



The Planning Act 2008

Knottingley Proposed Power Plant Order

Applicant's Supplemental Statement of Common Ground with Canal and River Trust Concerning Water Resources Issues

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Statement of Common Ground

Water Quantity & Water Quality Issues

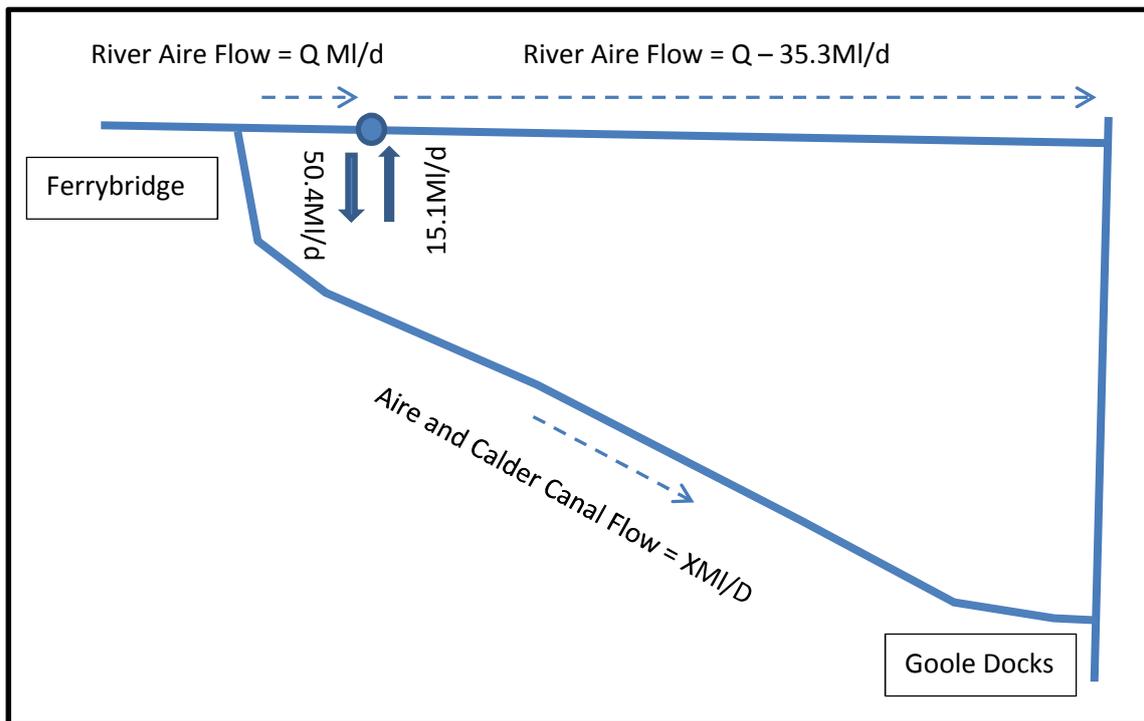
This Statement of Common Ground addresses specific questions relating to technical issues only on water quantity and quality which were raised by Canal & River Trust (CRT) at the hearing on 16 July 2014. At the request of the ExA, the Applicant (KPL) and CRT have undertaken to set out where they agree (and disagree) on the specific technical issues raised.

In addition to the issues addressed in this statement, the Applicant has a number of other reasons for strongly favouring the River Aire over the canal option which it will set out in a separate submission to the ExA.

Water Quantity

The Applicant and CRT agree that an abstraction of 50.4 MI/d and a return of 15.1 MI/d by Knottingley Power Ltd from the river will result in flows along a stretch of the River Aire (downstream of the abstraction) being reduced by 35.3 MI/d. This is shown in figure 1 below.

