



# **Report to the Secretary of State for Environment, Food and Rural Affairs**

**by Martin Whitehead LLB BSc(Hons) CEng MICE**

**an Inspector appointed by the Secretary of State for  
Environment, Food and Rural Affairs**

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Date: 16 July 2007

Water Resources Act 1991 Sections 53(4) and 54

Report on an Objection by

M T and P R Baker Farm A/C

to a proposal to revoke licences to abstract water made by

The Environment Agency

Hearing held on 19 June 2007

Site Visit made on 19 June 2007

Thorverton Mill, Thorverton, Devon EX5 5LX

Report Ref: APP/DEFRA/WABS/06/01

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**Thorverton Mill, Thorverton, Devon EX5 5LX**

- The objection is made under Sections 53(4) and 54 of the Water Resources Act 1991 (as amended) to a proposal to revoke licences to abstract water.
- The objection is made by M T and P R Baker Farm A/C, in a letter dated 13 September 2006, to the proposal of the Environment Agency.
- The notice of the proposal is dated 14 September 2006.
- The licences Nos 14/45/02/1927 and 14/45/02/1928, were originally issued on 31 March 1969 and were re-issued on 21 October 2005.
- Licence No 14/45/02/1927 authorises the licence holder to abstract water all year at a maximum quantity of 247,265.51 cubic metres per day, 76,240,124 cubic metres per year, from the River Exe for power generation and the transfer of water at a maximum quantity of 27.3 cubic metres per day, 7,091 cubic metres per year, for subsequent abstraction under Licence No 14/45/02/1928.
- Licence No 14/45/02/1928 authorises the licence holder to abstract water all year at a maximum quantity of 27.3 cubic metres per day, 7,091 cubic metres per year, from the Thorverton Mill leat for industrial use at Thorverton Roller Mill.
- The reason given on the notice for the proposal is: *'as no water has been abstracted in pursuance of these licences for a period of seven years ending with the date of this notice'*.

**Summary of Recommendation: The licences be revoked**

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**Procedural and Preliminary Matters**

1. The hearing opened on 19 June 2007, resumed on site, and lasted one day.
2. The Objector has suggested that the notice has not been published as required under Section 52(4) of the Water Resources Act 1991. However, the requirements of this Act have been amended by Section 22(4) of the Water Act 2003. I am satisfied that the procedures have correctly been followed with regard to serving and advertising the notice.
3. At the hearing the Objector Company accepted that it does not object to the proposal to revoke Licence No 14/45/02/1928, as it does not require water abstraction under this licence. However, it confirmed that it opposed the proposal to revoke Licence No 14/45/02/1927.

**Background**

[Documents 1, 2 and 3]

4. Thorverton Mill is a disused former flour mill that was owned by Allied Mills Limited. The mill closed around 1990. Water from a leat was used to drive two turbines located at the mill. The leat was fed from the River Exe under gravity, via sluices. The sluice gate is at the northern end of the mill leat, upstream of Thorverton weir. The water from the leat returns to the River Exe about 300m downstream of the sluice gate. The stretch of the River between the sluice gate and the return has been referred to as the 'deprived reach'. Brampford Speke Geomorphological Site of Special Scientific Interest (SSSI) is downstream of the reach [Document 3].
5. The Thorverton Mill site was Grade II listed in 1988. In 1993 it came under the ownership of M Baker (South West) Ltd. Subsequent to this, planning permissions have been granted for its change of use to offices and workshops and for demolition and building works at the site. A Non Fossil Fuel Obligation (NFFO 5) contract was awarded in 1998 and runs until 2014 that allows for 70 kW to be put into the National Grid at 4p per kWh. The Objector

has stated that in 1999 dredging was started on the leat and the gates were removed for refurbishment, in preparation for the generation of hydro-electric power. This would provide electricity to the proposed development at the former mill and, when not required for the development, to the national grid under the above contract.

