Vale of White Horse

APPENDIX

Proposed Upper Thames Reservoir – EIA Scoping Report

Summary of Representations Received

Environment Agency

The Environmental Statement needs to assess/explain:

- the implications of the EU Water Framework Directive (relating to the management, protection and improvement of the whole water environment) on assessing the impacts on groundwater and surface water quality – the impacts need to be assessed in accordance with WFD objectives and, in particular, the proposal needs to attain "Good Status", comply with its own WFD standards, and avoid impacting on the WFD compliance of the Thames
- impacts on fluvial flooding as well as surface water flooding (Section 5)
- flooding impacts based on the most up-to-date modelling for the area, as agreed by the EA (Section 5)
- impacts of algal blooms on both water quality and human health (i.e. recreational water users)
- disposal of waste water from the Visitor Centre to the mains sewerage system (Table 6.1)
- the types of waste removed from the site and the destination of the waste – a Site Waste Management Plan will need to be prepared in accordance with the requirements for a project costing in excess of £500k

The following corrections/clarifications to the Report are made:

- the catchment area of the River Ock is 255 sq km rather than 2,100 sq km (para 6.2.1)
- recorded flows of the River Ock at the Abingdon gauging station should be taken since 1979 as follows: 29 Ml/d (Q95), 315 Ml/d (Q10) and 139 Ml/d (mean flow) (para 6.2.1)
- the highest recorded instantaneous peak flow of the River Ock was 3,044 Ml/d in July 2007 and, due to considerable by-passing of the gauging station, modelled estimates suggest there was an instantaneous peak flow of 5,100 Ml/d – this will affect the calculated mean daily flow and needs to be included in the assessment (para 6.2.1)
- references to "measured flow records" and "the flow" at Sutton Courtenay should say "gauged flow records" and "the gauged flow" respectively (para 6.2.2)
- there is no gauging station to measure the flow of the Thames at Abingdon – para 6.2.2 needs to clarify that the gauged flows quoted are at Sutton Courtenay, and reference needs to be made to "mean daily gauged flow"
- discharge consent under the Water Resources Act 1991 for reservoir releases to the Thames would not be required (para 6.5.2)

- references to "major" and "minor" aquifers should be updated to refer to "principal" and "secondary" aquifers, in line with the terminology in the WFD (para 7.2.2)

Highways Agency

- The extent of leisure after-uses needs to be agreed, as most trips will be made by car.
- Limiting temporary car parking facilities seems essential.
- It is essential that the quantities of construction material to be imported by road are specified.
- The Transport Assessment needs to analyse the A34 Marcham Interchange thoroughly, and changes in flows on the A34 and Milton Interchange need to be assessed.
- The impacts of the temporary diversion of the A34 during construction need to be assessed.
- The impact definitions for traffic for some types of environmental issues given in Table 16.3 are questioned.

Natural England

The Environmental Statement needs to assess/explain:

- impacts (including cumulative impacts) on statutory designated sites of European and national importance, non-statutory Local Wildlife Sites, and wider nature conservation sensitivities
- impacts on groundwater flows and consequential effects on the groundwater dependent Frilford Heaths and Ponds SSSI, Barrow Farm Fen SSSI and the Cothill Fen Special Area of Conservation (SAC)
- impacts on flora and fauna based on up-to-date ecological surveys (and mitigation measures), especially on all protected species, local rarities and species of principal importance in contributing to UK and County Biodiversity Action Plans – the Thames Valley Environmental Records Centre can provide information on local records of flora and fauna
- potential sources of disturbance to wildlife and/or pollution – e.g. air emissions, external lighting, fuel spillage, construction traffic
- hydrological impacts of changes to surface water and groundwater flows and the water table on water dependent nature conservation sites within and beyond the construction areas, both during and post-construction
- impacts on soils and soil functionality, based on the Government's draft Soil Action Plan for England and the Government's policy to protect the best and most versatile agricultural land (PPS7) – this needs to include the most sustainable use of soils on site during construction and restoration
- impacts on local and more distant viewpoints – especially views from the North Wessex Downs AONB
- the methodologies used in carrying out the investigations and species surveys, and the results of the surveys
- an outline of the main alternatives studied and the main reasons for choosing the proposed option, taking into account the environmental impacts

The following corrections/clarifications to the Report are made:

- on page 208, "land of Grades 2 and 3 quality" should be amended to read "land of Grades 2 and 3A quality"

- on page 216, the Rural Development Service no longer exists – it has been replaced by Natural England
- in Table 12.6, it is not clear to what "receptor sensitivity" relates

Finally, the Environmental Statement needs to come to impartial conclusions based on the evidence found rather than unsubstantiated opinion, and a reference section listing all source material needs to be included.

