

REPLACEMENT OF BELLOZANNE REFUSE INCINERATOR updated summary (8/2004)

1. The States booklet "Refuse Incineration - Power Generation Plant - Jersey" dated 23.9.1981 proudly covers the then advanced new Feuerungsbau (Munich) incinerator and associated 3MW steam generator and mixed fuel methane gas engine 1.7MW generator plant installed by main contractor G.K.N. Birwelco. The review includes composting, landfill and concluded that in 1970 "Pyrolysis and Refuse Derived Fuels were not sufficiently well advanced to offer immediate and reliable solutions to Jersey's pressing problem." This attitude appears to dominate 2004 thinking. Incineration is being outlawed worldwide. Despite this, £60 million has been budgeted (2004 costing £80.4) million) for a replacement incinerator, a significant part of this cost being provision of equipment to reduce emissions to EU requirements. Incineration is a technique thoroughly understood by the Bellozanne operators and management; this may be a reason for resistance to alternatives. Incineration leaves "wet" agricultural waste and incombustibles to be handled elsewhere. Beauport and Crabbé sites are examples of ongoing costs.
 2. The "STAG" (Steam Temperature and Gasification) proposal by ReCycled Refuse International Ltd (RCR) is essentially a modular plant and can therefore be expanded or part used as required. Unsorted refuse is loaded directly into an autoclave ("pressure cooker") and "cooked" in high temperature steam. A clever dewatering stage follows, reducing the volume of solids to sterile dry material for largely automatic sorting by standard industry methods. Air knife separates the dry fibre for Refuse Derived Fuel, either directly for the steam generators or gasification, fuelling mixed fuel gas engine generators. The five modules envisaged for Jersey give an energy balance sheet exporting 8.9MW to JEC. The material end products are (a) a granular sterile sand-like material suitable for concrete extension (Ronez) or landfill (b) valuable clean, high quality metal scrap including aluminium (aluminium is currently incinerated) commanding premium prices (c) a grey plastic ideal for extrusion into, for example, conduit currently imported by JEC (d) a tiny amount of hazard waste to be disposed of in the specialist hospital incinerator.
 3. A concern consistently expressed is "what happens if the STAG system fails"? Bellozanne authorities fear failure resulting in rubbish piling up as happens now when there is a shut down of the ageing plant for repair. In the first instance the existing Bellozanne incinerator will be available, as construction of the new STAG plant will not affect its operation. It can then stay mothballed until ultimate decommissioning. Dr Haden-Taylor has given assurance from RCR that in this unlikely event, there is provision in the EU directives for refuse to be shipped off island to certified plant already recycling such material. RCR shipping would simply take the refuse to their own approved plant and continue to receive the EU recycling grant. The RCR offer at £40 million (half the price of the incinerator) includes full insurance against failure to meet specification and now includes all connection work. Payment can also be spread to ease financing. *The STAG processes are all established world wide. There is nothing new and untried.* The successful Bridgend plant is being expanded by main refuse contractor BIFFA with N-Power utilising the gasifier for electricity grid feed.
- In addition to the incinerator replacement:
4. The STAG system uses reverse osmosis to clarify the boiler water. This can be economically extended at Bellozanne to handle all the First Tower outfall, the potable water then being pumped to the closeby Jersey Waterworks reservoir to dilute the nitrate content and increase the capacity available for mains supply. The cost would be of the order of £15 million, saving the planned denitrification plant capital cost.
 5. RCR group have developed a micro-biological system for dealing with organic waste. This "Otter" system is being used successfully at St Petersburg, so the Beauport ongoing cartage, pumping and associated costs could easily be resolved completely. This represents a considerable saving. The same can be applied to cleaning up Crabbé and any other sites. Since STAG handles all such organic waste, this disposal cost disappears for ever.

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