

LOCAL DECISION MAKING: POSSIBLE OPTIONS

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Workshop on Base Stations and Wireless Networks
Geneva, 15-16 June 2005



TYPICAL ACTIONS

- Ordinances on minimum distances
- Ordinances on maximum exposure levels
- Agreement of parties involved

EXAMPLES OF MINIMUM DISTANCES TO SENSITIVE AREAS (ITALY)

- Monza 75 m
- Roma 100 m
- Empoli (Tuscany) 200 m
- Lecce 300 m

MINIMUM DISTANCES IN PIEVE DI CENTO (ITALY)

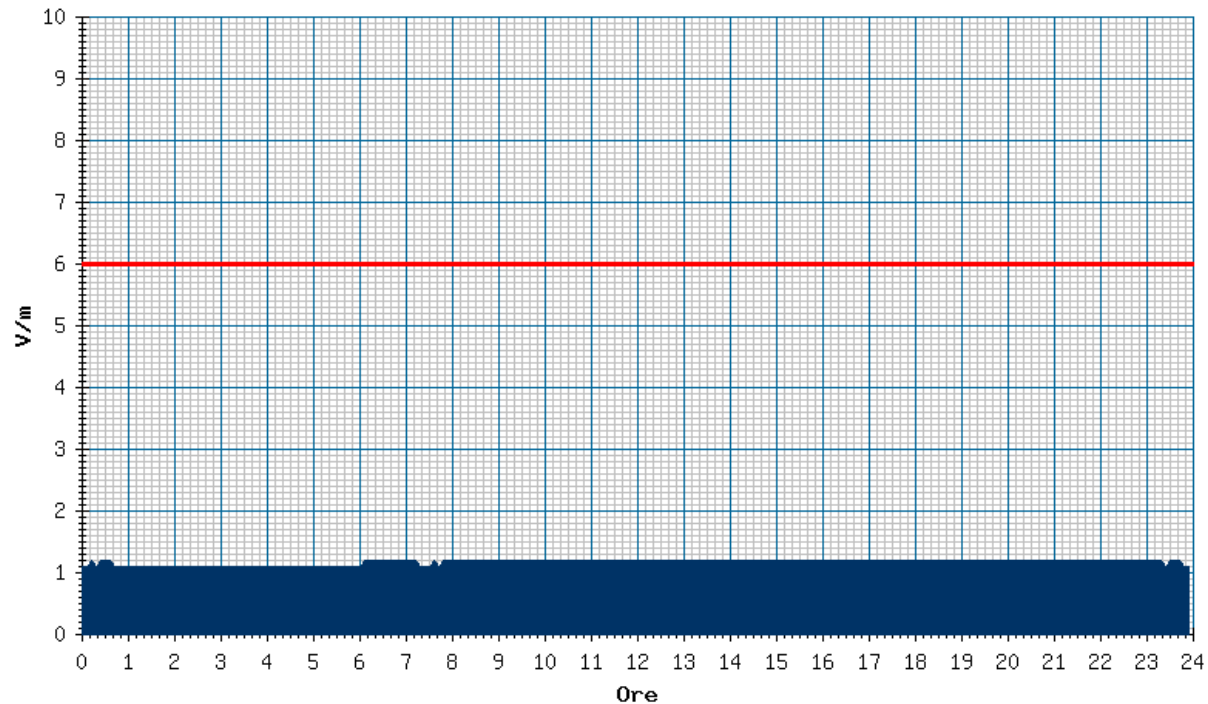
- To houses or rural buildings 300 m
- To sensitive areas 500 m
- Between RBSs 1000 m

MAXIMUM EXPOSURE LEVELS

- Perugia **3 V/m**
- Novara **1 V/m (0.5 V/m in sensitive areas)**
- Tuscany **0.5 V/m (to be reached by 12 January 2005)**

FLORENCE (ELEMENTARY SCHOOL)

