



M Sport Evaluation Centre Dovenby Hall Estate



Noise Management Plan

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1. POLICY STATEMENT

It is the objective of M-Sport Limited to ensure that the surrounding amenity is not adversely affected by noise arising from activities associated with the use of **M-Sport Evaluation Centre (MEC) test track**.

2. INTRODUCTION/PURPOSE

- 2.1. This Noise Management Plan is dated 2 November 2016 and has been produced by Northern Developments (Cumbria) Limited (ND) for M-Sport Limited (M-Sport) of Dovenby Hall, Cockermouth, Cumbria, CA13 0PN.
- 2.2. This Noise Management Plan (NMP) has been prepared in compliance with the requirements of condition 6 of the planning permission for the **Development** granted on 16 January 2015 (reference: 2/2014/0350), as amended by an application under Section 96A (reference: AM/2014/0350) (Planning Permission).

Condition 6 of the Planning Permission provides that:

"No operational use of the test track facility shall commence until an updated Noise Management Plan based on the principles and community noise levels set out in the Noise Management Plan Issue No 1 dated November 2014 – excluding category 1 activity which shall not be permitted, and save that the updated plan must include maximum noise levels as provided for below, has been submitted to and approved in writing by the Local Planning Authority and until the completion of physical testing on site in order to demonstrate compliance with the agreed noise levels.

The Noise Management Plan shall include the following:

- LAeq 1 hour noise levels – see section 6.3
- Maximum noise levels measured in LAeq 5 minutes and LMax – see sections 6.3 & 6.2
- Details of M Sport operational and management structure – see section 3
- Details of how the Council will access a noise monitoring scheme at all times – see section 4.4
- Details of the sound control and monitoring scheme and methodology used to demonstrate compliance with the community levels – see sections 6 & 5
- Details of the measures proposed to ensure compliance with the noise levels including reference to hours of operation, number of days and sound levels and the type of vehicles that will be permitted at the track – see section 6
- A detailed complaints procedure – see section 7

A review of the Noise Management Plan shall take place within the first six months of the operational use of the test track facility commencing and then annually thereafter. At all times the test track facility shall operate in accordance with the most recently approved Noise Management Plan. The test track shall operate at all times in accordance with the noise levels set out in the Noise Management Plan" (**Condition 6**).

- 2.3. The NMP has been produced by ND for M-Sport and provides noise limits and operational controls which meet the requirements of Condition 6 of the Planning Permission. The NMP also provides details of the noise monitoring scheme that will be undertaken by M-Sport in order to establish if the noise limits and operational controls are being met.
- 2.4. The main objective of the NMP is to ensure that the Community Levels resulting from operations of the MEC test track do not give rise to unacceptable amenity noise impacts. It provides a comprehensive noise control and management plan to ensure that the MEC test track can operate successfully without undue disturbance to the local community.
- 2.5. The nature of the controls required to manage noise impact within the community will be based on permitted noise levels for a specified number of days within a specified period of operation throughout a calendar year. The control method and principles included within this NMP shall form the basis of the operation of the facility.
- 2.6. Condition 6 requires the NMP to be reviewed by Allerdale Borough Council (ABC) in consultation with M-Sport within the first six months of the operational use of the MEC test track commencing and then at least annually thereafter. The purpose of the review is to assess compliance with the noise limits and operational issues associated with the MEC test track and make any necessary amendments to the NMP. If any review indicates that community noise limits are being exceeded, then all use of the test track will be suspended until this is rectified to the satisfaction of ABC.
- 2.7. This plan is based on motor vehicles travelling in a single direction, (counter clockwise) on the circuit, as intended and designed.

