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United States
Environmental Protection
Agency

Office of
Noise Abatement and Control
Washington, DC 20460

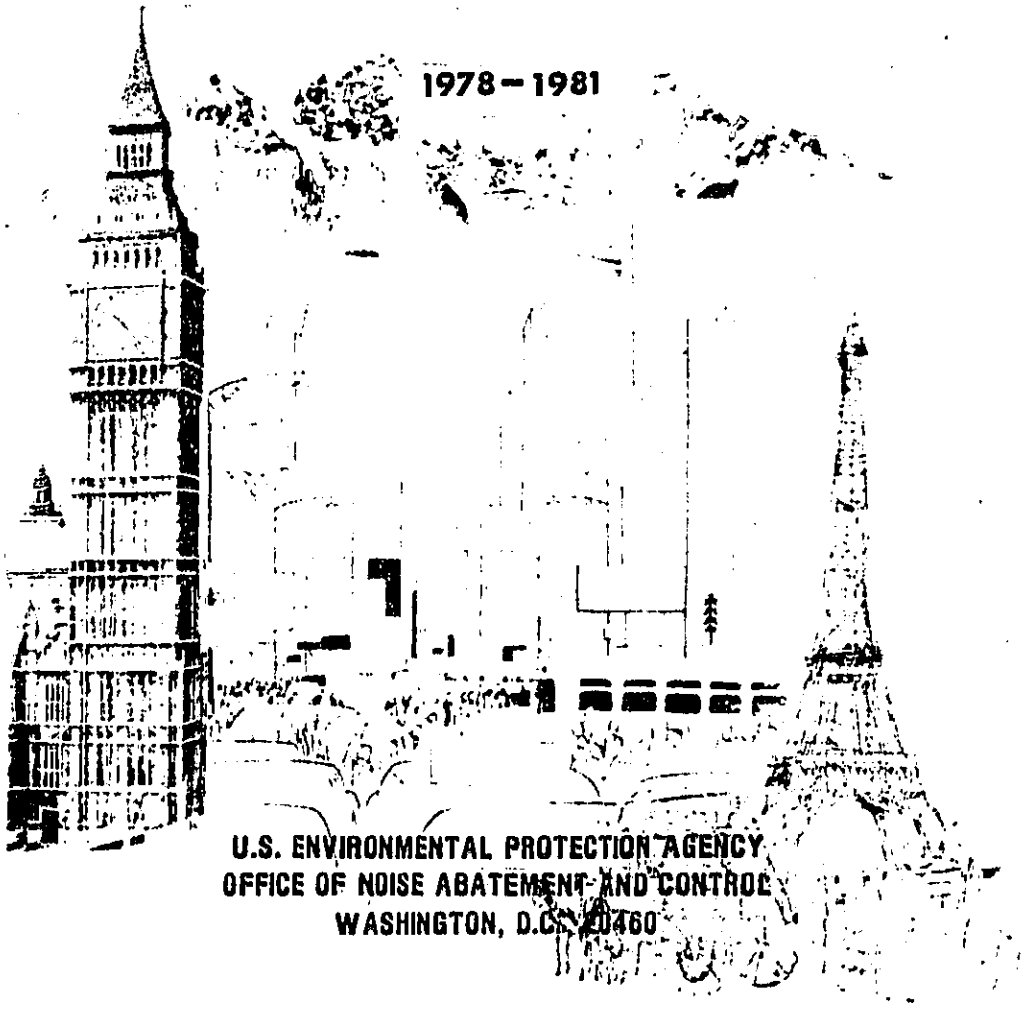
EPA 550/9-81-102
December 1981

Noise

FOREIGN NOISE RESEARCH

IN HEATH EFFECTS

1978 – 1981



U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF NOISE ABATEMENT AND CONTROL
WASHINGTON, D.C. 20460

N-96-01
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Updates EPA 550/ Foreign Noise Research in Health Effects, January 1978

16. ABSTRACT

Research from 19 countries, including 168 research projects, is described on the following topics: nonauditory physiologic response to noise; noise effects on sleep; industrial and community response to noise; noise-induced hearing loss and hearing conservation; behavioral, social and performance effects of noise; communication interference, noise environment determination and impact characterization, and effects of noise concomitant with vibration. For each project, an abstract, the name and address of the principle investigation, funding and sponsor data if available, and citations for available publications are given. It is concluded that foreign research efforts in this area have remained fairly constant over the last six years.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Environmental Noise, Noise Pollution, Cardiovascular Disease, Hearing, Sleep, Communication, Noise-Induced Hearing Loss, Hearing Loss, Hypertension, Annoyance, Human Stress, Environmental Hygiene, Public Health		

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FOREIGN NOISE RESEARCH

IN

HEALTH EFFECTS

1978 -1931

EPA 550/9-81-102

PREFACE

This is an update to a January 1978 Office of Noise Abatement and Control/U.S. Environmental Protection Agency report Foreign Noise Research in Noise Effects. The purpose of this report is to provide a review of current foreign research on the effects of noise on health. Information was collected from both individuals and organizations in 19 countries. All of the researchers were queried as to the projects that they had conducted since January 1978, as well as any relevant corresponding financial data. Information about the following noise effects subject areas was sought:

- o Nonauditory Physiologic Response
- o Noise Effects on Sleep
- o Individual and Community Response
- o Noise-Induced Hearing Loss and Hearing Conservation
- o Behavioral, Social and Performance Effects
- o Communication Interference
- o Effects on Domestic Animals and Wildlife
- o Noise Environment Determination and Exposure Characterization
- o Noise Concomitant with Vibration.

From these contacts and other sources, 168 research projects were identified.

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INTRODUCTION

DATA COLLECTION AND DATA PRESENTATION

Method of Data Collection

Information on foreign research projects on the effects of noise on health was collected both from individuals and organizations by direct mail survey, telephone interviews, and personal interviews at INTERNOISE 80, the international conference of noise abatement engineers and researchers held in Miami, Florida. The foreign researchers were asked to respond with information concerning their research projects that have been completed since January 1978 or are in progress, or are being planned. Data also was collected from the West German environmental information data base UMPLIS, in Bonn, and the Soviet medical journals Gigiena Truda i Professional'nyye Zabolevaniya and Gigiena i Sanitariya from January 1978 to December 1980. From these contacts and sources, 168 health effects research projects were identified.

Handling of Data

To retain reporting accuracy, each researcher was sent a blank project description form to complete. The forms that were returned typed, and that could be reproduced clearly have been included unaltered. Any project description which was handwritten, written in a language other than English, or was in a condition that would not reproduce clearly either was transcribed, or was translated and than transcribed. If a project description was transcribed or translated and transcribed, a line was typed at the bottom of the page noting what was done. Also noted at the bottom of the page is the source of the data if what is reported did not arrive directly from either the researcher or from the sponsoring organization.

Several research projects from the Institute of Sound and Vibration Research in the United Kingdom were described in a very limited fashion in the 4th annual report of that Institute. These project descriptions appear at the back of each category as abbreviated listings.

Any funding data that was not reported in U.S. dollars has been converted by using the exchange rates current as of Friday, February 27, 1981. The exchange rates used appear in Table I. On the project descriptions, the foreign currency amounts are in parentheses.

All noise levels may be assumed to be A-weighted unless otherwise noted. If however, the dB(A) notation was specified by the researcher, the notation was retained.

Table I: Exchange Rates as of Friday, February 27, 1981 (Source: The Wall Street Journal)

Austria-Schilling	= 0.0663 US Dollar
Belgium-Franc (commercial rate)	= 0.02878 US Dollar
Britain-Pound	= 2.2020 US Dollar
Canada-Dollar	= 0.8317 US Dollar
Denmark-Krona	= 0.1503 US Dollar
Finland-Markka	= 0.2444 US Dollar
France-Franc	= 0.1993 US Dollar
Japan-Yen	= 0.004778 US Dollar
Netherlands-Guilder	= 0.4239 US Dollar
Norway-Krone	= 0.1837 US Dollar
Poland-Zloty	= 0.0769 US Dollar*
South Africa-Rand	= 1.2790 US Dollar
Sweden-Krona	= 0.2159 US Dollar
Switzerland-Franc	= 0.5102 US Dollar
West Germany-Mark	= 0.4695 US Dollar

* Obtained from the Polish embassy in Washington, D.C.

Thoroughness and Accuracy of Information

Table II lists the countries included in the mail survey. Table III lists the international organizations included in the mail survey.

Table II: Countries Where Researchers Were Contacted

Australia	Hungary	Portugal
Austria	Iran	Romania
Belgium	Israel	Soviet Union
Bulgaria	Italy	Spain
Canada	Japan	South Africa
Czechoslovakia	Republic of Korea	Sweden
Denmark	The Netherlands	Switzerland
East Germany	New Zealand	United Kingdom
Finland	Norway	West Germany
France	Poland	Yugoslavia

Table III: International Organizations Where Researchers Were Contacted

Association of French Speaking Acousticians
"Groupement des Acousticiens" ("GALF")
International Commission on the Biological Effects of Noise (ICBEN)
Organization for Economic Co-operation and Development (OECD)
World Health Organization (WHO)

The response rate from each of these countries and organizations varied. While researchers in some countries and organizations returned several project descriptions, researchers in other countries and organizations returned very few or no project descriptions at all. A low rate of response does not prove conclusively that little or no research is being conducted. In some cases, the proper researcher or agency may not have received the letter of inquiry. However, a low response rate

more probably indicates that research is not widespread. An exception is the Soviet Union, where much research is being conducted and reported in professional journals, yet from which no completed project descriptions were returned.