Scuola Elementare Capponi - FIRENZE (FI)
Rilevazioni del giorno 02-05-2004

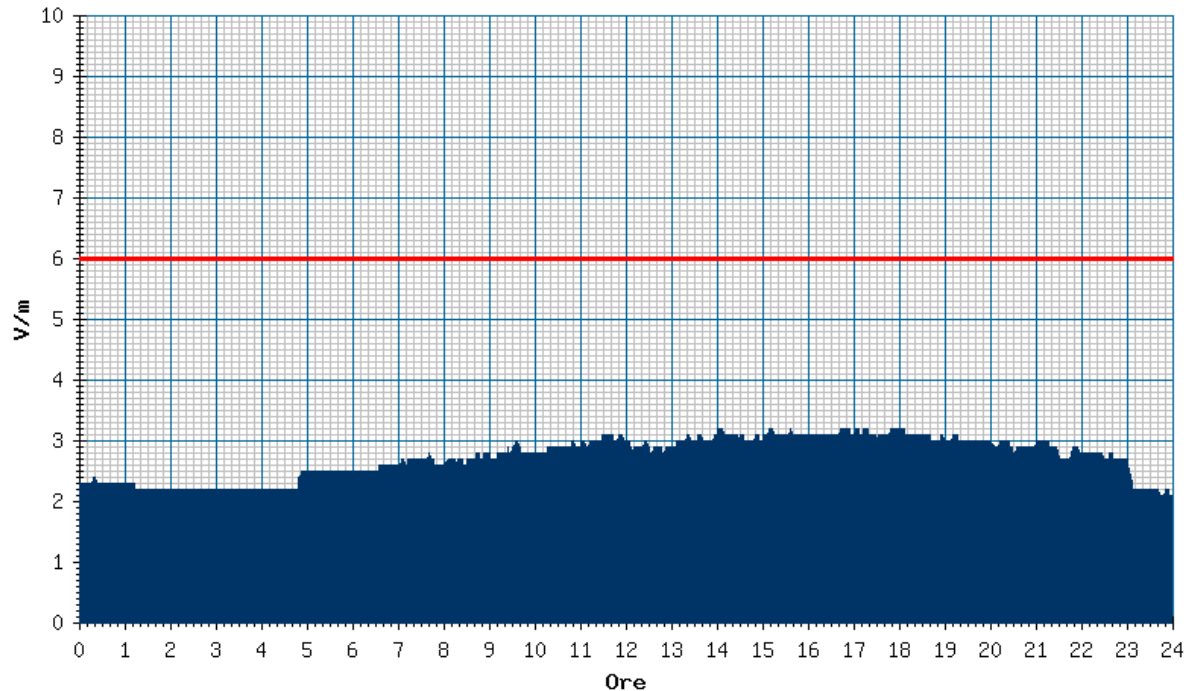


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FLORENCE (STUDENTS' HOUSE)

