
EU Noise Policy: A personal view of the current role of the EC Working Groups.

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OVERVIEW

- ☐ Background
- ☐ Working Groups
 - roles / interactions / outputs
- ☐ Details...WG2 Dose - response
- ☐ Key issues for the future

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EUROPEAN UNION WEBSITES

....NOISE POLICY BrochureWorking Groups etc

<http://europa.eu.int/comm/environment/noise/#1>

.....all Directives on Noise...various downloads

Draft Directive text etc..still subject to amendment..... download from....

http://europa.eu.int/comm/environment/docum/00468_en.htm

An extended version of a related presentation is available
on the NPL website at

www.npl.co.uk/npl/acoustics/publications

Where is Europe.....????



.....USA

European Commission: Action on Noise 1998....>>>> ?

INTERSERVICE GROUP
II, III, V, VII, XI, XII, XVII

STEERING GROUP
on Environmental Noise Policy

COM, National Experts, Industry
NGOs, Local authorities

PERCEPTION

WG 1 INDICATORS
Noise metric
- Method of implementation

WG 2 DOSE/EFFECT
- Dose/effect relationships

**WG 3 COMPUTATION
AND MEASUREMENT**
- EU calculation and
measurement methods
- EU immission data bank

WG 4 NOISE MAPS
- Guidelines for effective
noise mapping and presentation

WG 5 ABATEMENT
- Guidelines for noise
control by local authorities

WG 10 COSTS AND BENEFITS
- Cost effectiveness of noise
reduction programmes
- Economic benefits of control

WG RESEARCH
- Definition of research needs

WG ° Expert Group

EMISSION

**WG 8 ROAD TRANSPORT
(ERGA)**
- Vehicles emission control
- Tires/road interaction

WG 7 OUTDOOR MACHINERY
- Emission control of
machinery used outdoors

WG 6 RAILWAY
- Emission control of
railway Rail/wheel noise

WG AIRCRAFT
- Emission control of
commercial airplanes

“Perception” – E U Working Groups

Outline Status at December 2000

WG1 Indicators

I Flindell. UK, M van den Berg. NL

Reported to Commission August 99

WG2 Dose-Effects J. Lambert. FR, B.Berglund SV

**Interim Paper to Steering G.
Oct. 2000**

WG3 Measurement and Computation

D Gottlob DE J Kragh DK

**Proposed interim methods
Oct. 2000**

WG4 Noise Maps

J. Hinton. UK, S Rasmussen . DK

**Progress Report Oct. 2000....input
data optimisation ...effective
presentation to public etc....quality
control ...best practice**

WG5 Abatement

Sirkka - Liisa Paikkala. FI , W Talasch. AT

**Oct. 2000. Draft Final Report /
WG5 Webpage**

From WG1 Indicators.....

Harmonised descriptor

Day-evening- night level

$$L_{\text{den}} = 10 \lg \frac{1}{24} [12 \cdot 10^{L_{\text{day}}/10} + 4 \cdot 10^{L_{\text{evening}}+5/10} + 8 \cdot 10^{L_{\text{night}}+10/10}]$$

$L_{\text{day}} = 12 \text{ hour } L_{\text{Aeq}}$..determined over all the day periods of **a year**

Default times

Day 0700-1900

Evening 1900-2300 with 5 dB penalty

Night 2300-0700 with 10 dB penalty

Current status ?

