

Powerfuel Portland ERF
Supplementary Inquiry Note
Water Supply

1 Introduction

Peter Gwillim has submitted a note to the Inquiry to raise concerns about the supply of water to the Portland ERF. The Appellant has asked me to comment.

2 Water Supply

Mr Gwillim states the following:

“My research leads me to understand that water of potable quality is required to power the turbine generators producing electricity. Further, I understand that in excess of 56,000,000 litres per annum will be required.”

Mr Gwillim is broadly correct. Water is raised to steam in the boiler, the steam is passed through the turbine to generate power, reducing in pressure in the process, and the steam is then condensed back to water in the air-cooled condenser. The water used in the boiler needs to be of high quality, so it is treated in the boiler water treatment system. The water is re-used, except for a small amount which is lost as blow-down to prevent build-up of sludge and chemicals and through soot blowing to keep the boiler clean. The blowdown water is used to cool ash and for other purposes and, during normal operations, there is expected to be no discharge of waste water.

The amount of water usage is estimated to be 7 m³/hr. This is noted in the environmental permit application. If the plant operates for 8,000 hrs a year, then the annual water usage would be around 56,000 m³ or 56 million litres.

Mr Gwillim implies that the ERF's water usage is high. This is not correct and it needs to be put into context.

- He notes that a typical household in the Wessex water area uses 145 litres per day. The ERF would use around 168,000 litres per day, which is the same as 1,158 households.
- Wessex Water supplies 1.4 million households with 282 million litres of drinking water every day.¹
- Wessex Water has reduced leakage to 64.1 million litres of water every day.²
- Hence, it is clear that the Portland ERF will not lead to significant pressures on water supply.

I can confirm that the Appellant has had initial discussions with Wessex Water and that no significant concerns have been raised on this matter (as mentioned in Wessex Water's consultation response, CD4.24).

¹ <https://corporate.wessexwater.co.uk/our-purpose/water-supply>

² <https://corporate.wessexwater.co.uk/our-purpose/water-supply/water-network>