On the END Consultation

Noise limits and trigger values

Report commissioned and approved by the UIC Network Noise

International Union of Railways

October 2012

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SUMMARY

The European Directive on the Assessment and Management of Environmental Noise has been in force since 2002. It requests Member States to produce strategic noise maps of the major transport infrastructure and of agglomerations. The maps shall be made public and serve to assess the number of citizens in each Member States that are exposed to potentially harmful noise from roads, railways, airports and and industrial activities. In addition, Member States shall set up Action Plans to reduce noise where it is excessive and protect areas where the noise quality is good. The public shall be consulted with respect to these Action Plans.
The European Commission has reviewed the implementation of the Directive in 2010 and has proposed some improvements. In 2012, a public consultation was launched on the contents of this proposal. The railway sector responds to this consultation, among others, through the current report.

It is in the interest of the railway sector in Europe to create a level playing field with all other transport modes. To that effect, the railways strive for an internalization of external cost. Moreover, the railways wish to maintain and reinforce their image of environmental friendliness and guarantee the capacity, quality and availability of the European rail infrastructure.

With respect to these interests, the following issues are emphasized:

- The Directive ignores the impact of some of the transport modes, such as inland waterways, and for other stressors than noise (e.g. air quality or CO2), there is no distinct assessment of the impact of different transport modes.
- The assessment of the noise annoyance caused by different transport modes, i.e. road, rail and air traffic, could be improved if the noise annoyance correction factor would be included. This factor indicates railway noise to be less annoying than road traffic or air traffic noise at equal noise exposure.

Furthermore, the railway sector feels that the overall results produced by the noise mapping should enhance tighter type approval limits for road vehicles, as these are the dominant noise source by far. This policy element is essential to the success of the Directive but is currently not emerging.
Finally, the harmonized noise limits as proposed by some Member States represent a serious threat to the operation of railways, if they were to be based on the extremely low night time limits proposed by the World Health Organisation.

1 THE EUROPEAN RAILWAY STAKEHOLDERS AND THEIR INTEREST

1.1 The railways' interests

The International Union of Railways states as its mission:

1. Promoting rail transport around the world with the aim to meet current and future challenges of mobility and sustainable development.
2. Promoting interoperability, creating new world standards for railways, including common standards with other transport modes.
3. Developing and facilitating all forms of international co-operation among members, facilitating the sharing of best practices (benchmarking).
4. Supporting members in their efforts to develop new business and new areas of activity.
5. Proposing new ways to improve technical and environmental performance of rail transport, boosting competitiveness and reducing costs.

Given this mission there is only marginal interference with the objectives of the Environmental Noise Directive[1], being

- the Assessment, in a harmonized way, of the **Exposure** to noise from roads, railways, aircraft and industries,
- the **Information to the public** on this exposure,
- the drafting of **Noise Action Plans** to reduce noise where it represents a risk to public health and to protect areas where the noise quality is good.

One might argue that the Directive enhances the environmental performance of rail transport and thus is consistent with mission statement no. 5.

In a somewhat more concrete way, the interest of the European railway stakeholders is to

1. support and contribute to the **sustainable development** of the European society in general and of transport in particular
2. create and maintain a **level playing field** with logistics competitors, in particular with road, air and inland waterways transport
3. for that purpose, to strive for further **internalization of the external cost** of transport

and in addition to that:

4. improve and maintain the good image of rail transport as the **most sustainable transport mode**
5. improve and maintain sufficient **capacity, quality and availability** of the European rail infrastructure.

[1] The environmental noise directive and its objectives are summarized in Annex 1.

1.2 Environmental performance of different transport modes

In terms of the total mix of environmental aspects, noise is still the weaker point of rail transport. In terms of energy consumption, CO_2, air quality, risk and safety and space consumption, rail transport generally performs better than any other transport mode. But in terms of noise, particularly in freight transport, there are still significant challenges to concur. The UIC noise action program, focusing on the retrofitting of the European rail freight fleet, and adopted in 2002, is now on the verge of achieving a major break through. Expectations are, that the homologation of LL-blocks could be achieved in 2013, thus providing a basic element for the cost efficient retrofitting of the European freight fleet. The retrofitting represents the core of the European railways Noise Action Plan and could result in a significant reduction of the noise exposure in the vicinity of railway lines where freight traffic is dominant.

