36 NOISE

QUEENSTOWN LAKES DISTRICT COUNCIL

36.1 Purpose

The purpose of this section is to manage the effects of noise in the District. Noise is part of the environment. While almost all activities give rise to some, noise can cause nuisance and give rise to adverse effects on amenity values and the health and wellbeing of people and communities. Adverse effects may arise where the location, character, frequency, duration and timing of noise is inconsistent or incompatible with anticipated or reasonable noise levels.

The Resource Management Act (RMA) 1991 requires every occupier of land and every person carrying out an activity to adopt the best practicable option to ensure noise does not exceed a reasonable level. The RMA also defines noise to include vibration. "Reasonable" noise levels are determined by the standard of amenity and ambient noise level of the receiving environment and the Council provides direction on this through the prescription of noise levels for each Zone. Noise is also managed by the Council through the use of relevant New Zealand Standards for noise. Land use and development activities, including activities on the surface of lakes and rivers should be managed in a manner that avoids, remedies or mitigates the adverse effects of noise to a reasonable level.

In most situations, activities should consider the control of noise at the source and the mitigation of adverse effects of noise on the receiving environment. However, the onus on the reduction of effects of noise should not always fall on the noise generating activity. In some cases it may be appropriate for the noise receiver to avoid or mitigate the effects from an existing noise generating activity, particularly where the noise receiver is a noise sensitive activity.

Overflying aircraft have the potential to adversely affect amenity values. The Council controls noise emissions from airports, including take-offs and landings, via provisions in this District Plan, and Designation conditions. However, this is different from controlling noise from aircraft that are in flight. The RMA which empowers territorial authorities to regulate activities on land and water affecting amenity values, does not enable the authorities to control noise from overflying aircraft. Noise from overflying aircraft can be controlled through section 29A of the Civil Aviation Act 1990.

Noise in relation to town centres is not addressed in this chapter, but rather in the Town Centres chapters. This is due to the town centre-specific complexities on noise in those zones, and its fundamental nature as an issue that inter-relates with all other issues in those zones.

36.2 Objectives and Policies

36.2.1 Objective - Control the adverse effects of noise emissions to a reasonable level and manage the potential for conflict arising from adverse noise effects between land use activities.

Policies

36.2.1.1 Manage subdivision, land use and development activities in a manner that avoids, remedies or mitigates the adverse effects of unreasonable noise.

36.2.1.2 Avoid, remedy or mitigate adverse noise reverse sensitivity effects.

36.3 Other Provisions

36.3.1 District Wide

Attention is drawn to the following District Wide Chapters. All provisions referred to are within Stage 1 of the Proposed District Plan, unless marked as Operative District Plan (ODP).

25 Earthworks (22 ODP)	27 Subdivision

36.3.2 Clarification

36.3.2.1 The following tables describe activities, standards and subsequent level of activity for resource consent purposes. Any activity that is not Permitted requires resource consent, and any activity that is not specifically identified in a level of activity, but breaches a standard, requires resource consent as a Non-complying activity.

36.3.2.2 The following abbreviations are used in the tables:

P	Permitted	C	Controlled	RD	Restricted Discretionary
D	Discretionary	NC	Non Complying	PR	Prohibited

36.3.2.3 Sound levels shall be measured and assessed in accordance with NZS **6801:2008** Acoustics - Measurement of Environmental Sound and NZS **6802:2008** Acoustics - Environmental Noise, except where another Standard has been referenced in these rules, in which case that Standard should apply.

36.3.2.4 Any activities which are Permitted, Controlled or Restricted Discretionary in any section of the District Plan must comply with the noise standards in Tables 2, 3, 4 and 5 below, where that standard is relevant to that activity.

36.3.2.5 In addition to the above, the noise from the following activities listed in Table 1 shall be Permitted activities in all zones (unless otherwise stated). For the avoidance of doubt, the activities in Table 1 are exempt from complying with the noise standards set out in Table 2.