Figure 1: Power Station Abstraction from the River Aire



Q = current baseflow in river
X = current baseflow in canal

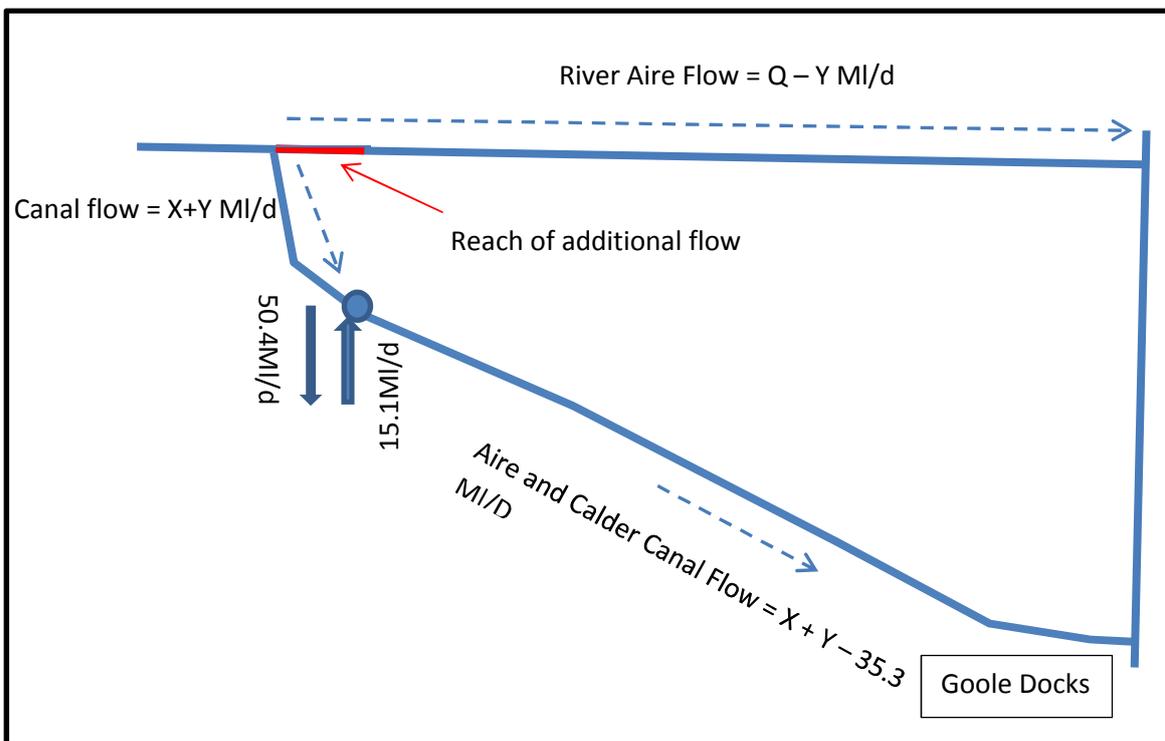
The Applicant and CRT also agree that an abstraction of 50.4 MI/d and a return of 15.1 MI/d by the Applicant from the canal would also result in flows along the the River Aire being reduced. The Applicant and CRT agree that the length of river affected by the reduction of flow is approximately 1.8 km longer if the abstraction is taken from the

canal. (The distance between Ferrybridge Lock and the consented abstraction point from the river).

There is however disagreement between the Applicant and CRT as to the maximum level of flow reduction that would occur.

CRT believe that the reduction along this reach would be the same as for abstraction from the river (i.e. Figure 2, $Y=35.4$ MI/d); while the Applicant maintains that to avoid significant thermal impacts in the canal more water would need to be diverted into the canal and therefore the reduction in flow in the river will be greater (i.e. Figure 2, $Y>35.4$ MI/d). CRT maintain that the level of flow reduction along the 1.8km of river based on its own calculations would have only a negligible environmental impact and has not seen any evidence to suggest that any more water would need to be diverted into the canal but would be happy to review any such evidence.

Figure 2: Power Station Abstraction from Aire and Calder Canal



Q = current baseflow in river
 X = current baseflow in canal
 Y = required additional diversion from the river into the canal

The Applicant and CRT agree that the base flow rates and velocities in the river are substantially larger and will therefore provide greater dispersion and dilution of any thermal plume and as such discharge to the river will result in the smallest thermal impact of the two options discussed.