6. The Objector has stated that licences to abstract water were made in 1927 for 16,772.1 million gallons per year and in 1928 for 1.56 million gallons per year. I have not been provided with details of these licences, but the stated volumes are similar to those in the current two Licences of Right (LoR) at Thorverton Mill, issued under the 1963 Water Resources Act. The LoRs were originally issued on 31 March 1969 and were re-issued in the names of M T and P R Baker Farm A/C on 21 October 2005 following advice from the company's Accounts Manager that Thorverton Mill had been transferred to this company.
7. Licence No 14/45/02/1927 is for an abstraction from the River Exe to supply the mill leat. A maximum of 247,265.51 cubic metres per day, 76,240,124 cubic metres per year, is authorised for power generation and 27.3 cubic metres per day, 7,091 cubic metres per year, is authorised for a transfer of water to Licence No 14/45/02/1928.
8. Licence No 14/45/02/1928 permits the abstraction of water from the leat for industrial use up to 27.3 cubic metres per day, 7,091 cubic metres per year. Abstraction under this licence is dependent upon abstraction under the other licence, and abstraction under both licences is dependent upon the weir being intact. Records of water abstraction under Licence No 14/45/02/1927 between January 1995 and December 2005 show that no water was abstracted during this period. On 26 December 1999 Thorverton weir suffered a breach along its crest. It is in the ownership of a third party: the Church Commissioners. The breach is over a distance of approximately 35m and has not been repaired.

### **Policy Context**

9. Under Section 52(1) of the Water Resources Act (WRA) 1991 the Environment Agency (EA) has the discretion to formulate proposals to revoke a licence. The EA is required to refer the proposals to the Secretary of State under Section 53(4) of the WRA if the licence holder objects to the proposals. The procedure for the Secretary of State to consider such an objection is given in Section 54 of the WRA. Section 61(4) of the WRA states that compensation is not payable when a licence, which has not been used for a period of seven years, is revoked.
10. No impounding works are permitted to be constructed or altered without a licence under Section 25(1) of the WRA. Consent is required from the EA for the repair of a weir under Section 109(2) of the WRA.
11. Since 1 April 2004 it has been a legal requirement under Section 19(4) of the Water Act (WA) 2003 to time limit all new abstraction licences. Part 2 of The Water Resources (Abstraction and Impounding) Regulations 2006 provides the procedural requirements, including time limits, in relation to the making of applications and appeals from decisions on licence applications for the abstraction or impounding of water, which came into force on 1 April 2006.
12. The EA published in February 2004 *The Exe Catchment Abstraction Management Strategy* (CAMS) document [Document 8]. It provides strategies for management of water resources at a local level and the mechanism for managing time-limited licences by determining whether they should be renewed and, if so, on what terms.

## **The Case for M T and P R Baker Farm A/C**

[Documents 1 and 4]

13. There has been a mill on the site for about 200 years. Licences for abstraction have existed since 1927 and abstraction of water on the scale suggested was sustained until 1990 when the mill was closed. No issue was raised at the time of granting the licences on 21 October 2005. The proposed use of water abstracted is solely for the purposes of generation of hydro-electricity. The same amount of water will be returned to the river as abstracted. There has been no record of the River Exe running dry between the intake and return.
14. The proposals for the site to re-develop it into small industrial and office units are viable, planning permission has been granted and Phase 1 has been completed. The NFFO 5 contract granted for the site would enable the 2 turbines on the site to supply the building with its own electricity in working hours and sell surplus electricity to the National Grid when the units are closed. At the hearing the Objector stated that the re-use of the turbines would not need planning permission and that they would probably be replaced by more efficient ones. The re-instatement of the weir would follow completion of Phase 3 of the re-development of the site. The question of permission for the re-instatement should not influence the existence of abstraction licences.
15. There is no suggestion of any demand now or in future for upstream water abstraction and there will continue to be adequate resources for existing licence holders. The outlet pipe from Thorverton Sewage Treatment Works is downstream of the water's return and the abstraction of water into the leat would help mix the discharged treated water. The leats and ditches could be used as a water management system to alleviate flooding problems downstream. The restoration of the weir would have beneficial effects in that it would restore the ecology to the position that it was before the breach in 1999 and no evidence has been provided in support of the EA's contentions in this respect. Its design could adequately take into account the need to deal with exceptional flood flows or upstream migration of fish.
16. The proposed use of hydro-electric power is a first attempt to assist and reduce the country's dependence on fossil fuels that should be supported. It would support government goals in meeting its Kyoto Accord targets and would help the EA to push forward its own goals for 'Improving your environment' under its 'Create a Better Place' booklet. The overall plans for Thorverton Mill would safeguard a Grade II listed building, provide rural jobs in an area where there is limited scope for employment, reduce the number of car journeys to Exeter, and contribute to environmental goals. The revocation of the licences would remove a right that is integral to these plans for sustainable generation of power and could set a precedent that would remove the possibility of hydro-electric generation from many similar schemes.
17. Water gets into the leat in both low and high flow conditions. If the licences were revoked, the Objector could be taken to court for not having an abstraction licence if water is found in the leat.
18. At the hearing, the Objector Company questioned the accuracy of Thorverton gauging station readings for the flow of water in the River, due to the build up of sediment, which has required dredging of the River. It also suggested that a variation of Licence No 14/45/02/1927 would be more appropriate than the proposal to revoke it.

