Proposed Aberdeen Energy from Waste (EfW) Facility

Preliminary Planning Queries – No.1

Note that text in italics are quotes from relevant planning policy or text taken from the Planning Application documentation

Issue	***Planning Application Reference***	***Clarification Requested by South-of-the-Dee Community Councils***
Torry residential areas are located approximately 300m from the proposed EfW site. Tullos School is also located approximately 300m to the north.	Planning Statement Cl 2.2.5	**Q1. What is the rationale for the acceptability of a 300m 'buffer zone'?** In planning policy terms, Planning Statement paragraph 4.5.2 states: *"The Scottish Planning Policy (SPP) details that a 250m buffer could be appropriate between residential receptors and large scale EFW. The Development Site is located approximately 300m from the nearest residential receptor and other sensitive receptors. Nevertheless, the EIA has considered impacts on sensitive receptors taking account of noise, traffic, air quality and visual and has concluded no significant effects. It should be noted that the location of sensitive receptors and potential impact on these were an integral part of the design process and which is evident in the design embedded mitigation measures as detailed within the Environmental Statement"* Accordingly, the 250m value has been used as a guide in recognition that proposing a site less than 250 metres from sensitive receptors would represent a significant risk of planning refusal on the grounds that it would be contrary to planning policy.
The Proposed Development is aimed at … providing a localised source of heat and power.	Planning Statement Cl 2.3.1	**Q2. Is planning permission for the EfW facility dependent on** **a) Provision of heat?** **b) Provision of power?** **c) Either?** **d) Or both?** Paragraph 4.3.1 and 4.3.2 of the Environmental Statement states that *'Both NPF3 [National Planning Framework 3] and the SPP confirms that the planning system has a key role in tackling climate change and working towards achieving the Government's target for renewable energy generation. They recognise the planning*

		system's role in facilitating new development of electricity and heat infrastructure. The SPP confirms that EfW facilities should be located where the heat output can be maximised and is long term. It states that heat demand sites for particular consideration include high density developments, communities off the gas grid, fuel poor areas and anchor developments such as hospitals, schools, leisure centres and heat intensive industry. *The Proposed Development will have the capacity to generate both electricity and heat which aligns with both national and international policy requirements. The Proposed Development as set out in the Heat and Power Plan, is located in an area with strong long term heat demand which offers the opportunity to maximise the heat output. There are potential anchor developments, such as Tullos Primary School located within 1km along with council own housing stock and fuel poor areas. There are also further opportunities to supply heat within the industrial estate and to link up to with existing district heating system.'* The opportunity to deliver heat and energy through its location is a key criterion in the site selection process and will no doubt be a significant factor in assessment of the application by the Planning Authority. It is for the Planning Authority to determine whether utilisation of heat and/or power is a requirement of any Planning Permission, however it is clearly possible that any permission is conditioned to include such requirements. Throughout the application documentation it is evident that production and utilisation of heat and power is at the heart of the Council and its partners objectives. Of significance in this process are the requirements set out in the Scottish Environment Protection Agency's Thermal Treatment guidelines which state that any applicant for an EfW facility permit has to demonstrate a credible plan to deliver high thermal efficiency at levels that cannot be achieved through generation of electricity alone. Unless this is demonstrated the permit will not be issued and the facility would be unable to operate. Furthermore, the permit is reviewed every 5 years when further assessments are made of the operating efficiency of the facility. If the outcome of this assessment is not acceptable then SEPA has the power to withdraw the permit to operate. **Q3. What alternative technologies to EfW were investigated for waste treatment and why was each discounted?**

		This matter is addressed in Section 2.3.4 of the Environmental Statement: *The applicant carried out a review of various technologies capable of processing residual municipal waste and concluded that a solution such as energy from waste, developed as a high quality Combined Heat and Power Plant (CHP), meets with Scottish Government aspirations1 and supports other Circular Economy initiatives.* *Energy from Waste is a proven solution for the effective treatment of residual waste, with numerous operational facilities in the UK and continental Europe; in particular it is a strong solution for the diversion of biodegradable waste from landfill.* *Mass Burn Incineration is the most common type of Energy from Waste Technology although others are available; pyrolysis and gasification, otherwise described as Advanced Thermal Treatment (ATT) plants. These three technology options are all available at the size and scale required for the waste produced by the three Councils and the chosen site, however Mass Burn incineration is by far the most common, with a significant track record of working efficiently and safely in the UK, processing residual municipal waste, therefore this technology has been selected.* The most common form of incineration used in EfW facilities utilises a 'inclined moving grate' of the type seen by members of the Stakeholder Group at the Lincoln EfW facility. This technology has been used as the reference for the application. The major reason for not proposing ATT technologies in this application is that there are no such facilities operational in the UK at the scale of this application. Whilst some facilities outwith the UK have operated apparently successfully elsewhere this would necessarily be the case the UK where waste arisings may vary in composition and regulatory standards are highly demanding. The three Councils in this project have no intention of being a guinea pig development when tried and tested equipment is available with a proven track record.
The Scottish Planning Policy states that planning authorities should consider the application of buffer zones between sensitive receptors' dwellings and	Planning Statement Cl 3.4.11	**'Cordon Sanitaire' provision for wastewater treatment works is generally taken at 400m to sensitive receptors.** **Q4. Why is 250m 'suggested' as being acceptable for an EfW plant?** Scottish Planning Policy states:

[1] http://www.gov.scot/makingthingslast

proposed facilities when siting waste management infrastructure with a distance of 250m suggested as an appropriate buffer zone.		'*Planning authorities should consider the need for buffer zones between dwellings or other sensitive receptors and some waste management facilities. As a guide, appropriate buffer distances may be:* • *100m between sensitive receptors and recycling facilities, small-scale thermal treatment or leachate treatment plant;* • *250m between sensitive receptors and operations such as outdoor composting, anaerobic digestion, mixed waste processing, thermal treatment or landfill gas plant; and* • *greater between sensitive receptors and landfill sites.'* The distances take account of the potential for impacts on sensitive receptors, particularly odour and noise and the overall potential for such development to cause nuisance. In relation to EfW, all operations will take place internally with appropriated mitigations designed-in to minimise impacts on sensitive receptors. As stated in our response to Q1, these distances are set out in planning policy and are, we consider, intended to provide guidance to developers and the planning authority. All of the assessments undertaken in preparation for the application are based upon identifying impacts on a wide range of receptors irrespective of their proximity to the proposed.
Electricity Supply: The focus of the initial energy supply plan is to utilise heat from the Proposed Development. However, it is recognised that the viability of any such heat network may require to be supported via revenue obtained through the sale of electricity. The initial budget estimate also notes that no network analysis has been carried out to confirm that the 10 MWe capacity could be accommodated. There is therefore a risk that connection	Heat & Power Plan Cl 2.3	**The viability of the heat network appears to be dependent upon electrical revenues.** **Q5. What ongoing studies are underway to examine the transmission network in order to establish any reinforcement works/costs?** Para 2.3 of the Heat and Energy Plan states that: *'[The] heat network may require to be supported via revenue obtained through the sale of electricity'.* The next stage in development of the Torry Heat network business case will be to determine the likelihood of this requirement with more confidence. Whatever the outcome of that process, the Heat and Energy Plan states that the projected cost for connection to the electricity grid is estimated by the network operator as £1M. This includes any and all works required to allow electricity from the facility to enter the national grid.

to the Proposed Development may be dependent upon transmission network reinforcement works at additional cost to the above.		**Q6. When will these results be available?** The Council is now considering the feasibility study undertaken through Resource Efficient Scotland, which demonstrates that there is a viable project to be developed, and is now preparing follow-on plans. It is intended that a report will be submitted to a forthcoming Council meeting recommending the next steps. **Q7. What funding arrangements remain outstanding?** Development of a heat network is typically achieved on a progressive, phased basis. The feasibility study identified Phase 1 to have a capital outlay of approx. £10M and this will be the focus of the next steps referred to above. **Q8. Who underwrites any future financial risks?** Aberdeen City Council will lead on the development of the Torry Heat Network. Previous experience with the development of Combined Heat and Power networks in Aberdeen (through the Council-owned Aberdeen Heat and Power company) demonstrates that cost effective heat and power delivery can be achieved and the lessons learned and capability developed in the city will be utilised to deliver a successful project in Torry.
To supply a heat of 20 MWth it is estimated that 500mm internal diameter pipes would be needed to be installed for flow and return …. requiring a trench up to 1.35m wide. At the present time, a fixed route has not been established for the connection from the Proposed Development to the various potential users on the basis that no specific agreements have been made. River and railway crossings can prove technically challenging and expensive. To export the heat from site a pipeline has to be	Heat & Power Plan Cl 2.4 and Cl 4.3.	**DEFRA has stated that on average one kilometre of heat pipework can cost about £1M to install.** **Q9. What is the timescale and total estimated cost of installing the outline proposed heating networks Phase 1 and Phase 2 as identified in Figures 4.6 and 4.7?** The next steps in developing a Torry Heat network outlined above will develop more detailed project costing and timetable. The feasibility study estimates approx. £10M total investment is required for Phase 1. This includes all pipework and connections as well as provision of back up/supplementary boilers. Phase 2 is estimated to cost significantly more as there will be numerous individual connections to be made. Evidence from previous projects in Aberdeen and elsewhere indicates that the development of Phase 1 network can be achieved before the anticipated start date for EfW operations of 2021.