36.3.2.6 Notwithstanding compliance with Rules 36.5.13 (Helicopters) and 36.5.14 (Fixed Wing Aircraft) in Table 3, informal airports shall be subject to the rules in the applicable zones.

36.3.2.7 Sound from non-residential activities, visitor accommodation activities and sound from stationary electrical and mechanical equipment must not exceed the noise limits in Table 2 in each of the zones in which sound from an activity is received. The noise limits in Table 2 do not apply to assessment locations within the same site as the activity.

36.3.2.8 The noise limits contained in Table 2 do not apply to sound from aircraft operations at Queenstown Airport.

36.3.2.9 Noise standards for Town Centre, Local Corner Shopping and Business Mixed Use zones are not included in this chapter. Please refer to Chapters 12, 13,14, 15 and 16.

36.3.2.10 The standards in Table 3 are specific to the activities listed in each row and are exempt from complying with the noise standards set out in Table 2.

36.4 Rules - Activities

Table 1	Activity	Activity Status
36.4.1	Sound from vehicles on public roads or trains on railway lines (including at railway yards, railway sidings or stations).	P
36.4.2	Any warning device that is activated in the event of intrusion, danger, an emergency or for safety purposes, provided that vehicle reversing alarms are a broadband directional type.	P
36.4.3	Sound arising from fire stations (including rural fire stations), fire service appliance sirens and call-out sirens for volunteer brigades.	P
36.4.4	Sound from temporary military training activities.	P
36.4.5	In the Rural Zone and the Gibbston Character Zone, sound from farming and forestry activities, and bird scaring devices, other than sound from stationary motors and stationary equipment.	P
36.4.6	Sound from aircraft movements within designated airports.	P
36.4.7	Sound from telecommunications cabinets in road reserve.	P

36.5 Rules - Standards

Table 2	General Standards				Non-compliance Status
	Activity or sound source	Assessment location	Time	Noise Limits	
36.5.1	Rural Zone (Note: refer 36.5.2 for noise received in the Rural Zone from the Queenstown Airport Mixed Use Zone). Gibbston Character Zone	Any point within the notional boundary of a residential unit	0800h to 2000h	50 dB $L_{Aeq(15\ min)}$	NC
			2000h to 0800h	40 dB $L_{Aeq(15\ min)}$ 75 dB L_{AFmax}	NC
36.5.2	Sound from the Queenstown Airport Mixed Use Zone received in the Residential Zones and the Rural Zone	At any point within the Residential Zone and at any point within the notional boundary in the Rural Zone	0700h to 2200h	55 dB $L_{Aeq(15\ min)}$	RD Discretion is restricted to the extent of effects of noise generated on adjoining zones.
			2200h to 0700h	45 dB $L_{Aeq(15\ min)}$ 75 dB L_{AFmax}	

Table 2	General Standards				Non-compliance Status
	Activity or sound source	**Assessment location**	**Time**	**Noise Limits**	
36.5.3	Millbrook Resort Zone Jacks Point Resort Zone (see also 36.5.17)	Any point within the Residencies / Residential Activity Areas	0800h to 2000h	50 dB $L_{Aeq(15\ min)}$	NC
			2000h to 0800h	40 dB $L_{Aeq(15\ min)}$ 75 dB L_{AFmax}	NC
36.5.4	Low, Medium, and High Density and Large Lot Residential Zones (Note: refer 36.5.2 for noise received in the Residential Zones from the Queenstown Airport Mixed Use Zone). Arrowtown Residential Historic Management Zone Rural Residential Zone Rural Lifestyle Zone Townships Zones Waterfall Park Resort Zone Rural Visitor Zones Quail Rise Special Zone Meadow Park Special Zone Ballantyne Road Special Zone (excluding Activity Area C) Shotover Country Special Zone (Activity Areas 11a-1e, 4 and 5a-5e) Penrith Park Special Zone Bendemeer Special Zone Mt Cardrona Station Special Zone (Activity Areas 2, 3 and 4) Kingston Village Special Zone (Activity Areas 1,3 and 4)	Any point within any site	0800h to 2000h	50 dB $L_{Aeq(15\ min)}$	NC
			2000h to 0800h	40 dB $L_{Aeq(15\ min)}$ 75 dB L_{AFmax}	NC
36.5.5	Queenstown Airport Mixed Use Zone	At any point within the zone.	Any time	No limit	P