## **The Case for the Environment Agency (EA)**

[Documents 3 and 5]

19. The EA is currently conducting a review of water abstraction licences to identify where environmental damage may be occurring because of authorised abstraction and seek revocation of potentially damaging licences. In October 2004 Thorverton Mill was listed on the EA's Restoring Sustainable Abstraction programme, to remove the risk of potential future damage. Environmental concerns are associated with Licence No 14/45/02/1927.
20. Water is becoming an increasingly scarce resource. The main reason for revoking the licences is to conserve and secure the proper use of water resources. The licences are not being used, and evidence indicates that they have not been used for over ten years, which implies that they are not essential. Large licences tie up the resource that may be needed elsewhere in the catchment. The breach of the weir in 1999 has caused the upstream level of the River Exe to drop by 1.5m, which has resulted in no water passing down the leat.
21. The EA has doubts about the commitment of the licence holder to carry out its proposal to use the water for hydro-electric power and doubts that there is any reasonable prospect of the licences coming back into use. In order to do so the weir would need to be re-built, but its ownership is with a third party, the Church Commissioners, and the Objector has said that they wanted a six-figure sum for the weir and are being very, very slow in negotiations. Also, reconstruction of the weir, at a cost estimated by the EA in the order of £200,000 to £500,000, and installation/refurbishment of hydro-electric equipment, quoted in 1997 as £146,000, would be expensive.
22. As no water is currently being abstracted, there is no actual damage to the River Exe. However, should the authorised quantities be abstracted under the licences, the EA has the following concerns about the impact.
23. The protected right of abstraction under the licences limits future licences being issued upstream and reduces the reliability of supply for the two licensed abstractors, Nos 14/45/02/2229 and 14/45/02/2264 [Documents 6 and 7], between Thorverton Mill off take and return.
24. Licence No 14/45/02/1927 has the potential to dry up the river along a distance of about 300m between the off take and return, as the daily licensed quantity expressed as a percentage of the mean flow and Q95 (flow that is equalled or exceeded for 95% of the time) recorded at Thorverton gauging station is 18% and 145% respectively. Hydrograph records show that in 2003, which was a dry year, abstraction could have dried up the river in the summer months, and in 2000, which was a wet year, it could have dried up the river in August.
25. A protected Biodiversity Action Plan (BAP) species of beetle called *Perileptus areolatus* (Creutzer) is found in the exposed gravels. The re-instatement of the weir to allow the abstraction would cause an unpredictable reaction in the river system which would be likely to decrease the amount of exposed gravel/shingle banks. This would impact on the species and could deprive Brampford Speke Geomorphological SSSI of bed material.
26. The Devon Area Fisheries Technical Specialist has highlighted impacts on salmonid populations. These are due to the reinstatement of the weir acting as an impediment to upstream migration due to flow depletion, with salmon moving on medium flows in the order of 10 cumecs, and the physical obstacle. Also, there would be a reduction in juvenile

production in the deprived reach, due to impacted nursery and spawning habitat, and loss of smolts into unprotected water intakes during the migration period, which would be accentuated by abstraction restricting flow down the deprived reach.