Similar break through is not to be expected from other transport modes. The introduction of the new limits for the tyre noise directive, which might result in an overall reduction of roughly 2 dB for passenger cars once it has become fully effective, is planned for 2016.

2 DETAILED COMMENTS FROM RAILWAY STAKEHOLDERS TO THE END

In this chapter, detailed comments from the railway stakeholders to the environmental noise directed are listed. The paragraphs refer to the major fields of interest of the railway stakeholders.

2.1 Level playing field

2.1.1 Selection of transport sources to be included in the assessment

The Environmental Noise Directive emphasizes the relevance and importance of environmental noise as a potential health risk. As such, the END might partly distort the level playing field, as certain transport sources are not addressed at all, e.g. inland waterway transport. Inland waterways do not represent a significant problem with respect to noise, but they might do with respect to air quality. In air quality assessment, there is no obligation to assess the distinct exposure due to different sources comparable to the END noise mapping. As a consequence, there is little emphasis on the environmental aspects where rail transport performs well.

2.1.2 Noise annoyance correction factor

The END requires different noise maps to be drafted and different exposure figures to be assessed for each of the four different sources (i.e. road, rail, air and industry). The exposure shall be indicated in terms of numbers of exposed residents, in hundreds, in 5 dB exposure classes.

It is well known from numerous references, that at the same identical exposure level railway noise causes *lower levels of annoyance* than road traffic noise or aircraft noise [3]. The railway sector suggests that the noise annoyance correction factor be included in the annoyance assessment for railway noise. As separate noise maps are made up for separate sources, this would be a straightforward addition, which would represent an improvement of the accuracy of the overall annoyance assessment. This would lead to the number of people affected by railway noise being assessed more accurately and thus allow a better comparison with the number of people affected by road traffic or air traffic noise. The same would apply to the noise annoyance correction factor for aircraft noise, which at the same exposure level leads to *higher annoyance percentages* than road traffic noise.

2.2 Cost for railway stakeholders

2.2.1 Cost and effort for software development

In Annex II of the Directive, the Interim Assessment methods to be used in relation to the noise mapping are defined. Many countries have decided to use their own national methods, with reasonably low effort for its implementation for noise mapping. However, the countries that have actually applied the interim methods were faced with the implementation of this interim method into their own system. This regards in particular the description of the source in terms of its acoustic strength (sound power output). For road traffic, this implementation is fairly straightforward, as cars are the same throughout Europe. But for railway traffic, the implementation is a lot more complex, as railway vehicles are different in every country. Before the Interim method could actually be used, an elaborate and expensive process of assessing the noise characteristics of the national rail fleet was necessary, with considerable costs and efforts. This is likely to

distort the level playing field, as neither road traffic nor air traffic requires a similar laborious implementation.

2.2.2 Cost and effort of noise mapping

The END requires the production of Strategic Noise Maps and Action Plans. In some Member States, railway stakeholders, in particular infrastructure managers, may have been requested to put effort, at their own cost, in collecting data and producing maps and publishing maps.

On a macro-economic view, some of the cost for the railway noise maps may have been carried by the rail infrastructure manager, and thus by the rail operator who pays infra charges, and thus by the client of the rail operator, i.e. the passenger or the cargo shipper.

For road noise, the cost for noise mapping is generally carried by the national road authority, i.e. the state, and thus by the tax payer. This unbalance affects the level playing field between the transport modes.

The input data for noise mapping consists of various elements:

- For every track section: Track related data, i.e. track position co-ordinates in 3D; track superstructure type; position and nature of noise barriers and other noise reducing devices such as rail dampers,
- For every track section: Traffic related data, i.e. number of vehicles per hour per vehicle category for day, evening and night period; average speed per vehicle category for day, evening and night.
- For the surroundings: co-ordinates of reflective soil areas in 2D; 3D soil profile; co-ordinates (3D) of building blocks within a certain range from the track; assignment of number of dwellings, schools and hospitals to building blocks; assignment of noise insulated façades to building blocks; co-ordinates of designated quiet areas in 2D.

