STATES OF JERSEY

ASH DISPOSAL (S.R.20/2012): RESPONSE OF THE MINISTER FOR PLANNING AND ENVIRONMENT

Presented to the States on 12th February 2013
by the Minister for Planning and Environment

STATES GREFFE

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ASH DISPOSAL (S.R.20/2012): RESPONSE OF THE MINISTER FOR PLANNING AND ENVIRONMENT

Ministerial Response to: S.R.20/2012

Ministerial Response required by: 28th January 2013

Review title: Ash Disposal

Scrutiny Panel: Environment

FINDINGS

	Findings	Comments
	Findings: Incinerator Bottom Ash (IBA)	
1	The review has shown that approximately 18,000 tonnes of IBA generated by the operation of the EfW plant at current levels (approximately 70,000 tonnes of waste per annum) could be recovered through a relatively straightforward process including crushing, metal separation, weathering and grading into IBA aggregate (IBAA), which would no longer be classified as waste and would be suitable for use by the construction industry, in either bound or unbound form. This would require limited investment by TTS in appropriate infrastructure including a concrete base, drainage, and additional fixed and mobile equipment for crushing, grading and metals extraction.	The principal of processing IBA from the new Energy from Waste Plant for recovery as an aggregate replacement is supported by the Minister for Planning and Environment. The Minister in supporting the idea of IBAA and reserves his and the Department's position as to the siting of any facilities in planning terms with respect to any potential application. See comment for Recommendation 1 below. For IBAA to be no longer classified as a waste it would need to be demonstrated that the waste IBA had been processed to the extent that it was fully recovered and may be regarded as a non waste product that can either be used by business or industry, or supplied into other markets, without the need for the regulatory controls provided in the Waste Management (Jersey) Law 2005. The processing of IBA into a recovered product will require a waste management licence issued from the Department of the Environment. The use of IBAA in any aggregate applications will be regulated by the Department of the Environment either specifically for a particular use and site, or through its involvement in consideration of any change in the material's status as a waste.
2	Successful recovery of IBA would require the development of a local market for processed IBAA appropriate to the needs	The Minister for Planning and Environment agrees with the pre-feasibility study of use of recycled bottom ash by local industry. The Minister emphasises that the cost/carbon

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	of the construction industry. For this purpose it is anticipated that a commercial partnership between TTS and a local quarry operator (or operators) would be the best way forward. Initial approaches have already been made by TTS to the industry. More substantive progress will require confirmation of the chemical make-up of IBA that can be produced consistently by the EfW, and subsequently the operator would have to satisfy the regulator that IBAA products derived from it are safe for use in the local environment in whatever form is eventually selected.	components of the present importing of materials should be considered and that the arguments should not just be about acceptance by local industry. The Minister agrees with the second statement about the environmental safety of the final product. TTS will also be required to detail all end uses of the recycled bottom ash and to provide evidence that subsequent use will not pose a potential problem of pollution. For example; if recycled bottom ash were to be used as a road sub surface aggregate, the Minister would need to be satisfied that no harmful leachate is generated. This consideration would include the fact that recycled bottom ash would be almost impossible to trace once used. It may eventually be dug up, used elsewhere, or be deposited at the La Collette tip head and the Minister would require satisfaction that no long term legacy would result.
3	Transport and Technical Services' decision to appoint a new operator for the vehicle scrap-yard and relocate it using alternative methodologies will result in the removal of vehicle shredder residues and other contaminated wastes which have up to now adversely affected the chemical profile of the ash from EfW plant; these must be removed for recycling to succeed.	The Minister agrees with this statement. Officers from Environmental Protection are presently considering the application for a Waste Management Licence in order to licence and regulate the new scrap yard operation. According to the working plan, submitted with the licence application, all end of life vehicles will be de-polluted (the hazardous components and fluids are removed) and then exported from the island for recovery of scrap metals and other materials. The Minister is pleased to see the new scrap metals contract incorporating best techniques for recovering end of life vehicles by a combination of processing on Island and then export for recovery. This removes the contaminated waste material, which arose from the shearing and fragmentising of vehicles, from the waste stream sent to the EfW plant.
4	To further ensure that significant sources of toxic metals and other waste components do not enter the EfW plant waste stream, contaminating the ash and thus preventing successful recycling into IBAA, it is essential that improvements are made to the	The Minister agrees with this statement and supports the principles of improved kerb side recycling and removal of contaminated waste in the Island. Recycling and waste stream segregation is the responsibility of TTS and the Parishes. The subsequent disposal or recovery activities for these wastes are regulated by Environmental Protection (Department of the Environment).