In order to provide a representation of Soviet research, back issues for 1978, 1979, and 1980 of two Soviet medical journals, Gigiena Truda i Profesional'nyye Zabolevaniya and Gigiena i Sanitariya were reviewed. Articles describing Soviet research in noise effects on health were translated and transcribed onto project description forms. These forms, which credit the applicable journal, appear throughout this report.

Approximately the same number of inquiries were sent during this survey as were sent during the previous one.* However, this data collection effort made full use of the experience gained during the compilation of the previous survey. All contributing researchers to the 1978 report were given the opportunity to describe their current research. Inquiries also were sent to researchers with a known interest in international exchange efforts and for whom accurate addresses already had been obtained. Because this survey focused on previous contributors and other known, interested parties, the coverage was probably more thorough than before.

Accuracy of the reported data is impossible to ascertain. However, because the data was provided almost entirely by the researchers, reasonable accuracy is likely. There is a wide variation in the amount of reported information per project which probably reflects the varying amounts of time that researchers had available to respond to the inquiry.

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* Foreign Noise Research in Noise Effects, EPA 550/9-78-101. Office of Noise Abatement and Control, U.S. Environmental Protection Agency, Washington, D.C., January 1978.

The dollar figures given for the research projects should not be used to estimate the level of effort expended. The purchasing power of a fixed amount of dollars varies both from country to country and from time to time because of fluctuations in the monetary exchange rates. There also are differences between countries in calculating costs of a project such as variations in labor and overhead rates.

Classification Scheme

Research projects are classified into eight categories:

- o Nonauditory Physiologic Response
- o Noise Effects on Sleep
- o Individual and Community Response
- o Noise-Induced Hearing Loss and Hearing Conservation
- o Behavioral, Social and Performance Effects
- o Communication Interference
- o Noise Environment Determination and Exposure Characterization
- o Noise Concomitant With Vibration.

These are the same categories used in the report Federal Noise Research in Health Effects*, and are prioritized in accordance to the EPA Five Year Plan. (The priorities of EPA may differ from those of other agencies.) This similarity allows the user to easily compare the domestic and international research efforts. However, these categories were not used in the previous report.

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* Federal Noise Research in Health Effects, Draft. Office of Noise Abatement and Control, U.S. Environmental Protection Agency, Washington, D.C.

Comparison to the previous report still is possible though, because the changes are small. The following paragraphs provide detailed descriptions of the categories, and their component topics, as used in the current update.

1. Nonauditory Physiologic Response

This category, consists of the physiological effects of noise other than hearing damage. It is currently believed that noise acts as a biological stressor, producing and/or contributing to effects on the body that are typical of the so-called "stress diseases" (hypertension, ulcers, migraine headaches, etc.). Transient effects, such as a temporary rise of blood pressure or heart rate, have been produced in the laboratory, but these effects have not been thoroughly quantified, nor has it been definitively proven whether or not they become chronic after protracted exposure.

2. Noise Effects on Sleep

Noise can disrupt sleep by causing individuals to awaken, or it can degrade the quality of sleep by causing them to shift into a lighter stage of sleep. While noise-induced sleep disruption is an annoying and frequent occurrence, the levels that produce awakening or changes in the quality of sleep appear to vary widely among individuals. Also, information is lacking on the after-effects of consequences of noise-induced sleep disruption in terms of job performance, and degradation of health and well-being.

3. Individual and Community Response

This category includes the response of individuals as well as groups of individuals. Studies in this category are usually directed toward measuring the subjective reactions of individuals and residential populations to noise environments in general and to certain noise sources in particular. Studies on individual responses usually entail the presentation of various kinds of aversive noise, at various sound levels, in laboratory settings. Subjects then rate their subjective response (annoyance, irritation, discomfort, etc.) on a graduated scale. Community response studies usually involve the administration of surveys or questionnaires, which are conducted in the field rather than the laboratory. Most of the surveys to date have dealt with aircraft, railroad, and traffic noise.

Current research projects involve identifying the types of noise that are highly annoying to individuals, determining the responses of individuals to various kinds of aversive noise sources, the development of a more sensitive and comprehensive method of evaluating the impact of noise on the community, and extension of attitudinal surveys to neighborhoods impacted by aircraft and other sources of noise.

4. Noise-Induced Hearing Loss and Hearing Conservation

This category encompasses the protection and rehabilitation of hearing ability as well as how noise affects hearing. Much of the work in this area is directed toward the description, mitigation and, more recently, the prevention of noise-induced hearing loss among individuals in noisy work environments. Work has also progressed in the rehabilitation of hearing ability in the hearing-impaired.

5. Behavioral, Social and Performance Effects

This area of research includes investigations of human reactions to noise as measured by verbal (and sometimes non-verbal) and behavioral responses or alterations (coping behavior). The effects of noise on altered social interactions (i.e., reduction or elimination of conversation, social activities, etc.) is another component of this category. Most importantly, it includes the effects of noise on job performance. These effects may include subconscious, automatic or conscious reactions to noise. Much of this research is conducted in the laboratory but, more recently, these effects of noise (particularly on job performance), are being conducted in the field.

6. Communication Interference

This category is primarily concerned with the effects of noise on speech communication, but also includes the masking by noise of warning signals and other acoustic cues necessary for the safe and efficient conduct of daily activities.

Speech communication can be extremely difficult in backgrounds of moderate-to high-level noise. Adequate communication environments is important for formal education in schools, occupational efficiency, family life patterns, and quality of relaxation and social interaction.

7. Noise Environment Determination and Exposure Characterization

This category encompasses the quantification of both the noise levels in various environments as well as the exposure patterns of individuals or groups within those environments.

8. Noise Concomitant with Vibration

This category of research encompasses the effect of noise and vibration on man in both the work place and in the home environment. Effects of noise and vibration acting individually and combined as stressors on performance are examined.

Organization of the Report

In addition to these eight categories, there also is an appendix, Appendix A: Other Literature Search/Evaluation/Compilation Efforts. Reported data which was noteworthy, but which was not strictly research, such as literature surveys, are listed there.

Within each of the categories and the appendix, research projects are organized alphabetically by the reporting country. The abbreviated listings previously described appear last in the categories.

Categorization of topic areas was difficult, for many of the projects fit into more than one category. For example, the Swedish project "Annoyance of man due to vibrations in buildings" could be catagorized within either "Behavioral, Social and Performance Effects" or "Noise Concomitant With Vibration." In such a case, the main thrust of the research dictated placement. A reference page before each category refers the user to page numbers of any project description not actually described in that category, but which contain information relevant to that category. Using the Swedish project as an example again, this project description was listed in the category "Behavioral, Social and Performance Effects," and was referred to also on the "additional information" reference page before the category "Noise Concomitant With Vibration."

An index in the back of the report references projects by country.

ANALYSIS OF RESEARCH

Sponsorship of Research

In almost all countries, most of the research is government sponsored. In Socialist countries, the government sponsorship rate is 100 percent. Sponsorship rates in other countries are impossible to determine because few researchers reported financial data.

Reported Research by Country and Category

As can be seen from Table IV, most of the reported research is British and West German with 48 and 33 reported projects respectively. These figures reflect not only the high levels of research being conducted, but also the large number of contacts and information sources readily available for those countries. Other countries reporting high levels of research are Japan (15 projects), Sweden (15 projects), France (13 projects), and the Soviet Union (10 projects). There was one multinational project (on sleep).

Nonauditory Physiologic Response

Research is being conducted in this category in several countries with the most research being reported by West Germany (12 projects) and Japan (7 projects). Experiments relating to the effects of noise upon the cardiovascular system of humans and animals is widespread. Primarily, evidence of stress is sought. In these experiments, the effect of various types of noise such as motorcycle noise is examined. In some of the projects, the test subjects are placed in their work environment in order to determine the affect of noise on performance. Noise was found to increase stress.

Table IV: Reported Research by Country and Category

CATEGORY / COUNTRY	Austria	Belgium	Canada	Czechoslovakia	Denmark	Finland	France	Hungary	Israel	Japan	Netherlands	New Zealand	Norway	Poland	Soviet Union	Sweden	Switzerland	United Kingdom	West Germany	Total
Nonauditory Physiologic Response	1			1		1	2			7	2				5	2		1	12	34
Noise Effects on Sleep			1				3									2			4	10
Individual and Community Response	1	1	1		2		3		1	1	1		1	1		3	4	13	3	36
Noise-Induced Hearing Loss and Hearing Conservation				1			5	1					3	2	2	2		24	5	45
Behavioral, Social and Performance Effects												1			1	1		6	4	13
Communication Interference										1	3					2		3		9
Noise Environment Determination and Exposure Characterization						2									1	1		1	1	6
Noise Concomitant With Vibration			1							3					1	2			3	10
Appendix A			1							3									1	5
Total	2	1	4	2	2	3	13	1	1	15	6	1	4	3	10	15	4	48	33	168

* There was also one multinational project (on sleep).