3. RESPONSIBILITY AND AUTHORITY

- 3.1. The **Managing Director** of M-Sport holds overall responsibility for the operation and management of the MEC and compliance with the NMP.
- 3.2. The Managing Director will appoint a **Test Controller**. The Test Controller is responsible for all day to day operations of the MEC test track and compliance with the NMP.
- 3.3. All persons involved with noise control and testing will be suitably trained, i.e. have the knowledge, skills and experience to undertake environmental noise measurements. As a basic standard they will be required to obtain the **Institute of Acoustics Certificate of Competence Environmental Noise Measurement**.
- 3.4. The Test Controller may at times delegate operational control and responsibility for compliance with the NMP to a suitably trained person (as 3.3 above) appointed as **Duty Test Steward**.
- 3.5. The Duty Test Steward will have delegated powers to ensure effective control over the use of the MEC test track in accordance with the NMP whether or not the Test Controller or Managing Director is in attendance. The Duty Test Steward shall have delegated powers that ensure that in matters relating to day to day noise management they cannot be overruled by any other representative of M Sport, their customers, or any MEC test track users. The overall responsibility for the operation of the track and compliance with the NMP on any day rests with the Managing Director as stated in 3.1.
- 3.6. The Test Controller will ensure that all operational staff are aware of the requirements of the NMP and ensure that it is implemented as required.
- 3.7. The Test Controller will be the first point of contact in relation to issues relating to the use of or noise arising from the MEC test track. Full contact details for the Test Controller will be available at all times on the M-Sport website at www.m-sport.co.uk.
- 3.8. The Test Controller is responsible for the satisfactory resolution of any complaints in accordance with the Complaints Procedure (see section 7) and ensuring that any corrective actions are carried out. A log of all complaints and any corrective actions will be kept on site by the Test Controller and available for viewing upon reasonable notice by **interested parties** and ABC during working hours.

4. NOISE MONITORING

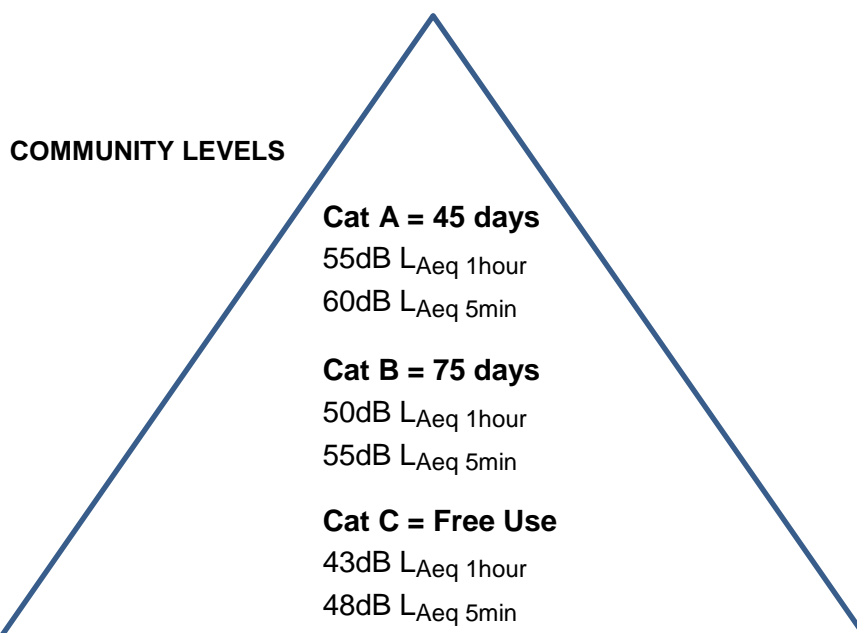
- 4.1. As noted in section 3 this NMP includes the requirement for a Test Controller in the site management structure. The Test Controller will be responsible for and have authority to control all MEC test track activity. Such authority can be delegated to a Duty Test Steward. The Test Controller or a Duty Test Steward will be named as the responsible person every day the MEC test track is in use. It is noted that there may be more than one Test Controller or a Duty Test Steward available on a specific day and their duties under the NMP may be shared with other track functions and responsibilities that they hold. All people available to undertake the position of Duty Test Steward will be fully trained in their role and responsibilities as stated in 3.3.
- 4.2. The Test Controller or Duty Test Steward will monitor **real time Track Data** at all times that the MEC test track is in use, this Track Data will allow the positive management of all activities and resulting noise on the MEC test track which will allow MEC test track activities to be controlled in order to comply with the L_{Aeq} and L_{AFmax} control levels set out in the NMP. The Track Data will be measured and displayed in real time in the track control room, where the Test Controller / Duty Test Steward will be based.
- 4.3. Each day the MEC test track is used a full log will be retained, recording noise levels, actual trackside and calculated Community $L_{Aeq(1hour)}$, $L_{Aeq(5 mins)}$ and L_{AFmax} levels during the operation of the track, as well as type/model of vehicle, driver details, start and finish times. As weather conditions, in particular wind speed and direction, can have an effect on noise propagation, the weather, wind direction and speed will also be measured and logged. As informed by modelling and validation testing the impact will be assessed and track operations will be adjusted accordingly to ensure compliance with the NMP and that Community Levels are not exceeded.
- 4.4. Within 24hours of each day of use the Track Data will be uploaded onto a dedicated area/page within the M Sport web site at www.m-sport.co.uk. Officers of ABC will be afforded direct access to all real-time Track Data being recorded at the MEC (as 4.3 above) at any time.
- 4.5. Noise data will be compared against the **noise pyramid system**; and data will include **category days** used to date.
- 4.6. The full log as referenced in 4.3 above, shall be stored for a minimum period of 24 months.
- 4.7. All noise/weather monitoring equipment will be installed and commissioned by a specialist installer and tested before use, then calibrated as required or as a minimum annually thereafter with certification to be provided, retained and published on the M-Sport web site.

