, but such as there is, does not appear to suggest adverse environmental effects of waste management, other than those we know about and are already addressing, such as methane emissions from landfill.

"Our advice is that the report gives us sufficient confidence in our current policies for local authorities to press ahead urgently with the task of approving planning applications for new waste management facilities in line with the hierarchy of waste disposal with minimization at the top and landfill at the bottom.

"We must manage the growing amount of waste we produce. We will do this by basing our policies on the best available scientific evidence and on an assessment of the comparative risks. We will continue to develop our scientific knowledge to support our policies. This report is a helpful contribution to that process."

Notes for editors

1. In 2002, the Prime Minister's Strategy Unit recommended that the Government commission an independent review of the literature and evidence relating to the health and environmental effects of waste management. This was followed by a commitment in the Pre-Budget report of the same year to carry out such a review.

2. The Review was commissioned in early 2003, and has been carried out by a team led by Enviro, environmental consultants, and Roy Harrison, Professor of Environmental Health at the Institute of Public and Environmental Health at Birmingham University. The team has considered a vast range of evidence in bringing together the Review, both from the UK and abroad.

3. The Review considers evidence of the environmental and health effects of facilities used for the management of municipal solid waste and waste that is of a similar nature. These include landfill sites and incinerators (with and without energy recovery), along with composting facilities, gasification and pyrolysis plants, mechanical biological treatment and municipal recycling facilities.

4. *The Review of Environmental and Health Effects of Waste Management - Municipal Waste and Similar*

Wastes is available on the Defra website at www.defra.gov.uk/environment/waste/health-effects/index.htm

5. Municipal Waste is waste which is collected from households and other places by Local Authorities.

6. Hard copies of the extended summary can be obtained from defra@iforcegroup.com.

The main findings

This section summarises the main findings of the report.

What are the main emissions from municipal solid waste?

The main emissions from waste management operations are summarised below. A more detailed breakdown is provided in section 3. We found most information for emissions to air. There was less information available on emissions to land, water or other waste management facilities. This does not necessarily mean that the air emissions are more important instead it suggests that more research into other emissions could be helpful.

- Methane and carbon dioxide are the two emitted substances which may significantly influence global warming.

In the UK nearly 150 million tonnes (MT) of CO₂ is released every year. Management of municipal solid waste accounted for 3.6 MT (2.4% of the national total). Other important contributors are electricity generation (42 MT; 28.5% of the national total); and transport (21% of the national total). These figures are of moderate or good quality.

Methane has a global warming effect which is over 20 times more powerful than carbon dioxide. In the UK about 2.4 MT of methane is released every year. Emissions from municipal solid waste in landfill sites account for 0.7 MT (27% of the national total). Although these figures are of moderate or poor quality. Another important contributor is agriculture, which accounts for an estimated 1.0 MT (about 40% of the UK total)

- Benzene is a substance of concern because it can cause cancer. We found that less than 0.02% of UK emissions are due to municipal solid waste operations (this figure is of moderate quality). Transport is the main source of benzene, accounting for 47% of UK emissions.
- A lot of people are concerned about emissions of dioxins and furans (often referred to as just "dioxins"). The developing reproductive system of male offspring seems to be particularly sensitive to exposure to dioxins before birth. Dioxins are associated with other developmental and reproductive effects, and the immune system is also potentially sensitive. UK expert committees regard dioxins as a probable human carcinogen (that is, it can probably cause cancer in humans). We found that dealing with municipal solid waste accounts for only about 1% of UK emissions of dioxins, shared approximately equally between incineration and emissions from burning landfill gas. This figure is of poor quality because of uncertainty over dioxin emissions from other sources. Domestic sources such as cooking and burning coal for heating are the UK's single largest source of dioxins, accounting for about 18% of emissions. Transport accounts for about 3% and electricity generation about 4% of the UK total. A number of other sources contribute to emissions of dioxins to a similar or greater extent: accidental vehicle fires; fireworks and bonfires; small-scale waste burning (for example on building sites); incineration of other wastes; and the iron and steel industry.
- Nitrogen dioxide is a substance of concern, particularly for air quality in urban areas. Emissions of oxides of nitrogen also contribute to acid rain, and excessive levels of nitrogen which can be harmful to some sensitive habitats. Dealing with municipal solid waste results in emissions of about 10,000 tonnes per year of oxides of nitrogen (which form nitrogen dioxide in the atmosphere). This is less than 1% of the UK total – the main contributors are electricity

The main findings

generation (24%) and road traffic (42%) (those values are of moderate quality). Emissions of oxides of nitrogen and other substances from incineration of municipal solid waste are the most tightly controlled of all waste management processes.

- Metals emitted to the air have a range of possible health effects. Dealing with municipal solid waste accounts for about one tenth of UK emissions of cadmium (a substance associated with cancer of the lungs, throat and prostate, reproductive effects and kidney disease). Almost all of the cadmium emitted from facilities dealing with MSW comes from landfill sites. Municipal solid waste accounts for lower proportions of UK emissions of other substances. The iron and steel industry is the main source of emissions of most heavy metals (for example mercury, arsenic, lead, cadmium). The numerical values are of moderate or poor quality. Other important sources include:
 - lead emissions from non-ferrous metals processing;
 - burning coal to produce electricity and heat in industrial facilities, which is an important source of arsenic emissions;
 - road traffic, which is an important source of mercury. The manufacture of chlorine from mercury cells, non-ferrous metal production and coal combustion are also important sources.
- Although there was less information available we also studied emissions to groundwater and surface water. The substances we looked at included nitrogen (which can promote the growth of unwanted algae); organo-tin compounds (which can affect fish and shellfish), phosphates, pentachlorophenol, copper, tin and lead. Information on these emissions is less widely available, and our estimates in this area were only of poor quality. Bearing this in mind, the rough estimates of emissions of substances which might be of concern are all a very small proportion of the national total. Releases to groundwater and surface water, unlike releases to the air, do not necessarily result in human exposure because mains water is treated before supply. Mains water has to comply with strict safety standards.