Noise Effects on Sleep

Very little research was reported in this category. The West Germans reported the most with four projects, and the French reported three. Most of the projects were conducted either in the laboratory or the home, and were designed to determine the effect of traffic noise on sleep. The researchers that reported findings determined that traffic noise was detrimental to a peaceful nights sleep and that the cardiovascular system does not adapt during sleep to noise.

Individual and Community Response

Research was reported from more countries, 14, in this category than for any of the others. The British reported the most with 13 projects. Most of the projects are field tests. The annoyance of people to different noise sources was examined. Some of the tested noise sources included: high voltage transmission lines; road traffic noise (which was tested most often); railway noise; aircraft noise. Research also was widespread to determine the correlation of L_{eq} and annoyance. Researchers confirm that people are annoyed by noise of any kind, and are most annoyed when the noise prevents conversation.

Noise-Induced Hearing Loss and Hearing Conservation

More research projects were reported in this category than in any other. Most of the reported research came from the Institute of Sound and Vibration Research in the United Kingdom. That Institute reported 18 of the total 24 British projects. The second largest contributor to this category was the French with five reported projects. Researchers studying the effects of different types of noise (impulse, white, over

100 dB, under 100 dB) on the mechanisms in the ear report that the most significant factor is the energy of the noise dose and the direction of the noise source relative to the ear. In another type of study, the Soviets report that occupational hearing impairment depends to a large extent on the resonance of the outer ear canal. The British report many researchers experimenting with different aspects of hearing protectors.

Behavioral, Social and Performance Effects

The British reported the most research projects in this category (6 projects); the West Germans were second (4 projects). Most of the research was designed to measure the affect of various environmental and work-related noises on the behavior and efficiency of people. Overall, the findings in these experiments are that noise degrades performance. In order to study this effect more closely, the Swedes are constructing an environmental simulator to duplicate various types of noises.

Communication Interference

Little research was reported in this category. The most research was reported by the British, the Dutch and the Swedes with three, three, and two reported projects respectively. The Swedes are comparing subjects with normal hearing and with imparied hearing with respect to annoyance and speech intelligibility caused by traffic noise. This study is scheduled to be completed in October 1981. A conclusion of a recently completed British laboratory study is that with subjects with normal hearing, the wearing of hearing protectors does not adversely affect the detection or attention demand of an auditory warning signal.

Noise Environment Determination and Exposure Characterization

Most of the research was centered on the measurement of noise or noise exposures which either caused annoyance or impaired performance. Typically, either traffic noise or noise common to the work-place was measured.

Noise Concomitant with Vibration

Less research was reported in this category than in any other. The West Germans and Japanese reported the most projects (3 projects each). Most of these projects still are being conducted, and no findings were reported. In general, researchers appear to be establishing the relationship between combined noise and vibration effects on human performance. Studies of sailors subjected to the noise and vibration on board a ship are the most common.

Appendix A: Other Literature Search/Evaluation/Compilation Efforts

Five research projects were received that are applicable to this report, yet can not be categorized in one of the eight categories. These projects are evaluative literature searches and recent bibliographies in the field of health effects of noise on man. The Japanese reported in most of these, with three reported projects.

SUMMARY AND TRENDS

The purpose of this section is to summarize briefly the results of this survey, reiterate research highlights, and analyze certain trend data between this report and the previous one.

Summary (of the results of the recent survey)

Considering the research by category, as stated before, "Noise-Induced Hearing Loss and Hearing Conservation" and "Individual and Community Response" research have the most reported projects with 45 and 36 respectively. "Nonauditory Physiologic Response" is third with 34 reported projects. (See Table IV).

Tremendous interest in shown in determining the effect of noise, both on portions of the body that have nothing to do with the process of hearing, and as a cause of subjective annoyance. The portion of the body that is receiving the most attention is the cardiovascular system. In all studies where findings were reported, noise was found to create an adverse reaction to this system in the form of stress. It was also found that, unlike other systems in the body, the cardiovascular system does not adapt to noise exposure. This finding is particularly significant in the field of sleep research because it provides evidence that while a person may not awaken by noise, the cardiovascular system responds. Thus, the person may not receive the full amount of rest possible.

The most commonly investigated noise was traffic noise. Noise in the work-place also was heavily investigated. The prevalence of traffic noise studies is an indication of the large degree of annoyance caused by automobiles and trucks. Traffic noise studies, or studies in which traffic noise was used to test the annoyance reactions of people to noise outnumbered studies using other noise sources by approximately three to one. Researchers investigating noise in the work-place report that more intense noise tends to degrade performance levels.

Throughout the report, researchers conclude that the most fundamental aspect of the effect of noise on human performance and health is the level of energy of the noise, and the direction of the noise source relative to the ear.

Broad Trends (since the first survey, 1976-1977)

Four broad trends definitely can be reported: 1) the total foreign research effort as measured by the number of reported research projects relative to the number of inquiries made has remained approximately constant (approximately 200 and 170 respectively; 2) no difference in the relative number of experiments in each category (when the projects in the first report are categorized in a manner similar to that used in this report) is noticeable; 3) the research efforts have not become more fundamental or developmental in nature; 4) the United Kingdom and West Germany continue to contribute the most research project descriptions.

ACKNOWLEDGMENTS

The principal compiler of this report, Dick Barber of Informatics Inc., wishes to acknowledge the assistance of Carl Modig and Chip Baker, also of Informatics, Rudolph Marrazzo of the Office of Noise Abatement and Control, and the many noise/health effects researchers abroad who shared information about their projects.

NONAUDITORY PHYSIOLOGIC RESPONSE

See Also Pages:

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(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: AUSTRIA

PROJECT TITLE:
Expected and unexpected traffic noise and its effects on neurovegetative functions and TTS during and after noise exposure

Performing Organization Name & Address:

Institute of Environmental Hygiene
University of Vienna
Kinderspitalgasse 15
A-1095 Wien
and
Phonogrammarchiv, Liebigg. 5, 1010 Wien

Sponsoring Organization Name & Address:

Principal Investigator(s):

Univ. Prof. DDr. Manfred Haider

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: 1978

Completion Date: Estimated: 1982

Actual: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE: Influence of unexpected and uncontrollable traffic noise on arousal and relaxation during and after noise exposure; TTS and differential effect of attitudes.

PROJECT DESCRIPTION: In one experimental design Ss were exposed to traffic noise and white noise in discrete as well as in varying intervals; heart frequency, arrhythmia and the EMG were registered during noise exposure and during the recreation times. In the second experimental design, subjects were exposed to wanted and unwanted music as well as to noise of equal sound pressure levels and their TTS, heart frequency and arrhythmia measured.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Czechoslovakia

PROJECT TITLE:

Effects of Interrupted Noise on the Autonomic System and Hearing

Performing Organization Name & Address:

Research Institute of Preventive Medicine
Limbova 14, 809 58 Bratislava
Czechoslovakia

Sponsoring Organization Name & Address:

Principal Investigator(s):

Ludmila Blažeková, M.D.

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1978

Completion Date: Estimated: 0
Actual: 1980

Comments:

PROJECT OBJECTIVE: Heart rate, respiratory rate, blood pressure, vasoconstriction of blood vessels and temporary threshold shift of hearing were measured before, during and after exposure to noise.

PROJECT DESCRIPTION: Ten persons, one by one, were exposed to broad band interrupted noise of 90 dB/A/ SPL. The noise-rest ratios were 1:0,25; 1:0,5; 1:1 and 1:2. The total exposure time was 1 hr. For control, persons were exposed to permanent noise of the same parameters and duration as well as to the same test conditions but without noise.

SUMMARY OF FINDINGS (if project completed):

Sympathicotonic response of the organism was higher to interrupted noise than permanent one. Arrythmia and higher vasoconstriction effect was observed. Growth of the temporary threshold shift after interrupted noise was influenced by the duration of the rest period. No changes in blood pressure due to noise were found.

WHERE FINDINGS PUBLISHED:

Summary of the Proceedings of the III rd Industrial and Environmental Neurology Congress, Prague 25.-26. June 1979

'e prefer responses in English, :t can accept material in :her languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Finland

:OJECT TITLE:

Psychophysiological and physiological effects of impulse noise

:rforming Organization Name & Address:

Institute of Occupational Health
Haartmaninkatu 1, 00290 Helsinki 29,
Finland

Sponsoring Organization Name & Address:

Academy of Finland
Ratamestarinkatu 2, 00520 Helsinki 52,
Finland

:incipal Investigator(s):

Sirkka Mäntysalo

Annual Funding:

1978: _____ 1980: x) $23,284 (95.274,-)

1979: x) (50.339,-) $12,303 1981: x) (62.016,-) $15,156

OR:

Total Funding Amount: x) (351.629,-) $85,938

tart Date: 1.4.78

ompletion Date: Estimated: 31.12.1981

Actual: _____

Comments: Academy of Finland

ROJECT OBJECTIVE:

ROJECT DESCRIPTION: The project has three parts: 1) The questionnaire study where the subjective symptoms, healthy conditions, noise annoyance and the personality traits of the shipbuilding workers exposed to impulse noise for 3-4, 5-6, and 7-10 yrs are estimated. 2) The visual choice reaction, Galvanic Skin Conductance and the hearing thresholds of the same workers are measured three times during the course of a workday. 3) A laboratory simulation study where the noise conditions with certain RT-tasks are performed and the psychophysiological functions and performance are measured under three noise exposure levels.