5. METHODOLOGY

- 5.1 The operational procedures are based upon carrying out noise monitoring at all times during use of the MEC test track via a trackside monitoring system.
- 5.2 Monitoring to determine compliance with the NMP shall be undertaken using **integrating-averaging sound level meters** or equivalent instruments conforming to **Type 1 standard**, linked to a computer system providing live data, L_{AFmax} levels and predicted L_{Aeq} levels to provide early warning and time remaining, allowing pre-emptive action to be taken to ensure compliance. The sensitivity of the equipment shall be checked by using an appropriate **acoustic calibrator** before and after each day's use. Sound level meter calibration by the manufacturer will be carried out and certified annually (in excess of the requirements of the 2005 Control of Noise at Work Regulations, which state that a sound level meter should be returned every two years for calibration). All noise measurements will be carried out in accordance with BS7445-1 2003 [Description and measurement of environmental noise. Guide to quantities and procedures]. Measured noise levels in wind speeds above 5m/s or where the microphone is affected by heavy precipitation will be annotated accordingly.
- 5.3 The noise levels will be measured at suitable locations within M Sport's demise by permanent noise monitoring equipment. The measured noise levels at trackside will be used to calculate the noise levels at the **noise sensitive receptors** to determine if the noise limits have been complied with. The locations of the track side monitors will ensure that the noise levels, from the track, at the noise sensitive receptors can be accurately calculated. Optimum locations will be selected following construction and the track will not be operated until ABC has approved the same in writing.
- 5.4 An **anemometer** and **wind vane** will be installed in an optimum position, to be agreed with the local authority, the track will not be used until ABC has approved the same in writing. They will be used to measure wind speed and direction. This data will be used to adjust forecast community noise levels, based upon computer modelling and on site validation.
- 5.5 The noise level controls are stated as Community Levels; the method of checking compliance is based on the **agreed noise reduction** between source and receptor and will take account of weather conditions. The **agreed noise reduction** will be confirmed through physical testing prior to full operational use of the track, the methodology for this will be agreed with ABC.
- 5.6 The **agreed noise reduction** shall be confirmed in writing by the local planning authority following the completion of physical testing and prior to the first operational use of the track, and as part of any future review of the NMP. No amendments to the **agreed noise reduction** will be approved unless it can be demonstrated, for example, through the introduction of additional mitigation measures, that noise control levels at the community receptors will not be exceeded.

6. CATEGORIES OF USE/OPERATION CONTROLS

- 6.1. The pyramid below provides the controlled noise levels at noise sensitive receptors, as a direct effect of operation of the MEC test track only; this does not and cannot take account of **extant background noise levels** which vary constantly. In relation to the controlled noise levels, measurements will be undertaken in the worst-case position, whether that is free field or façade.
- 6.2. Community L_{AFmax} levels from operation of the MEC have been set at 73dB and 76dB as indicated on the zone map in Appendix B. These levels have been reached following research, consideration and dialogue with ABC. In the absence of any legislation or clear precedent, levels have been set that are rational, reasonable and demonstrable. Importantly levels within the norms already experienced.
- 6.3. A pyramid system has been adopted in agreement with ABC to control average noise levels over 1 hour, $L_{Aeq1hour}$ (as consented on 16th January 2015, reference 2/2014/0350) and an additional control over a shorter period of 5 minutes $L_{Aeq 5min}$ (as directed by the revised condition 6 (issued on 1st October 2015, reference AM/2014/0350) as follows:



6.4. The uses shall be limited as set out below:

- Category A activity shall not exceed forty five days in any calendar year.
- Category B activity shall not exceed seventy five days in any calendar year.
- Category C activity is unrestricted.