routed along public highways with the inevitable issues of traffic management and avoiding other buried utilities. These issues have a direct bearing on the cost and installation time for the pipeline.		
The Proposed Development is expected to provide electricity or heat to properties within up to 15 km of the facility.	Heat & Power Plan Cl 4.1	**Q10. What is the rationale behind this stated expectation and the basis of the 15km figure?** The rational for the 15km study area is based on taking account of the full city and all existing heating networks to allow for consideration of an integrated approach to the long term development of a heat network across Aberdeen. A widespread, integrated network has been shown in many cities to maximise the efficiency of heat delivery and therefore minimise cost to the users. Study of this area of search demonstrates that population and housing density reduces away from the city centres as does the density of flatted and multi-occupancy properties that are most suited to cost-effective connection to District Heating networks. The assessment demonstrates is that many other areas in Aberdeen with higher levels of fuel poverty do now benefit from distributed heat. Households within Torry fall within the higher category but are isolated from the larger developments further north. The 15km assessment also shows that whilst technically it is possible to connect over longer distances, the greatest efficiency is achieved by generating the heat closest to its users. Siting a heat production facility on the margin of the zone would significantly reduce or eliminate the opportunity to provide heat at lower costs to those most in need of affordable heat. By contrast, locating the plant in East Tullos allows for development of new district heating capacity whilst also being relatively close to the city centre and existing district heating to allow for integration of the networks in the medium term.
Through a phased development approach there is potential for heat supplied by the Proposed Development to be used in supplying or interlinking with the existing heat networks operated by Aberdeen Heat & Power Ltd.	Heat & Power Plan Cl 5	**Q11. What are the approximate short, medium and long term milestone dates for this phased development?** Until the next stage of engineering and project design is undertaken, no specific dates can be identified, however, it is evident that Phase 1 of the project can be developed in advance of or in line with the development of the EfW facility. More certainty on later phases will be obtained from the further analysis work outlined above. **Q12. Might this phased development approach create a fragmented and disjointed view**

		which may compromise current and subsequent planning applications? The focus of the heat plan included in the application is the immediate area but it recognises opportunities for further linkage across the community. Phase 1 has been designed with the potential for future connections and expansion in mind. The next stage of engineering design will expand on this aspect and optimise the flexibility of the system. There are many examples of successful heat networks that have grown progressively over time. Members of the Stakeholder Group that took up the opportunity to visit Lerwick saw such an approach in practice. In Lerwick, areas of housing have recently been connected to the network that were not planned for or anticipated when the EfW facility was proposed. This is a clear demonstration of the flexibility of operation that can be delivered through district heating.
A long list of sites taking account of the key policy criteria ….. was generated for the Study Area. Key criteria included: Sites allocated or proposed for allocation in relevant LDPs for employment, industry, or storage and distribution uses. However, where these allocations also include existing or proposed sensitive receptors (schools, dwellings etc) ….. were discounted to ensure compliance with the SPP (2014) and to safeguard amenity.	Environmental Statement Volume 3 Cl 2.3.5 and Cl 2.3.6.	**Tullos Primary School is located approximately 300m to the north of the Proposed Development.** **Q13. Is Tullos Primary School an existing sensitive receptor?** Yes. **Q14. If yes, on what basis is it deemed acceptable to build a facility within 300m of a primary school?** The outcomes of the detailed air quality, noise, health and other assessments demonstrate that there will not be any demonstrable adverse impact on the any receptors including Tullos Primary School. **Q15. What scientific evidence, with cited references, is available to substantiate the claim that a 250m buffer zone is acceptable?** The question refers to criteria set in the site search document. Site search reference criteria are informed by planning policy including buffers to sensitive receptors, dwellings or other including schools, hospital etc. As noted above, the 250m is identified within SPP and as such has to be taken in account. Notwithstanding this, the selected site has been subject to a comprehensive Environment Impact Assessment (EIA) providing a detailed assessment of potential impact upon sensitive receptors. The EIA has considered impacts on sensitive