UMMARY OF FINDINGS (if project completed):

HERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: FRANCE

PROJECT TITLE: POST NATAL EFFECT OF PRENATAL SOUND STIMULATION.

Performing Organization Name & Address:

Institut National de la Recherche Agronomique
Laboratoire de Physiologie Acoustique
C.N.R.Z.
78350 JOUY-en-JOSAS

Sponsoring Organization Name & Address:

I.N.R.A. and MINISTERE DE L'ENVIRONNEMENT
ET DU CADRE DE VIE
S.G.H.C.E.
14, Bd. du Général Leclerc
92521 NEUILLY-sur-SEINE

Principal Investigator(s):

Dr. Marie-Claire BUSNEL

Annual Funding:
1978: 12 112 $ U.S. 1980:
1979: 4 845 $ U.S. 1981: 90 750 $ U.S.
OR:
Total Funding Amount: 107 707 $ U.S.

Start Date: 1976

Completion Date: Estimated: 1981 (for 1)
Actual: ? (for 2)

Comments:

+ 76-77 = 29 000 $ U.S.

PROJECT OBJECTIVE: TO FIND OUT IF THERE IS A "IMPRINTING" / "MEMORY" "HABITUATION" OF SOUND STIMULUS GIVEN PRENATALLY.

PROJECT DESCRIPTION:

1) Physiological measurements on mice of the effects of very strong noise stimulation 105 to 110 dB during fetal life - growth of the young, fertility rate of the mother, etc..

2) Are animals thus stimulated less stressable when restimulated by the same noise in later life.

SUMMARY OF FINDINGS (if project completed):

1) Find results show little effect of noise alone, but a strong effect of the sound stimulation as soon as one other stress is added to the noise.

2) Preliminary results on carticosteroids levels after an acoustic stimulation, seem to show that those animals who have heard the same sound during fetal life are not stressed by the stimulus.

MORE FINDINGS PUBLISHED: PRELIMINARY RESULTS, YES.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: France

PROJECT TITLE:

Cardiac reactions and annoyance to motorcycle noise

Performing Organization Name & Address:
IRT - CERNE
109 Avenue Allende
69672 Bron Cedex
France

Sponsoring Organization Name & Address:
CETUR

Principal Investigator(s):
M. Vernet

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: (50000) $9,965
1979: _____ 1981: (160000) $31,988

Start Date: _____

Completion Date: Estimated: 1981 OU 1982
Actual: _____

OR:
Total Funding Amount: (210000) $41,353
Comments:

PROJECT OBJECTIVE:

Cardiac reactions and annoyance to motorcycle noise

PROJECT DESCRIPTION:

In laboratory, study of evolution of psychological and cardiac reactions to different motorcycle noises. Study of the effects of spectral characteristics on habitation.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Japan

PROJECT TITLE:

Comparative Studies on Adrencortical Response to Noise in Men and Rats

Performing Organization Name & Address:

Dept. of Hygiene
Mie University School of Medicine
Tsu
Japan

Sponsoring Organization Name & Address:

Principal Investigator(s):

Hirohumi Sato
Kiyoo Matsui
Hiroshi Sakamoto

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

PROJECT OBJECTIVE: This study was undertaken to consider the species specificity of the effects to noise on adrenal function by applying the findings of experiments on animals to the case of human responses.

PROJECT DESCRIPTION: Humans and rats were exposed to a wide octave-band noise under different conditions of intensity and time, either continuously or intermittently. Under controlled conditions, the intensity of the noise was 20 dB(A).

SUMMARY OF FINDINGS (if project completed): 1) In rats, 11-OHCS concentrations in the adrenal
STATUS REPORT (if in progress): were elevated in both the cases of continuous and intermittent exposure except in the case of intermttent exposure of 2-seconds cycles. The 11-OHCS concentrations in blood sera were elevated for all the exposures. These elevations were remarkable at initial stage of exposures, although elevation levels were higher for cases of continuous exposure than for those of intermittent exposure; 2) in humans, no changes in the 11-OHCS excretion found in urine and in blood serum were observed under either the continuous and intermittent exposure. From the above results, acceleration of adrenocortical function due to exposure to noise can be observed in rats but not in human beings. Thus, the reaction can be said to be species specific.

AVAILABLE PUBLICATIONS (of research findings):

Sato, H. et al. "Comparative Studies on Adrenocortical Response to Noise in Men and Rats." Jap. J. Hyg. 35, 1980, pp. 499-507.

Information obtained from the above mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Japan

PROJECT TITLE:

Effects of Noise on Duration Experience

Performing Organization Name & Address:

Department of Environmental Planning
Kobe University
Rokkodai, Nada
Kobe 657
Japan

Sponsoring Organization Name & Address:

Universtiy Hospital
Faculty of Medicine
Kobe University
Kusunoki, Ikuta
Kobe 650

Principal Investigator(s):

Dr. Yoichi Ando, Associate Professor

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

An attempt was made to derive an impression of time duration during noise presentation.

PROJECT DESCRIPTION: A pilot investigation has been attempted in order to investigate the subjective impression of time during noise presentation. A total of 93 Japanese pupils (boys, 13-14) were chosen as subjects, and exposed to jet airplane noise. At regular intervals, their urine was collected in order to investigate the effects of noise on internal secretions. The collection of the urine was used as a masker investigation.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): Approximately 80% of the subjects rated the subjective duration of the noise shorter than the interval without noise. This test was at a 75 dB(A) peak level.

It is considered that subjective time can be accelerated by noise (45...75 dB(A)), to make one feel that time passes faster than in silence. In other words, a kind of clock signal, if it exists in the brain processing time perception, may be inhibitted by noise.

AVAILABLE PUBLICATIONS (of research findings):

Ando, Yoichi. "Effects of Noise on Duration Experience." Journal of Sound and Vibration, 55(4), 1977, pp.600-603.

Information obtained from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Japan

PROJECT TITLE:

Human Anterior Pituitary Hormone Response to Noise

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Dept. of Hygiene School of Medicine Yamaguchi University Ube, Japan	

Principal Investigator(s):	Annual Funding:
J. Osaki and M. Iwamoto	1978: _____ 1980: _____ 1979: _____ 1981: _____ OR: Total Funding Amount: _____
Start Date: 1978- Completion Date: Estimated: _____ Actual: _____	Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

Changes in serum ACTH,plasma GH,plasma PLA and plasma cortisol concentrations of young healthy women following exposure to acute pink noise(110,100 90dB(A)).

SUMMARY OF FINDINGS (if project completed):

WHERE FINDINGS PUBLISHED:

Japanese Journal of Hygiene, 1980, vol.35, No.1.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: JAPAN

PROJECT TITLE:

Physiological responses to noise under the whole body vibration

Performing Organization Name & Address:

Department of Physiological Hygiene
The Institute of Public Health
6-1,Shirokanedai 4-chome,Minatoku
Tokyo 108,Japan

Sponsoring Organization Name & Address:

Research Coordination Division
Environment Agency
1-1,Kasumigaseki 3-chome,Chiyodaku
Tokyo 100,Japan

Principal Investigator(s):

Drs Y.Osada,A.Hirokawa,S.Ogawa,C.Ohkubo, K.Haruta

Annual Funding:
1978: Ca.$ 20,000 1980: Ca.$15,000
1979: Ca.$ 20,000 1981: unfixed
OR:
Total Funding Amount: unfixed

Start Date: 1978

Completion Date: Estimated: 1981
Actual:

Comments:

PROJECT OBJECTIVE:

To clarify the influence of whole body vibration on the physiological effects of noise in human.

PROJECT DESCRIPTION:

Physiological effects of noise and vibration have been studied separately but a little work has been made on their combined effects in spite of their frequent concurrence in the field. In this project, human subjects are exposed to noise and vibration, separately and in combination, and physiological functions of the subjects such as finger pulse amplitude, blood cell counts, and urinary excretions of adrenal hormones are investigated.