6.5 The Categories referred to are defined as follows:

- Category A – The Community Levels shall apply at any noise sensitive receptor. This category of use shall only occur between Monday to Friday of no more than one day of use per week and no more than five consecutive hours

use during the day. Category A use is only permitted between 09.30 hours and 16.30 hours. After each category A track use day there will be at least one day of no track use other than category C use.

- ii. Category B – The Community Levels shall apply at any noise sensitive receptor. This category of use shall only occur between Monday to Saturday of no more than two days use per week and no more than seven consecutive hours of use during the day within the hours of use limitations set out below at 6.7. There shall only be one Saturday use per month. After each category B track use day there will be at least one day of no track use other than category C use.
- iii. Category C - The Community Levels shall apply at any noise sensitive receptor. Unrestricted use between the days of Monday and Saturday and within the hours of use limitations set out below at 6.7.

6.6. There shall be no category A, B or C usage permitted on Sundays or Bank Holidays. Saturdays shall be restricted to Category B and C days only, Category B use is limited to a maximum of one Saturday per month.

6.7. No use of the track permitted by this consent shall occur:

- i. before 08.30 hours or after 17.00 hours from the commencement of **British Summer Time** in any one year;
- ii. before 08.30 hours or after 19.00 from the commencement of **Greenwich Mean Time** in any one year.

6.8. Not more than one vehicle shall be tested at any one time on the test track for category A usage, ensuring that the facility is not used for competition

6.9. Any type of vehicle is permitted to use the test track subject to compliance with the controls above.

6.10. There shall be no public address system intelligible at the boundary of the site, any such system shall not be operated until the installation is agreed with ABC in writing.

6.11. The NMP is designed to provide proactive noise management in that M-Sport is responsible for monitoring and controlling the noise. If an event is scheduled as a lower category day and either the $L_{Aeq\ 5min}$ or $L_{Aeq\ 1hour}$ levels are exceeded then the day will be classified in the relevant higher category, where permissible, in accordance with 6.4 to 6.7 above. This is an important part of the system, to ensure the number of Category Days for each Category Use is not exceeded annually.

6.12. A log of Category Days used and days available will be maintained on the dedicated webpage. In the event that any of the noise control levels ($L_{Aeq\ 1hour}$, $L_{Aeq\ 5min}$, L_{AFmax}) are exceeded at any time, testing shall immediately cease whilst investigations are undertaken to ascertain the cause. Testing shall not continue until any measures necessary to avoid repetition have been identified and implemented.