Some facilities (anaerobic digestion, pyrolysis/gasification, incineration and landfill) result in the generation of electricity. This means that we would avoid the need to generate electricity in other ways – for example, from burning coal, gas or oil, or from nuclear energy.

Health effects linked to municipal solid waste

Increased emissions under non-standard operating conditions could be a concern for open windrow composting, if the waste is not handled properly. Disposal of ash from incinerators needs to be carefully managed and landfills can give rise to emissions to water, land or air unless properly managed.

For most of the municipal solid waste facilities studied, we found that health effects in people living near waste management facilities were either generally not apparent, or the evidence was not consistent or convincing. However, a few aspects of waste management have been linked to health effects in local people. These are discussed below, followed by a discussion of the areas where no health effects have been found.

The main findings

Where there might be health effects

- A detailed study of landfill sites has identified a possible link between living close to a landfill site, and the occurrence of some birth defects. The study also considered the occurrence of unusually low birth weight. This study was not able to say whether the associations are causal, or whether they might be reflecting other factors which the study could not address fully. The observation is a small increase in the risk of a birth defect happening in babies born to families living near landfill sites. The increase is much smaller than other factors which influence the likelihood of birth defects, and the numerical results cannot at present be reliably used.
- A recent study undertaken at residential areas in close proximity to a commercial composting plant looked at the incidence of bronchitis and minor ailments in people living in this area. The study showed that there might be a link between emissions from the facility and these health effects in residents living nearby.

These health effects are discussed in more detail in Chapter 4.

Where investigations have been carried out but no health effects have been found

The health effects of some waste management facilities have been investigated in detail, in response to public concerns.

- The review did not find a link between the current generation of municipal solid waste incinerators and health effects. Adverse health effects have been observed in populations living around older, more polluting incinerators and industrial areas. However, the current generation of waste incinerators result in much lower levels of exposure to pollutants. We considered cancers, respiratory diseases and birth defects, but found no evidence for a link between the incidence of disease and the current generation of incinerators.
- A detailed UK study was carried out to investigate whether there is any indication that living close to landfill sites results in an increase in the occurrence of cancer. This study did not detect an increase in the occurrence of cancer.
- Studies have been carried out to investigate the existence of a link between composting facilities and the occurrence of cancers and asthma. No link has been identified.

Thus the studies suggest that if the operation of these facilities does have any effect on the health outcomes which have been investigated, any effect is very small – smaller than many other influences on these health outcomes.

What are the main environmental effects

The most important environmental impact reported in scientific research is the effect on global warming of emissions of greenhouse gases (most importantly, methane) from landfill of municipal solid waste. Methane is generated at all landfill sites accepting municipal solid waste, and the contribution of methane emitted from landfills to global warming is important. As a result, alternatives to landfill for municipal solid waste are often viewed as having a positive effect on

The main findings

global warming by reducing the need to landfill biodegradable waste which generates methane. As the Landfill Directive is implemented, the amount of biodegradable waste being landfilled will reduce. Collection and combustion of landfill gas will also become much more widespread, although it is never possible to collect all the methane generated at a landfill site.

Some of the waste management operations involve heating or burning municipal solid waste (for example, incineration, gasification/pyrolysis, anaerobic digestion and the burning of collected landfill gas). These could have an effect on local air quality. For example, Mercury emissions from municipal solid waste incinerators were found to contribute 20% of the overall background mercury concentration at locations surrounding the incinerator.

Emissions of dioxins from municipal solid waste incinerators can increase levels of dioxins in soil, although the present generation of incinerators release much smaller amounts of dioxins than was the case five or ten years ago. Dioxins from an incinerator in an industrial environment will only slightly increase the total deposition of dioxins. We found that an incinerator located in a relatively clean rural environment could significantly increase the dioxin deposition above the much lower background level. Even then, the increase would only affect the immediate vicinity of the plant, and would not be expected to be a concern with regard to health. Emissions from municipal solid waste incinerators account for less than 1% of the dioxins experienced by members of the public.

Areas where we need more information

During the course of the project, we found several areas where potentially useful information was lacking, or was less than ideal as a basis for waste management policy. The most important areas which need to be studied are:

- Monitoring levels of pollutants emitted from landfill sites in communities located near to landfill sites, where this is not already carried out as part of regulatory monitoring;
- Studying how much particulate matter, micro-organisms, organic chemicals and methane is released from composting of municipal solid waste;
- Measuring emissions of micro-organisms and fungal spores from all forms of municipal solid waste management;
- Looking at what and how much is emitted to air, to sewer and in solid residues from processes which are not yet widely applied to municipal solid waste in this country – mechanical biological treatment, and anaerobic digestion.

APPENDIX 8

STATES OF GUERNSEY

DULY MOTIVATED REQUEST



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1. Declaration

The States of Guernsey, as a UK Crown Dependency and signatory to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, having had the said treaty extended to Guernsey by the United Nations on 27 November 2002 via a territorial application, does hereby submit a Duly Motivated Request, (DMR), covering the “in principle” import of specified wastes into England and Wales for disposal.

The States of Guernsey has not issued a contract with any waste brokers, or operators, concerning the importation of the wastes detailed in this document.

2. Introduction

The Bailiwick of Guernsey is a UK Crown Dependency consisting of the islands of Guernsey, Alderney, Sark, Herm, Jethou and Brecqhou situated approximately 90 miles from the south coast of England. The principal island is Guernsey, with the total population of the islands being 62,692¹ inhabitants, 2,294 of which are from Alderney, 591 of which are from Sark and 97 of which are from Herm and Jethou.