Casa dello studente - FIRENZE (FI)
Rilevazioni del giorno 31-03-2004

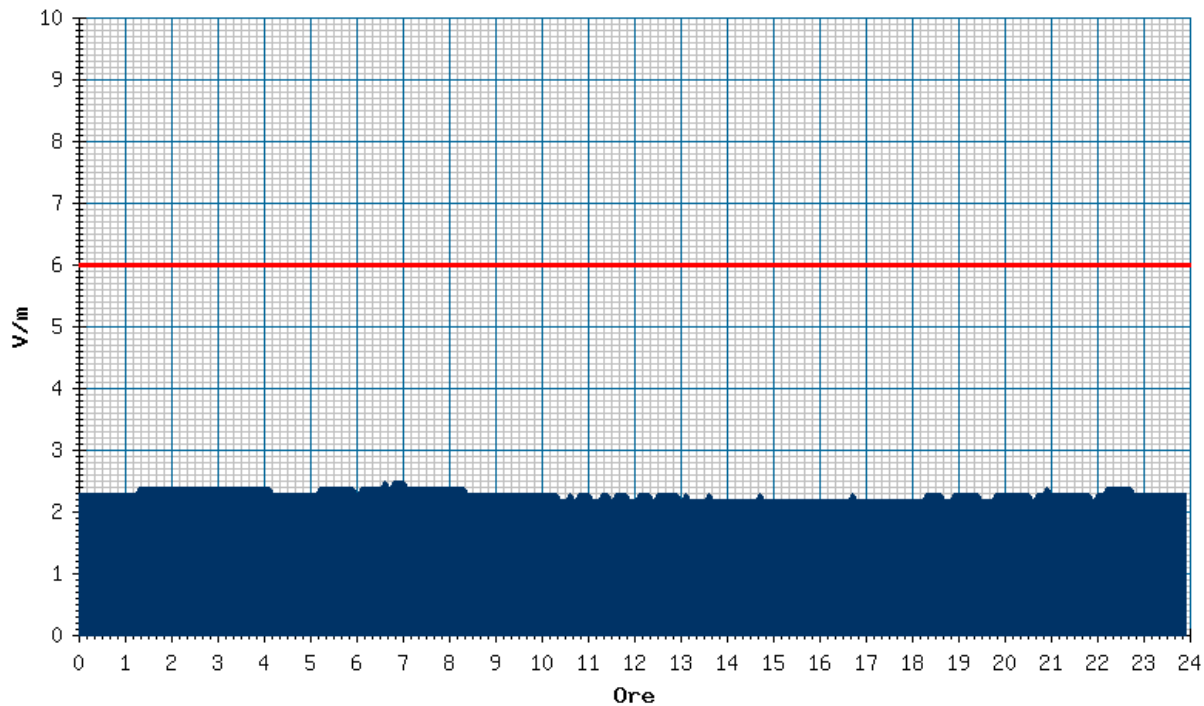


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NOVARA (ELEMENTARY SCHOOL)

Istituto Suore Giuseppine - NOVARA (NO)
Rilevazioni del giorno 20-05-2004



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JUSTIFICATION FOR MINIMUM DISTANCES

Framework Law (2001)

Municipalities may enforce regulations to ensure the correct urbanistic siting of antennas and to minimize public exposure to electromagnetic fields

Is public exposure reduced?

Is public concern reduced?

INFLUENCE OF NUMBER AND LOCATION OF RBS ON PUBLIC EXPOSURE

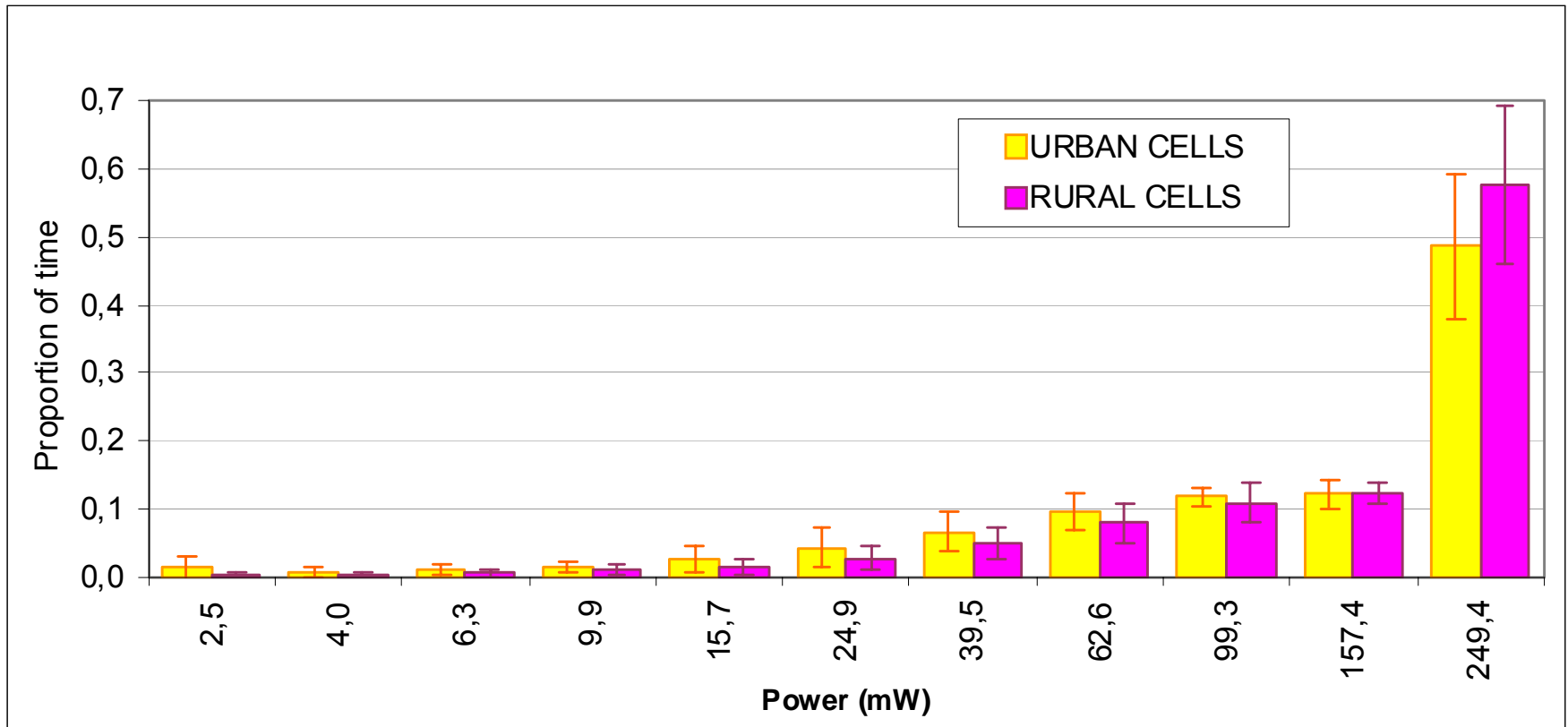
- Small decrease of exposure from RBS
- Large increase of exposure from mobile phones
 - ◆ Distance
 - ◆ Traffic (handovers)