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	separation of wastes at source. In particular it is important that batteries, WEEE (Waste Electrical and Electronic Equipment) and other potential contaminants are separated from the domestic waste stream derived from parish refuse collections. This may point to a need for improved kerb-side separation on an Island-wide basis.	
5	It is anticipated that capital investment would be required by TTS to initiate these arrangements by 2014-15. Once the market for Jersey's own IBAA was proven and IBAA reliably recycled within the Island, the processing of Guernsey's waste could also be considered. However, firm assurances would be needed of a market for the additional volumes of IBAA produced as a result. The Panel considers that one way to achieve this might be by means of an agreement for Guernsey to import a proportional volume of recovered IBAA product(s) for use in their construction industry.	As a responsible jurisdiction operating according to the protocols of the Basel Convention, Jersey would need to be satisfied that any end use of the IBAA in Guernsey would not cause an unacceptable risk of pollution. The Department of the Environment would be involved in consideration of the legal and environmental implications. The Minister considers linkage of the importation of Guernsey's waste solely to the reuse of the ash fails to accept the other dimensions of the waste strategy (e.g. minimising the residual elements for burning, seeking to operate an incinerator as an electricity plant outside of its waste hierarchy design, CO_2 emissions etc.). The full environmental arguments inside a waste hierarchy and best practice will need to be considered in relation to any waste importation proposal. Please refer to the comments in 1 above.
6	It is noted that there may still be a requirement for limited landfill capacity for a small quantity of material (fines) unsuitable for use as aggregate.	Any deposit of IBA for disposal would be regulated and controlled according to a Waste Management licence. In the case of disposal at La Collette, existing and new cells for disposal will be licenced under the application made by TTS for this site. The licence for La Collette will impose conditions to protect the environment.
	Findings: Air pollution control residues (APCr)	
1	The review found differing views on options for the disposal of hazardous APCr. The Minister for Planning and Environment appears to favour	The Minister for Planning and Environment is committed that TTS finds a permanent solution to the treatment of APC residue that satisfies the long-term island needs and does not pose a pollution threat to either the Island's air or waters

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	investment in plant to enable on-Island processing of APCr for recovery using vitrification technology, which is a highly technical and energy-intensive option that locks contaminants into a stable glass-like substance. Both TTS and the Panel's advisers consider that this would be a very expensive option for Jersey which would be uneconomic compared with existing alternatives that are available either for recovery or disposal off-Island. It is also risky, involving relatively unproven and complex technology. A further concern is that it would produce at very high cost a specialised aggregate material which would have to compete in the market with other forms of inexpensive aggregate, including IBAA, which could be produced at much lower cost from the greater proportion of waste produced by the EfW.	or render potential land banks as contaminated thus preventing any future island development. The Minister is of the opinion that in future, the technology for treating APC will improve, costs of treatment will reduce and that TTS should routinely assess all developments in this area. The Minister favours recovery through vitrification for remediation of APCr but has not suggested that this should necessarily be procured on island if uneconomic to do so. The Minister has suggested that consideration be given to this technology which he has inspected in a French plant in addition to the off island disposal routes favoured by the Minister for Transport and Technical Services. The off island disposal routes should also look to European facilities and not just the UK. Please refer to the comments in 1 above.
2	The Panel therefore favours the preferred option of the Minister for Transport and Technical Services and his department, which would involve exporting the backlog of approximately 4,000 tonnes of APCr currently stored in cell 33 for disposal, followed by a similar volume annually thereafter. TTS have advised the Panel that they consider the costs of shipping, landfill taxes and gate fees could be contained within the £1 million budget currently allocated for construction of the cells needed to safely contain APCr at La Collette, making export a viable option.	Officers from the Department of the Environment have submitted a Duly Reasoned Request (DRR) to the UK's Environment Agency incorporating TTS's request to export both the historic (existing) and future APCr. The application is currently being considered by the UK authorities and a decision on whether the island can export to the UK or not is expected shortly.
3	In the first instance it is considered that the backlog of	Where the UK Environment Agency establish and agree through the Duly Reasoned Request