English Heritage
The Report covers most of the significant issues relating to the historic environment, apart from one area. The Environmental Statement needs to cover the impact on the wider historic landscape, using cartographic and documentary sources. The landscape today is illustrative of a long and highly significant process, involving the progressive enclosure of largely unenclosed pasture land shared by a number of parishes.

Health Protection Agency
No adverse comments.

South East Regional Assembly
No adverse comments.

South West Regional Assembly
The proposed reservoir is considered critical to support the planned growth of Swindon. No comments on the scope and methodology of the Environmental Statement.

SEEDA
The Socio-Economic Chapter of the Environmental Statement needs to assess/explain:
- the economic importance of maintaining a secure water supply, specifically in terms of enabling the delivery of sustainable economic growth
- the capital investment required to fund the development
- the creation of direct and indirect job opportunities upon completion
- the amount of temporary construction work generated in person-years
- the anticipated visitor numbers to the leisure/educational after-uses and potential visitor expenditure in the local economy

Oxfordshire County Council
The reservoir would be located in a sub-region where substantial growth is proposed, and its development needs to contribute towards the achievement of the transport networks envisaged as part of that growth. This is particularly the case as, when complete, the reservoir would be a major visitor attraction.

The Environmental Statement needs to assess/explain:
- the precise plans and impacts of any temporary diversion of the A34 and the B4017 Drayton Road during construction
- impacts on bus services during construction work, especially on the Wantage to Oxford Premium Bus Route which operates up to 4 buses per hour
- measures to encourage access to the site by bus, both during and post-construction
- a Travel Plan detailing how construction and after-use traffic will access the site, including a methodology for estimating trip generation and travel mode split for the after-uses

- the written agreement of Network Rail that construction aggregates will be transported to the site by rail
- impacts on the local road network in the event of rail haulage for construction aggregates not being made available by Network Rail
- the cumulative traffic impact of the construction of the reservoir and the possible residential development of land off Drayton Road, Abingdon
- the physical characteristics of existing public rights of way on the site (e.g. surfaces, vegetation, furniture, species and habitats), and the visual and landscape experiences that are currently available for walkers, cyclists and horseriders on and near the site
- the levels and types of use of existing public rights of way on and near the site, including recorded discussions with local user groups, local communities and representative organisations, and taking account of published surveys and strategies (e.g. the Oxfordshire Rights of Way Improvement Plan, the Didcot Greenspace Strategy, and the Vale's PPG17 assessment)
- the routes and environmental effects of each potential replacement and new public right of way
- the length, quality and physical characteristics of all post-development public rights of way, possibly over a much wider area, and whether they would be provided as disabled accessible routes
- impacts on the "Oxfordshire Cycleway" (part of the existing local network of public rights of way and minor roads)
- indirect impacts on the Frilford Heaths and Ponds SSSI and the proposed Local Wildlife Sites at Drayton Meadow and Hulgrove Farm Meadow
- impacts on wildlife species and habitats – the Phase 1 habitat surveys may need updating and further survey work may need carrying out
- measures to ensure a net gain in biodiversity, in accordance with a key principle of PPS9 and Policy NRM4 of the Draft South East Plan
- contributions to be made to the biodiversity enhancement targets of the Oxford Heights West Conservation Target Area, as the SWOX pipeline runs through it – i.e. heathland and acid grassland restoration on the sandstone, fen and woodland management, lowland meadow management and restoration, and management for arable wildflowers
- measures to ensure the long-term management of all green spaces and water bodies, including the heads of terms of a Management Plan and the means of securing the costs of implementing, monitoring and reviewing the Management Plan (possibly with a commuted sum secured through a Section 106 Agreement)
- the results of archaeological field evaluations undertaken on the site over the last 20 years need to be taken into account

South Oxfordshire District Council

The Environmental Statement needs to assess/explain:

- the circumstances when the auxiliary drawdown channel would need to be used – perhaps the likelihood of this coinciding with a flooding event on the Thames needs to be assessed
- changes to flows in the Thames, to ensure there would be no harmful impact on recreational uses further down the river (e.g. rowing at Wallingford)
- the impact on viewpoints in South Oxfordshire (particularly of the wind turbine)
- for construction work, account needs to be taken of the modelling work in the SCOTS report, and for after-uses, account needs to be taken of the modelling

work already carried out for identified developments in the Didcot area (including Milton Park and Harwell)
- the means of gaining access to enable construction of the auxiliary drawdown channel and the intake-outfall structure beside the Thames

Swindon Borough Council
A separate Energy Statement is to be prepared. It is suggested that energy issues should be included within the Environmental Statement itself, under Effects on Land and Resources.