Guernsey forms part of the British Isles but is independent of the UK with its own government, the States of Deliberation, that legislates on all insular matters. The United Kingdom government in Westminster may legislate, with consultation, on behalf of the islands on matters relating to defence, foreign policy and broadcasting. Under these arrangements, an official letter requesting extension of the UK's ratification of the Basel Convention to the Bailiwick of Guernsey was sent to the United Nations in 2002. This extension of the Convention took place on 27 November 2002.

The States of Guernsey has previously shipped waste to the UK under Memoranda of Understanding (MOU) arrangements. The last of these agreements expired in August 2002. The extension of the Basel Convention to Guernsey removes the need for bilateral agreements and this Duly Motivated Request, (DMR) is the mechanism by which the States of Guernsey seeks in-principle permission to export waste to the United Kingdom for disposal.

This DMR seeks to demonstrate, for certain wastes arising on Guernsey, that the island,

“does not have and cannot reasonably acquire the technical capacity and necessary facilities in order to dispose of waste in an environmentally sound manner”.²

To enable the Basel Convention to be extended to Guernsey, the States of Deliberation approved provisions under The Transfrontier Shipment of Waste Ordinance 2002, in February of that year. This Ordinance, (an Ordinance being similar to a Regulation in the UK), gives full force and effect to Council Regulation (EEC) 259/93 on the supervision and control of shipments of waste within, into and out of the European Community. Under the above Ordinance, the States of Guernsey's Board of Health is the competent authority of dispatch and destination and is the competent authority of transit on behalf of the Secretary of State. The States of Guernsey Advisory and Finance Committee is the correspondent for the above Ordinance.

3. Previously Exported Wastes

In the TFS Guidance Note, ‘Determination of Duly Motivated Requests’³, it is a requirement of the exporting country to show how wastes have been dealt with in the past. Prior to the ban on waste movements coming into effect on 1 January 1998, wastes were shipped to the UK for disposal, but were originally undocumented under transfrontier arrangements. Much of this waste was destined for disposal at the Government facility at Harwell. Guernsey records of these waste exports go back as far as 1995. Before this date, anecdotal evidence suggests that waste movements took place between Guernsey and the UK, but there is only partial documentary evidence to support this.

Prior to the implementation of the Basel Convention in the UK, the following wastes were detailed as being disposed of in the UK. Some records of waste exports go back to 1986. These give details of waste shipments sent for disposal under Harwell’s Hazardous Materials Service as well as other UK facilities. The types of waste exported are given below. The wastes sent for disposal in the UK represented those that could not be dealt with on island at that time.

1986

Approx. 4 tonnes of pharmaceutical waste

1995

33 kg of biocides, herbicides, fumicides and pesticides

40 kg of laboratory and industrial chemicals

1996

2035 kg of biocides, herbicides, fumicides and pesticides

3090 kg of laboratory & industrial chemicals

150 kg of boiler ash

In 1997, a Memorandum of Understanding⁴ was signed between the UK and Guernsey Governments. Prior to that date, there was no bilateral or multilateral agreement or arrangement concluded by the European Community and the Bailiwick of Guernsey under Council Regulation (EEC) 259/93. This bilateral agreement expired on 31 December 1998. Annex 1 of this Understanding sets out the wastes in question and these are detailed below.

1. Used batteries containing mercury or cadmium
2. Herbicides, fumicides or pesticides
3. Industrial and laboratory chemicals.
4. Incinerator plant fly ash
5. Heavy metal concentrate extracted from fly ash
6. Shredder residue comprising non-ferrous metal, plastic, glass, rubber and other non-metallic wastes
7. Contaminated soil
8. Asbestos

In August 1998, a second Memorandum of Understanding⁵ was signed between the UK and Guernsey Governments. This bilateral agreement expired on 31 August 2002. Annex 1 of this Understanding sets out the wastes in question and these are detailed below.

- Used batteries containing mercury or cadmium
- Biocides, herbicides, fungicides and pesticides
- Industrial or laboratory chemicals of a hazardous nature
- Contaminated land
- Clinical waste (in emergency situations only)

Both of these Memoranda of Understanding permitted the import of waste into the UK for disposal, the UK Government being satisfied that waste destined for disposal could not, for the time being, be managed in an environmentally sound manner in the Bailiwick of Guernsey.

In the former Memorandum, no restriction was placed on the quantity or method for disposing of such waste. In the latter the wastes were permitted for disposal by high temperature incineration or specialised landfilling operations. The weight limits for each being 9 tonnes and 1 tonne respectively. These limits were subsequently increased to 25 tonnes in March 2000 and April 2001 to 60 tonnes.

It is noted that the term, “for the time being”, indicated that the view of the UK Government at that time was that in the future these wastes may be able to be managed in Guernsey in an environmentally sound manner. In section 4, it is hoped to demonstrate that the Guernsey authorities are now able to dispose of some of these wastes in an environmentally sound manner on island. As such, this DMR does not propose to include requests for waste imports into the UK for the purposes of direct landfilling, other than if this represents the best environmental option. The quantities of waste seeking disposal in this document include those that have been stored since the expiry of the last MOU in August 2002. It is anticipated that should a request for disposal be granted, the accumulated wastes, together with further subsequent annual arising limits be allowed to be exported, should there be limits imposed as a condition of granting such a request.

4. Wastes Proposed for Disposal under this Duly Motivated Request

Since the expiry of the last MOU in August 2002, much of the waste that was previously exported for disposal has continued to be produced.

This waste has been securely stored within a compound at the island's main landfill site, Mont Cuet. The storage is secure in order to contain any spillage and, further more, is located outside the water catchment area.