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	APCr could be disposed of in former salt mines which are now appropriately permitted to accept the material either in the UK, where this is classified as disposal, or in Germany, where it is currently viewed as a recovery process. Alternatively, it could be pre-treated by acid stabilisation in the UK for disposal into non-hazardous landfill.	(DRR) application, that Jersey does not currently have the capability to deal with APCr in an environmentally sound manner, then the export of APC will be agreed in principle. The proposal to export APCr to a specific disposal site will require a transfrontier shipment notification from TTS and this will need to detail the final disposal location for the APCr. This application will be processed by both the Department of the Environment and the UK Environment Agency and no shipments can take place until both have issued consent.
4	The 'legacy' APCr in cell 33 was bagged with a view to facilitating its removal should a suitable treatment or alternative disposal option later become available. Whilst this has enabled TTS to retain the option of removal from La Collette, some treatment processes cannot handle bagged APCr; and some processes cannot treat APCr that has been exposed to the elements for any length of time as it can become hardened in storage.	The Minster agrees with this statement.
5	Once the backlog has been dealt with, APCr subsequently generated by the EfW plant could be stored temporarily, using suitable infrastructure, and then shipped at economic intervals to the same facility under conditions approved by the regulator.	See comment for Recommendation 6 below.
6	The initial options of disposal in salt mines or use of acid stabilisation should be periodically reviewed against any available alternatives of export for recovery, including accelerated carbonation, vitrification, and acid washing to recover gypsum substitute. Should these alternatives be proved to offer viable solutions for Jersey's hazardous APCr in	The Minister supports this statement and will always favour recovery over disposal options. The option to export to the UK for disposal under the DRR currently being considered is time limited to a 3 year period. TTS have undertaken to review all technologies and the availability of more sustainable recovery options in the meantime. Given the UK policy away from landfill and toward EFW plants, the Minister expects increased emphasis by the UK toward technological/private sector solutions to APCr

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	due course there should be an automatic presumption that export for recovery would be favoured over disposal, following the principles of the waste hierarchy. There would be an expectation that export for recovery should be adopted as soon as it proved feasible on practical and economic grounds.	treatment.
7	Export for disposal requires Jersey to make application to the UK Department for Environment, Food and Rural Affairs (Defra) for approval on the grounds that Jersey does not have existing facilities to adequately process or safely landfill this hazardous waste. This has already been done and the response is currently awaited.	The Minister agrees with this statement. For clarity, the submitted DRR request however has been made to the UK Environment Agency (Defra are consultees as they administer the policy). The DRR includes all hazardous waste materials requiring export from the island over the next 3 years, not only APCr. The Environment Agency has sought clarification on several of the other items included as part of the current DRR application (the rationale for the export of APC residue has not required clarity). Officers from the Department have answered queries and are in discussions with the UK Environment Agency. A decision on the DRR application is expected shortly.
	Implications for the importation of Guernsey's waste	
	The potential importation of a significant quantity of Guernsey's domestic waste for incineration at Jersey's EfW plant has been under discussion for some time. The figure of 30,000 tonnes is seen as a practical proposition, as this would bring the plant to its full operating capacity of 105,000 tonnes per annum. The benefits to Jersey would be in the form of any payment received and an increased ability to generate electricity for local consumption.	The Minister does not agree with this statement. Running the incinerator at maximum capacity to generate a small return from electricity was not the reason that the plant was purchased and goes against the waste hierarchy. The transfer costs are not yet agreed and it would appear that processing costs in Jersey are substantially higher than that which is on offer from larger plants with spare capacity.
	However, it is clear that processing Guernsey's waste would also generate additional	This finding refers purely to the export of raw ash and does not consider the wider waste hierarchy or more holistic requirements such as emissions,

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	quantities of ash. From its investigation the Panel is aware that the general presumption under the Basel Convention against the export of such wastes would render the popular solution of sending a proportionate volume of ash back to our sister Island impractical. This would leave Jersey with the problem of how to deal with some 1,700 tonnes of extra APCr and 8,000 additional tonnes of IBA annually, which would clearly need to be factored into any potential agreement.	carbon output and recycling to an ash product. The Minister advocates wider social, economic and environmental consideration to any potential waste management agreement.
	If the Minister for Transport and Technical Services adopts the recommendations for ash disposal in this report, a similar additional volume of 8,000 tonnes of IBAA would be produced, which would require a larger market for IBAA construction materials in due course. Permission would also need to be sought in the short to medium term for export of the additional APCr. Because of these factors it is recommended that a new ash disposal strategy is allowed time to settle in and prove itself in operation before a decision on importing Guernsey's waste is made.	See comment for Recommendation 11 and 12 below. For clarity, the current DRR request for the amount of APCr to be exported has been set with respect to the maximum throughput of waste that the EFW plant has been licenced to handle. For practical purposes, this would include any imported Guernsey waste. There is no requirement under the DRR to export the total amount of APC. The DRR simply sets out the upper limit.