East Hanney Parish Council
The Environmental Statement will need to be examined and commented upon by independent expert sources, and Thames Water's needs case will need to be examined at a public inquiry.

The Environmental Statement needs to assess/explain:
- impacts on views from the A338/Steventon Road junction (Table 15.1)
- the possible use of hydro capacity as a renewable energy source
- how deliveries of aggregates by rail would not disrupt Network Rail's operations
- impacts on the microclimate, based on detailed analysis and firm evidence
- data of areas, heights and volumes of the existing floodplain, the area of flood plain lost and the new additional floodplain, which must be presented in a form that can be properly analysed
- surface water flows in streams and ditches, particularly during times of heavy rainfall when there will be significant run-off from the embankments, and particularly upstream towards East Hanney
- responsibility for maintaining and clearing the diverted streams, drainage ditches and flood compensation areas, which must be maintained to an agreed standard
- data on the assumptions used for the predicted rainfall events and surface water flows – i.e. the intensity and duration of heavy rainfall events
- noise and dust "nuisance" to local people from construction works
- floodlighting/light pollution "nuisance" to local people during both construction and operation of the reservoir
- the possibility of carrying out improvements to the A338 to reduce traffic in East Hanney (e.g. a new roundabout junction and road just north of the railway bridge)
- no planning gain is being offered to compensate for the "very considerable pain" which would arise from both the construction and operation of the reservoir

East Hendred Parish Council
- The needs case for the reservoir has not been made.
- Local amenities will need to be developed to compensate for the many negative impacts on local residents.
- The creation of a new public right of way for walkers, cyclists and horseriders from the A417 at East Hendred to the reservoir would be welcomed. A crossing over the railway line could be provided at the same time as the construction of the temporary railway sidings.

Grove Parish Council
The Environmental Statement needs to assess/explain:

- work currently being undertaken to introduce measures to reduce flood risk and the impact on the effectiveness of these measures
- the cumulative surface water and fluvial flooding impact of increased surface water run-off and increased wastewater outflows from major planned developments in the Wantage/Grove area
- impact on local groundwater and drainage conditions, especially the wide surface water drainage channel between land to the east of Wantage/Grove and the River Ock
- up-to-date flooding data, including the effects of the July 2007 flooding events
- independent validation of any modelling work to support the flood risk assessment
- socio-economic impacts of increased flood risks, especially impacts on the value of local properties and long-term insurance costs – needs thorough research and local consultation
- advice/experience of local people/farmers on the impacts of local flooding problems

Marcham Parish Council

- 50% of England's population lives within 2 hours of the proposed reservoir. The regional environmental implications of the proposal do not appear to have been taken into account.
- The Government should be requested to consider establishing an Upper Thames Valley Economic Development Region to harness the growing scientific and technological potential of the area.

St Helen Without Parish Council

The newly proposed secondary accesses off the A338 and the Hanney-Steventon Road are welcomed. However, it is vital to consider the impact of additional traffic on local roads as well as major roads (Table 16.1), potential parking problems in local villages need to be assessed (Table 23.1), and traffic generation forecasts need to be based on scientific and rigorous methodologies.

Steventon Parish Council

Concerns are raised about:

- controlling the level of algae (para 2.4.5)
- the need for further hydraulic modelling to be carried out to assess the possible need for additional flood storage compensation (para 2.4.6)
- the destination of demolition waste which is not being recycled (para 2.6.2)
- surface water flooding problems in July 2007 from the site of the reservoir (para 5.3.1)
- the need to quantify "small" flow in the diversion ditches from the pressure relief boreholes being allowed to overflow (para 5.4.2)
- the need to replace the 80km of hedgerows on the site, much of which would be lost (para 8.2.2)
- noise disturbance from night-time deliveries of aggregates by rail (para 16.4)
- out of office hours working/excavating (para 16.4)
- the need to source labour locally (para 20.5.1)

In addition, the question is raised about whether the Hanney-Steventon road should be permanently severed to reduce traffic, rather than realigned.

Sutton Courtenay Parish Council
The Environmental Statement needs to include a proper assessment of alternative sites for a reservoir and alternative options to increase supply.

Network Rail
The exact origination of the aggregates to be imported to the site by rail is not yet known, so it is difficult to comment on freight train movements at this stage. Further comments will be made on the Transport Assessment.