By comparison with the previous MOU's, the quantities of waste streams have been reduced, consistent with Guernsey's aim to reduce its reliance on specialist facilities in the UK. The remaining wastes forming this DMR are those wastes that currently cannot be disposed of on island in an environmentally sound manner. The wastes proposed in this DMR are those for which the Best Practical Environmental Option is high temperature incineration, or physio-chemical treatment, or those that require landfill at a hazardous waste site, for which there are currently no facilities on Guernsey. These wastes are:

Waste Stream No.	Description
1	Non-recoverable solvent waste arising from printing operations
2	Herbicides, biocides, fungicides and pesticides, arising from the horticultural and agricultural industries on the island.
3	Fire fighting foam from the States of Guernsey Airport Fire Service
4	Clinical waste incinerator fly-ash from the Princess Elizabeth Hospital
5	Pharmaceutical manufacturing waste – flammable alcohol and a solution containing organo-chlorine or organo-phosphate
6	Clinical waste arising from health care on the island in emergency situations
7	Fly-ash from the proposed municipal energy from waste facility due for commissioning in 2006
8	Ion exchange resins from the proposed energy from waste facility due for commissioning in 2006
9	Miscellaneous laboratory chemicals and other hazardous waste arisings

More detail regarding quantities, chemical composition, production processes and locations and the proposed treatment method for these wastes is outlined in Annexes 1 and 2. Waste streams 1, 2, 4, 5, 6 & 9 represent those previously given consent under MOU arrangements for disposal to the UK.

Waste stream 1

The non-recoverable solvent waste represents a significant reduction over that exported under previous arrangements. Waste minimisation initiatives undertaken by the two

companies producing this waste, Guernsey Press and Howitt Offshore Limited, have altered the production process in the pre-press area to minimise the quantities of waste needed to be exported.

Waste stream 2

Biocide wastes arise from the agricultural and horticultural sectors. Surveys undertaken by the States of Guernsey have consistently shown a decline in these activities over the last 20 years. It is anticipated that future arisings will continue to decline over time. The following tables demonstrate the reduction in agricultural and horticultural activities in Guernsey since the mid 1980s.

Land Area in Agricultural Use (Hectares)⁶

	1986	1996	2003
Silage	596.8	646.2	505.8
Hay	286.6	162.6	167.3
Grazing	764.9	557.4	541.4
TOTAL AREA USED FOR DAIRY	1648.3	1,366.3	1,214.5
Maize	37.9	114.7	100.1
Grain	6.0	11.5	16.7
Potatoes	53.3	108.4	82.6
Other crops	52.2	25.3	101.7
TOTAL AREA USED FOR ARABLE	149.4	259.8	301.2

Total area in farming	1,797.7	1,626.2	1,515.7
Owned land (%)	31.5	26.8	17
Rented land (%)	68.5	73.2	83
Average area of all farms	95.66	114.07	179.92
No. of dairy farms	92	56	21
No. of other farms	24	32	31
TOTAL NO. OF FARMS	116	88	52

Horticulture -Number of Businesses & Average Size (Hectares)⁷

Year	1987	1997	2002
No. of businesses	904	298	162
Average size of businesses	0.18	0.52	0.67
TOTAL AREA	163	155	109

These sectors are the major producers of the biocides detailed in Annex 1. (Some biocides arise from household sources and these are detailed in waste stream 9). The reduction in these economic activities has led to an overall reduction in the number and amount of biocides in use on the island. Wherever possible, biocides that have acceptably short half-lives and breakdown residues are co-disposed of with municipal solid waste. In the future, this method of disposal will be restricted with the construction of a municipal energy from waste plant diverting biodegradable waste away from landfill. The remaining more hazardous biocides are those identified for export in this DMR. The split between those products that can be disposed of locally and those that have been proposed for export are given in Annex 2. Those that can be disposed of locally make up the significant majority. Those that require high temperature incineration or specialised landfill are marked for export.

Waste stream 3

The fire fighting foam arises in this instance as a product that is beyond its shelf life. In order to retain the Guernsey Airport's Civil Aviation Licence, the airport must maintain foam stocks consistent with its size. This particular foam has been removed by the manufacturer from the market throughout the world because of its potentially harmful environmental effects. This stock has been replaced by a more environmentally

acceptable product that can be disposed of without the requirement for export to the UK in the future. Due to its reported cumulative effects on the environment, the environmentally sound method of disposal for this product is high temperature incineration, or biological treatment in a suitable sewage treatment works. Neither of these facilities are available on Guernsey.

Waste stream 4

Fly-ash is currently produced from the clinical waste incinerator at the Princess Elizabeth Hospital. This waste formed part of previous MOU arrangements. The disposal of this ash remains an issue because the island currently has no hazardous waste landfill. The bottom ash produced from this modern incinerator, continues to be landfilled at the municipal waste facility at Mont Cuet. The fly-ash from this facility is currently being stored in a secure covered compound. There is currently 35 tonnes in storage with a rate of production of around 1 tonne per month.

In the future, it is proposed that the fly-ash treatment process to be adopted in the new municipal Energy from Waste facility will also be utilised to treat the future arisings of clinical waste fly-ash. The proposed Energy from Waste facility is due for commissioning in 2006 and the design proposes to incorporate an acid-wash treatment of fly-ash that may enable a combined fly-ash to be sent for recovery. This acid washing process is being proposed as it minimises the volume of fly-ash requiring disposal, in accordance with the waste hierarchy and Best Available Technique. In addition, the option of constructing a hazardous waste landfill that will be able to accept incinerator fly-ash from both plants is under investigation and is discussed in section 7. In the interim, the clinical waste fly-ash is proposed to be exported as the current best method of disposal in an environmentally sound manner.

Waste stream 5

This waste is produced by SSL International (Guernsey), which specialises in the production of preparatory anti-lice treatments, shampoo's etc. On average, waste production is around 18 tonnes per annum. There is currently 20 tonnes in secure storage and this waste has previously formed part of exports under MOU arrangements.