SUMMARY OF FINDINGS (if project completed):

Male subjects, sitting on chairs fixed on the shaking table, were exposed to noise and vibration of 30 sec every 2 min for 90 min. In the first experiment, noises of 75 and 85 dBA and vertical, sinusoidal 10 Hz vibration were apllied separately and simultaneously. Vasoconstriction occured by whole body vibration as well as by noise. When the vibration was given with noise, the response was somewhat inhibited. In the next experiment, sound levels of 70, 75, 80, and 85 dBA and vibration levels of 75, 80, 85, and 90 dB were used. Vasoconstricting response was, in contrast with the former experiment, enhanced when noise and vibration were apllied simultaneously. Changes in the numbers of circulating eosinophils, basophils, and total leucocytes showed the same tendency. Urinary excretions of adrenal hormones gave such a tendency in some cases. Further studies are being carried out.

WHERE FINDINGS PUBLISHED:

(1) Y.Osada, et al.:Comprehensive Research for Prevention and Evaluation of Noises and Vibrations, Research Report in 1978, Environment Agency.
(2) ibid: ibid in 1979, Environment Agency.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Japan

PROJECT TITLE:

Pituitary Adrenocortical Response to Noise Exposure in Rats

Performing Organization Name & Address:

Department of Hygiene
Mie University School of Medicine
Tsu
Japan

Sponsoring Organization Name & Address:

Principal Investigator(s):
Kiypp Matsui
Hiroshi Sakamoto
Kiyoharu Horio
Hirohumi Sato

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):

STATUS REPORT (if in progress): Male rats were exposed to the wide octave-band noise for eight hours at the intensity of 60, 80, or 100 dB(C), respectively. THe 11-OHCS concentration in the adrenal glands increased in the initial stage of noise exposure, and returned to the control level soon after. The circadian rhythm of 11-OHCS remained in spite of the continuation of noise exposure except in the initial response. After the noise exposure rats were exposed again at 100 dB (C). The 11-OHCS did not increase in the rats exposed previously at 100 dB(C). In all the intensities, the 11-OHCS increased to the control level by ACTH administration at the end of the noise exposure. By histamine administration at the end of noise exposure, the increase of the 11-OHCS was less in the rats exposed to 100 dB(C) than in the rats exposed to low intensities.

-from the summary of the work mentioned below

AVAILABLE PUBLICATIONS (of research findings):

Matsui, K. et al. "Pituitary Adrenocortical Response to Noise Exposure in Rats." Japanese Journal of Hygiene, Vol. 33 No. 5, 1978, 693-698.

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Japan

PROJECT TITLE:

Noise Effect on the Psychomotor Activity of Rats

Performing Organization Name & Address:

1. Department of Hygiene, Mie University School of Medicine, Tsu
2. Department of Helath and Physical Fitness, Mie University School of Education, Tsu
3. Mie Nursing College, Tsu

Principal Investigator(s):
1. Hiroshi Sakamoto and Kiyoo Matsui
2. Takashige Mitsuya
3. Fumiyo Hayashi

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed): Male rates were trained daily for 20 days in a multiple maze with five choice points in the pathway. To observe the locus of their behavior during training in the maze, electrical information from 12 gates with infrared monitors installed along the pathway was recorded remotely. Two parameters were obtained from this record; one was the average time spent in a gate interval, the other was the distance moved per second. One group of rats was fed ad libitum and the other had its food withheld from evening to the end of training the next morning. Each group was subdivided into three groups for training under different noise conditions, the silent group, the group exposed to noise for one hour before the start of daily training and the group exposed to noise during daily training. The number of rats in each group was twenty. They were exposed to noise of a wide octave-band at an intensity of 100 dB(C). The results were as follows:1) a significant inverse correlation was observed between the two parameters; 2) as training progressed under the silent condition, the average time spent in a gate was reduced and the speed rose gradually; 3) these changes were more remarkable in the fasted group than in the group fed ad libitum; 4) no significant changes were observed after the 9th day of training for the average time spent in a gate or after the 11th day of training for speed; 5; as training progressed the rising grade of psychomotor activity was inhibited by exposure to noise; 6) this inhibiting effect observed for speed was more remarkable in the group exposed to noise before the start of training than in the group exposed to noise during training. This may have been due to differences in the duration of the exposure to noise; 7) since observational error based on the unequality of each gate interval was included in the average time spent in a gate interval, the difference in the effects of both exposed conditions was unclear.

AVAILABLE PUBLICATIONS: Sakamoto, h. et al. "Noise Effects on the Psychomotor Activity of Rats." Jap. J. Hyg. 6, 1979, pp. 765-771.

Transcribed from the above mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: JAPAN

PROJECT TITLE:

Vasoconstricting effect and perceived noisiness of intermittent noise

Performing Organization Name & Address:

Department of Physiological Hygiene
The Institute of Public Health
6-1, Shiroganedai 4-chome, Minatoku
Tokyo 108, Japan

Sponsoring Organization Name & Address:

Principal Investigator(s):

Drs Y.Osada, C.Ohkubo, K.Miyazaki, and K.Sawanobori

Annual Funding:
1978:_____ 1980: _____
1979:_____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1976

Completion Date: Estimated: 1981
Actual: _____

Comments:

PROJECT OBJECTIVE:

To clarify the mechanism involved in noise effect on peripheral blood vessels.

PROJECT DESCRIPTION:

Sound stimuli produce vasoconstriction of peripheral blood vessels. The response is said to be the result of stimulation of sympathetic nervous system by sound and its intensity depends on the sound level, band width, and pitch of the sound. This response is also said to occur independently of mental sate of listeners but this has not been elucidated. Then, human subjects are exposed to noise and response of their finger pulse amplitude is recorded and analysed , and the relationship between the response and perceived noisiness is studied.

SUMMARY OF FINDINGS (if project completed):

Young subjects of both sexes were exposed to intermittent pink noises having peak levels(PL) from 62 to 89 dBA and rise time(RT) from 0 to 10 sec/10 dB. The vasoconstricting response taken by plethysmography showed high correlations with PL and RT and also had a high correlation with perceived noisiness of noises judged by the subjects. In the next experiment, subjects were exposed to tone, 1/3 octave band-noise, and 1 octave band-noise having PL from 60 to 80 dBA and center frequencies from 250 to 4k Hz. The response depended upon band-width, PL, and center frequency of noise and, again, had a high relation with perceived noisiness of noise. Further study along this line is now being investigated.

WHERE FINDINGS PUBLISHED:

(1) Y.Osada, et al.:Bull.Inst.Publ.Health,26(3/4):171-177,1977
(2) Y.Osada: Abstract of Xth Intern.Congress on Acoustics,Sydney,vol.2:C2-1,4, 1980

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Netherlands

PROJECT TITLE: Effects of noise in the living environment on the blood circulation and respiration in man

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
TNO research Institute for Environmental Hygiene, Postbus 214, Delft. Netherlands	Praeventiefonds, Frankenstraat 3, The Hague. Netherlands

Principal Investigator(s):

Mrs. drs. W. Passchier-Vermeer

Annual Funding:
(Check One: Fiscal Yr: ___ Calendar Yr: ___)

1978: Dfl. (260.000) $110,214 — 1980: Dfl. (260.000) $110,214

1979: Dfl. (260.000) $110,214 — 1981: Dfl. (100.000) $42,390

OR:

Total Funding Amount: (Dfl. 910.000) $385,749

Start Date: July 1977

Completion Date: Estimated: July 1981

Actual: _____

Comments:
Funding already in 1977.
1981: the remaining part of 1980.

PROJECT OBJECTIVE: To determine the effects of noise exposure on the blood circulation and respiration in man.

PROJECT DESCRIPTION: Test-subjects are exposed for two hours to road traffic noise, industrial noise, aircraft noise and railway noise. Test-subjects are young and older persons, males and females, noise-resistent and noise-sensitive persons. During the exposure, test-subjects carry out a mental task. Changes in parameters of the blood circulation (heart rate, systolic and diastolic blood pressure, sinus-arithmia, vasoconstriction/vasodilation) and respiration (respiration rate) are determined relative to experiments without noise exposure.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

The research showed a statistically significant increase in heart rate and respiration rate due to noise exposure of 3,4 % and 2,1 % resp. The sinus-arithmia showed a significant decrease of 21 % during noise exposure, relative to experiments without exposure to noise. Only a very slight effect of noise on diastolic and systolic blood pressure could be shown. The increases turned out to be 4 and 1 mm Hg resp. Statistical significant vasoconstriction due to noise exposure could be shown relative to experiments without a mental task in quiet, but vasodilation due to noise has been observed relative to experiments in quiet with a mental task. All changes in respiration and blood circulation show that noise exposure should be considered as a stress factor. At the same time it could be shown that fluctuating (impulse) noise gives the largest physiological changes as well as the largest degrees of annoyance, compared with exposure to road traffic noise, aircraft noise and railway noise.

AVAILABLE PUBLICATIONS (of research findings):

Report B 373-E. Noise effects. Effects of noise on blood circulation and respiration. Part I, October 1977, by A.J.M. Rövekamp and W. Passchier.

Report B 432. Effects on man of noise in the living environment. Invloed van woonomgevingsgeluid op de ments. Experimenteel onderzoek naar de involed van woongevingsgeluid en ademhaling van de mens, door ing. A.J. M. Rovekamp. Oct. 1980.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response ..