RECOMMENDATIONS

	Recommendations	To	Accept/ Reject	Comments	Target date of action/ completion
	Incinerator Bottom Ash (IBA)				
1	The current policy of permanently burying IBA in sealed cells at La Collette should cease, and all IBA produced in future at the EfW plant should be processed into IBAA (incinerator bottom ash aggregate) of a consistent quality suitable for use by the local construction industry.	**TTS/ ENV**	Accept	The principal of processing IBA from the new Energy from Waste Plant is supported by the Minister for Planning and Environment. However, the Minister would firstly need to be satisfied that both (a) the method of treatment and (b) the resulting use of the IBAA product, pose no unacceptable risk to the environment. TTS would be required to submit an application for a waste management licence to authorise (a) the method of treatment of IBA. This would need to enclose a detailed working plan of the processing method. Environmental Protection would process the application in accordance with the Waste Management (Jersey) Law 2005 including public consultation. If appropriate a waste management licence would be issued to regulate the operation. The major consideration is the generation of leachate during the processing and TTS will have to demonstrate how these aspects can be minimised, controlled and disposed of so as not to cause pollution to controlled waters (groundwater, surface and coastal waters). Other	Environment will respond as and when to any discussion or to consider any application for a Waste Management Licence made by TTS.

				management control measures would be required to minimise all emissions from the process including dust and noise. In relation to (b), the resulting use of the IBAA product, the Department of the Environment would have to carefully consider any proposal that the product were not to be considered a waste. Please refer to comments in (Findings, IBA, 1). The Minister also recognises and endorses associated work undertaken to limit harmful components of waste sent to the EfW plant so as to improve the quality of the bottom ash (IBA). For clarity, at present the waste policy (that includes discussions on the processing, marketing of IBA) is administered by TTS. The Department of the Environment are involved in these discussions. The current responsibility of Department of the Environment (Environmental Protection), in the case of IBA, is to ensure that the activity of disposing of the waste in sealed cells or of the processing the IBA into IBAA or similar does not cause pollution. It does this through regulation and licensing the processing site according to the Waste Management (Jersey) Law 2005.	
2	TTS should prioritise discussions with	**TTS**	Accept	As above, the Minister supports the processing of	

	potential commercial partners to develop a local market for recycled IBAA product(s), with the aim of ensuring that the full volume of aggregate produced at La Collette can in future be utilised in preference to continued importation or local extraction of raw materials for aggregate.			all IBA into a useable product. The Minister reserves judgment on the suitability of any site being proposed as part of a planning application. Developing a local market for the IBAA and determining how much of the IBA is processed is the responsibility of TTS. TTS will be required to detail the end use of the recycled bottom ash and to provide evidence that subsequent use will not pose a potential problem of pollution (for example; if recycled bottom ash were to used as a road sub surface aggregate, the Minister will need to be satisfied that no harmful leachate is generated- especially given that this may eventually be dug up used elsewhere or be deposited at the La Collette tip head).	
3	The department should investigate possibilities for reducing the legacy of existing ash cells at La Collette by mining any cells filled with IBA since the start of operation of the new EfW plant, if ongoing tests prove that the quality of this ash makes it suitable for processing into IBAA.	**TTS**	Accept	It is the role of TTS to assess the suitability of this approach. Officers from the Department would assist in discussions. If found suitable, TTS would need to include how they intend to mine any cell in their method statement for the Waste Management Licence and demonstrate how they intend to limit any pollution. The question of the quality of the IBA in earlier cells would be another factor to take into consideration.	

	Air Pollution Control Residues (APCr)				
4	An alternative to the current storage of APCr in cell 33 should be agreed between TTS and the regulator as a matter of urgency, to avoid the need for construction of a second cell for APCr storage.	**TTS/ ENV**	Accept	It is the responsibility of TTS to review how they intend to store APCr The Department of the Environment would then assess their proposed methodology against the requirement for a waste management licence. The present method of interim storage in the engineered containment cell 33 uses a double lined cell with leak detection and offers appropriate protection against pollution from leachate generation. A decision on the DRR application to export the APCr for disposal is awaited.	
5	Subject to acceptance of the Duly Reasoned Request (DRR) recently applied for by the Department of the Environment on behalf of TTS, the backlog of APC residues currently stored in cell 33 should be exported to an approved disposal facility as soon as possible.	**TTS/ ENV**	Accept	The role of the Department of the Environment is to submit, gain approval for, and administer, the DRR. TTS are responsible for deciding how much of the APC residue to export. The Minister supports the export of all ongoing and historic APCr as soon as practical and will advise TTS in this respect. For information, the current DRR request includes the current backlog of 4000 tonne of APC residue stored in cell 33.	
6	Once the backlog is exported, appropriate infrastructure should be constructed to enable temporary storage of APCr subsequently generated by the plant,	**TTS/ ENV**	Accept	As for point 4. Any temporary storage of waste APC will require a Waste Management licence and will require appropriately drained infrastructure to protect the environment	