Waste stream 6

Waste stream 6, consisting of clinical waste, is currently incinerated at the Princess Elizabeth Hospital. This facility has recently been upgraded and a new plant was commissioned in 2002. It now operates at temperatures and residence times required in the Waste Incineration Directive. Clinical waste, therefore, forms part of this request for disposal in the UK, only as part of an emergency requirement should the hospital plant become inoperable for longer than its scheduled maintenance downtime. Investigations have shown that the alternative disposal route of incineration in Jersey has insufficient spare capacity to deal with any potential emergency arisings. Should the need arise, it is proposed to ship waste to the UK as the best environmental option.

Waste stream 7

This waste is unlikely to arise until 2006 at the earliest when the Energy from Waste facility is commissioned. The proposed acid-washing of the fly-ash from this plant should result in a hydroxide sludge containing high levels of heavy metals and zinc at concentrations that may enable recovery of Zinc by extraction. This route would represent the preferred option, however, whilst the plant is at the design stage it represents a theoretical future option. It is hoped that during the commissioning and initial operation of the proposed Energy from Waste plant, trials to assess the ash will be undertaken to enable a route for recovery, or disposal, to be identified. The flue-gas cleaning and treatment processes have been selected as the options that produce the minimum amount of pollution control residues. Should recovery not be available it is proposed that this fly-ash be disposed of to the UK as the most environmentally sound option. The alternative of operating a hazardous waste landfill in Guernsey is undergoing investigation. Initial assessments indicate that because of geological constraints the island may not be able to utilise a site that would comply with the landfill directive⁸ to enable disposal in an environmentally sound manner. The construction of an Energy from Waste plant will enable some of the limitations and targets imposed by the landfill directive to be met, but will result in creating difficulties with hazardous landfill disposal. It is hoped that identifying this potential disposal issue now will enable the Environment Agency to consider whether this approach would be acceptable should disposal in the UK prove to be the only environmentally sound alternative.

Waste stream 8

The specification for the proposed energy from waste facility includes pollution control systems that will produce two ion-exchange resins. The first arises from a wastewater treatment plant that will scrub process waters before re-use within the plant or on occasions discharge to sea. This resin will contain various heavy metals. The metal concentration of this resin is not yet known, but due to the efficiency of the ion-exchange process it will only be produced at less than 1 tonne per annum.

The second ion-exchange resin is one that is partly neutralised and results from the cleaning of mercury from the ash washing process proposed in the facility. This waste will contain mercury but the concentration is not yet known. No more than 11 tonnes per annum will be produced

Waste stream 9

Guernsey's Health and Safety Executive operates a collection service for hazardous wastes arising on the island. These collections include small quantities of laboratory chemicals and other small arisings from numerous sources. These are detailed more fully in Annex 1.

Waste not included in this DMR

Hazardous wastes exported under previous MOU and not included in this DMR are:-

Contaminated land

Areas of contaminated land on the island have recently undergone remediation on-island. Consistent with the principal of, "fit for use", contaminated land is either being utilised, following in-situ treatment, within construction projects, or is being remediated to a non-leaching state and landfilled in the inert landfill site at Longue Hougue. It has been fortunate so far that remediation of such contaminated land has been outside the water catchment area. It is not anticipated that contaminated land will require off island disposal in the future.

Asbestos

The quantity of asbestos requiring disposal is around 375 tonnes per annum. This figure should diminish and disposal within known areas of the municipal waste landfill currently provides an acceptable disposal route. This remains Guernsey's best option given that this was an established practice in the UK until the implementation of the Hazardous Waste Directive.

5. Managing Waste - States of Guernsey Waste Strategy and Waste Management Plan

In June 1998, the States of Guernsey produced a report entitled, “Waste Strategy Assessment – Current Status and Proposals for a Solid Waste Management Plan”. One of the primary intentions of the strategy was to decrease demand on the island’s remaining landfill facilities. The strategy’s main elements are outlined below.

1. Introduce measures to achieve all economically justifiable recycling.
2. Investigate the feasibility of green waste tunnel composting.
3. Agree in principal to the construction of a waste-to-energy plant.
4. Review the waste disposal charging policy in accordance with the polluter pays principle and report its findings.
5. Produce a Waste Management Plan (WMP).

The Board of Administration, the island’s Waste Disposal Authority, is currently developing a Solid Waste Management Plan that will cover a planning period of 25 years. A copy of the latest Consultation Document regarding the matter forms Annex 4. The Consultation Document identifies an increase in growth of solid waste in Guernsey, similar in proportion to European regions of similar populations and Gross National Product, (GNP). Presently, the legal requirement to produce a WMP is included within a draft Waste Disposal Ordinance.

The primary stated objective of the WMP is to introduce waste minimisation and recycling measures that reduce growth in waste quantities to a level that defers the purchase of any additional incineration capacity, over and above that already identified in the proposed energy from waste plant design. A summary of the main measures aimed at achieving this objective is outlined below:

- A communications programme to promote waste minimisation, recycling and the objectives of the WMP.
- The provision of a Civic Amenity Site(s) to receive bulky items, recyclables and wastes requiring special handling from members of the public.
- Wherever possible, to make use of recyclable materials on-island
- To segregate recyclable materials and inert waste from the input to the EfW plant at a Materials Recovery Facility (MRF)
- Subject to further investigation, to construct an in-vessel composter to receive green waste.
- Subject to further investigation and an identifying a need to increase the capture of recyclables, to implement the collection of recyclable materials directly from households.

The draft WMP sets out the facilities currently available for the storage and disposal of solid waste and specifies various other facilities that will be required. The location and scope of these facilities will largely be dictated by the geographic conditions found on a small densely populated island. It is hoped that this plan shows that Guernsey is

seeking to address its future waste disposal issues and, wherever possible, will seek to dispose of its waste on the island.

A further document detailing a liquid waste management plan is proposed, however, the principles of waste minimisation and recycling also apply to the treatment of liquid wastes.