COUNTRY: The Netherlands

PROJECT TITLE: Experimental and environmental study into the extra-auditory effects of exposure to aircraft, traffic and industrial noise on physiological parameters and health.

Performing Organization Name & Address:

Coronel Laboratory on occupational and environmental health
University of Amsterdam
1e Const.Huygensstraat 20
Amsterdam. The Netherlands

Sponsoring Organization Name & Address:

Duth Praevention Fund
Ministry of Health and Environment
Ministry of Social Affairs

Principal Investigator(s):

Dr. J.H. Ettema,
Dr. P. Knipschild,
F. van Dijk, med.drs.
F. Windemuller, psycn.drs.

Annual Funding: $84,780
1978: (illegible) 1980: (illegible)
1979: (illegible) 1981: (illegible)
OR: $84,780 $63,585
Total Funding Amount:

Start Date: 1974/ second part 1976

Completion Date: Estimated: ultimo 1981

Actual:

Comments:

PROJECT OBJECTIVE: study of the effects of noise (environm. and industr.) on physiol.parameters and on health (especially cardiovascular disorders).

PROJECT DESCRIPTION: actual - not completed

exper.: effect of noise on hypertensive people - they seem to be more sensitive

epidemiol.: traffic noise: effect of living in noise streets studied from date of a survey on cardiovascular disorders in the population of a town (40 - 41 years of age).

industrial noise: some effects of long-term exposure on cardio-vascular parameters are studied, some indications of negative effect

SUMMARY OF FINDINGS (if project completed): - already completed

exper.: increase of diastolic bloodpressure, also in relation to time of exposure, increase of other phys. parameters, but not related to time of exposure

epidem.: aircraftnoise: in population in neighbourhood of international airport (after correct. for age, social-econimc.status, a.s.o.) more patients with hypertension and other cardiovasc. diseases, increase of the use of drugs (cardiovasc.drugs, sedativa) - related to time of exposure; and increase of consultations in general practices (increase of psychosomatic complaints).

AVAILABLE PUBLICATIONS (of research findings):

Ettema, J.H. and Gerd Jansen, Non-auditory physiologic effects induced by noise (deliberations and discussions). Proc. IIIth intern.Congress...a.s.o. 1980, pp 690-691

Knipschild, P., Aircraft noise and hypertencion. Proc. IIIth intern. Congress.....a.s.o. 1980, pp. 283-287.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Soviet Union

PROJECT TITLE: State of the Cardiovascular System in Adolescents Performing Precise Visual Operations During Exposure to Occupational Noise

Performing Organization Name & Address:
Erisman Institute of Hygiene
Moscow

Sponsoring Organization Name & Address:

Principal Investigator(s):
E.A. Geltishcheva

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: _____

Completion Date: Estimated: _____
Actual: _____

OR:
Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): The state of the cardiovascular system has been studied in adolescent workers and students of vocational training schools who perform precise visual operations (watch assembling) while exposed to noise. The cardiovascular system was studied in the course of a working day, a working week, and a working year. Heart rate, blood pressure, stroke and minute volumes, and electrocardiograms were recorded. It has been found that stressful situations affect adversely the cardiovascular function and that this function can be improved by occupational gymnastics.

AVAILABLE PUBLICATIONS (of research findings):
Geltishcheva, E.A., "State of the Cardiovascular System in Adolescents Performing Precise Visual Operations During Exposure to Occupational Noise," Hygiene and Sanitation, 1979,25-29

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Soviet Union

PROJECT TITLE: Immunologic Reactivity of Experimental Animals Exposed to Noise

Performing Organization Name & Address:

Leningrad Institute of Radiation Therapy
Leningrad Institute for Training of Physicians

Sponsoring Organization Name & Address:

Principal Investigator(s):
V.M. Shubik
K.V. Negrienko

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

OR:
Total Funding Amount: _____
Comments:

Start Date: _____

Completion Date: Estimated: _____
Actual: 3/70 (approx)

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Nonimbred white rats exposed to a noise of 65 dB(A) for two months showed decreases in reactions of natural immunity, such as the bactericidal response, complement activity of blood serum, and liters of normal autoantibodies. The observed immunologic achnges are interpreted as indicating an unfavorable response of the body to the disease.

AVAILABLE PUBLICATIONS (of research findings):

Shubik, V.M. and K.V. Negrienko. "Emmunologic Reactivity of Experimental Animals Exposed to Noise," Hygiene and Sanitation, 11/79 25-27.

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Soviet Union

PROJECT TITLE: The state of the sympatico-adrenal system in workers exposed to a long-term effect of an intensive industrial noise (based on findings of the catecholamines excretion with the urine)

Performing Organization Name & Address:
Institute of Work Hygiene and Occupational Disease
Kharkov

Sponsoring Organization Name & Address:

Principal Investigator(s):
V.N. Makotchenko V.F. Rudenko
V.P. Malinina-Putsenko
R.P. Vasilchenko

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____
Comments:

Start Date: _____

Completion Date: Estimated: _____
Actual: 4/77 (approx)

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

In 91 workers exposed to a protracted action of an intensive industrial noise the functiona state of the sympathyico-adrenal system, as evident from the diurnal catecholamines passage with urine findings, was studied. A moderate fall of the sympathico-adrenal system tone (reduced background excretion of catecholamines with urine) and changes in its reactivity (as seen from the results of load tests with epinephrine and insulin) were revealed. These correlated with the intensity of the noise-induced pathology (neuritis of the auditory nerves, functional disorders of the central nervous system). The investigation of the diurnal catecholamines in dynamics (before and after treatment bore testimony to an impersistent nature of the disclosed disorders.) The question on the part played by the functional state of the sympathico-adrenal system in the pathogenesis of the "noise" disease discussed.

AVAILABLE PUBLICATIONS (of research findings):

Makotchenko, V.P., et al., "The State of the Sympathico-Adenal System in Workers Exposed to a Long-term of an Intensive Industrial Noise (Based on Findings of the Catecholmines Excretion With the Urine," Gigiena Truda i Professional'nyye Zabolevaniya, 8/78, 11-15.

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Soviet Union

PROJECT TITLE:

Early Signs of the Effect of Impulse Noise on Workers in a Rolling Mill

Performing Organization Name & Address:

Institute of Work Hygiene and Occupational Disease
Donetsk

Sponsoring Organization Name & Address:

Same

Principal Investigator(s):
G.S. Zvereva N.A. Sukhorukova
M.V. Ratner
A.V. Kolganov
T. Ya. Toporets

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: _____

Completion Date: Estimated: 1977
Actual: _____

OR:
Total Funding Amount: _____
Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION: In a retrospective and prospective epidemiological study, 480 workers were studied whose length of service varied from several months to 22 years. Typical impulse noise levels were equivalent or continuous noise of a level of 110 dB/. Some apparent increases or decreases in average hearing thresholds were due to change in composition in the working group with time as certain workers left. For a smaller group, a larger number of indicators was measured over a period of time, including arterial blood pressure at intervals (2-3 times per year), muscle strength at end of shift, state of the vegetative system and sensitivity to pain and vibration. These are physiological indicators of the organism's ability to resist insult.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Findings included NIHL is possible in the rolling mill industry with workers whose length of service is three or more years. After five years, NIHL progresses rapidly. In workers of 1-2 years service not yet manifesting NIHL, physiological shifts were already evident similar to ehose present in more senior workers with NIHL.

Also investigated were a worker's complaints about headaches, ect., as an indicator of potential hearing loss.

AVAILABLE PUBLICATIONS (of research findings):
Zvereva, G.S. et al., Early Signs of the Effect of Impulse Noise On Workers in a Rolling Mill, Gigiena Truda i Professional'nyye Zabolevaniya, No. 8 1978, 46-49.

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Soviet Union

PROJECT TITLE:
Effect of Aircraft Noise of the Cardiovascular System of Man

Performing Organization Name & Address:
Erisman Scientific Research Institute of Hygiene
Moscow

Sponsoring Organization Name & Address:

Principal Investigator(s):
S.V. Razveikin I.A. Berenshtein
B.M. Stolbun K.P. Dzhiga
I.L. Karagodina
I.S. Surinovich

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: _____

Completion Date: Estimated: _____
Actual: July 1979 (approx)

OR:
Total Funding Amount: _____
Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

The following alterations of moderate degree were noted in the cardiovascular system of those living and/or working at airports and exposed to intense noise (up to 67-92 dB(A) during take-off at the place of residence and up to 117 dB(A) at the work): metabolic disturbances reduced myocardial contractility, predominance of the pathicotonic type of cardiac activity regulation increased rigidity of elastic vessels, and increased vascular resistance to blood flow. The magnitude of these alterations correlated with the intensity of noise.

AVAILABLE PUBLICATIONS (of research findings):
Razveikin, S.V. et al., "Effect of Aircraft Noise on the Cardiovascular System of Man." Hygiene and Sanitation, May, 1980, 12-14.

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Sweden

PROJECT TITLE:
Hemodynamic effects of acute stimulation with industrial noise

Performing Organization Name & Address:

Department of Medicine, Hypertension Div. Östra Hospital, University of Gothenburg, 416 85 Gothenburg, Sweden.