Collecting this data represents a large effort for the party carrying out this work. Particularly for the first round of mapping, considerable costs, both personnel and software costs, are involved in this work.

Once the maps have been published, questions and remarks from the general public may come in regularly. This means that a base load of staff costs has to be taken into account.

Usually, not all of these costs are reimbursed by the national government and certainly not by the European Commission. This implies that the overall system cost of the rail transport system may increase. This could affect the competitive position of rail transport, if the cost compensation is maintained differently for different modes of transport.

2.2.3 Cost and efforts of action plans

Noise action plans are to be drafted by competent authorities. For major railways outside of agglomerations, the competent authority may be either the infrastructure manager or the Ministry of Transport. These authorities are not always aware of the intention of the railways to nominate the UIC Noise Action Plan, including the rail freight retrofitting, as the basic action for noise control. Additional Noise action plans may then be drafted on a national basis. In such cases, the cost for noise mitigation is usually reimbursed by the national government. However, within agglomerations the competent authority may be the city council or the agglomeration regional authority. Railway noise mitigation may be included in the noise action plans drafted by such competent authorities. It is not always evident, that these authorities consider themselves responsible for the costs involved with the actions included in their action

plans. On the other hand, the legal framework which forces railway stakeholders to account for the costs of noise mitigation inside agglomerations is usually lacking. The resulting discussion does not support the railways positive image with respect to sustainable development.

2.3 Influence on European Noise Policy

One objective of the Environmental Noise Directive is to collect information for the European Commission itself in order to support the Commission in defining its own noise policy at a European Level. The main responsibility with respect to noise on a European level is to define noise creation limits for different noise sources. The European Commission defines such limits for common noise sources such as household appliances, garden equipment but also for outdoor machinery and a range of vehicles. In defining these limits, the Commission guarantees that noise can never be used as a ground to exclude certain products from the common market as long as the product under concern complies with the noise creation limit.

After the first round of noise mapping, there is no sign whatsoever that the Commission intends to base their future or recent noise policy on the outcome of the noise mapping. The reason may be that a thorough assessment of the efficiency of the EU noise policy can only be made on the basis of a trend analysis, i.e. after the second round of noise mapping.

As a consequence, there is no level playing field with respect to noise creation limits for the different transport modes, whether they are included in the END or not:

- noise creation limits are in force for new recreational craft, but not for new commercial inland vessels,
- noise creation limits for new aircraft are decided on a worldwide level, where the European Commission has only a minor influence,
- noise creation limits for new road vehicles are decided on a European level, but due to the repeated change of the measurement method, there is actually little progress,
- noise creation limits for road tyres have been in discussion for a very long time and a tightening has finally been announced in due course,
- noise creation limits for rail vehicles are subject to the Interoperability Directive. The Commission intends to extend the application of these limits to existing vehicles (for freight wagons). This would mean that rail would become the only mode of transport where noise limits apply to existing in-service vehicles.

2.4 The overall efficiency of the European Noise Directive

As stated in chapter 1, the European Noise Directive intends to assess, in a harmonized way, the exposure to potentially harmful noise of the European citizen, to inform the public and to stimulate the drafting of noise action plans to reduce excessive noise and protect good noise quality.

In the view of the railways, after merely the first attempt, it is too early to conclude whether or not the Directive has been successful in achieving these objectives. Noise maps have been drafted in almost all the member states, but there are still significant inconsistencies and the assessment methods are far from harmonized.
In some cases, the information to the public has been marginal, and there was little evidence of the involvement of the general public.

Similarly, it is too early to say whether or not the END stimulated noise reduction being achieved in practice. The outcome of the second round of noise mapping may help to provide some evidence on whether the Directive has been successful or not in this respect.

3 THE IMPLEMENTATION REPORT AND THE RAILWAY POSITION

This chapter reviews the Implementation Report [2] and addresses issues that are both raised in that document and of particular interest for the railway stakeholders.

Advantages

The Implementation Report addresses some clear advantages ("achievements") of the END, in particular:

- The noise mapping represents an attempt, for the first time, to produce a comprehensive overview of the extent of the noise exposure in Europe,
- The END has improved comparability and consistency between member states and between sources, in that it has defined common indicators, common methods and a common approach. In time, this communality may bring forward efficiency benefits.