EFFECTIVENESS OF APC

- Potential reduction factor 1000 (30 dB)
- Actual reduction factor < 2
- Proportion of time at maximum power 40-60%

Ardoino et al. 2004

POWER EMITTED BY PHONES IN THE AREA OF ROME



Ardoino et al. 2004

THE “SALZBURG MODEL”

- Immission level: 1 mW/m² (0.6 V/m)
- 0.25 mW/m² each operator
- Considered not technically achievable (BAKOM 2002)
- Rejected by the Austrian Parliament (31 January 2002)
- Legal trials for abuse of authority

Effect on controversies?

Effect on exposure levels?

Effect on the development of networks?

THE “SALZBURG MODEL”

“The study shows that a limit of 1 mW / m², recommended by the city of Salzburg on behalf of the precautionary principle, **cannot be realised** by the existing GSM networks”

Federal Office for Communications, Switzerland, 2002

EXPOSURE ASSESSMENT IN SALZBURG

- A maximum summed value of 1 mW/m² is **exceeded** next to **8** base stations **out of 13** examined base stations (up to a factor of 39,6)
- Measurements and simulations demonstrate that compliance with a value of 1 mW/m² **seems not be possible**

Neubauer et al. 2002

THE PARIS CHARTER

- Signed 20 March 2003 for a 2-year period
- Explicit **recognition of ICNIRP guidelines**
- Engagement to maintain EMF levels at existing values
- Calculation methods defined
- Experimental survey (600 measurements per year)
- Objective to keep **effective** exposures below **2 V/m**

EFFECTIVE EXPOSURE

- Indoor
- Averaged over 24 h

Some criticism because it leaves the situation unchanged

ONE YEAR LATER...

- 543 measurements carried out
- 98% below 2 V/m
- 83% below 0.5 V/m

THE CHARTER OF LOWER NORMANDIE (October 2003)

- **Recognition of lack of established effects**
- **Recognition of national limits (ICNIRP)**
- **Co-siting encouraged**
- **Calculations/measurements near sensitive areas (< 100 m)**
- **Minimize exposures compatibly with quality of service**
(near sensitive areas)

OTHER CHARTERS IN FRANCE

- Lyon May 2002
- Chantilly May 2003
- Hauts de Seine January 2004
- Grand Nancy March 2004

They all recognize the lack of evidence of health effects and the validity of the national standard (ICNIRP)

THE EXPERIENCE OF GENOA

- Intensive information before the agreement
- Survey of existing base stations
- Signature of agreement

THE GENOA CHARTER

- Obligations of operators
- Obligations of the City Council
 - Towards citizens
 - Towards City Departments
 - Towards operators

No additional prescription with respect to the national regulations

CONTINUOUS ACTION (2005-2006)

- **Confrontation of parties on site planning**
- **Information** (€50,000)
- **Training** (€30,000)
- **Monitoring** (€50,000)

CONCLUSIONS

- No “magic,, solution
- No obvious solution
- No universal solution

Any solution represents a compromise

- ◆ Environmental exposure
- ◆ Individual exposure
- ◆ Quality of service (no good/bad quality)
- ◆ Aesthetics

WHAT IS REQUIRED?

- Previous information and training
- Transparency
- Clear messages
- Consistency with national and other local (e.g. regional) decisions
- Attention towards:
 - ◆ Minimization of global exposure
 - ◆ Quality of service
 - ◆ Other factors (e.g. aesthetic)