EU directive... Assessment and Management of Env. Noise

Annex II Assessment methods

4. Dose -effect for the interim period

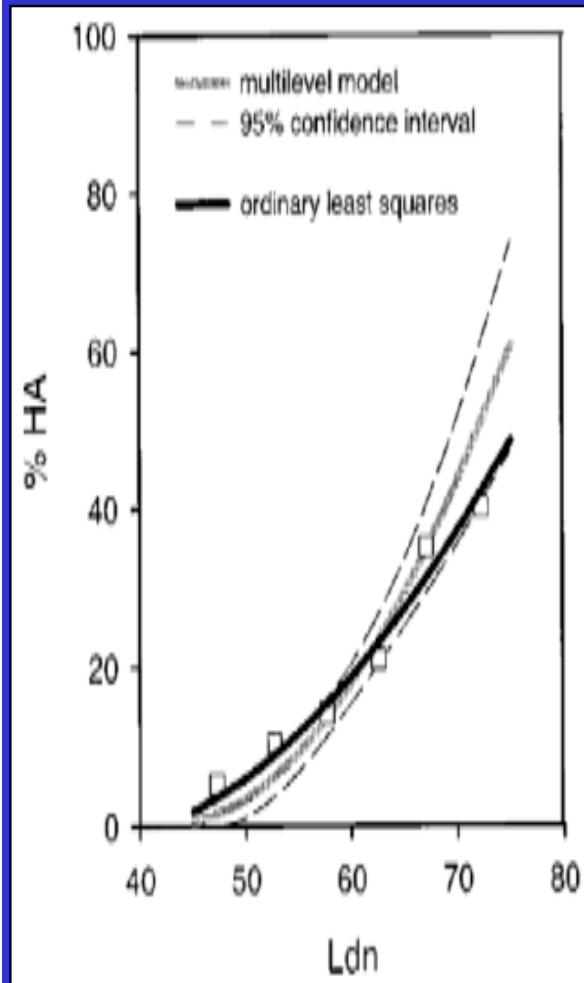
“in order to assess the effect of noise on populations, dose- effect relations are required.

These will be introduced in **future** revisions of this annex. **For the interim period**, relations.....

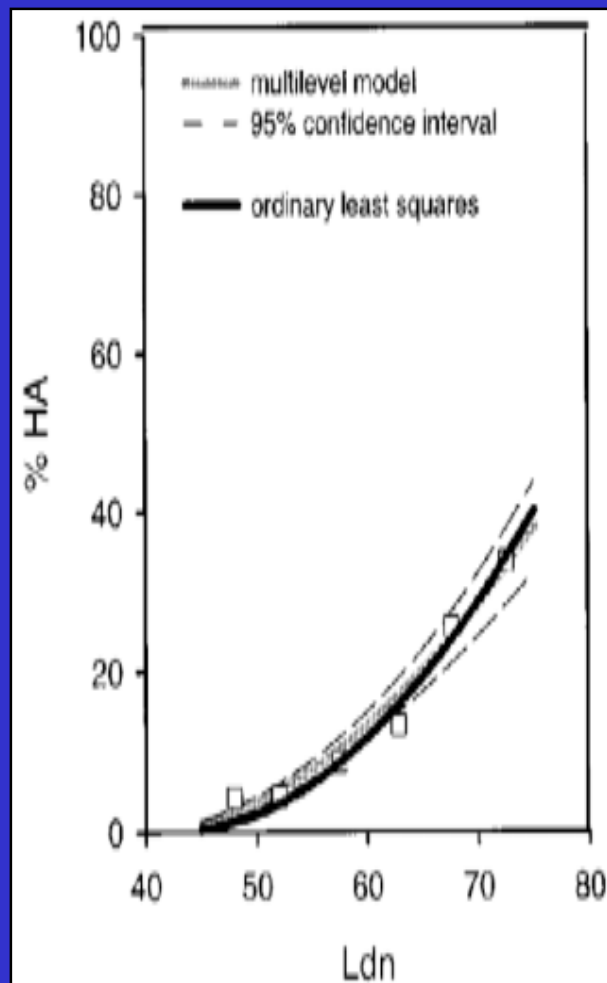
- from a position paper of Commission WG2 "Dose /Effect", on the present knowledge on dose- effect relations *...the Miedema paper*
- relations from literature
- or relations as defined by the Member State..... could be used”