Table 2	General Standards				Non-compliance Status
	Activity or sound source	**Assessment location**	**Time**	**Noise Limits**	
36.5.6	Shotover Country Special Zone (Activity Areas 2a-2c and 3) Mt Cardrona Station Special Zone (Activity Area 1) Ballantyne Road Special Zone (Activity Area C)	Any point within any site	0800h to 2200h	60 dB $L_{Aeq(15\ min)}$	NC
			2200h to 0800h	50 dB $L_{Aeq(15\ min)}$ 75 dB L_{AFmax}	NC
36.5.7	Kingston Village Special Zone (Activity Area 2) Industrial Zones	**36.5.7.1** Any point within Activity Area 2 boundary	Any point within Activity Area 2 boundary	60 dB $L_{Aeq(15\ min)}$	NC
			2000h to 0800h	50 dB $L_{Aeq(15\ min)}$ 75 dB L_{AFmax}	NC
			2200h to 0700h	45 dB $L_{Aeq(15\ min)}$ 75 dB L_{AFmax}	NC
			0700h to 2200h	60 dB $L_{Aeq(15\ min)}$	NC
		36.5.7.2 Any point within the boundary of Activity Areas of 2a, 3, 4, 5, 6, 7 and 8	Any point within the boundary of Activity Areas of 2a, 3, 4, 5, 6, 7 and 8	50 dB $L_{Aeq(15\ min)}$ 75 dB L_{AFmax}	NC
			2000h to 0800h	40 dB $L_{Aeq(15\ min)}$ 75 dB L_{AFmax}	NC
			2200h to 0800h	65dBA L_{10} 75dBA L_{max}	
				65dBA L_{10} 75dBA L_{max}	

Table 3	Specific Standards				Non-compliance Status
	Activity or sound source	**Assessment location**	**Time**	**Noise Limits**	
36.5.8	**Certain Telecommunications Activities in Road Reserve** The Resource Management (National Environmental Standards for Telecommunications Facilities "NESTF") Regulations 2008 provide for noise from telecommunications equipment cabinets located in the road reserve as a permitted activity, subject to the specified noise limits. The noise from the cabinet must be measured in accordance with NZS 6801: 2008 Acoustics – Measurement of environmental sound, the measurement must be adjusted in accordance with NZS 6801: 2008 Acoustics – Measurement of environmental sound to a free field incident sound level, and the adjusted measurement must be assessed in accordance with NZS 6802: 2008 Acoustics – Environmental noise.	**36.5.8.1** Where a cabinet located in a road reserve in an area in which allows residential activities, the noise from the cabinet must be measured and assessed at 1 of the following points:	0700h to 2200h	50 dB $L_{Aeq(5\ min}$	Refer NESTF
			2200h to 0700h	40 dB $L_{Aeq(5\ min)}$	
		a. if the side of a building containing a habitable room is within 4 m of the closest boundary of the road reserve, the noise must be measured— • at a point 1 m from the side of the building; or • at a point in the plane of the side of the building:	2200h to 0700h	65 dB L_{AFmax}	
		b. in any other case, the noise must be measured at a point that is— • at least 3 m from the cabinet; and • within the legal boundary of land next to the part of the road reserve where the cabinet is located.			
		36.5.8.2 Where a cabinet is located in a road reserve in an area in which does not allow residential activities, the noise from the cabinet must be measured and assessed at 1 of the following points:	Any time	60 dB $L_{Aeq(5\ min)}$	
			2200h to 0700h	65 dB L_{AFmax}	
		a. if the side of a building containing a habitable room is within 4 m of the closest boundary of the road reserve, the noise must be measured— • at a point 1 m from the side of the building; or • at a point in the plane of the side of the building:			
		b. in any other case, the noise must be measured at a point that is— • at least 3 m from the cabinet; and • within the legal boundary of land next to the part of the road reserve where the cabinet is located.			