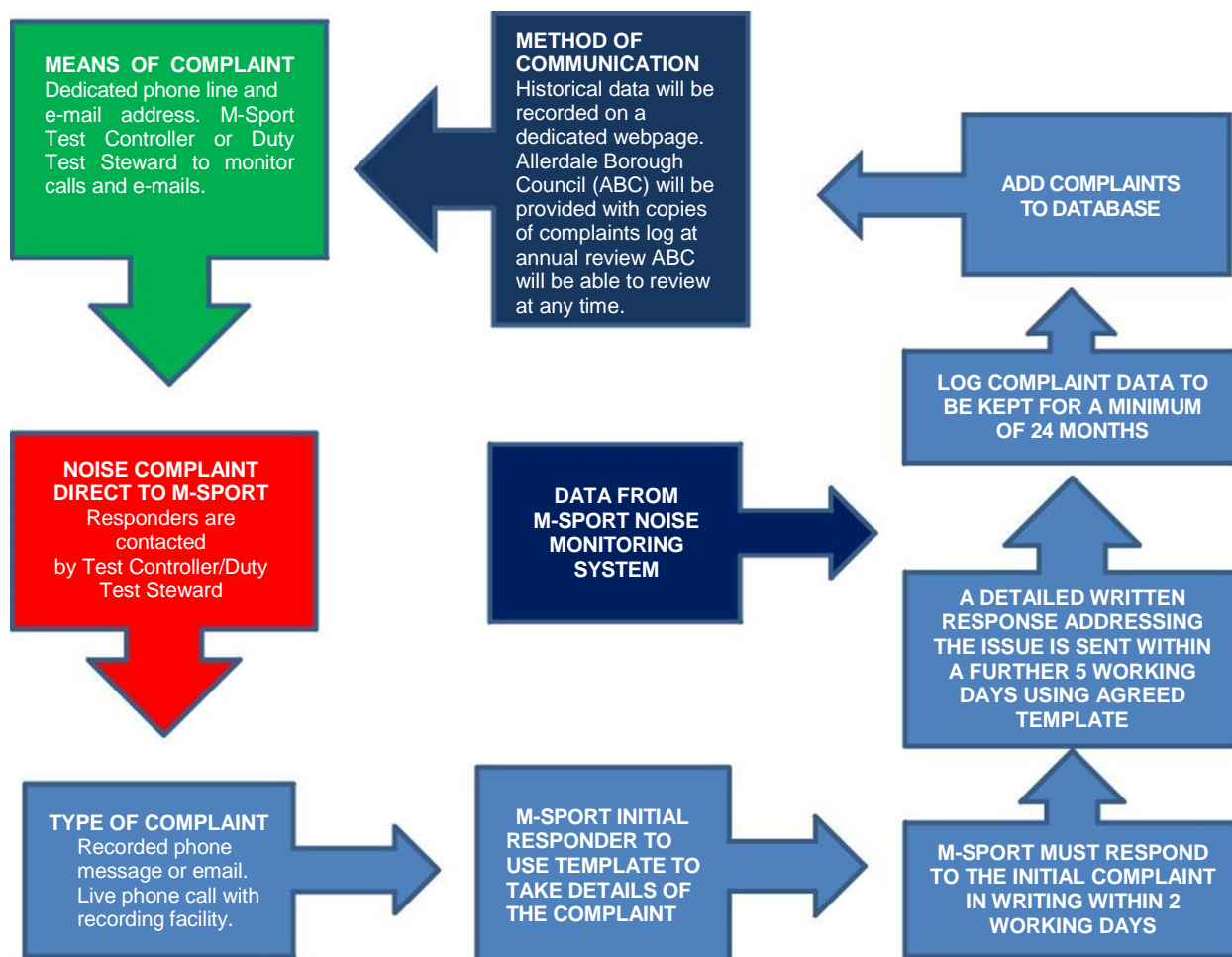
Within 24 hours of the resumption of testing, a report shall be submitted to ABC identifying the nature and cause of the breach, as well as any steps taken to avoid repetition.

7. COMPLAINTS PROCEDURE

7.1. Noise complaints can be made by calling or emailing the Test Controller or Duty Test Steward. Details will be provided on the M-Sport website at www.m-sport.co.uk.

7.2. Each complaint will be logged and acknowledged as soon as possible upon receipt, during working hours. The Test Controller or Duty Test Steward will speak to the complainant at the earliest possible opportunity during working hours to discuss the details of the complaint and agree a timescale for the investigation and for further responding to the complainant (in accordance with the diagram below). The complaint will be investigated by accessing the Track Data for the time in question.

7.3. Complaints will be addressed using the following procedure below:



7.4. Out of hours complaints will be recorded via a telephone answering machine or collected by e-mail and dealt with on the next working day as above.