Miedema and Vos, JASA. 1998. vol 104. n.6.
p.3443. Fig 3

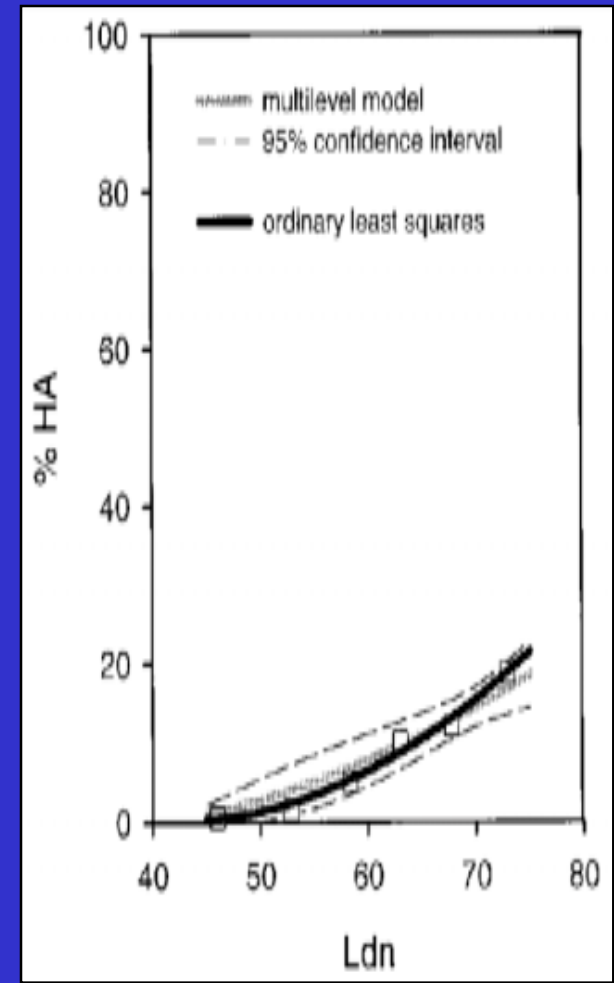
Aircraft -19



Road -26



Railway -8

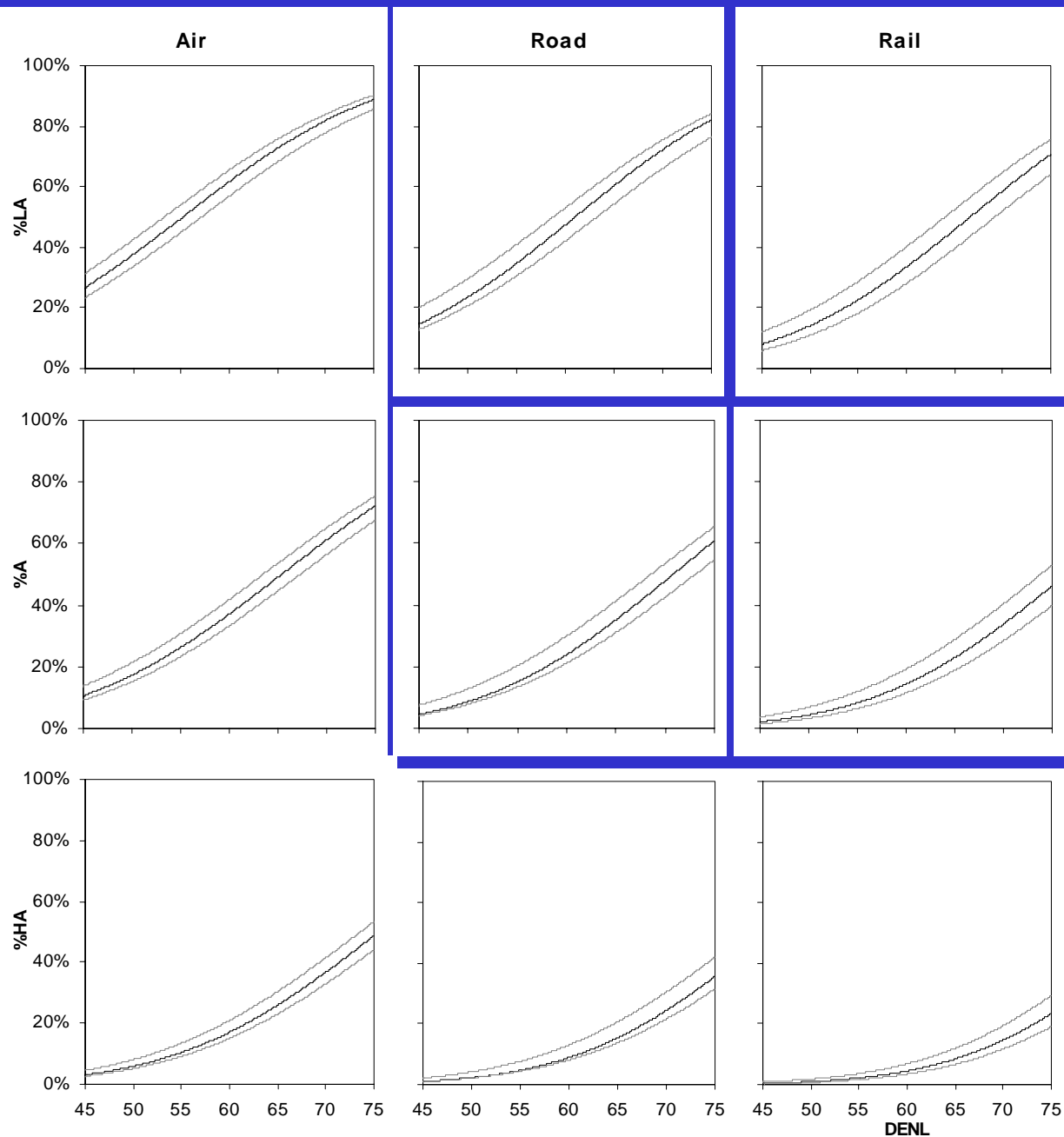


Miedema - paper to ECWG2, May 12, 2000 - new statistical modelling.....and basis of Interim Paper to SG.