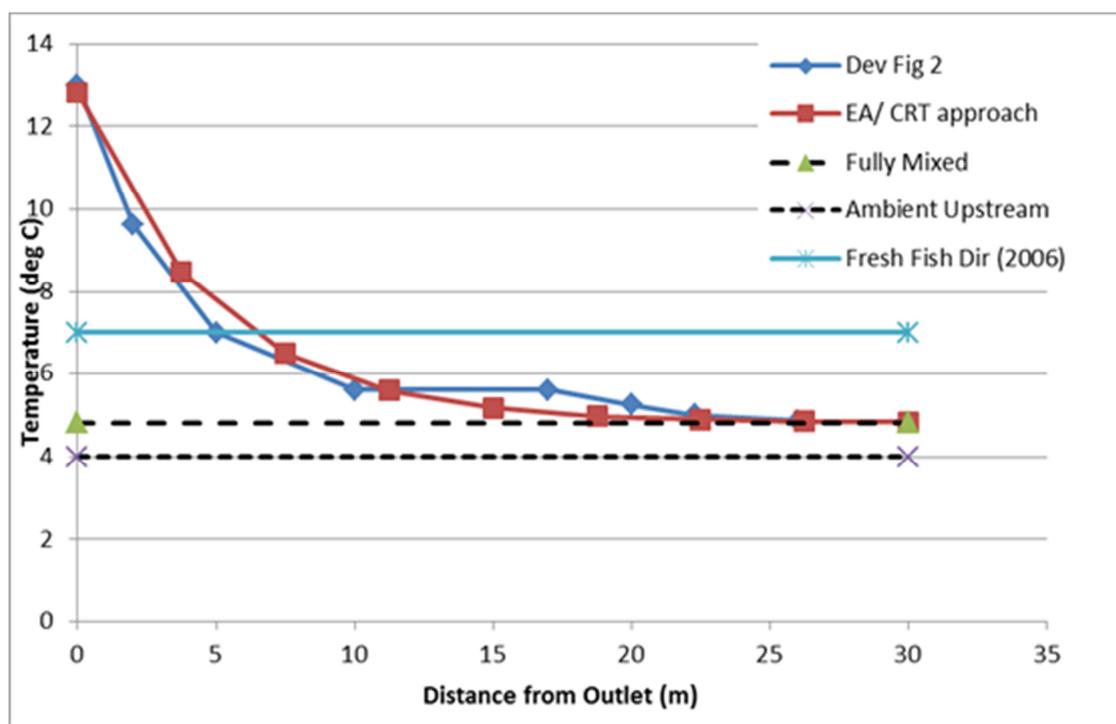
The Applicant has significant concerns that, for the canal option, the EA would not issue an abstraction licence or an Environmental Permit for the project given the issues raised relating to

water quantity. CRT does not see any obstacle to the grant of an abstraction licence or environmental permit based on the calculations presented to the ExA and has not seen any evidence to cast doubt on its calculations but would be happy to review any such evidence..

Water Quality

The Applicant and CRT agree that the respective appraisals of thermal dilution of the plume in the canal produce very similar results when the same input parameters are entered (Figure 3). There is however disagreement as to the correct input parameters and this alters whether or not the fully mixed situation yields a temperature rise less than 3deg C which is a requirement to satisfy the Freshwater Fish Requirement (2006). CRT has not seen any evidence to suggest that the input parameters it has provided are incorrect but would be happy to review any such evidence

Figure 3: Comparison of Model Results Close to the Discharge Outlet



From the above the Applicant and CRT agree that the predicted plume temperature reaches 3 degrees above ambient approximately 5-7 metres from the discharge point for this specific scenario which relates to observed flows on one specific day (when monitoring was undertaken) which followed a period of heavy rain. There is however disagreement as to the size of the thermal plume and significance of impacts within the canal in relation to the cyprinid fishery under low flow conditions.

The Applicant has significant concerns that , for the canal option, the EA would not issue an abstraction licence or an Environmental Permit for the project given the issues raised relating to water quality. CRT does not see any obstacle to the grant of an abstraction licence or environmental

permit based on the calculations presented to the ExA and has not seen any evidence to cast doubt on its calculations but would be happy to review any such evidence.