

Progress Update on I-INCE Technical Initiative #6 – Community Noise: Environmental Noise Impact Assessment and Mitigation

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Abstract

The objective of I-INCE Technical Study Group (TSG) #6, “Community Noise: Environmental Noise Impact Assessment and Mitigation” is to provide practical advice for the guidance of policy makers and others involved with the regulation and control of community noise. TSG #6 will produce an I-INCE report entitled “Guidelines for Effective Management of Community Noise”, which will primarily be addressed to a non-technical audience. This report will provide recommendations for an updated Environmental Impact Analysis Process (EIAP) as the basis for a generic community noise assessment and mitigation decision-making strategy. The concepts to be presented in this report complement those being implemented by the Europe Commission, but address a set of broader issues to provide an international perspective on noise management strategies. This paper provides an update on the progress of I-INCE TSG #6.

1. Introduction

The objective for I-INCE TSG #6 is to provide practical advice on noise management strategies for those involved with the regulation and control of community noise. It will provide an international response to the rapidly evolving European Commission Noise Directives (e.g., see [1]) and the recent World Health Organization “Guidelines for Community Noise” [2]. TSG #6 is committed to preparing a document entitled “Guidelines for Effective Management of Community Noise”, which will primarily be addressed to a non-technical audience. This report will provide guidance on performing an environmental impact analysis, noise effect dose-response relationships, land use planning, the use of cost-benefit analysis or other trade-off analysis approaches as a decision-making tool, providing information to the public, and the use of negotiation between noise producers and noise receivers to achieve effective and affordable noise management strategies. It will advocate for a flexible approach to noise management where the positive effects of controlling exposure to community noise are carefully balanced against the costs and technical feasibility of achieving effective noise control. Thus, the report of TSG #6 should be viewed as supplementing existing and still evolving community noise policies, rather than presenting a separate, new approach. To a large extent, the environmental impact analysis process (EIAP) to be advocated by TSG #6 builds upon EIAP concepts already existing in the noise policies of many countries. The concepts to be presented in this report complement those being implemented by the European Commission, but address a set of important noise management issues necessary to provide a truly international perspective on noise management strategies.

TSG #6 held an organizational meeting during INTER-NOISE 2001 in Den Haag to discuss the purpose and scope of this group. Invitations to this meeting were sent to the twelve initial

I-INCE member countries participating in the formation of this group and to leading noise effects scientists, noise control engineers, and noise policy administrators in many countries. In particular, members of the International Commission on Biological Effects of Noise (ICBEN) were invited to participate in the activities of TSG #6 as a consultancy team. This was done in order to broaden the expertise available to TSG #6, particularly in the areas of noise effect dose-response relationships and environmental impact analysis process (EIAP) issues. It was felt by the new Convener that this would significantly improve the comprehensiveness, depth, and quality of the eventual TSG #6 report. The consensus of opinion at the organizational meeting in Den Haag was that it is very important for TSG #6 to continue its work. The original scope and purpose of TSG #6 was reconsidered in light of the community noise policy and guidelines documents being produced by various European agencies, including both the European Commission and the World Health Organization and a revised membership was constituted over the following year.

The membership of TSG #6 feels that a new report is needed to address topics not adequately addressed in previous documents, including noise effect dose-response relationships, how to properly conduct an environmental impact analysis, and how to develop specific noise management strategies while balancing the positive effects of noise management against the cost and technical difficulties involved in effective noise control. TSG #6 will complement the effort of TSG #5, Noise as a Global Policy Issue. TSG #6 will address related, but different, noise policy issues than TSG #5 will address. Thus, these two TSGs are both needed. In order to clarify the purpose of TSG #6, the following draft revision of the original Scope was approved at the Den Haag meeting by the I-INCE Board of Directors.

2. Scope and Approach

The task of TSG #6 is to take a world-wide approach to strategies for managing exposure to community noise. One important aspect of the task of TSG #6 is to study how world-wide noise management policies and methods have developed over the past quarter-century, and to make recommendations for improving current practices so that future policies may be more effective. The emphasis will be on how a well-conceived environmental impact analysis process (EIAP) should be an integral part of an effective noise management strategy, and how land use planning is essential to eventually making the world a quieter place to live. TSG #6 will also address the issues of how noise management policies may have to be modified to account for national and global regional differences in cultures and expectations, differences in national perceptions of the appropriate role of government, differences in the availability of financing and technical support for effective noise control, and differences in the willingness of populations to implement the required regulations.

In addition, TSG #6 will respond to the evolving promulgation of new community noise exposure criteria, which are being developed by different organizations based on dose-response relationships for community annoyance, sleep disturbance, and other adverse effects on noise on people. There is an urgent need to review the development of these dose-response relationships to ensure that there is an adequate scientific foundation for future noise management policies, and how these relationships can be used as part of the environmental impact analysis process (EIAP). Such relationships are appropriately the basis for international agreements and regulations for the control of noise.

Within the scope of TSG #6 is the preparation of an I-INCE Report, “*Guidelines for Effective Management of Community Noise*”, describing a recommended generic approach to

community noise management. The report will examine the environmental impact analysis process (EIAP), as well as other noise mitigation strategies, such as land use planning. The report will provide practical, well-balanced guidance for policy makers and others involved with the regulation, abatement and control of community noise. The objective of the report is to provide practical guidance concerning implementation of strategies for managing environmental noise exposure. The basic concept being developed revolves around the following recommended process for addressing community noise issues, particularly for new development projects:

Stage A: Define the noise problem and gather required technical support information

Stage B: Begin identifying potential solutions

Stage C: Perform an environmental impact assessment

Stage D: Assess technical feasibility of noise mitigation options, balance costs and benefits

Stage E: Finalize, implement, and monitor negotiated solutions

3. Summary

There is considerable international interest in the topic being addressed by I-INCE TSG #6, Community Noise: Environmental Noise Impact Assessment and Mitigation. Publication of a Final Report, "Guidelines for Effective Management of Community Noise", is desired by many, although there are a wide variety of opinions on various issues related to this topic. If it is possible to reach international consensus on these issues, there are potentially significant benefits to noise control policy-makers, those who manage noise control programs, and the world's population because an environmental impact analysis is a very important noise management tool. It is expected that a draft version of the Final Report will be circulated for review by the TSG #6 membership by INTER-NOISE 2005 and a final version will be completed a year later for review by the I-INCE member countries.

References

1. Commission of the European Communities, Proposal for a Directive of the European Parliament and of the Council relating to the Assessment and Management of Environmental Noise (Doc. COM(2000) 468 Final). Brussels: Author, 2000.
2. Guidelines for Community Noise (B. Berglund, T. Lindvall, D. Schwela, and K.-T. Goh Eds.). Geneva: World Health Organization, 2000.
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4. L.S. Finegold, "Status of I-INCE TSG #6, Community Noise: Environmental Noise Impact Assessment and Mitigation". Published in *Proceedings of INTER-NOISE 2003*, Seogwipo, Jeju Island, Korea (I-INCE, 2003).