APAT – EEA General Training Workshops
Advanced Seminar 2008

Workshop

"ACOUSTIC POLLUTION AND MEASUREMENTS"

Working Group N. 3

"Practical application of measure methods (road and under railways noise)"

Objective:

The working group is finalised to the application of a methodological reporting scheme regarding road and under railways measures, in order to prepare an acoustic measurements' Report following the format already prepared by APAT (see Attachment 1), using the Data supplied by APAT (see Attachment 2 and 3) and after a simulation of acoustic pollution measurements in field (road-railways).

Activities:

The activities concerns:

1. division of the participants into Groups for the application of the method;
2. analysis of the situation of acoustic pollution to be measured;
3. simulation of acoustic pollution measurements in field (road- railways).
4. analysis of the format of acoustic measurements Report, as prepared by APAT (Attachment 1);
5. analysis of the acoustic pollution Data supplied by APAT (Attachment 2 and 3), in order to highlight the limit values measured and eventual criticalities;
6. preparation of the acoustic measurements Report, filling up the given format in Attachment 1 with the correct data chosen from the acoustic pollution Data supplied by APAT (in Attachment 2 and 3), taking into account the following pages of the Report:
   - for the road Data, pages 1-6 and pages 14-17
   - for under railways Data, pages 1-6 and pages 18-20
7. computation of the values $L_{Aeq,Tr}$ by the given Formulas:

a) for the road acoustic pollution

$$L_{Aeq,Tr\_weekly} = 10\,log_{10}\left[\frac{1}{7}\times\left(\sum_{\mathrm{i\,=\,mon}}^{\mathrm{sun}}\left(10^{0,1\times(\mathrm{LAeqTr})\mathrm{i}}\right)\right)\right]\ dB(A)$$

With:
Tr = Time of reference
LAeq,Tr i = Daily diurnal (06.00-22.00 hr) or nocturnal (22.00-06.00 hr) equivalent level

b) for the under railways acoustic pollution

$$L_{Aeq,TR} = 10\log\left(\sum_{i=1}^{n} 10^{0,1(L_{AE})i}\right) - k$$

where:
TR is the diurnal or nocturnal period of reference;
n is the number of transits during the TR period;
k = 47.6 dB(A) in the diurnal period (06.00-22.00 hr)
= 44.6 dB(A) in the nocturnal period (22.00-06.00 hr).
L_{AE} (SEL) is the Single Event Level, evaluated according to the following relationship:

8. Discussion and debate about the performed activities and the finalization of the Report
9. Conclusions about the activities of the Working Group.