These advantages apply to railway stakeholders in full extent.

Level of implementation

In the 2007/2008 round of noise mapping and action planning, there has been a lack of implementation and a disappointing timing of deliveries. To a certain extent this was due to the complexity of the process, to a lack of input data but also to a lack of motivation in the Member States and the competent authorities.
It is expected that the second round will be much more according to schedule, as relevant data have now become available and merely need to be updated. This applies in particular to the railway noise maps, where digital maps of the network, including track type, location of noise barriers, viaducts etc. together with digital terrain models and surrounding buildings have now been established. Much effort was needed to achieve this, but on the other hand it is an advantage that it now exists and can be used for other purposes.

Co-ordination of involved bodies

In some Member States, there have been problems with the co-ordination of activities of involved bodies. Where the requirements of the END were distributed over city councils, provinces, road authorities and rail infrastructure managers, interface issues had to be solved.

Harmonized assessment methods

The Implementation Report describes the situation with respect to harmonization of the assessment methods as "far from ideal". The Interim Method, defined in Annex IV of the END, has introduced problems for railway stakeholders, as they had to implement their national fleet categories into the source terms of this method. This was generally a large effort, and therefore many Member States preferred to use their own national method. This was only allowed if "equivalency" between the interim method and the national method was demonstrated. Very few Member States actually supplied proof of this equivalency. As a consequence it is probably right to assume significant inconsistencies between the railway noise maps from different Member States.
The Commission has recently picked up on the further development of the harmonized assessment method in the framework of CNOSSOS-EU. Regrettably, this is too late for the 2012 round of noise mapping. A large effort will have to be made if one wants to implement CNOSSOS in time before the 2017 mapping round.

Definitions

The Implementation Report concludes that several clarifications of the definitions within the END will lead to a higher level of consistency.

Particularly with respect to railways, this includes (among others):

- Major railways have been defined as railways, designated by the Member State, which has more than 30 000 train passages per year. In countries or areas with dense rail traffic, it is more economic to include all railway lines without exception, even if some stretches are below this threshold value of 30 000 passages. The Commission however argues that this affects the consistency between Member States and insists that stretches with traffic intensities lower than 30 000 passages should be left out of the assessment.
- Railways in agglomerations. For railways inside agglomerations, this threshold value does not apply. This has not been clear to all competent bodies, so that in some Member States only the major railways were included, even within an agglomeration. This definition needs to be clarified.
- Within agglomerations, a railway can be defined as any guided transport system, including trams, metros and light rail. Ignoring or including these transport systems may cause large inconsistencies between Member States. Definitions need to be clarified here.
- The definition of “agglomeration” itself needs to be clarified, since there are large differences between interpretations in Member States.

Relevant significance of railway noise

The following table is copied from the Implementation Report. It presents the results of the 2007 mapping.

Scope	Number of people exposed to noise above Lden = 55 dB millions	Number of people exposed to noise above Lnight = 50 dB millions
Within agglomerations (> 250.000 inhabitants = 2007 threshold value)		
All roads	55,8	40,1
All railways	6,3	4,5
All airports	3,3	1,8
All industrial sites	0,8	0,5
Major infrastructures, outside agglomerations		
Major roads	34,0	25,4
Major railways	5,4	4,5
Major airports	1,0	0,3

The table (2007 mapping results) shows, that

- Within agglomerations, railway noise causes appr. 10% of the exposure of road traffic noise. The exposure does not take into account the lower annoyance caused by railway noise, as represented by the Noise Annoyance Correction Factor. Should this be taken into account, then the contribution of railway to the total annoyance would be even less.
- Outside agglomerations, railway noise causes appr. 14 – 18% of the exposure of road traffic noise. Again, this figure does not include the correction for lower annoyance.

Following the 2012 noise mapping exercise, these figures will be higher as there will be more agglomerations included (now also > 100 000 inhabitants) and more roads and railways will be included

(2007: railways with more than 60 000 passages per year, 2012: railways with more than 30 000 passages per year).

Costs of noise mapping

The Implementation Report states an average cost for noise mapping of 0.84 Euro per inhabitant. Large spreads occur between Member States. It is expected that these costs could be less than half this level during the second round of noise mapping, since most of the basic data has been collected and digitalized.

