Noise Reports on Goodwood Activity

In the period since Goodwood introduced unsilenced racing and Revival days there have been **many** complaints about the noise and a number of noise investigations have been conducted. However, only 2 of these appeared in the public domain, others were made available to Residents Associations for application to read but copies were not permitted. The only thing about the consultants reports we have seen that we consider to be missing is that no details are ever given of the measuring equipment, microphone and calibrations.

a) Acoustic Consultancy Services, December 2008

The purpose of this study was to assess noise reduction from the track to nearest residential properties in Summersdale and Westerton. Prior to the installation of the Goodwood banking in 1994, it is claimed the noise reduction in Summersdale was LA 30dB and in 1998 after the installation of banking, the loss increased to LA45dB, giving an LA_{eq} of 45-50dB. In December 2008 using a single unsilenced vehicle at 2minute circuits. Because this is totally untypical of a track race, the LA_{eq} levels presented have no real meaning but LAmax were reduced from 105dB at trackside (somewhere) to 56dB at Summersdale with a cross-wind from the NW.

Interestingly, in January 2010 in support of an application for more noise days at Goodwood, Terence O'Rourke Ltd (Ref 165302AC2/NG/HM) states that *'a trackside noise level of LAeq 75dB should have no significant impact on nearest houses but reduced to 70dB in discussion with environmental health officers at CDC. The use of a LAeq5minute as opposed to a LAeq30minute was proposed to ensure an even stricter level of control*'.....**that never happened!**

b) MAS Goodwood Study, November 2018

Recently produced for Chichester District Council in regard to future planning applications around the racetrack/airfield in relation to the noise levels generated in reference to allowable proximity. It is a very long report, a lot of repetition but it does contain a lot of practical noise data interpretation. The Executive Summary is the longest we have ever seen, some 24 pages to convey the basic message, namely that a buffer zone of at least 400m should be adhered to for residential housing development but that for a noise sensitive development, the buffer zone could well extend up to 800m. So beyond the 400m mark, LA_{eq15} of 42dB should not be exceeded and an LAF_{max} should not exceed 46dB in any 5 minute period. Permitting development within the buffer zone and beyond where these figures are exceeded by existing commercial activity where quality of life is affected, there is risk of potential action for statutory or civil nuisance. The report excludes Category 1 events, in otherwords, adverse events allowed by Chichester District Council are ignored. Aircraft activity noise should not exceed an $LA_{eq(12\ hours)}$ of 45 dB but it is recognised that propeller aircraft are noisier than larger jet airliners which we know to be the case from experience of all old vintage aircraft at Goodwood. Although the report is aimed at protecting future residents from unreasonable noise, it is, by inference, also relevant to existing residents.

Whilst Summersdale for example is a normally quiet area, the background 24/7 noise level is comparatively low, Goodwood racing and aircraft noises do possess the special characteristics that make them highly intrusive, ie rapidly changing tones, rapid changes in sound energy level, low frequency content, roars and screeches. Adverse audible noise peaks from Goodwood are typically

30-35 plus every 15 minutes and the decibel criteria available may not always take into account such annoyance factors as this. Now the aviation activity at Goodwood adds significantly to the overall noise impact which indicates strong ground for stricter control of the overall impact since currently there is a general failure to consider the cumulative effects of aviation and motor sport events in what is a residential area. And of course, most of the noisy Goodwood activity is concentrated at weekends where it is least expected when the WHO would expect that to be a time of peaceful enjoyment of the home and the noise impact least likely to be avoided. Typically this is 'enjoyment' of the few to the detriment of the many.

In the past there have been a number of specific acoustic assessments of Goodwood noise either in support of developments within the 400m buffer zone or to support assertions that they conform to overall longish term '*acceptable*' LA_{eq} levels in existing residential areas. MAS have considerable experience in motor circuit/aerodrome noise assessments and their report successfully argues against the accepted status quo as follows:-

- 55 dB $LA_{eq30mins}$ as an upper limit for Goodwood circuit noise, 52dB$L_{Aeq16hr}$ for aviation noise and 55dB$_{LAeq16hr}$ as an aim for combined noise levels are previously adopted WHO for steady noise sources for community annoyance, **not** for adverse audible noise intrusions.
- These noise apply to transport noise and not to irregular and intermittent intrusive noise such as from Goodwood.
- Guideline values in Planning Policy Guidelines and Noise Exposure Categories or Noise Policy Statement for England are generally not applicable to motor sport noise annoyance.
- Whilst there is limited research and guidance regarding acceptable noise levels in motorsport, this does not justify the use of inappropriate guidance.
- Support of development within 400m of Goodwood does not require relaxation as suggested by some developers but requires significant tightening.

A number of noise measurements were also undertaken during different circuit usages. In a Category 1 event, although variations from trackside to potential community locations were of the order of 30dBA, the differential varies from location to location depending on meteorological effects. However, drive-by noise of above 100dBA translated to 65-70dB$A_{leq15min}$ at a distance of 260m near Madgwick. For a category 3 day, monitored 220m from the Madgwick straight LA_{eq8min} was measured at 44dBA. For a category 2 day, levels translated to 45-46dBA at the 400m buffer boundaries. However, although numerous noise measurements were taken, assessing motor circuit activity as a simple average for a period of measurement cannot depict the degree of intrusion as an average cannot address the variations in the noise, the rate of rise and fall of levels and tonal content changes and how these sounds emerge above and differ in content from background sound levels. Although modelling of the noise profiles versus distance was attempted, the results were inconclusive and uncertain without consideration of meteorological factors.

A considerable amount of the report is devoted to the type and nature of the noise form Goodwood. This is very important issue since it is generally held in the general community that noise below a absolute decibel level is acceptable regardless of its character content which is certainly not the case. There are 2 types of environmental noise, (a) benign or anonymous noise identified with distant or almost continuous road traffic and (b) noise with special characteristics which intrude and impact which cause increased sensitivity (annoyance) such as commercial activity eg motorsport,

airplanes etc. The third type of noise exposure is industrial where exposure on the person is measured directly. One problem is assessing the impact of Goodwood type noise using guidelines directed at constant background type road traffic noise. The report clearly demonstrates that these are not the same thing at all and incorrect guidance using (a) for motorsport noise control permits substantially more noise of type (b). It is suggested therefore that the criteria for Goodwood should be based on short term LA_{eq} plus LAF_{max} values adding clarity and helping to define the buffer zone boundary. At 400m there is a wind direction correction suggested of -10dB (upwind) and +2dB (downwind). A 46dB of LAF_{max} indicates unacceptable impact but at 400m the suggestion is that it is regularly exceeded more than 5 times in 5 minutes. One area where the report gets a bit nebulous is in relation to aircraft noise where the recommendation is for a 45dB $LA_{eq(12\ hours)}$. That is impossible to measure distinct from circuit noise, and as far as the locality is concerned it is inclusive.

For many years, it has been fairly obvious that the $LA_{eq30min}$ criterion used by Goodwood to report noise levels is nonsense since it is so open to manipulation to suit and does not adequately represent intensity of the noise intrusion that residents in Summerdale etc are actually hearing. (See elsewhere on this site). So at last a reputable organisation has confirmed this and in so doing introduced more realistic criteria. Since Chichester District Council commissioned this report, we will wait and see if they do anything about it now we all can see the evidence!