Npower
Concerns are expressed about the potential impact abstraction from the Thames may have on the operation of Didcot Power Station in the future. The frequency and severity of periods of low naturalised flow, the impact on water levels, and possible increased sedimentation in the river need to be assessed as they all have the potential to adversely affect the operation of Didcot Power Station. In addition, impacts arising from any changes in local meteorological conditions need to be assessed.

Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust
The Environmental Statement needs to assess/explain:

- indirect impacts of the proposed SWOX pipeline on the Frilford Heaths and Ponds SSSI
- indirect impacts on the proposed Local Wildlife Sites at Drayton Meadow and Hulgrove Farm Meadow
- some of the species surveys will need updating and the Phase 1 habitat surveys may need updating
- impacts of all ancillary works on areas and sites of ecological sensitivity
- impacts on ecological receptors outside the main study area, particularly through changes in groundwater and surface water hydrology (Table 8.2) – this concern relates particularly to the Cothill Fen SAC, which is a groundwater fed alkaline fen
- details of the precise alignment and depth of the SWOX pipeline to enable a proper assessment of the impact on groundwater flows entering the Cothill Fen SAC – i.e. the ES should not include "limits of deviation" for the pipeline
- the cumulative impact on groundwater flows entering the Cothill Fen SAC of the proposed SWOX pipeline and the proposal for groundwater extraction at Upwood Park
- ecological impacts on non-statutory Local Wildlife Sites (Table 7.2) in relation to both surface water and groundwater flows
- impacts of abstraction and discharge on the ecology and water quality of the Thames and on downstream habitats, including the South West London Waterbodies SPA
- measures to ensure a net gain in biodiversity, in accordance with a key principle of PPS9 and the emerging South East Plan – e.g. further biodiversity gains could be provided on the outer face of the reservoir embankments and along the diverted watercourses and flood storage areas
- the location and operation of the recreational and wildlife after-uses to avoid undue conflict
- the location of the wind turbine and potential impacts on birds and bats
- contributions to be made to the biodiversity enhancement targets of the Oxford Heights West Conservation Target Area, as the SWOX pipeline runs through it – i.e. heathland and acid grassland restoration on the sandstone, fen and

woodland management, lowland meadow management and restoration, and management for arable wildflowers
- the geographical extent of the Environmental Management Plan's coverage, which needs to include the area of all ancillary works, especially the SWOX pipeline and the auxiliary drawdown channel

National Trust

- The need for such a major infrastructure development needs to be fully justified. Leakage reduction and demand management measures need to be taken into account, and a full explanation of why alternatives means to increase supply have been discounted needs to be given.
- The setting of two National Trust properties in Steventon and the village itself would be affected by the proposal, and the SWOX pipeline route could affect the Cothill Fen SAC.
- The impacts on hydrology are unknown at this stage – whilst supported in principle, therefore, the details of any mitigation measures and the Environmental Management Plan are not yet known.
- English Heritage's "Conservation Principles: Policies and Guidance for the Sustainable Management of the Historic Environment" needs to be referred to and used in any assessment of the significance of impacts on the historic environment.

The Environmental Statement needs to assess/explain:

- the radius of the area for assessing the impact on the ecological conditions of groundwater dependent systems (Table 7.2)
- the meaning of "short-term impacts" on aquatic communities resulting from laying pipelines beneath watercourses (Table 9.1)
- any long-term impacts on the setting of local settlements (e.g. Steventon) and any historically sensitive environment within local settlements (Table 10.1)

Campaign to Protect Rural England (Oxfordshire)

- The Environmental Statement needs to include a proper assessment of alternative sites for a reservoir and alternative options to increase supply.
- The impacts of construction work on local communities will not be "short-term." All such impacts need to be considered together.
- Inadequate or inaccurate data may be used to assess the flooding impacts – e.g. Figure 5.1 grossly understates the risk of a 1 in 100 year event.
- The delivery of aggregates by rail may affect passenger train schedules and may restrict use of the level crossings in Steventon.

Wilts & Berks Canal Trust

- A towpath is required along the whole length of the canal (on the north and west banks) for maintenance, access and enjoyment – either re-routed footpaths or a new route. Some parts of the canal route, however, would have restricted public access.
- A sharp bend in the proposed canal route at the Hanney Road end should be eased to improve navigation sight lines.
- Consideration should be given to the use of the Wilts & Berks Canal route all the way from Grove as a flood relief channel for the River Ock.
- The restored canal would form a corridor for aquatic and terrestrial animal and plant life, especially the water vole.

- Shared pedestrian/cycle tracks alongside the realigned canal route and the auxiliary drawdown channel are opposed – segregated cycle tracks should be provided.
- The smaller of the proposed stilling ponds could be used to moor the boats of visitors to the reservoir facilities and as a refuge in the event of the auxiliary drawdown channel being used in an emergency to lower the level of the reservoir.
- The new canal route should be provided with an impermeable ground structure to ensure water is retained in the new canal.