Table 3	Specific Standards				Non-compliance Status
	Activity or sound source	**Assessment location**	**Time**	**Noise Limits**	
36.5.9	**Wind Turbines** Wind farm sound must be measured and assessed in accordance with NZS 6808:2010 Acoustics - Wind Farm Noise	At any point within the notional boundary of any residential unit.	Any time	40 dB $L_{A90(10\ min)}$ or the background sound level $L_{A90(10\ min)}$ plus 5 dB, whichever is higher	NC
36.5.10	**Audible Bird Scaring Devices** The operation of audible devices (including gas guns, audible avian distress alarms and firearms for the purpose of bird scaring, and excluding noise arising from fire stations). In relation to gas guns, audible avian distress alarms and firearms no more than 15 audible events shall occur per device in any 60 minute period. Each audible event shall not exceed three sound emissions from any single device within a 1 minute period and no such events are permitted during the period between sunset and sunrise the following day. The number of devices shall not exceed one device per 4 hectares of land in any single land holding, except that in the case of a single land holding less than 4 hectares in area, one device shall be permitted.	**36.5.10.1** At any point within a Residential Zone or the notional boundary of any residential unit, other than on the property in which the device is located.	Hours of daylight but not earlier than 0600h.	65 dB L_{AE} shall apply to any one event	NC
		36.5.10.2 In any public place.	At any time	90 dB L_{AE} is received from any one noise event	
36.5.11	**Frost fans** Sound from frost fans.	At any point within the notional boundary of any residential unit, other than residential units on the same site as the activity.	At any time	85 dB L_{AFmax}	NC
36.5.12	**Vibration** Vibration from any activity shall not exceed the guideline values given in DIN 4150-3:1999 Effects of vibration on structures at any buildings on any other site.	On any structures or buildings on any other site.	Refer to relevant standard	Refer to relevant standard	NC

Table 3	Specific Standards				Non-compliance Status
	Activity or sound source	**Assessment location**	**Time**	**Noise Limits**	
36.5.13	**Helicopters** Sound from any helicopter landing area must be measured and assessed in accordance with NZ 6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas. Sound from helicopter landing areas must comply with the limits of acceptability set out in Table 1 of NZS 6807. For the avoidance of doubt this rule does not apply to designated airports.	At any point within the notional boundary of any residential unit, other than residential units on the same site as the activity. **Note: The applicable noise limit in this rule and in rule 36.5.14 below for informal airports/landing strips used by a combination of both fixed wing and helicopters shall be determined by an appropriately qualified acoustic engineer on the basis of the dominant aircraft type to be used.*	At all times	50 dB L_{dn}	NC
36.5.14	**Fixed Wing Aircraft** Sound from airports/landing strips for fixed wing aircraft must be measured and assessed in accordance with NZS 6805:1992 Airport Noise Management and Land Use Planning. For the avoidance of doubt this rule does not apply to designated airports.	At any point within the notional boundary of any residential unit and at any point within a residential site other than residential units on the same site as the activity. **Note: The applicable noise limit in this rule and in rule 36.5.13 above for informal airports/landing strips used by a combination of both fixed wing and helicopters shall be determined by an appropriately qualified acoustic engineer on the basis of the dominant aircraft type to be used.*	At all times	55 dB L_{dn}	NC
36.5.15	**Construction Noise** Construction sound must be measured and assessed in accordance with NZS 6803:1999 Acoustics - Construction Noise. Construction sound must comply with the recommended upper limits in Tables 2 and 3 of NZS 6803. Construction sound must be managed in accordance with NZS 6803.	At any point within any other site.	Refer to relevant standard	Refer to relevant standard	D
36.5.16	**Commercial Motorised Craft** Motorised craft on the surface of lakes and rivers must be operated and conducted such that a maximum sound level is not exceeded, when measured and assessed in accordance with 36.8.	Refer 36.8	Refer 36.8	77 dB L_{ASmax}	NC