Similar figures are not known for noise maps of railway networks. In the interest of the competent bodies (infrastructure managers) it would be helpful to collect these costs and benchmark them.

Noise Action Plans

From the early days of the END, it has been a major concern of the railway stakeholders to be faced with noise actions initiated by the local authorities within an agglomeration and imposed on the railway stakeholders, e.g. the infrastructure manager. Indeed, city authorities are entitled and sometimes obliged to draft action plans for the railways within the area of their authority. Such actions may include costs or restrictions imposed on the railway operator, the infra manager or others. This situation however does not represent an implication of the END itself. It is rather the way the Member State has organized the competence. Therefore, this issue, although highly relevant, is not treated further in the current document.

Regulating noise sources

The Implementation Report mentions the White paper on transport, which provides a roadmap until 2050 to contribute to the reduction of environmental noise from transport by achieving “vehicle standards for noise emission levels”. This issue has been treated in the current paper (re.2.1.4) but it is highly recommended to pursue this topic accurately.

Noise limits and Trigger values for action plans

According to the Implementation Report, measures within Action Plans are left “to the discretion of the Member States” as long as they fulfill the general requirements of Annex V of the END. Even in Member States with tight national noise legislation in place, many residents are exposed to noise levels that are to be considered potentially harmful. In such cases the Member State can decide to take action, even beyond the national legislation. The difference with actions in the framework of the national legislation is, that in the case of the END, the public has to be informed and therefore has an opportunity to stress that measures be taken.

The World Health Organization WHO has issued guidelines for environmental noise, stating 55 dB Lnight as an interim target level and 40 dB Lnight as a recommended target level for the future. The railways’ view on these values is that it is not economically bearable to achieve such values at every dwelling along every railway line in Europe. Currently, 40 dB Lnight levels are exceeded up to as far as 1000 m from the track, and 55 dB Lnight levels are exceeded up to 500 m from the track [4]. Therefore, practical limits would have to be more modest than the WHO guidelines.

It has been proposed by several parties that the European Commission would set harmonized European noise reception limits for every Member State to be applied in their national noise legislation, or alternatively to be applied for Noise Action Plans. Others have argued that a harmonization in terms of noise reception limits would mean that the most permissive limit would be likely to become the standard and have voted against it. As pointed out before, the subsidiarity principle is probably a strong argument against a common European noise reception limit (although it exists since long for air quality!).

As an alternative, it was suggested to set a common “trigger value”. This would serve as a trigger in such way that, as long as the trigger value is not exceeded, no action is required, and once it is exceeded, remedial action shall merely be considered.

The railways’ position is that, if considered necessary, more harmonization of indicators and assessment methods is agreed. After all, it is considered to be in the interest of the railways to have clear, feasible, consistent limit values. However, the railways feel that it should be left to the Member States’ competent authorities to actually set the limit or trigger values.

Improving implementation

In the first round of mapping the implementation of the END has been weak in many Member States. Deliveries were late or in some case did not come at all. Some of the deliveries did not fulfill basic quality requirements. In many cases this was accepted by the Commission, under the assumption that this was the first round and competent authorities would have to get used to it. To some extent this is unjust with regard to the MS who produced good quality deliverables in time. The Commission considers various ways to enforce the implementation of the complete END without exceptions. The railways are in favor of a consistent approach in all Member States, whatever this approach may be.

4 THE EU PUBLIC CONSULTATION

The European Commission has launched, in 2012, a Consultation on the Implementation Report of the Environmental Noise Directive (END) and on the EU Noise Policy. This web based consultation (http://ec.europa.eu/yourvoice/ipm/forms/dispatch?form=ENVNOISE2) refers to the Review Report [2]. In this chapter, the main relevant issues of this consultation are presented and the position of the railways is included by means of a brief statement.

