

Photo ©Wheelabrator Technologies Inc

Owner's Engineer for 80 MVA Waste-to- Energy generator

WTI are experts in planning, building and operating waste-to-energy (WTE) facilities. Their expertise is proven by their 45-year track record of providing reliable, WTE services to hundreds of customers in the US and UK. Their technology reduces carbon emissions by offsetting the need for energy from fossil fuel sources and reduces dependence on landfills.

In July, 2020, Wheelabrator put into operation a new WTE facility at Kemsley in Kent, England. This facility is a combined heat and power 80MVA plant and will generate up to 49.9MW (gross) / 44MW (net) of sustainable, baseload electricity to power U.K. homes and businesses. The facility will process up to 606,000 tons (550,000 tonnes) of non-recyclable waste from across Kent and the South East.

Challenge

Power plants ultimately need to be connected to a load. In the case of the Kemsley plant, waste that would otherwise have been sent to a landfill is processed and then exported to the National Grid transmission network. Renewable steam is also directly supplied to the adjacent paper mill.


WTI are clearly masters of their WTE domain but they recognized their need for electrical grid connection experience and specialist engineering expertise to efficiently connect their power to the greater grid. They needed a trusted Owner's Engineer to support them through the entire project which they found in PSC.



**Specialist Consultants
to the Electricity Industry**

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Client	Wheelabrator Technologies	
Country	UK	
Year	2013 - ongoing	

Project solution

PSC acted as WTI's Owner's Engineer providing electric system connection technical and regulatory support from the initial concept through the design and construction phases. PSC provided the following services:

- Feasibility study and application to UKPN for a generation connection
- High level substation concept design to support tender submission from EPCs
- Management of the interfaces and day-to-day issues between UKPN, Wheelabrator and the EPC
- Technical input to review the design, specification and calculations for the 132kV and 11kV distribution network provided by the EPC
- Review equipment specifications, contractor drawings and compliance with UK standards
- Ensure generator design is in line with grid code requirements for a License Exempt Embedded Medium Power Station
- Provided necessary technical support to register the generator with the Regulator as a renewable energy producer and gave ongoing guidance to maintain the renewable status of the facility
- Witness factory acceptance, grid code compliance and commissioning tests

PSC continues to provide ongoing technical guidance and support to the WTI engineering team through the commissioning phases.

PSC advantage

As PSC specialists were engaged across multiple WTI projects, WTI have benefitted from PSC's consistent technical support via a single unchanging point of contact throughout all phases of the project. PSC's experienced engineers provided a deep and necessary understanding of the UK electrical power system and requirements for their new generation facility. PSC services included providing support to the onsite team and ensuring the EPC's design and installation met the specification and expectations of WTI. In addition, significant milestones were scheduled to occur during the COVID-19 lockdown. PSC seamlessly adapted to fully remote support while travel restrictions were in place, allowing for the project to progress relatively uninterrupted.