27. Reinstatement of the weir would have a significant effect on flood flows upstream and locally. In order to assess the threshold of flooding of properties, the reach of the River Exe would need to be remodelled once the detail of the proposed weir re-instatement is known.
28. Although the EA has expressed concern about the effect of the abstraction on water quality due to the discharge from Thorverton Sewage Treatment Works, at the hearing it accepted that, after using dye as an indicator, the discharge is downstream of the deprived reach. Therefore, it is no longer concerned about this matter.
29. Following revocation of the licences, the EA would be willing to give proper consideration to any application for a new scheme in the context of environmental requirements. Any new licences would be more restrictive than the LoR, subject to a Hands-off Flow condition to protect the deprived reach of the river and would include a time limit, managed through CAMS.

## **Conclusions**

(The figures in brackets [ ] refer to paragraph numbers in this report)

### ***Main Considerations***

30. From the evidence given at the hearing, my reading of the written representations, and my inspection of the abstraction site, Thorverton Mill, and the surrounding area, I consider that there are five main considerations. These are the effect of the proposed revocation of Licence No 14/45/02/1927 on the future production of hydro-electric power at Thorverton Mill; conserving and securing the proper use of water resources; the eco-system of the River Exe; local fisheries; and the risk of flooding in the area.

### ***Hydro-Electric Power***

31. Although the Objector Company has entered into a contract to provide electricity to the National Grid and carried out works to the leat [5], this was prior to the breach of the weir [8]. At the hearing it indicated that re-instatement of the weir and replacement of the turbines would be carried out at the end of the phased re-development [14] and letting of the offices and workshops on the site in order to provide the necessary funding.
32. I have not been given any information to show that the Church Commissioners are under an obligation to re-instate the weir or that they are willing to do so. At the hearing the Objector indicated that it had not made any significant progress with them in negotiations to secure its re-instatement. Also, the Objector did not dispute that the repair would be at a substantial cost [21], and could require the purchase of the weir, which would also help to ensure that it would be properly maintained. The Objector has not provided a timescale or any up to date costings for the re-instatement of the weir and the installation of the turbines, which would enable a projection to be made as to how long it would take for the income from the hydro-electric power generation to re-coup the costs of installation.
33. At the site visit it was apparent to me that only Phase 1 of the re-development of the site has been completed, for which the Objector Company has stated that it has 2 tenants. At the hearing it confirmed that this phase consists of 2 workshops and that the generation of

hydro-electric power at the site is not essential for the proposed re-development, as electricity has been provided to it from the national grid since 1980.

34. From the schedule of refurbished space [Document 1], the remaining units to be completed under Phases 2 and 3 include 14 offices, 7 workshops, a meeting room and a reception room. I observed that very little work has been carried out under these phases. The Objector indicated at the hearing that permissions to carry out the works have been slow due to the Grade II listing of the site.
35. I accept that the proposed generation of hydro-electric power would offer benefits, and would support the government's targets for renewable energy [16]. Also, given that the weir was intact up until 1999, I consider that it should not be difficult to obtain the necessary impounding licence and reinstatement consent. However, the re-development of the site, for which planning permission has been granted, does not depend upon the provision of hydro-electric power and, based on the above, I consider that the feasibility of such power generation is in doubt due to the breach of the weir. Furthermore, even if it were feasible, it would take a long time before the water could be abstracted for these purposes. Should this occur and the existing abstraction licence be revoked, it would be possible for the Objector to apply for a new abstraction licence [29] at the same time as the necessary impounding licence [10]. Therefore, I conclude on this matter that the proposed revocation of the licence would not have a significant harmful effect on the future production of hydro-electric power at Thorverton Mill.

### ***Water Resources***

36. I am satisfied that the data recorded by the EA at Thorverton gauging station is accurate and has been taken over a sufficient period of time to give a good representation of the flows in the river. I am not convinced by the Objector's concerns, expressed at the hearing, that the build up of sediment near to the station, which has been dredged from the river, has any significant effect on the recorded flow in the river [18]. Although the recorded flows indicate that, should the full quantities of water permitted under the licences be abstracted, the deprived reach of the River Exe could run dry [24], the EA accepted at the hearing that there are no records of it actually running dry within the deprived reach [13].
37. Whilst there are no details available of the quantities of water that have been abstracted before 1990, I am not convinced that the impact on the flow of water in the River Exe due to the proposed abstraction for hydro-electric power would be significantly different to that when the mill was operating. Also, I have been given no details of the relationship of the bed levels within the leat and the water level downstream of the abstraction return to demonstrate that the deprived reach would be likely to run dry. Therefore, based on the information provided, I consider that the abstraction under the licence would be unlikely to cause the River Exe to run dry.
38. With regard to the effect on existing licensed abstractors, the two with rights of abstraction from the deprived reach [23] also have rights of abstraction from the river either to the north or south of the reach under the same licence. Furthermore, these licences were issued after the issue of Licence No 14/45/02/1927 and should have allowed for the effect of abstraction under that licence. Therefore, I consider that abstraction under the licence would not have an unacceptable effect on the supply of water to these other licensed abstractors.
39. Turning to future applications for licences to abstract water, the EA has no record of any such applications upstream of the point of abstraction under Licence No 14/45/02/1927. However, the EA would have to take account of the maximum quantities of water that could