6. Geographic Constraints & Restrictions on Guernsey

According to the 2001 census, Guernsey's population stood at 59,981 an increase of 1.88 % on the 1996 level. The population density of Guernsey is 951 persons / km², or 2,467 persons / mile².

Guernsey has a solid geology consistent with other islands in the region and the adjacent coast of France. As such, surface and ground waters are a significant resource for public supply. The island's geology, consisting of igneous and metamorphic rocks has been exploited in the past, particularly in the north of the island, for the commercial quarrying of stone. Many of these worked out quarries within the water catchment area are used for the storage of water for public supply. Similarly, old quarries that lie outside the catchment area have been utilised for the disposal of solid waste by landfill.

Approximately 97 % of the island's land mass is used as a catchment area for drinking water. The States Water Board has not identified specific source protection zones (SPZ's), familiar in the UK⁶, but has produced a catchment area map, detailed in Annex 3. This map shows the extent of the catchment area and is a tool to allow the States Water Board to control and restrict activities in the catchment area that may risk contamination to the public water supply. The landfilling of certain wastes within the catchment area is prohibited and represents a major constraint to the construction of future landfill sites in Guernsey.

Many hazardous wastes are currently shipped to the UK for recovery under Transfrontier Shipment Notifications. Wherever possible, hazardous wastes are dealt with on island or sent for recovery off island in preference to disposal. The facilities to enable effective recovery of these identified wastes are to be found in the UK under the proximity principal. In strict geographical terms, (based on shortest radial distances from Guernsey), there are some potential facilities in continental Europe that are closer than facilities in the UK, however, the freight shipping connections to and from the island have a greater preference for ports in the UK. Consequently, in order for these quantities of waste to be transported to Continental Europe, they would first need to be shipped to the UK and as such would not accord with the principle of proximity.

7. Future Waste Disposal Facilities

The future siting of any waste disposal facilities will, as a minimum, have the same constraints placed on them as those that are already in operation. Whether the States of Guernsey proposes to implement, or how the States of Guernsey chooses to implement the Landfill Directive is a matter for the States of Deliberation. Given the restriction currently in place, any landfill sites will have to be developed outside the water catchment area in order to safeguard the public water supply and dispose of waste in an environmentally sound manner. If any proposed landfill sites are to accord with the EU Landfill Directive⁷, they will have to be situated outside this catchment area. If these standards were applied in Guernsey and sound environmental practice were followed by applying the principles outlined in the Environment Agency's policy document on assessing potential landfill locations⁸, the same conclusions would be reached, namely, that landfilling could only take place within the 3 % of the island's land mass lying outside the catchment area. This severely restricts the potential for developing sites.

Investigations are currently being undertaken on the use of a disused quarry as a potential hazardous waste facility for the island. This site has the advantage of lying outside the water catchment area, but would probably not meet the requirement of a geological barrier specified in Annex 1 of the Landfill Directive, and would fail to meet other location restrictions specified in the Directive (i.e. proximity to residential and recreational areas). The potential use of this site as a hazardous waste facility is further complicated by the fact that it currently contains hazardous waste previously placed there under emergency conditions following the spillage of oil from the tanker, Torrey Canyon. In addition, there is further strong anecdotal evidence that the quarry was used as a repository for World War II munitions.

Given the number of problems of trying to prepare a site that would meet the standard required to ensure the disposal of waste in an, "environmentally sound manner", the States of Guernsey feel it is justified in requesting that certain waste be exported to the UK for landfill disposal.

Whilst recognising that there are obstacles that may prevent the preparation of a site that will meet the requirements set out in the Landfill Directive, thus enabling environmentally sound disposal, the island is committed to ensure that, wherever possible, it seeks to dispose of its own waste. Potentially, the hazardous waste produced by the Energy from Waste facility will need to be disposed of at a hazardous waste landfill, or undergo significant on-island treatment to allow it to be exported for recovery. The assessment of these wastes from the proposed energy from waste plant will be undertaken as soon as practicable following its commissioning, however, there will be a period where landfill disposal will be necessary. Should the island be unable to meet the requirements of the Landfill Directive to ensure environmentally sound disposal, the island requests that such waste be exported to the UK for disposal.

In the meantime, the technical feasibility of engineering a hazardous waste landfill will continue and the States of Guernsey will assess its ability to implement the Landfill Directive. Should Guernsey be able to prepare a hazardous waste landfill that would

ensure environmentally sound disposal, this would still not be the best method of disposal for many of the wastes` set out in this DMR.

Comparative analysis of the States of Guernsey

Given the types and quantities of waste that the island of Guernsey produces per annum, for which it has no current disposal route, there are significant factors that have led to the lack of facilities to treat and dispose of such wastes on the island. By way of comparison, The UK Import and Export Plan details cases where, because of the limited scale and size, other EU states do not warrant having their own specialist facilities, such as high temperature incineration plants. These states include nations of significantly greater population, lower population densities as well as greater waste arisings than Guernsey. Taking into consideration these economies of scale and geographic factors, the States of Guernsey believe it is justifiable for the island not to operate a high temperature incinerator for the disposal of hazardous wastes and that the landfilling of hazardous waste may be unachievable if the principals of the Landfill Directive are fully adopted.

8. Conclusions

The States of Guernsey currently has no specialised facilities for the treatment and disposal of certain hazardous wastes. The construction of a high temperature incinerator would not be economic, based on the quantities of waste produced at present, or likely to be produced in the future.

Guernsey has significant environmental constraints regarding the protection of water resources consistent with dealing with waste in an environmentally sound manner.

Guernsey is also geographically constrained on the number and type of its disposal facilities governed by its high population density.

Guernsey is further constrained in seeking to dispose of waste in continental Europe in accordance with the strict principles of proximity. The majority of shipping links to and from the island are with the UK. Because the quantity of waste the island produces is not substantial, the majority of ships able to carry waste would need to travel to the UK in order to transfer waste onwards to Continental Europe. On this basis, the UK is the nearest disposal option for waste requiring high temperature incineration, environmentally sound hazardous waste landfill or specialised hazardous waste treatment.