Question	Railways' position
EU legislation on noise pollution requires Member States (MS) to make maps of the noise levels in the larger cities and the major roads, railways and airports, to draw up action plans to tackle identified noise problems, and to report all this information to the European Commission (EC) and to the public. It does not set noise limit values at European level; however MS can establish any limit values within their territories. Do you think this approach is appropriate?	Yes, this is an appropriate approach. Setting reception limits should be left to the member states, however more standardization in terms of indicators and methods is welcomed
If you do not consider the current approach to limit values appropriate, which of the following alternatives would in your view be best:	EU **recommended** value **by source** (if the value is exceeded in any location, action is recommended to be taken)
The END aims at providing a basis for developing (separate) EU measures to reduce noise emitted by major sources, in particular road and rail vehicles and associated infrastructure, aircraft, outdoor and industrial equipment and mobile machinery. Do you think that the END has provided a good basis for developing source-based regulatory measures?	Yes, the results of the mapping show undoubtedly that road traffic noise is by far the dominant source and that regulatory action on a EU level should be focused on tighter limits for road vehicles and tyres.
In 2008, Commission efforts started on developing harmonized methods for assessing noise exposure. A project entitled "CNOSSOS-EU" (Common Noise Assessment Methods in Europe) led by DG Environment and DG Joint Research Centre Based on your current understanding, do you think that the CNOSSOS-EU methodological framework will improve comparability and consistency in strategic noise mapping in the EU?	Yes, provided that the method is not too complex to implement and not too complex to use
Do you think that the 5 years cycle in between the noise mapping rounds is appropriate?	5 years is probably too short. 10 years would be appropriate

Do you consider the period of one year between making the noise maps and drawing up the action plans is sufficient?	1 year is too short, 2 years would be appropriate
The European Environment Agency's tool Reportnet has been developed since 2000. Reportnet was initially used for reporting environmental data to the European Environment Agency, but now also hosts some of DG Environment's reporting tasks, including those related to the Environmental Noise Directive and its associated compliance checks. Do you support the idea to make Reportnet the mandatory reporting tool to submit information to the Commission pursuant to the END?	Yes, for reasons of required consistency
According to the latest WHO recommendations, adverse health effects due to night time noise exposure can commence to occur at 40 dB Lnight. The current reporting neglects the fact that there is a considerable share of EU population exposed to noise pollution at levels lower than 50 dB which are still likely to cause harmful effects on health. Though, the current noise assessment methods do not allow assessing accurately exposure to such low levels. Would it result in any benefit to lower the reporting tresholds according to WHO recommendations?	Action plans should focus on "bearable" noise limits, which are usually (much) higher than the WHO limits. Apart from the action plans, the assessment of the exposure could be extended to lower levels. The assessment methods however are not currently suited to do so. This could only be done on the basis of an estimate. The Commission should suggest methods of consistent estimates.
A number of possible technical improvements to the END were identified including clarifications of the definitions and obligations related to agglomerations, quiet areas, major roads, major railways, major airports, industrial noise and action plans. Do you think that a revision of these definitions or unclear provisions needs to be done?	Yes, very much so, for reasons of consistency
Could the INSPIRE Directive (OJ L 108/1, 25.04.2007. p1) be used as a basis when modifying the data needed of END?	Possibly, but this would require adapting the Inspire requirements

Do you agree that the END has had sufficient impact in your country/region to reduce noise levels so far?	It is too early to tell if any noise reduction has been achieved on the basis of the END.
Do you think that the EU should have more influence regarding measures within Member States?	No (subsidiarity principle). The EU should concentrate on regulations for the source
Do you think there are synergies in air quality and noise management that should be better exploited in EU policy?	No
Do you consider that products including private vehicles and outdoor equipment should be labelled according to their noise emission level, so that consumers are appropriately informed?	yes
How effective has the EU noise legislation (END) been as a driver for national, regional and local authorities to take action for reducing noise exposure where needed?	Hardly any effect at all

5 REFERENCES

[1] DIRECTIVE 2002/49/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 June 2002 relating to the assessment and management of environmental noise

[2] REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL On the implementation of the Environmental Noise Directive in accordance with Article 11 of Directive 2002/49/EC, 1 June 2011,

[3] Position paper on dose response relationships between transportation noise and annoyance, European Communities 2002, ISBN 92-894-3894-0

[4] Exploring bearable noise limits and emission ceilings for the railways, Part I: National and European legislation and analysis of different noise limit systems, and Part II: Cost and benefit study for different noise limits, UIC reports prepared by dBvision, October 2011

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ANNEX 1 The Environmental Noise Directive