	prior to export for disposal at the same facility at economic intervals.			against pollution.	
7	Export for disposal should only continue for the duration of the initial approval provided under the DRR (understood to be 3 years).	**TTS/ ENV**	Accept	If approved, the DRR will be valid from three years following the date of issue. After this date, no export of APC or any other hazardous waste can take place unless agreed within a subsequent DRR. If recovery options became available during the 3 year DRR period then these could be assessed by TTS and actioned. Export for recovery of APC in the UK does not require the in principle agreement in the DRR but will require a transfrontier consent application detailing the specific recovery site.	
8	Options for export to recovery rather than disposal in the UK and elsewhere should be reviewed at regular intervals, with particular attention to developing technologies such as accelerated carbonation, thermal processes, including vitrification, and acid washing to recover gypsum substitute.	**TTS/ ENV**	Accept	The Minister supports this statement and favours recovery over disposal options, according to the Waste Hierarchy. The DRR, if approved, will be time limited to a 3 year period. During this period, TTS would be required to consider all technologies and the availability of more sustainable recovery options that have developed in the meantime and justify to the Department of the Environment (and the UK Environmental Agency and Defra) why it intends to follow particular disposal/recovery routes. Given the UK policy toward increased use of EFW plants (as opposed to the landfill of waste); the	

				Minister expects that there will be a corresponding increased improvement in APC recovery treatment options.	
9	In the event that export of the bulk of Jersey's APCr production to a proven recovery process becomes viable (even during the period of the DRR approval), subject to any contractual obligations TTS should take steps to divert exported APCr to a recovery process rather than disposal as soon as practicable.	**TTS/ ENV**	Accept	The Minister supports this statement. The DRR stipulates the maximum quantities of APCr for export only. All or only part of this amount can be actually exported. TTS would not require a DRR if the APC were to be exported for recovery, but will require a transfrontier consent application detailing the specific recovery site.	
10	The department should continue to investigate possibilities for the recovery of APCr rather than disposal, to ensure that within 3 years all APCr produced can be recovered (either on- or off-Island) via a recognised process that takes into account the principles of the waste hierarchy, best practice and prevailing EU, UK and local legislation.	**TTS/ ENV**	Accept	The Minister supports this statement. The researching of recovery options is the responsibility of TTS.	
	Importation of Guernsey's Waste				
11	Prior to any decision on the importation of waste from Guernsey for incineration at Jersey's EfW plant, the new policy for ash disposal including recovery of all IBA and a sustainable solution for APCr waste should be fully proven.	**TTS/ ENV**	Partially Accept	The Minister partially supports this statement. A wider and full social, economic and environmental case for treating another jurisdiction's waste should be prepared and debated in the States.	

12	Any contractual arrangement for the acceptance of Guernsey's waste for treatment should be conditional not only on a proven ability to successfully treat all additional waste volumes arising, but also on confirmation of a viable market for the resulting products. This might require agreement from Guernsey to accept a suitable proportion of IBAA, either as bulk aggregate or in the form of manufactured product(s).	**TTS/ ENV**	Accept	The Minister supports this statement within the context of points made in 11 above. TTS are responsible for finding a market for the treated APC residue. The Department of the Environment responsibility is to licence and regulate the treatment process and to be assured by TTS that the treated ash does not pose a problem regarding the pollution of the environment.	

CONCLUSION

The Minister recognises the open and full discussions that he and his officers have had with the Panel and the Panel's consultant. This has resulted in a document that details a sustainable and environmentally sound way forward for the disposal and/or treatment of IBA and APC. The Minister is in agreement with the statements above and the approach.

The present DRR request is to provide a stop gap whilst appropriate trials and technologies develop for ash treatment both in Jersey and elsewhere. It is the responsibility of TTS to develop and administer the ash strategy. The function of officers from the Department of the Environment is to regulate any resulting process. However, my officers will continue to discuss and provide advice so that any solutions provide the best environmental fit for the Island.