Sponsoring Organization Name & Address:

Minor contributions from several sources

Principal Investigator(s):

Lennart Hansson, M.D., Ph.D.
Lennart Andrén, M.D.

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: _____

Completion Date: Estimated: 1980

Actual: _____

Comments: Inadequate

PROJECT OBJECTIVE: To investigate whether industrial noise at 95 dBA under strictly standardized conditions (in a noise laboratory) affects blood pressure, and if so by which hemodynamic mechanism (Cardiac Output/TPR) + study of plasma catecholamines.

PROJECT DESCRIPTION:

Hemodynamics performed during resting conditions in noise lab. before, during and after 15' stimulation with industrial noise at 95 dBA in healthy volunteers.

SUMMARY OF FINDINGS (if project completed):

Preliminary: Rise of diast. BP and increase of TPR. No change of Heart Rate or Cardiac Output. This indicates a vasoconstrictor mechanism similar to e.g. Cold Pressor Test, but unlike BP rise during other forms of mental stress.

WHERE FINDINGS PUBLISHED:

Will be published in Acta Medica Scandinavica

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: Sweden

PROJECT TITLE:
Experimental and Epidemiological Studies of the Effects of Infrasonic Noise on Man

Performing Organization Name & Address:
National Board of Occupational
Safety and Health
Stockholm
SWEDEN

Sponsoring Organization Name & Address:
The Swedish Work Environment Fund

Principal Investigator(s):
Ludwik Liszka
Ulf Landström

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: (2 million) S (1978 1979, 1980, 1981)

Start Date: 1978

Completion Date: Estimated: _____
Actual: _____

Comments: $431,800

PROJECT OBJECTIVE:
Clarifying the way by which infrasound excerts its effects upon human, health hazards and norms.

PROJECT DESCRIPTION:
The aim of the project is to study effects of exposure to infrasonic noise on the human organism at intensities ranging from 90 to 125 dB. Somatic and psycnological effects will be studied through laboratory experiments and measurements at working places.

SUMMARY OF FINDINGS (if project completed):
Human reaction to infrasonic noise has been examined through laboratory experiments and measurements at a working place. The production of infrasound for laboratory investigation was achieved with a low frequency pressure chamber. An examination was also made on workers exposed to infrasonic noise from a ventilation system. Different kind of psysiological reactions were noticed. Infrasound was found to cause an increase in production of HCl from the stomach and a reduction of the respiration rate. Exposition reduced the systolic pressure but caused an increase of the diastolic pressure. A slight reduction in production of cortisol and adrenaline was also found. In the psychological tests an estimation of the wakefulness was included. The tendency to fall asleep during infrasound expostion was clear. The symptoms of tiredness was confirmed through EEG registration.

WHERE FINDINGS PUBLISHED:

In Proceedings of the Conference on Low Frequency Noise and Hearing 7-9 May 1980 in Aalborg, Denmark.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: UNITED KINGDOM

PROJECT TITLE:

AUDITORY CORTEX AND THE PERCEPTION OF COMPLEX STIMULI.

Performing Organization Name & Address:

Birmingham University,
Neurocommunications Research Unit,
The Medical School
Birmingham. B15 2TJ

Sponsoring Organization Name & Address:

Medical Research Council
20 Park Crescent
London W1N 4AL

Principal Investigator(s):

I. C. WHITFIELD

Annual Funding:
1978:_____ 1980: _____
1979:_____ 1981: _____
OR:
Total Funding Amount: (£11,000)
Comments: $24,222

Start Date: 1978 through 1981

Completion Date: Estimated: _____
Actual: _____

PROJECT OBJECTIVE:

To determine the relation between cortical damage and the degree of complexity of auditory stimuli that can be perceived.

PROJECT DESCRIPTION:

Pitch discrimination versus frequency discrimination has been studied by means of behavioural experiments in animals. The stimuli were complex tones with various relationships between their spectral composition and their apparent pitch.

SUMMARY OF FINDINGS (if project completed):

It has been found that bilateral removal of auditory cortex disrupts the ability to identify pitch changes although the discrimination of frequency is unimpaired.

The relative roles of the right and left hemispheres are presently being studied.

WHERE FINDINGS PUBLISHED: Brain, Behavior & Evolution 16: 129-154 (1979) The Object of the Sensory Cortex.

J. Acoust. Soc. Am 67(2), Feb 1980. Auditory Cortex and the Pitch of Complex Tones.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE: Investigation of the Effect of Combined Stresses From Exposition To Noise and Trichloroethane

Performing Organization Name & Address:

University of Bremen
Postfach 330440
D-2800 Bremen 33

Sponsoring Organization Name & Address:

Principal Investigator(s):

Prof. Dr. Horst Diehl

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: 1980

Completion Date: Estimated: 1982

Actual: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

To find out whether there are synergistic effects or not.

PROJECT DESCRIPTION:

Four populations of rats are exposed to 1)noise; 2) TCE; 3) noise and TCE; 4) control conditions. Other environmental conditions are to be held in a physiologicalactivity of the liver monooxygenase system.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

So far the expermental setup has been established including controlled environmental chambers, simulation and detection of noise and atmospheric conditions as well as biophysical analytic methods.

AVAILABLE PUBLICATIONS (of research findings):

in preparation

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE:
Investigations of Infant's Adrenal Gland Reactions to Diverse, Quantified Noise Loads

Performing Organization Name & Address:

Kinderklinik der Univer.
Freiberg
Mathildenstrasse 1
Freiberg
West Germany

Sponsoring Organization Name & Address:

Principal Investigator(s):
Prof. Dr. R. Gadeke

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: 1975

Completion Date: Estimated: _____
Actual: _____

OR:
Total Funding Amount: _____
Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

Creation of physiological, psychological, sociological and economic bases for noise control, especially in the area of legislation and spatial planning as well as in the establishment of norms and guidelines in the framework of the project entitled "Effect of Noise on Special Groups of Persons Above All People."

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE:
Electrolyte and collagen content of rat heart in chronic Mg-deficiency and stress

Performing Organization Name & Address:
1. Institut fur Molekularbiologie und Biochemir, Freie Universitat Berlin
2. Institut fur Wasser-, Boden- und Lufthygiene, Bundesgesundheitsamt Berlin
3. Anatomisches Institut, Freie Universitat Berlin

Principal Investigator(s):
1. Von E. Guntcher
2. H. Ising
3. H.J. Merker

Start Date: _____

Completion Date: Estimated: _____
Actual: _____

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:
Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): In chronic Mg-deficiency, there is a decrease in the contents of Mg and K^+ in the heart muscle. The contents of Ca, Na^+ and hydroxyproline increase. There is also an increased urinary excretion of adrenaline and especially noradrenaline. With simultaneous noise stress, these changes are even greater. The magnitude of the changes increases with the degree of Mg-deficiency. The changes in the contents of Na^+, K^+, Ca, Mg and Hydroxyproline correlate with the excretion of noradrenaline. The increase in the collagen content can be verified by electron microscopy, and it is due to a stimulation of the fibrocytes.

AVAILABLE PUBLICATIONS (of research findings):
Ising, H. et al. "Elektrolyt- und Kollagengehalt im Rattenherzen bei chronischem Magnesium-Mangel und Stress," J. Clin. Chem. Clin. Biochem, Vol. 16, 1978, pp. 293-297.

Information obtained from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE:

Is Traffic Noise a Health Hazzard?

Performing Organization Name & Address:

1. Institut fur Wasser,-Boden- und Lufthygiene des Bundesgesundheitsamtes, Corrensplatz 1, D-1000 Berlin 33
2. Institut fur Molekularbiologie und Biochemie, Freie Universitat, Berlin
3. Institut fur Psychologie, Technische Universitat, Berlin
4. Institut fur Psychologie, Freie Universitat, Berlin

Principal Investigator(s):

1. H. Ising
2. B. Markert
2. T. Gunther
3. R. Guski
4. P. Schulz

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): From recent field- and laboratory studies, the connections are shown between disturbance through traffic noise and longterm biochemical and circulation reactions. A 10 dB(A) increase of traffic noise above the limit of 50 to 60 dB(A) during the daytime could result in a distinct increase of the cardiovascular healthrisk in populations of industrial countries living under various forms of stress. Therefore in political decisions on noise limits this should be taken into account.

AVAILABLE PUBLICATIONS (of research findings):

Ising, H. et al. "Zur Gesundheitgefahrdung durch Verkehrslarm." Larmbekampfung. 27, 1980, pp. 1-8.

Information obtained from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE: Study for quantizing the risk for the heart and circulation on those working in noise.

