

West Midlands Regional Spatial Strategy (RSS 11) The Impact of housing growth on public water supplies

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Prepared by the Environment Agency

Context

The Environment Agency published a report entitled 'The impact of housing growth on public water supplies' (June 2007) to inform development of the Phase 2 RSS 11 update. This illustrated the impact on public water supply (PWS) availability from the additional housing growth proposed under the three RSS options, above that planned for by water companies in their 2004 Water Resources Management Plans. The report clearly illustrated that options 2 and 3 would cause some water company resource zones to go into a target headroom deficit earlier than they had planned for and indicating a potential future shortfall in supply during the dry year forecasts. The report also highlighted that increased water efficiency of approximately 25% in new RSS homes would significantly reduce these deficits and thus the level/timing of new resource development that would be required. This could be achieved by incorporating the recommendations of the Code for Sustainable Homes Level 3/4, which has been included as a policy in the draft RSS consultation (January 2008).

Following the publication of the Phase 2 consultation the government has requested additional housing be allocated within the West Midlands and work is currently ongoing to assess the potential impacts of this. The purpose of this note is to present results re-running the previous analysis done by the Environment Agency incorporating the impact of additional housing as proposed in the study by Nathaniel Lichfield and Partners consultants. Specifically the medium and high options 7 and 9 have been assessed.

In March 2008 the water companies produced draft Water Resource Management Plans (WRMP) which updated the forecasts within the 2004 plans. The companies have accounted for the additional housing growth proposed within the Phase 2 RSS11 consultation and planned for phasing in of PCC reductions in new homes in line with the Code for Sustainable Homes Level 3/4. The plans ensure sufficient water supplies will be available to meet these projections of growth and uncertainty around extra housing is accounted for within the additional headroom buffer which the companies plan for.

Due to time constraints it has not been possible to fully assess the potential impact of the extra housing scenarios using the updated water company forecasts. However, re-running the previous work with the 2004 plan data should provide an *indication* of the potential scale of the impact.

Methods

The Environment Agency CoPS (Company Plans Scenario) spreadsheet was used with the water company water resources planning data from their 2004 plans and housing data from the RSS housing consultation. The net housing growth data at local authority level was assigned to resource zone area using a GIS proportional split. As several of the zone boundaries fall outside the West Midlands additional housing figures were added on from the East Midlands for South Staffs zone, South West and Wales for the Severn zone and Wales for the Oswestry zone. No scenarios of front loading were considered within this report as this was previously shown to have a minimal impact at levels proposed by the regional assembly.

The following scenarios were considered:

1. The water companies housing growth estimate from their 2004 water resources plan;
2. RSS preferred option proposed housing figures. All new housing assumed to achieve Level 3 of the code for sustainable homes.
3. RSS preferred option proposed housing figures with the extra housing proposed in Option 7. All new housing assumed to achieve Level 3 of the code for sustainable homes.
4. RSS preferred option proposed housing figures with the extra housing proposed in Option 9. All new housing assumed to achieve Level 3 of the code for sustainable homes.

Results/conclusions

The results are presented as a table of additional housing numbers and graphs of the forecast supply-demand balance for each water resources zones. These show that of the water resources zones in the Midlands the additional housing will predominantly affect the Birmingham, Severn, Staffordshire and East Shropshire zones of Severn Trent Water and South Staffordshire Water's company wide resource zone.

The increase between options 7 and 9 is largest for the Severn zone which is currently the most stressed water resource zone in the area. The results indicate that by 2020 an additional 9 MI/d water may be required to supply the extra housing proposed under Option 9. The updated forecast in the 2008 draft WRMP indicates that the zone is fluctuating between surplus and deficit with a very small surplus of 2 MI/d by 2034.

The projections suggest approximately 5 MI/d more for South Staffs Water may be required under Option 9. Changes to South Staffs forecasts in the updated draft WRMP indicate that the company now predict they will have a surplus throughout the 25 year planning period. This is more marginal for the peak week scenario when resources are most stretched and is at a minimum of 4 MI/d in 2020, indicating possible measures might be required to ensure sufficient water was available.

The Staffs and East Shropshire zone may need to supply an additional 3 MI/d under the Option 9 proposal. Their current draft WRMP forecasts only a small

surplus by the end of the planning period of 2.1 MI/d so additional resources may be required in the long-term.

The impact of the options is reduced in the Birmingham zone. The company forecast a small surplus in the draft WRMP ranging between 0-8 MI/d from 2015 so the extra housing could require them to bring options in earlier. This also suggests that options with higher growth around Birmingham could result in a need for more options to maintain the zone in a headroom surplus.

This work emphasises the findings and conclusions of previous analysis that the Severn zone is the most stressed in terms of current water resources and within forecasts accounting for future water resource options. Locating a high proportion of the additional housing in this zone would require changes to Severn Trent's current WRMP in terms of timing of options and possibly additional new options to supply sufficient water. In contrast, resource availability in the Staffordshire and East Shropshire and South Staffordshire zones appear better able to accommodate the additional housing growth proposed in option 9.