be abstracted under this licence when considering any future applications for water abstraction licences upstream of it to ensure that the abstraction would not be adversely affected. Taking account of the relatively large quantities that could be abstracted, the lack of any abstraction over a period of 10 years and the doubts as to when water would be abstracted in future, in my opinion, the licence places unnecessary constraints over future water abstraction.

40. Based on the above, I am satisfied that the licence does not cause any significant harm to the abstraction by existing licence holders. However, water is becoming an increasingly scarce resource [20], and I am concerned that retention of this currently unused licence may prevent the issue of other desirable upstream abstraction licences. Therefore, I conclude that the proposed revocation of the licence would have a beneficial effect on conserving and securing the proper use of water resources.

### ***Ecology***

41. Photographs provided at the hearing [Photographs 1 and 2] show that, since the breach of the weir, Exposed Riverine Sediments (ERS) have built up adjacent to, and downstream of the weir. The EA has carried out a survey that identifies a BAP species of beetle to be present in this sediment [25]. The beetle is also present at the SSSI [4]. The re-instatement of the weir would have an effect on the ERS, which is reliant upon the continuous movement of sediment. I accept that the drying out of the deprived reach, which I consider would be unlikely to occur as a result of the abstraction, could have a harmful effect on the beetle. However, the re-instatement of the weir to allow the abstraction would be likely to result in the removal of the ERS which would also remove the presence of the beetle in the deprived reach.
42. Based on the above, I consider that the ecology of the deprived reach and the SSSI would be more dependent upon the re-instatement of the weir, which would be controlled under the required impounding licence and consent [10], than upon the abstraction licence. Therefore, I conclude that the proposed revocation of the licence would have an insignificant effect on the eco-system of the River Exe.

### ***Fisheries***

43. At the hearing the Objector informed me that there is a fish pass on the existing weir, and I accept that the impediment of the weir to migration of salmon upstream could be prevented by the construction of a fish pass as part of its re-instatement, which is required under Section 9 of the Salmon and Fresh Water Fisheries Act 1975. Also, I have been given insufficient evidence to show that there are any spawning grounds within the deprived reach to place any significant weight on the effect of the abstraction on juvenile production [26].
44. The EA has informed me at the hearing that the upstream migration takes place between March and June, which are some of the months in which it has indicated that the deprived reach could run dry should the maximum quantities be abstracted [24]. Even if the River did not run dry, which I consider is most likely, I am concerned that the significant reduction in the flow by abstraction during a dry year could result in significant harm to the upstream migration of fish [26]. Also, there are no controls under the licence to ensure that smolt screens are provided across the sluice gates to prevent them entering the leat.
45. Taking the above into account, I consider that the abstraction licence would not ensure the prevention of harm to salmonid populations due to a significant reduction in flow along part of the River Exe during the time of migration or smolts entering the turbines. Therefore, I

conclude on this matter that the proposed revocation of the licence would be very beneficial to the local fisheries.

### ***Flooding***

46. The photographs of the weir [Photographs 1 and 2] show that, since its breach, the river has changed its course so that it flows over some of the adjacent land. I consider that the re-instatement of the weir would have a greater effect than abstraction of water under the licence on the flow of water in the river, as it would re-introduce an obstruction [27]. Also, I am not convinced by the evidence provided that there would be any significant increase in the risk of flooding due to water abstraction or that use of the leat could help to reduce that risk [15]. Therefore, I conclude on this matter that the proposed revocation of the licence would not have a significant effect on the risk of flooding in the area.