For these reasons, the States of Guernsey requests that approval be granted, in principle, to export the wastes detailed for disposal in Annex 1.

Annex 1 – Details of Wastes Submitted for Consideration Under this DMR

Waste stream 1

Description

Waste solvent

Quantities produced per annum

66 tonnes (currently 100 tonnes in secure storage)

Chemical composition

Waste containing chlorinated solvent and organic dyes

Production process and locations

Newspaper and print production, The Guernsey Press & Star & Howitt Offshore,
(formerly Channel Print)

Proposed treatment method in England and Wales

High temperature incineration

Likely future arisings

30-40 tonnes per annum

Waste stream 2

Description

Herbicides, pesticides, insecticides and biocides

Quantities produced per annum

8-10 tonnes

Chemical composition

Varying composition, but often containing chlorinated derivatives or other compounds toxic to target species. A typical breakdown of the types of products which arise is included in Annex 2.

Production process and locations

Agriculture and horticulture from throughout the island

Proposed treatment method in England and Wales

High temperature incineration

Likely future arisings

5-7 tonnes per annum

In current storage

8 tonnes of various chlorinated pesticides e.g. Aldrin, DDT and Lindane

2 tonnes of varying hydrocarbon derivatives e.g. Quintozene, Triazines and Simazine

Waste stream 3Description

3 M Fc-203A Fire Fighting Foam

Quantities produced per annum

50 tonnes with no future arisings

Chemical composition

Water (66%), Diethylene Glycol Butyl Ester (25%), Synthetic Detergents (0.5-3.5%), Fluoroalkyl Surfactants (1-5%), Residual Organic Fluorochemicals, (not determined).

Production process and locations

Out of date concentrated preparatory stock, States of Guernsey, Airport Fire Service

Proposed treatment method in England and Wales

High temperature incineration or biological treatment at a swage works

Waste stream 4

Description

Fly-ash pollution control residues from a dry scrubbing clinical waste incinerator utilising lime and activated carbon dosing

Quantities produced per annum

12 tonnes (currently 35 tonnes in secure storage)

Chemical composition

Various compounds with the following leachate concentration (US EPA TCLP) (mg/l):

Arsenic	<1
Boron	0.26
Cadmium	<0.1
Chromium	0.15
Cobalt	0.2
Copper	<0.3
Lead	4.0
Manganese	0.07
Mercury	0.005
Nickel	<0.2
Selenium	<1
Zinc	1.5

Production process and locations

Incineration of clinical waste arising from the provision of health care in Guernsey and Alderney

Proposed treatment method in England and Wales

Specialist hazardous landfill disposal

Waste stream 5Description

Pharmaceutical production waste

Quantities produced per annum

25 tonnes (currently 40 tonnes in secure storage)

Chemical composition

Flammable alcohol and a organo-chlorine and organo-phosphate syrup

Production process and locations

Manufacture of specialist pesticide shampoo's and anti-lice treatments

Proposed treatment method in England and Wales

High temperature incineration

Waste stream 6Description

Clinical waste

Quantities produced per annum

450 tonnes. Importation of this waste will only be requested as an interim emergency arrangement on a pro-rata tonnage basis

Chemical composition

Typical arisings as per provisions of healthcare consistent with a population of Guernsey's size

Production process and locations

The provision of healthcare in Guernsey and Alderney

Proposed treatment method in England and Wales

Clinical waste incineration

Waste stream 7Description

Fly-ash from proposed municipal energy from waste plant, arising from 2006 onwards

Estimated quantities produced per annum

Design estimates indicate around 700-1000 tonnes

Chemical composition

Hydroxide sludge containing heavy metals and Zinc in the order of 14 % ^w/_w

Production process and locations

Flue gas treatment, acid washing and precipitation of hydroxide sludge following incineration of municipal solid waste

Proposed treatment method in England and Wales

Hazardous waste landfill

Waste stream 8Description

Two ion exchange resins resulting from pollution control system in the proposed energy from waste facility. The first arising from a wastewater treatment plant and the second, a partly neutralised resin produced from a mercury removal process.

Estimated quantities produced per annum

Water treatment resin - < 1 tonne

Partly neutralised resin – < 11 tonnes

Chemical composition

Water treatment – various heavy metals with the full specification not yet known

Partly neutralised resin – containing mercury with full specification not yet known

Production process and locations

Waste water and ash treatment, following incineration of municipal solid waste

Proposed treatment method in England and Wales

Hazardous waste treatment and landfill

Waste stream 9Description

Miscellaneous laboratory waste and other small arisings collected by Health and Safety Executive on the island

Quantities produced per annum

5 tonnes

Chemical composition

Laboratory smalls - 2 tonnes

Elemental mercury - 1 tonne

Production process and locations

Collections from the public, small scale growers and schools

Proposed treatment method in England and Wales

Various, but including specialist treatment, high temperature incineration and hazardous landfill

Annex 2 - Typical Biocides Generated on the Island by Generic Group

Insecticides

	<u>Disposal Route</u>
Carbamates	Local
Macrocyclic Insecticides	Local
Neonicotinoids	Local
Oganochlorine Insecticides	Export
Oganophosphorus Insecticides	Local
Organotin Insecticide	Export
Oxime + Oxyimidothioate Carbamates	Local & Export
Phenylpyrazoles	Local
Pyrethroids	Local

Miscellaneous Insecticides

	<u>Disposal Route</u>
Amitraz	Local
Buprofezin	Local
Chloropicrin	Export
DNOC	Local
Fenazaquin	Local
Nicotine	Local
Pentachlorophenol	Export
Rotenone	Local