Group Against Reservoir Development (GARD)
No proper assessment of alternative sites or options to increase supply is made – e.g. the Longdon Marsh site in Gloucestershire and water transfer from the Severn to the Thames. In addition, the 10-year construction period will have a major disrupting effect on the whole local population – this extended adverse impact is not sufficiently reflected in the Report.

The Environmental Statement needs to assess/explain:

- whether there is sufficient flow in the Thames to sustain the proposal, particularly taking into account the effects of climate change
- how the area of porous Lower Greensand will be effectively sealed – this is a major engineering challenge
- how the existing porous gravel lenses in the clay base will also be sealed
- the effects on the water table and local hydrology of water from the reservoir percolating through the clay base
- the risk of flooding in the adjacent villages and Abingdon – the proposed flood compensation scheme is simplistic and inadequate
- the permanent loss of 12,500 acres of productive agricultural land
- the impact of deliveries of aggregates by rail on local residents and businesses in Steventon – noise disturbance and inconvenience caused by trains using the level crossings
- surface water flooding and its impact on footpaths and local communities during the 10-year construction period

Ramblers Association (Oxfordshire)
No specific points are raised, but any concerns are likely to focus on issues arising during the construction period.

Abingdon Naturalists Society

- The needs case for the reservoir has not been established.
- The Environmental Statement needs to include a detailed assessment of the impact on the flooding potential (in terms of frequency and intensity) of the River Ock, particularly taking into account the effects of climate change. This assessment needs to include loss of floodplain, effects of run-off from the steep embankments, raising groundwater levels due to the clay lining of the whole of the reservoir area, and microclimate impacts and consequential effects on local rainfall.
- There will be a drastic impact on groundwater levels and flows, and the impacts this will have on habitats and property and the potential for flooding need to be assessed.

- Increases in flow rates of the River Ock, especially in the summer, would harm the river's ecology, especially aquatic flowering plants.
- Kimmeridge Clay contains many fossils which, on exposure to oxygen and water, can form sulphuric acid and may cause leachate problems – the impacts of this on groundwater and wildlife habitats need to be assessed.
- The huge weight of the reservoir will depress the underlying strata and may cause land outside the site to rise, which may cause damage to surrounding properties – the potential impact of this needs to be assessed.
- The finding of 131 Nationally Scarce species of invertebrate is "truly remarkable" and should qualify the area for special conservation designation.
- Figure 8.2 does not show the Local Wildlife Sites at Radley Gravel Pits and the Thames Cut.
- The reservoir may become a preferred roost site for gulls and water birds which could interfere with military aircraft during migration seasons (i.e. mainly in October and March).

Marcham Society
The size of the main car park suggests large events may be held at the reservoir site, which would cause traffic problems in Marcham. A Marcham bypass is needed and should be provided as planning gain. Improved cycle routes should also be provided.

Hanneys Flood Group
- The issue of flood plain compensation is critical. Data of areas, heights and volumes must be provided on the existing floodplain, the area of flood plain lost and the new additional floodplain – and it must be presented in a form that can be properly analysed.
- There must be proper analysis of surface water flows in streams and ditches, particularly during times of heavy rainfall when there will be significant run-off from the embankments, and particularly upstream towards East Hanney.
- Responsibility for maintaining and clearing the diverted streams, drainage ditches and flood compensation areas need to be confirmed, and they must be maintained to an agreed standard.
- Data needs to be provided on the assumptions used for the predicted rainfall events and surface water flows – i.e. the intensity and duration of heavy rainfall events.

Hanney History Group
Regrets that Thames Water have not sought historical knowledge from the Group or passed on findings from their archaeological investigations – so it is difficult to comment. It is regrettable that such a large area of long-existing agricultural land would be lost irrevocably.

Royal Yachting Association (Thames Valley)
Welcomes the provision of sailing facilities on the reservoir. However, the clubhouse should be located in the south-west corner. The proposal to locate it in the north-east corner would make launching in strong prevailing winds extremely difficult.

North Berks Radio Model Aircraft Society
Para 21.2 of the Report says:
"…. and a model aircraft society has been known to use the area occasionally for flying ...."

The NBRMAS has 120 members who come from far afield to take advantage of the site's isolated location – there is no other comparable flying field in the area. As a result, the flying field is used continuously and extensively. The Environmental Statement needs to take this into account when assessing the significance of the impact on this recreational use and when considering appropriate mitigation measures.

3 February 2009