Legal framework

In July 2004, the European Directive on the Assessment and Management of Environmental Noise[2] entered into force by means a transposition in the EU Member States. The objective of the EU Directive (Article 1.1) is to

> *" define a **common approach** intended to avoid, prevent or reduce on a prioritized basis the **harmful effects**, including annoyance, due to exposure to environmental noise. To that end the following actions shall be implemented progressively:*
>
> (a) the determination of exposure to environmental noise, through **noise mapping**, by methods of assessment common to the Member States;
> (b) ensuring that **information** on environmental noise and its effects is made available **to the public**;
> (c) adoption of **action plans** by the Member States, based upon noise-mapping results, with a view to preventing and reducing environmental noise where necessary and particularly where exposure levels can induce harmful effects on human health and to **preserving environmental noise quality** where it is good. "

NB. Bolt text is included by DHV.

National governments of the Member States are responsible for the implementation of the Directive. To this extend Member States designate so-called competent authorities who are responsible for certain elements of the requirements.

Strategic Noise Maps (article 7) shall be produced, for the first time no later than 30 June 2007, for the major roads, major railways and major airports and for the areas within agglomerations. These maps shall allow assessing the number of residents exposed to noise levels of 55 dB Lden or higher, and to 50 dB Lnight or higher. The information contained in the noise maps and the assessed exposure shall be made available to the public.

The noise mapping shall be repeated every five years, thus allowing assessing the trend of the noise exposure to the different sources.

Noise Action Plans (article 8) shall be drafted every five years, for the first time 18 July 2008. Noise Action Plans shall cover the sources and the agglomerations included in the noise maps and shall identify actions, thought necessary by the competent authorities, to reduce the exposure to potentially harmful noise and to preserve the noise quality where it is good (i.e. protect quiet areas). Noise action plans shall be made available to the public. Note that the European Commission does not define any noise reception limits in the Environmental Noise Directive. This is based on the subsidiarity principle, saying that each Member State shall define its own noise reception limits for the various sources.

The information on the exposure to noise and on the action plans shall be made available to the European Commission.

[2] The European Directive on the Asssessment and Management of Environmental Noise, short Environmental Noise Directive, is further referred to as END.

The Directive in practice

The Directive intends to generate information about the exposure to potentially harmful environmental noise in European Member States and to distribute this information to the public, to the policy makers of the European Commission and to competent authorities and politicians within the Member States.

The information is to be acquired through a process of regular noise mapping, to take place every five years. The noise maps should show the exposure to noise from road traffic, railway traffic, aircraft and industrial sources. For reasons of efficiency, the mapping includes the major sources as well as the areas with high population density (so called agglomerations). Minor sources in lightly populated areas (i.e. outside agglomerations) are ignored, with the assumption that including these sources would take much effort whereas their contribution to the overall exposure would be negligible.

Different Member States have taken quite different position with respect to the organization of the tasks required by the Directive. Noise maps for agglomerations have been produced under the responsibility of either city councils, agglomeration authorities, or regional, federal or national authorities. National or regional road authorities have usually been responsible for the noise maps for major roads, and airport authorities for the noise maps of the major airports. But for instance in the UK, the national government produced all the necessary noise maps under their own authority.

Often, railway stakeholders have been involved in the production of noise maps for major railways, both inside and outside agglomerations. Usually, the rail infrastructure managers have been selected as the party to actually carry out the job, or at least to collect and deliver information necessary for the production of the noise maps. Alternatively, in Germany, the national Rail Agency (Eisenbahn Bundes Amt) was made responsible for the mapping.

Noise action plans have been drafted under the responsibility of either the national or federal government (for example the Minister of Transport) or the rail infrastructure manager.

Review and Public Consultation

According to article 11 of the Directive, the European Commission shall deliver, no later than 18 July 2009, a report to the European Parliament on the implementation of the Directive. In 2011, the European Commission sent the Implementation Report to the European Parliament [2].

A public consultation is part of the process of reviewing this implementation report. This public consultation is carried out by means of a web based questionnaire. Individuals and organizations are invited to comment to the implementation report. Apart from the questionnaire, other ways of comment or responses are invited by the Commission. The current Report intends to identify the common position of the European Railways with respect to the implementation report.