Table 3	Specific Standards				Non-compliance Status
	Activity or sound source	Assessment location	Time	Noise Limits	
36.5.17	**Jacks Point State Highway Noise**	**Any residential activities located within 80 m of the seal edge of State Highway 6, shall be designed and constructed to meet noise performance standards for noise from traffic on the State Highway that will not exceed 35dBA Leq(24 hour) in bedrooms and 40 dBA (Leq (24 hour) for other habitable rooms in accordance with the satisfactory sound levels recommended by Australian and New Zealand Standard AS/NZ2107:2000 Acoustics – Recommended design sound levels and reverberation times for building interiors.**			NC

36.6 Airport Noise

36.6.1 Wanaka Airport

Within the Rural Visitor Zone, the construction of, alteration, or addition to any building containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2036 noise contours, at the same time as meeting the ventilation requirements in Table 5. Compliance can either be demonstrated by submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level, or by installation of mechanical ventilation to achieve the requirements in Table 5.

36.6.2 Sound Insulation Requirements for the Queenstown and Wanaka Airport - Acceptable Construction Materials (Table 4).

The following table sets out the construction materials required to achieve appropriate sound insulation within the airport Air Noise Boundary (ANB).

Building Element	Minimum Construction	
External Walls	Exterior Lining:	Brick or concrete block or concrete, or 20mm timber or 6mm fibre cement
	Insulation:	Not required for acoustical purposes
	Frame:	One layer of 9mm gypsum or plasterboard (or an equivalent combination of exterior and interior wall mass)
Windows/Glazed Doors	4mm glazing with effective compression seals or for double glazing 6mm-6mm airgap-6mm	

Building Element	Minimum Construction	
Pitched Roof	Cladding:	0.5mm profiled steel or masonry tiles or 6mm corrugated fibre cement
	Insulation:	100mm thermal insulation blanket/batts
	Ceiling:	1 layer 9mm gypsum or plaster board
Skillion Roof	Cladding:	0.5mm profiled steel or 6mm fibre cement
	Sarking:	None Required
	Insulation:	100mm thermal insulation blanket/batts
	Ceiling:	1 layer 1mm gypsum or plasterboard
External Door	Solid core door (min 24kg/m2) with weather seals	

Note: The specified construction materials in this table are the minimum required to meet the Indoor Design Sound Level. Alternatives with greater mass or larger thicknesses of insulation will be acceptable. Any additional construction requirements to meet other applicable standards not covered by this rule (eg fire, Building Code etc) would also need to be implemented.

36.6.3 Ventilation Requirements for the Queenstown and Wanaka Airport (Table 5)

The following table sets out the ventilation requirements within the airport Outer Control Boundary (OCB) and Air Noise Boundary (ANB).

Room Type	Outdoor Air Ventilation Rate (Air Changes Room Type per Hour, ac/hr)	
	Low Setting	**High Setting**
Bedrooms	1-2 ac/hr	Min. 5 ac/hr
Other Critical Listening Environments	1-2 ac/hr	Min. 15 ac/hr
Noise from ventilation systems shall not exceed 35 dB LAeq(1 min), on High Setting and 30 dB LAeq(1 min), on Low Setting. Noise levels shall be measured at a distance of 1 m to 2 m from any diffuser.		
Each system must be able to be individually switched on and off and when on, be controlled across the range of ventilation rates by the occupant with a minimum of 3 stages.		
Each system providing the low setting flow rates is to be provided with a heating system which, at any time required by the occupant, is able to provide the incoming air with an 18 ºC heat rise when the airflow is set to the low setting. Each heating system is to have a minimum of 3 equal heating stages.		
If air conditioning is provided to any space then the high setting ventilation requirement for that space is not required.		