A little
annoyed

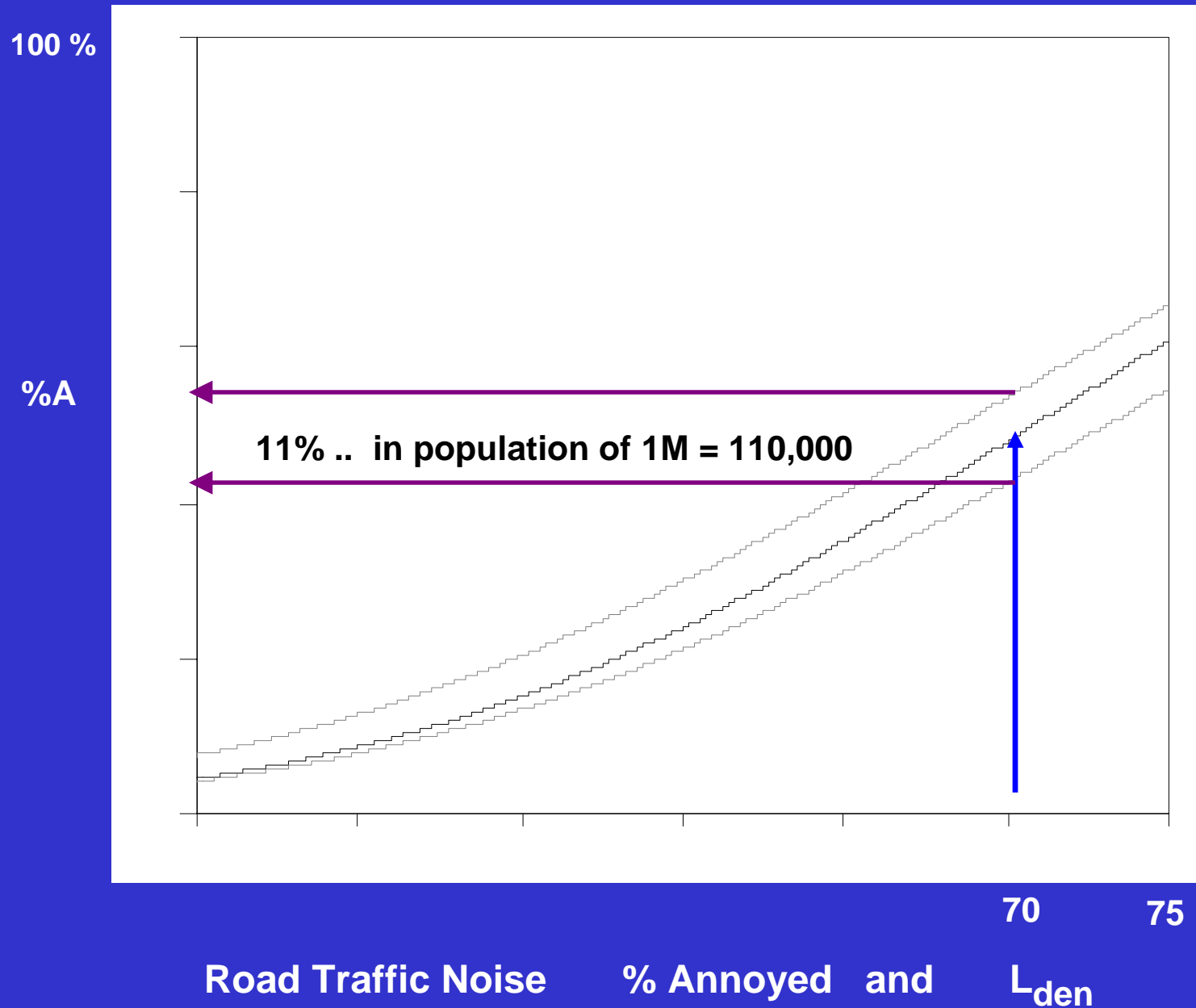
Annoyed

Highly
annoyed



DENL

Effect of uncertainties in Levels or in %A



EU-WG 3 Dieter Gottlob
“Computation and Measurement” STATUS AT OCT.2000
Interim Methods

Measurement

Proposal based on International Standards (ISO 1996 series)

Road and Railway Noise

Proposal based on an evaluation and rating of existing methods in Europe: French or Dutch prediction methods

Aircraft Noise

Proposal based on ECAC Document No. 29 and emission data to be supplied by the Commission

Industrial noise

Proposal based on International Standards (ISO 3740 series, ISO 9613-2)

CONCLUSIONS..... FUTURE ISSUES FOR DISCUSSION..

A. TECHNICAL ISSUES Indicators/Dose-response/Prediction/Mapping

- Debate still open over 24hr indicator L_{den} or separate ..day/eve./night ?
- No Indicators for “special” cases..tones/impulses
- “Source-differences” ..eg Air/Road/Rail .are complex..level dependent ..
- implications of errors/uncertainties in practical use of dose-response
- by nature of things..from survey “archives” ..inevitable dependence on old survey data...eg vehicle/train types/operations.....different now?
- Adults only ! [survey population bias]
- Time related changes in personal expectations..behaviour and lifestyle patterns...response
- Not applicable to changes in noise environment

Conclusions....continued.....

A. TECHNICAL ISSUES Indicators/Dose-response/Prediction/Mapping

- No agreed dose-response curves for industrial noise
- Even less data for combined [and realistic] noise situations...
..eg rail and road.....air and road
- Agreed Dose- response curves for sleep disturbance now a top priority of EC WG2...January 2001
- BUT Uncertain “political” future for Dose-response....IN or OUT ..of the final Directive ?

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Quality control of mapping software and its use

- implications of errors
- central responsibility for software validation/verification ?
- Validation Agency ?

CONCLUSIONS.....concluded

B. GENERAL

- **Economic and resource implications of Directive.....and the WG process**
- **Complex interactions between WGs...and with the Euro. Commission....**
 - **WG3 [define prediction methods]WG4 [interests of end users]**
 - **WG2 [dose-response] ...WG4 [transforming levels to N. of people affected]**
 - **“Status” of WG outputs /papers**

BUT..... FULL TECHNICAL COMMITTEE.....2002, 2003 ?