		receptors taking account of noise, traffic, air quality and visual and has concluded that as a result of the embedded mitigations in the design there will be no significant effects. It should be noted that the location of sensitive receptors and potential impact on these were an integral part of the design process and this is evident in the design of embedded mitigation measures as detailed within the ES.
The review of the Site Selection resulted in an initial long list of 44 sites. The resulting output was a short list of 11. Of the 11 sites eight sites were discounted due to key deliverability restrictions including landownership and land use strategy. Three sites were identified as potential: Findlay Farm Bridge of Don Ind. Estate East Tullos Ind. Estate. Of the three sites, the East Tullos site scored the highest (26 out of 32), whilst the other two scored 24 out of 32. Uncertainties in regarding land use strategy was identified for Findlay Farm and uncertainty of plot availability or landowner interest. Uncertainties in regards to plot availability was identified for Bridge of Don.	Environmental Statement Volume 3 Phase 4 Assessment Results Cl 3.6.2, Cl 3.6.2 & Cl 3.6.3	**It would appear that the principal criteria for selecting the East Tullos site were plot availability and landowner interest.** **Q16. Is this correct?** Availability was one of the criteria used to assess site suitability and distinguish between sites in Phase 4 of the selection process. A number of sites were unavailable and as this is essentially a 'pass or fail' criterion these were discarded. Of the sites potentially available, the preferred site was definitively available and performed well in all other respects. As a result, it is considered that a strong case could be made for this site in planning terms and that, should the application be successful, it has a very high likelihood of being developed as result of this certainty. **Q17. How many of the initial 44 selected sites were made available by landowners?** The Environmental Statement - Volume 3, Appendix 2A Site Selection Assessment Report identifies the process used to select the site. A number of phases were adopted in undertaking the site search including: generation of long list (Phase 1); strategic assessment of long list (Phase 2); generation of short list (Phase 3) and finally, detailed assessment of short listed sites (phase 4). Only the final phase, Phase 4 which included 11 sites, considered landowners and availability. The preceding phases focused on landuse allocation, size, overlapping or proximity to sensitive receptors, heat demand among others. These phases eliminated sites that either failed to meet basic pass or fail criteria or had significant and varied issues affecting overall deliverability. East Tullos was identified following its assessment against planning policy criteria including land availability. In the final detailed assessment, East Tullos scored highest on a combination of land allocation and availability, it also scored consistently high on all the other assessment criteria. The Local Development Planning Team undertook a site search and assessment when preparing the proposed Local Development Plan (pLDP) that was adopted by the Council in

		June 2015. This plan identifies the proposed site as being suitable for waste management uses including Energy from Waste. The proposed site is the only one in the pLDP to have such a designation and therefore this has a significant impact on site selection.
	Other	
Traffic	Transport links are a key concern for local residents and it is an issue which needs very careful consideration. One of the greatest impacts for an EfW facility is often not the site itself but truck movements required to get waste to the site. Larger sites may indeed benefit from a railhead and/or wharf/jetty facility.	**Q18. Given projected daily truck movements over a 25-30 year operating period, why were railway and/or water transport options discounted?** The Environmental Statement (Volume 3 Appendix 9.A), considered freight by rail for waste from Aberdeenshire and Moray unsuitable as: *'there are no reciprocal facilities at the origin and expansion of the freight services are constrained by the number and locations of passing loops and the allocated freight paths'*. It should be noted that vehicles from Aberdeenshire and Moray equate to approximately ¼ of the total number of vehicles accessing the site. For similar reasons, freight via ports would not be a viable option. Freight by rail and via port would have associated traffic generation from origins, to and from the terminals and the site. A further important consideration is the volume of and distribution of waste arisings outwith the city. For rail freight to be economically competitive with road transport, trains need to move significant tonnages, in the region of many hundreds of tonnes. Moray, for example will produce approx. 80 tonnes per day. Waste would have to be stored for up to 1 week before a viable train load can be moved. Such storage of waste would be contrary to good waste management practice and indeed, SEPA licence requirements. In Aberdeenshire, the largest concentration of waste arisings is in the Banff and Buchan and Buchan areas which are not served by rail. It is also worth noting that feedback received at the consultation events from Torry residents living near the railway line was that they did not want to see waste transported to the site by train.
Communication	The South-of-the-Dee Community Councils Liaison Group first met to collectively discuss the Planning Application on 19th April 2016	**Q19. Should this joint liaison group continue to meet on a monthly/regular basis to discuss the Planning Application?** The Council is keen to maintain engagement with the community through the East Tullos Energy from Waste Stakeholder Group and any other suitable means. Meetings continue on a

		monthly basis for this group. In relation to the South-of-the-Dee Community Councils Liaison Group, it is for members of that group to determine their meeting arrangements. **Q20. Should separate meetings for each individual relevant South-of-the-Dee Community Council be held with Professor Jackson?** The Council is open to discussion on all means to achieve positive communications with the community.

Professor Robert Jackson – 24th April 2016

Further Planning Queries will be issued as the ongoing detailed review progresses.