Mr G POLL

Claimant

- and -

VISCOUNT ASQUITH OF MORLEY
VISCOUNTESS ASQUITH OF MORLEY

Defendants

ANSWERS TO THE QUESTIONS POSED TO THE EXPERTS

Consultant	Representing
Mr J Barrell, Barrell Tree Care Ltd	The Claimant
Dr D P O'Callaghan, OCA UK Limited	The Defendant

Following the joint meeting between the arboricultural experts and the production of a statement of the facts upon which they agree and disagree, the Court granted consent for the parties to put written questions to the experts. The questions posed to the experts is as follows:

"In your reports the term *'high risk'* appears and in the Joint Statement the term *'medium' risk'* appears. Can you provide an agreed definition as to what these terms mean with regard to:

1. **What action should be taken? and**

2. **The appropriate time scale for taking that action?"**

In answering the question the experts agreed that an explanation of what is generally understood by the terms *'High Risk'* and *'Medium Risk'* in relation to the subject tree should be set out first and they are agreed about the following explanation.

Tree Risk / Hazard Assessment

Within the Arboricultural Profession there are two accepted methods of assessment of trees for hazard, i.e. The International Society of Arboriculture (ISA) Hazard Evaluation System and the Quantified Tree Risk Assessment (QTRA) System developed in the UK based on the ISA System.

The ISA System

The ISA System, scores trees with respect to three parameters, i.e. ***(i)*** the likelihood of failure; ***(ii)*** the size of the part likely to fail; and ***(iii)*** the target in the event of a failure. Each parameter is assigned a score from **1** to **4** and then the three scores are added together to produce the hazard rating. Each tree will score between **3** and **12**, and in general terms scores of **3** to **5** are *'low risk'* **6** to **9** are *'medium risk'* and **10-12** are *'high risk'*.

However the scores do not define 'danger'. Obviously a tree that scores **12** would be considered more dangerous than a tree that scored **3**. However, a tree does not become dangerous at a given rating. In other words, danger does not begin at a score of **6**, **7** or **8**, the danger associated with a tree is dependent upon the context in which the tree is assessed.

Since hazard ratings assess the nature of the failure, the potential for injury and the target, ratings with the same value can have different characters. For example, a rating of **8** could result from the two following situations:

(a) a large tree with a large cavity but with a minor target (**4+3+1=8**); or
(b) long, small diameter branches that are weakly attached below an old, decayed topping wound in the crown of a tree in a built up, heavily used area (**1+3+4=8**).

Obviously scenario **(b)** is of more concern than scenario **(a)** and therefore the context is important not simply the score. However, the score does give an indication of the hazard or risk potential.

The Quantified Tree Risk Assessment (QTRA) System

In the QTRA System, a risk of **1/10,000** is the limit of acceptable risk. In other words, if the risk of failure and harm is lower than 1/10,000, then the tree has sufficient risk associated with it to warrant some action to abate the risk. The risk probability is based on the ISA System but with the HSE probability of harm matrix incorporated. Whereas the ISA System is a broad assessment, the QTRA System refines the risk.

In the QTRA system a risk of **1/1**, **1/10**, **1/100** or even **1/500**, depending on the context, would be considered *'high risk'*; while trees with risk factors of **1/1,000**, **1/2,500** or **1/5,000** would be considered *'medium'* or *'moderate risk'*. This would be further broken down as follows **1/1,000** *'moderately high'*; **1/2,500** *'moderate'* and **1/5,000** *'moderately low'*.

Between **1/5,000** and **1/10,000** the risk would be considered to be *'low'*.

Application of the Systems

ISA

Application of the ISA System to the subject tree prior to failure and assuming the decay fungus was not present (or not detected) would have produced a score of between **7** & **8** out of **12**, calculated as follows;

Likelihood of failure = **3** (numerous and/or significant defect present)
Size of the Part likely to fail = **2** (150-450mm)
Target = **2** (intermittent use) or **3** (frequent use)

Therefore: **3+2+2 (3) = 7 (8)**, which is ***'Medium Risk'***

QTRA

Application of the QTRA System to the subject tree prior to failure under the same conditions, i.e. no decay fungus would have produced a risk level of **1/5000**, calculated as follows:

The Target Potential = **1/2** (A minor road of moderate use)
Impact Potential = **1/25** (one of four stems)
Probability of Failure = **1/100** (In a population of 100 trees in similar conditions one would be likely to fail in the year following assessment)

Therefore **1/2** x **1/25** x **1/100** = **1/5000**, which is ***'Moderately Low'*** or ***'Medium Risk'***.

The Decay Fungus

If the presence of the decay fungus is now factored into both equations, the risk increases from ***'medium'*** to ***'high'***, as follows:

ISA
The first factor, i.e. likelihood of failure goes up from 2 to 4 and the rest of the parameters remain the same, i.e. **4+2+2 (3) = 8 (9)** and in the context of the decay fungus being present this is ***'High Risk'***.

QTRA
The change in the QTRA calculation goes to the likelihood of failure, which drops from **1/100** to **1/10**, i.e. in a population of 100 similar trees, 10 would be expected to fail within a year of assessment. Therefore the equation now is **1/2** x **1/25** x **1/10** = **1/500**, which is ***'High Risk'***.

Answers to the two parts of the Question–

In the context of the hazard assessments set out above, it is agreed between the experts that:

1. Medium Risk: The tree should be assessed regularly, i.e. annually for preference but not less than once every two years and if the problems worsened, then intervention management would be implemented at that time.

2. High Risk: Because of the context, i.e. the location adjacent the road, the tree should either be reduced considerably and monitored or preferably felled as soon as possible after the assessment of it as *'high risk'*.

Signed Jeremy Barrell (Dated 7/12/05)

Mr J Barrell, Arboricultural Consultant
On behalf of Mr G Poll

Signed: D P O'Callaghan (Dated 5/12/05)

Dr D P O'Callaghan, Arboricultural Consultant
On behalf of the Viscount Asquith of Morley