APPENDIX A

GLOSSARY OF TERMS & DEFINITIONS

GLOSSARY OF TERMS

Community Levels	The noise level received at noise sensitive receptors as a direct result of operations at the facility, (Measured in $L_{Aeq(1hour)}$, $L_{Aeq(5min)}$ & L_{AFmax}).
dB	Sound levels from any source can be measured in frequency bands in order to provide detailed information about the spectral content of the noise, i.e. whether it is high-pitched, low-pitched, or with no distinct tonal character. These measurements are usually undertaken in octave or third octave frequency bands. If these values are summed logarithmically, a single dB figure is obtained. This is usually not very helpful as it simply describes the total amount of acoustic energy measured and does not take any account of the ear's ability to hear certain frequencies more readily than others.
dB(A)	Instead, the dBA figure is used, as this is found to relate better to the loudness of the sound heard. The dBA figure is obtained by subtracting an appropriate correction, which represents the variation in the ear's ability to hear different frequencies, from the individual octave or third octave band values, before summing them logarithmically. As a result the single dBA value provides a good representation of how loud a sound is.
L_{Aeq}	Since almost all sounds vary or fluctuate with time it is helpful, instead of having an instantaneous value to describe the noise event, to have an average of the total acoustic energy experienced over its duration. $L_{Aeq(5min)}$ & $L_{Aeq(1hour)}$ used in this NMP refer to the average acoustic energy experienced over rolling 5 minute and 1 hour time frames, throughout the duration of the operational day.
L_{AFmax}	The L_{AFmax} is the loudest instantaneous noise level. This is the loudest 125 milliseconds measured during any given period of time

DEFINITIONS

M-Sport Evaluation Centre (MEC) test track	2.5km test track as approved by planning reference 2/2014/0350 on 16 th January 2015.
The Development	M Sport Evaluation Centre (B1), testing and evaluation facility (2.5km in length) (Sui Generis), car parking (242spaces), earthworks including sound attenuation bunds, surface water attenuation ponds, grounds maintenance shed incorporating fuel store (B1 & B8) and separate underground fuel tank.
Managing Director	The most senior role in any company. With ultimate responsibility for the company's performance and liabilities.
Test Controller	A person appointed by the Managing Director with operational responsibility and authority to ensure compliance with the Noise Management Plan amongst other responsibilities.
Institute of Acoustics Certificate of Competence Environmental Noise Management	As detailed on the Institute of Acoustics website at www.ioa.org.uk/education-training/certificate-competence-environmental-noise-measurement
Duty Test Steward	A person appointed by the Test Controller with sufficient skills, knowledge and authority to carry out the duties of the Test Controller.
Interested Parties	Anyone in the locality who may be directly affected by the operation of the test track.
Real Time Track Data	Noise data gathered using sound meters, software and dedicated PC showing real time level v time data in track control room with editing and calculation facility allowing for display of graphs with markers and noise sources with descriptors, to ensure compliance with the Noise Management Plan and pre-emptive actions to prevent breach of average noise level controls.
Noise Pyramid System	As illustrated in section 6.3
Category Days	As defined in Section 6 of this document.
Integrating-Averaging Sound Level Meter	An instrument that measures sound energy over a period of time.
Type 1 Standard	Precision Grade for laboratory and field use. Tolerance of ± 0.7 dB
Acoustic Calibrator	A hand-held device that emits an audible tone of very accurate level and frequency. Before making noise measurements the Calibrator is fitted over the meter's microphone and the reading is either checked manually by the user or automatically by the meter.
Noise Sensitive Receptors	Locations or areas where dwelling units or other fixed, developed sites of frequent human use occur.
Anemometer	A device used for measuring wind speed.
Wind Vane	A device used for measuring wind direction.
Agreed Noise Reduction	Noise reduction between source and receptor can be calculated by formula $L_{p2} = 20 \log (R_2 / R_1) + L_{p1}$ (where L_{p1} = sound pressure level at location 1 (dB) L_{p2} = sound pressure level at location 2 (dB) R_1 = distance from source to location 1 R_2 = distance from source to location 2) but this is further complicated by absorption and barriers; ultimately this is only a theoretical reduction. The Agreed Noise Reduction will be established by on site testing.
Free Field	A situation in which the radiation from a sound source is completely unaffected by the presence of reflecting boundaries, In accordance with BS7445 this is typically 3.5m from a building.
Extant Background Noise Levels	The noise levels currently experienced in the local community.
Greenwich Mean Time	The mean solar time at the Royal Observatory in Greenwich, London. GMT was formerly used as the international civil time standard, now superseded in that function by Coordinated Universal Time (UTC). Today GMT is considered equivalent to UTC for UK civil purposes
British Summer Time	Begins at 01:00 GMT on the last Sunday of March and ends at 01:00 GMT (02:00 BST) on the last Sunday of October. During British Summer Time (BST), civil time in the United Kingdom is advanced one hour forward of Greenwich Mean Time (GMT) (in effect, changing the time zone from UTC+0 to UTC+1)

APPENDIX B

L_{AFmax} ZONE MAP