### ***Other Matters***

47. With regard to the issuing of future licences should the licences be revoked [29], I am satisfied that the EA would give appropriate consideration to such applications, particularly as the proposed use of the abstracted water for hydro-electric power would be beneficial towards meeting government targets on renewable energy. In my opinion, the benefits of a new licence would be that it would be time limited [11] to a common end date determined by the CAMS document [12], with a presumption in favour of renewal based on a continued need, its impact on the environment and its efficient use. Also, it could ensure that fish screening would be provided by condition and that the volume of water to be abstracted would be suitably regulated to prevent unacceptable low flows of water in the deprived reach.
48. In considering the Objector's suggestion that the proposal should have been for the licences to be varied under the WRA [18], I have been given no details of the quantities that would be required to operate the turbines and no water is currently being abstracted or has been abstracted for the last 10 years. At the hearing, the Objector was unable to give any indication of the volume of water that would be required for the turbines. Therefore, I cannot see how reasonable proposals could be formulated to vary the licences.
49. With respect to the Objector's concerns about its liability for water entering the leat should the licences be revoked [17], at the site visit I observed that, although there is some standing water in the leat, there appears to be very little flow of water through the sluice. Also, during the 10 years that no abstraction of water has been recorded [8] no action has been taken over the water in the leat.

### ***Overall Conclusions***

50. There are no specified criteria for considering proposals to revoke licences. The WRA specifies a period of seven years of no abstraction in pursuance of the licence with regard to the payment of compensation [9]. No water has been abstracted for at least 10 years under the licences that are the subjects of this proposal [8]. Also, I am satisfied that the Objector has incurred very limited expenditure on works that would be abortive by the revocation of the licences.
51. I have found that the proposed revocation of the licences would not be necessary to protect the eco-system of the River Exe or reduce the risk of flooding in the area. However, I consider that the effect of future abstraction under Licence No 14/45/02/1927 on conserving and securing the proper use of water resources and on local fisheries justifies its revocation,

particularly as I am not convinced that there is any immediate need for the water. The revocation would enable any future licence, should it be needed, to be time-limited, regulate the abstraction to prevent unacceptable low flows of water in the deprived reach, and be subject to conditions to protect the local fisheries.

**Formal Recommendation**

52. I recommend that the licences be revoked.

*M J Whitehead*

**INSPECTOR**

## **APPEARANCES**

### **FOR THE OBJECTOR:**

|                 |                                                                                       |
|-----------------|---------------------------------------------------------------------------------------|
| Mr Neil Scott   | Solicitor, Foot Anstey, 1st Floor, Wellington House,<br>Queen Street, Taunton TA1 3UF |
| Mr Andrew Baker | Objector                                                                              |

### **FOR THE ENVIRONMENT AGENCY:**

|                  |                                                                                                                |
|------------------|----------------------------------------------------------------------------------------------------------------|
| Mr Nick Hayden   | Solicitor, Environment Agency, Manley House, Exeter                                                            |
| Ms Tamsin Howels | Restoring Sustainable Abstraction Specialist,<br>Environment Agency, Exminster House, Miller Way,<br>Exminster |
| Mr John Aldrick  | Water Resources Regulator Manager, Environment<br>Agency, River House, 21 Park Square South, Leeds             |

## **DOCUMENTS**

- 1 Report on Objecting to the Revoking of Abstraction Licences
- 2 The Environment Agency's referral of the Objection to the Secretary of  
Statement and accompanying documents
- 3 The Environment Agency's Statement of Case
- 4 Responses of the Licence Holder to the Application by the Environment  
Agency for proposals to be considered for the revocation of water  
abstraction licences
- 5 The Environment Agency's final comments on the licence holder's  
statement
- 6 Copy of Licence to Abstract Water No 14/45/02/2229, submitted by the  
Environment Agency
- 7 Copy of Licence to Abstract Water No 14/45/02/2264, submitted by the  
Environment Agency
- 8 The Exe Catchment Abstraction Management Strategy, submitted by the  
Environment Agency

## **PHOTOGRAPHS**

- 1 Aerial photograph of the River Exe at Thorverton weir in 1999 before the breach,  
submitted by the Environment Agency
- 2 Aerial photograph of the River Exe at Thorverton weir in 2006 after the breach,  
submitted by the Environment Agency