- **Conflicting demands of ;**

Noise/health effects research

- **need deeper understanding of complex issues, incl. Societal**

Noise prediction/measurement methods

- **simplicity of use -v- comprehensiveness**

Policy and Public Information - simplification of legislation

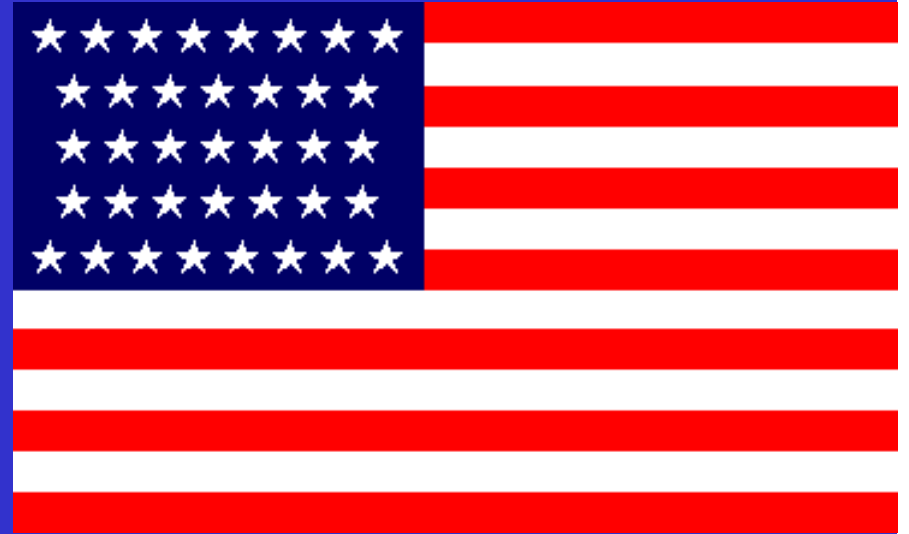
- **Vast experience in EU....need a formal USA /Europe link mechanism ?**

ULYSSES S. GRANT

PRESIDENTIAL

INAUGURAL ADDRESS

4 MARCH 1869



**“ I know of no method to secure the repeal
of bad or obnoxious laws, which is so
effective.....**

.....as their stringent execution ”

THE REALLY GOOD STUFF FOLLOWS.....

**SLIDES AFTER THIS POINT ARE FOR
DISCUSSION/ ETC....**

Timetable for Directive - as at August 2000...?

1 July 2003	Agree L_{den} and L_{night} limit values for road, rail, air, currently in force
1 January 2005	Noise maps for agglomerations of more than 250000 population , and all major roads, railways and airports
1 January 2006	Complete and approve noise action plans
1 January 2009	Identify towns with over 100000
1 January 2010	Produce noise maps for 100000+ towns
1 January 2011	Produce Action Plans for towns of 100000+

Scope.

In principle this proposal covers **all noise** but it concentrates explicitly on,

- road transport noise,
- railway noise,
- aircraft noise around airports and
- industrial noise.

It does **NOT** cover noise produced by animals, nature, neighbours and the exposed person himself [herself ?], and it also excludes perception of noise at work places and in means of transport.

On the longer term the directive also requires the development of dose-effect relationships concerning;

- the perception of noise by humans in public parks,
- in relatively quiet areas in agglomerations,
- in relatively quiet areas in the open country,
- by pupils in and near schools,
- by patients in and near hospitals and
- by humans in other noise-sensitive buildings and areas. If possible, LDEN and/or LNIGHT shall be included as dose quantities.

Furthermore there may be a Community need to develop dose-effect relationships for some of the special cases listed in Annex I, paragraph 3 of the Directive.

Cost implications ££££££££££££££...

Directive....

the price of noise mapping varies between EUR 0.15 to EUR 2 per resident, depending on various circumstances.

The total costs of the initial noise mapping for agglomerations was estimated to be EUR 50 to 75 million, i.e. EUR 10 to 15 million on an annual basis.

[1]

Overall it is estimated that the annual increase of costs for mapping and action planning as introduced by the proposed Directive is EUR 30 to 40 million, i.e. only a small fraction of the annual damage due to environmental noise.

DETR estimate....August 2000 £30million over 5 years

October 2000 Position Paper Dose-response curves

Applications and Limitations

long term stable situations

air, road, and rail

strategic assessment

target setting

translating maps into numbers annoyed

cost-benefit analysis

NOT.....x

local complaint assessment

short-term effects of changes in noise climate

Adults only !

Some specific source exclusions...eg shunting noise

Effect of uncertainties in Levels or in %HA $\pm 7.5\%$ of $1M = \pm 75000$