Fungicides

	<u>Disposal Route</u>
Alkylenebis (Dithiocarbamates)	Local
Aromatic Hydrocarbon Derivatives	Export
Azoles + Analogues	Local & Export
Benzimidazoles	Local
Dicarboximides	Local
Dimethyldithiocarbamates	Local
Dinitrophenols	Local
Methyl Isothiocyanate + Precursors	Local
Organophosphorus Fungicides	Local
Phenylamides	Local
Pyrimidines	Local
Pyrimidinyl Carbinols	Local
Strobilurin Analogues	Local
N-Trihalomethylthio Derivatives	Local

Miscellaneous Fungicides

	<u>Disposal Route</u>
Chlorothalonil	Local
Dichlorophen	Local
Dicloran	Local
Etridiazole	Local
Fentin	Local & Export
Fluazinam	Local
8-Hydroxyquinoline Sulphate	Local

Herbicides

	<u>Disposal Route</u>
Amides	Local
Anilides	None
Arylalanines	None
Aryloxyalkanamides	None
Aryloxyalkanoic Acids	Local
Arylphenoxypropionic Acids	Local
Benzofuranyl Alkanesulfonates	Local
Benzoic Acids	Local
Bipyridilium	Local
Bis-Carbamates	Local
Chloroacetanilides	Local
Cyclohexanedione Oximes	Local
Dinitroanilines	Local
Dinitrophenols	Local
Diphenyl Ethers	None
Hydroxybenzonitriles	Local
Imidazolinones	Local
Isoxazoles	None
Organophosphorus	Local
Pyridazinones + Pyrazoles	Local
Pyridine Acids	Local
Quinolinecarboxylic Acids	None
Sulfonylureas	None
Thiocarbamates	Local
1,3,5, Triazines	Export & Local
1,2,4 Triazinones	None
Triazoles	Export
Triazolopyrimidines	None
Uracils	Local
Ureas	Local

Plant Growth Regulators

Chlormequat Chloride		Local
Daminozide		Local
Ethephon		Local
Maleic Hydrazide		Local
2 – (1 – Naphyl) Acetic Acid		Local
Paclobutrazole		Local
Tecnazene		Local

Annex 3 - Catchment Map for Public Water Supply

**Annex 4 - States of Guernsey Board of Administration - Consultation Draft
Solid Waste Management Plan**

References

- 1 2001 Census - States of Guernsey
- 2 United Kingdom Management Plan for Export and Imports of Waste, 1996 as amended.
- 3 TFS Guidance Note – Determination of Duly Motivated Requests. Document Number EAS/2202/4/10, Version 1, 16 October 2000
- 4 Memorandum of Understanding between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Bailiwick of Guernsey concerning Movements of Hazardous Waste from Guernsey to the United Kingdom, December 1997
- 5 Memorandum of Understanding between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Bailiwick of Guernsey concerning Movements of Hazardous Waste from Guernsey to the United Kingdom, August 1998.
- 6 States of Guernsey Agriculture and Countryside Board – Annual Census of Crops and Livestock
- 7 States of Guernsey Committee for Horticulture – Economic Statistical Report
- 8 Policy & Practice for the Protection of Groundwater, 1998 - Environment Agency
- 9 Council Directive on the Landfill of Waste - 99/31/EC
- 10 Regulatory Guidance Note 3, Groundwater Protection: Locational Aspects of Landfills in Planning Consultation Responses & Permitting Decisions - Environment Agency, 2002

The States are asked to decide:-

Whether, after consideration of the Requête, dated the 28th May, 2004, signed by Deputy S J Ogier and seven other Members of the States, they are of the opinion:-

1. To direct the Policy Council, as a matter of urgency, to commission a suitably qualified and experienced independent panel to report into
 - (i) the current proposals for an energy from waste facility; and
 - (ii) the practicable alternatives and licensing issues surrounding those alternatives.

and to lay the panel's report before the States for debate as a matter of priority;

2. To direct the Environment Department to defer contractually committing the States pursuant to Resolution 4 on Billet d'Etat No. XX of 2003 (by which the Department, either directly or through its special purpose company, was authorised, following completion of the Initial Services period, to contract with Lurgi for the construction of an Energy from Waste facility) until that review and report has been considered by the States.

DE V. G. CAREY
Bailiff and Presiding Officer

The Royal Court House
Guernsey
The 21st June, 2004

IN THE STATES OF THE ISLAND OF GUERNSEY

ON THE 1ST DAY OF JULY, 2004

The States resolved as follows concerning Billet d'Etat No. XI
dated 21st June, 2004

REQUÊTE

ENERGY FROM WASTE FACILITY

After consideration of the Requête, dated the 28th May, 2004, signed by Deputy S J Ogier and seven other Members of the States:-

1. To direct the Policy Council to establish an independent panel of inquiry, comprising five suitably qualified and experienced members, whose mandate shall be:
 - a) to inquire in such a manner as it deems appropriate into the future of solid waste disposal in Guernsey, which inquiry shall include, but not be limited to, the Resolutions of the States on Billet d'Etat XX of 2003;
 - b) to receive representations from interested parties; and
 - c) to report its findings to the Policy Council and the Environment Department as soon as possible, but not later than 31st December 2004.
2. To direct the Environment Department, within two months of its receipt to submit the panel's report and that Department's comments thereon to the Policy Council for publication in a Billet d'État together with such recommendations as that Department may consider appropriate.
3. To direct the Policy Council to meet the cost of the independent inquiry and to provide such secretarial and other support as may be necessary.
4. To direct the Environment Department to defer contractually committing the States pursuant to Resolution 4 on Billet d'État No. XX of 2003 (by which the Department, either directly or through its special purpose company, was authorised, following completion of the Initial Services period, to contract with Lurgi for the construction of an Energy from Waste facility) until that review and report has been considered by the States.

K. H. TOUGH
HER MAJESTY'S GREFFIER