36.7 Ventilation Requirements for other Zones (Table 6)

The following table (Table 6) sets out the ventilation requirements in the Wanaka and Queenstown Town Centre Zones, the Local Shopping Centre Zone and the Business Mixed Use Zone.

Table 6

Room Type	**Outdoor Air Ventilation Rate (Air Changes Room Type per Hour, ac/hr)**	
	Low Setting	**High Setting**
Bedrooms	1-2 ac/hr	Min. 5 ac/hr
Other Critical Listening Environments	1-2 ac/hr	Min. 15 ac/hr
Noise from ventilation systems shall not exceed 35 dB LAeq(1 min), on High Setting and 30 dB LAeq(1 min), on Low Setting. Noise levels shall be measured at a distance of 1 m to 2 m from any diffuser.		
Each system must be able to be individually switched on and off and when on, be controlled across the range of ventilation rates by the occupant with a minimum of 3 stages.		
Each system providing the low setting flow rates is to be provided with a heating system which, at any time required by the occupant, is able to provide the incoming air with an 18 °C heat rise when the airflow is set to the low setting. Each heating system is to have a minimum of 3 equal heating stages.		
If air conditioning is provided to any space then the high setting ventilation requirement for that space is not required.		

36.8 Acoustic Measurement and Assessment

36.8.1 Acoustic Measurement and Assessment of Motorised Craft on the Surface of Rivers and Lakes

36.8.1.1 All motorised craft operating on the surface of lakes and rivers within the District must have and display a current acoustic certificate of fitness. Testing shall be undertaken on a strictly controlled “test” day, and shall be conducted by an enforcement officer appointed pursuant to the Act.

36.8.1.2 The measured sound pressure level shall not exceed a maximum A weighted level:

- 77 dB LASmax for vessels to be operated between the hours of 0800 to 2000;
- 67 dB LASmax for vessels to be operated between the hours of 2000 to 0800.

36.8.1.3 Retesting will be undertaken at not more than 12 monthly intervals. Additional monitoring measurements shall be performed in order to check that the noise of the craft remains within the prescribed limits and no noticeable changes have occurred since the previous testing of the craft and/or allowing modification to the same.

36.8.1.4 All sound measuring equipment and methods used shall be in compliance with the standards stated in the above references.

36.8.1.5 The following test conditions shall be complied with as closely as possible, but if unavoidable variations have to be made, these must be stated in the test report. In no instance shall the integrity of the test be compromised.

36.8.1.6 The noise emitted by warning devices and the like are excluded, however ancillary noise generated or associated with the operation of the craft, other than the motive device, may be measured separately or in conjunction with the test.

36.8.2 Test Conditions

36.8.2.1 The following instrument shall be used:

- A class 1 sound level meter and an acceptable wind screen.
- A sound level calibrator.
- A wind speed anemometer.
- An engine speed tachometer.

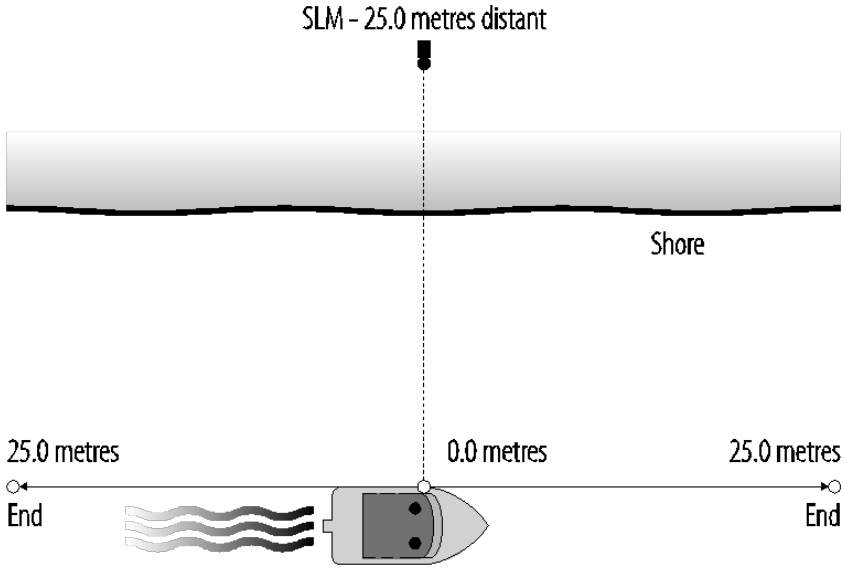
36.8.2.2 Measured Quantities - “A” weighted, slow response sound level, expressed in decibels (dB).

36.8.2.3 Acoustic Environment - The test site shall be such that sufficient free field sound propagation exists, (ie 30m clearance from reflective surfaces).

36.8.2.4 There shall be no obstacles between the craft and the microphone and the area between shall be open and free from sound absorbing materials. Meteorological conditions shall be within standard acceptable limits and the wind velocity shall not exceed 5m/sec.

36.8.2.5 Test Course - The depth of water must be sufficient for the normal operation of the craft.

- Craft shall run either against the stress or current or in slack water.
- A set straight line course shall be used to ascertain the acoustic measurements, as detailed:



36.8.2.6 Operating Conditions - The test run shall commence at sufficient distance downstream to obtain stabilised engine conditions when the craft passes the microphone. The craft shall be driven by a competent person who is mutually acceptable to the operator of the craft and the enforcement officer. The loading condition of the craft shall be stated in the report. All openings and hatches shall be set and located in their normal operational condition and the craft's engine system shall be at normal operating temperature.

36.8.2.7 The boat shall pass all three markers on a straight course at wide-open throttle with the engine operating at the midpoint of the manufacturer's recommended full throttle rpm range.

36.8.2.8 The engine speed tolerance shall be +/- 100rpm if this falls within the full throttle speed range. If a single top speed rpm is recommended, the tolerance shall be +0, -100rpm.

36.8.2.9 Boats which are sold with the power units installed (for example, outboards and stern drives) shall be tested in this combination. Outboard motorboats shall be tested with a motor or motors for which the boat is rated, since sound level is dependent upon boat design and construction.

36.8.2.10 The boat shall pass within 0.5m to 1.0m on the far side of all three markers.

36.8.2.11 Test Procedure - Principally that the maximum A – weighted sound pressure level indicated during the passage of the craft be retained. The sound level will be accumulated as the craft passes at right angles to the microphone and will be measured until the craft has travelled a distance of 25 m. The meter shall be set for slow response.

Two passes shall be made and the mean value of the measurements rounded to the nearest integral decibel shall be obtained. If the sound intensity is louder along one side of the craft, then the measurements shall be conducted at this side. The background noise level shall be recorded and shall be at least 10dBA lower than measured level for the boat being tested.

All craft may not be able to be recorded according to the above method and any deviation shall be in compliance with ISO **2922:2000** or ISO **14509-1:2008**. Other statistical and accumulated sound levels may also be recorded and retained for evaluation.

36.8.3 Test Report

36.8.3.1 The test report shall include a reference to the Standards and all relevant details concerning:

- The nature of the tests.
- The craft design or make, operator, engine and exhaust system.
- The test site locality, water conditions, meteorological conditions, for example temperature, and wind velocity, if relevant.
- The measurement equipment.
- The background noise level.
- The loading of the craft.
- The A-weighted sound pressure levels.
- The presence of pure tones or noise of an impulsive character.
- A conclusion, evaluating the test results and considerations.

36.8.3.2 The craft shall, upon compliance and following testing exhibit a current acoustic certificate label in a prominent place, which will be issued by the enforcement officer.

36.8.3.3 All craft shall be retested, should any modification be made to the craft or engine componentry that could alter the acoustic integrity and another certificate, upon compliance, will be issued.

REFERENCES: IEC 61672-1:2002, IEC 60942:2003, ISO 2922:2000, ISO 14509-1:2008