Performing Organization Name & Address:

Institut fuer Sozialmedizin und Epidemiologie des Bundesgesundheitsamtes
1000 Berlin
Thielalle 88-92

Sponsoring Organization Name & Address:

Bundesanstalt fuer Arbeitsschutz und Unfallforschung

Principal Investigator(s):

Dr. H. Ising

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: 10/1/77

Completion Date: Estimated: _____

Actual: 9/30/78

OR:

Total Funding Amount: (182000) $85,449

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): Workers were studied in noise with and without hearing protection with normal work and a less noise exposed comparison group was studied. We measured blood pressure, heart frequency and acid urine metabolites.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the data bank DAROR of the Federal Ministry for Research and Technology (FRG: 4AS0390). questionnaire inquiry autumn 1978.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE:

Increase of Collagen in the Rat Heart Induced by Noise

Performing Organization Name & Address:

1. Institut fur Wasser-, Boden- und Lufthygiene and Robert-Koch-Institut Bundergesundheitsamt, 1, Berlin 33
2. Anatomisches Institut und (3) Biochemisches Institut, Freie Universitat Berlin, West Germany

Principal Investigator(s):

1. H. Ising — H. Gelderblom
2. G.-j. Merker — M. Ozel
3. Th. Gunther

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): Rats were exposed to randomly applied noise impulses during their nightly active phase for up to half a year. The ventricular myocardium was studied by electron microscopy and estimation of hydroxyproline. A significant increase of collagen was found especially in the left ventricle.

A combination of noise stress with an Mg-deficient diet enhance the increase of myocardial collagen. Thus, Mg-deficicency and noise appears to act in a synergistic manner.

AVAILABLE PUBLICATIONS (of research findings):

Ising, H. et al. "Increase of Collagen in the Rat Heart Induced by Noise." Environmental International. Vol 2, 1979, pp. 95-105.

Information obtained from the above-mentioned article.

We prefer responses in English, ut can accept material in ther languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

ROJECT TITLE:

Physiological effects of impulsive noises (Joint European Research project)

erforming Organization Name & Address:	Sponsoring Organization Name & Address:
Department of Physiology and Biocybernetics Iniversity of Erlangen Iniversitaetsstr. 17 D 8520 Erlangen/W-Germany	Commission of the European Communities Brussels
rincipal Investigator(s): Prof. Dr. W. D. Keidel Prof. Dr. M. Spreng	Annual Funding: 1978: _____ 1980: $12,207 (26,000,-- DM) 1979: _____ 1981: _____ OR: Total Funding Amount: _____
tart Date: March 1980 :mpletion Date: Estimated: March 1981 Actual: _____	Comments:

ROJECT OBJECTIVE: Pilot-study to find out the most sensitive physiological parameters for comparison of impulsive and non-fluctuating noises.

UJECT DESCRIPTION:

Continuous white noise, white noise bursts, regular and irregular pulses of the same Leq are compared in their effectiveness upon the behaviour of action potentials and brain-stem responses, EEG and heart rate as well as sinus arrhythmia.

MMARY OF FINDINGS (if project completed):

HERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Responses

COUNTRY: West Germany

PROJECT TITLE: Determination of relationships between traffic noise and disturbances of the heart-circulatory system

Performing Organization Name & Address:

Lehrstuhlfuer Molekulare Genetik der Uni Heidelberg
Heidelberg
6900 Heidelberg

Sponsoring Organization Name & Address:

Bundesminister des Innern
Umweltbundesamt

Principal Investigator(s):

Prof. Dr. E. Neussel

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (98148) 546,174

Start Date: 1/1/78

Completion Date: Estimated: _____

Actual: 12/31/78

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): On the basis of data material existing at the German infarct center concerning life conditions and the health conditions of persons, who have suffered infarcts, possible relationships should be studied between the infarct frequency and exposure ot long-lasting noise (traffic noise) and - by means of a study concerning these relationships, the basis should be obtained for further intensive research.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE: Hearing damage and blood pressure changes in the case of noise-exposed, Lower Saxony forest workers

Performing Organization Name & Address:

Institut fuer Arbeitsmedizin
Immissions- und Strahlenschutz des Niedersaechsischen Landesverwaltungsamtes
3000 Hannover
Belstrasse 4

Sponsoring Organization Name & Address:

Principal Investigator(s):

Dr. med. Heino Slupinski

Start Date: 1/1/78

Completion Date: Estimated: _____

Actual: 3/31/79

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): With the aid of audiometric hearing threshold determinations and blood pressure measurements, we found relationships between these parameters and specific noise exposure. The group included 1500 forest workers.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from a questionnaire inquiry taken in the fall of 1978.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE: Stress effect of noise and screening at the working place

Performing Organization Name & Address:

Institut fuer Lichttechnik der TU Berlin
Einstrasse 19
1000 Berlin 10

Sponsoring Organization Name & Address:

Principal Investigator(s):

Prof. Dr. -Ing. Klaus Stolzenberg

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (600000) 6281,700

Comments:

Start Date: 1/1/78

Completion Date: Estimated: _____

Actual: 12/31/81

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):

STATUS REPORT (if in progress): The disturbance effect of noise and screening is difficult to determine, since these are not accessible to a direct measurement. However, they must be proven as stress. In the research plan, we should prove the stress effect by psychophysiological measurements on test persons, questioning of the test persons and observation of their learing behavior (in an appendix to the simulation of complicated work processes). Moreover, it should be tested whether and to what extent the simultaneous presence of two disturbance factors, noise and screening, leads to the increase of stress.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from a questionnaire inquiry taken in the autumn of 1978.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE: Quantification of stress effects in humans caused by noise.

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Institut für Wasser-, Boden- und Lufthygiene des Bindesgesundheitsamtes Postfach 330013, D- 1000 Berlin 33	Bundesanstalt für Arbeitsschutz und Unfallforschung Postfach 170202, D 4600 Dortmund 17
Principal Investigator(s): Dr. H. Ising	**Annual Funding:** 1978: _____ 1980: _____ 1979: _____ 1981: _____ OR: Total Funding Amount: _____
Start Date: October 1977 **Completion Date:** Estimated: _____ Actual: Dec 1979	**Comments:**

PROJECT OBJECTIVE: Pilot study: Comparison of methods and determination of biochemical and physiological stress effects.

PROJECT DESCRIPTION: 30 workers exposed to noise and 16 control workers were examined during work. The control workers were studied for one day, whereas 18 of the workers exposed to noise were examined for 2 days and 12 of them for 9 weeks. One half of the time the test persons wore ear defenders and the other half had to work without such a device.

SUMMARY OF FINDINGS (if project completed): When working without ear defenders at a mean exposure to noise of 95 dB(A), the systolic blood pressure was higher by almost 7 mm Hg ($p < 0.001$) and the excretion of vanillyl mandelic acid in urine was higher by 67% ($p = 0.01$) and that of noradrenaline by 16% ($p = 0.05$) than when working with ear defenders. After one week of work without ear defenders magnesium concentration in the blood of 12 test persons was 5% ($p = 0.05$) lower than after one week of work with ear defenders.

WHERE FINDINGS PUBLISHED: Ising, Melchert Proceed. of III Int. Cong. Noise as a Public Health Problem 1978, ASHA Rep. 10 Rockville, Maryland (1980).
Ising, Günther, Melchert 2bc. Arbeitsmed. 30(1980) 194-203
Ising et al. Forschungsbericht Nr. 285 der BAU, Dortmund, Wirtschaftsverl. NW Bremerhaven (1980).

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Nonauditory Physiologic Response

COUNTRY: West Germany

PROJECT TITLE: Studies to determine the valence of noise in relation to other stress factors on working places

Performing Organization Name & Address:

Sponsoring Organization Name & Address:
Bundesanstalt für Arbeitsschutz und Unfallforschung (BAU)
Vogelpothsweg 50-52
D 4600 Dortmund 1 FRG

Principal Investigator(s):
Prof. Dr. Dr. Gerd Jansen

Annual Funding:
1978:_____ 1980: _____
1979:_____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: _____

Completion Date: Estimated: _____
Actual: completed

Comments:

PROJECT OBJECTIVE:
Medical and psychological studies on noise exposed industrial workers

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):

WHERE FINDINGS PUBLISHED:
JANSEN, G., REHM, S. & GROS, E., Untersuchungen zur Frage der Lärmempfindlichkeit. Zeitschrift für Lärmschutzbekämpfung, 27, 9-12, 1980

NOISE EFFECTS ON SLEEP

See Also Pages:

143
173
182

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Effects on Sleep

COUNTRY: Canada

PROJECT TITLE:

Effect of Traffic Noise on Sleep

Performing Organization Name & Address:

National Research Council of Canada
Montreal Road
Ottawa, Canada
K1A OR6

Sponsoring Organization Name & Address:

Same

Principal Investigator(s):

G.J. Thiessen

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: (40000)$33,268 1980: (15000)$12,475

1979: (30000)$24,951 1981: (10000)$8,317

Start Date: 1978

Completion Date: Estimated: 1980

Actual:

OR:

Total Funding Amount:

Comments:

PROJECT OBJECTIVE: Determine effect of freeflowing traffic on percentage of deep sleep and number of wakings.

PROJECT DESCRIPTION: Subjects sleep for 24 nights in lab with free-flowing traffic noise introduced in every other night. One group is subjected to 47 dBA the other 60 dBA. Ambient noise is about 35 dBA.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Effects on Sleep

COUNTRY: Four EEC countries: D, F, NL, UK

PROJECT TITLE:

Effects of traffic noise upon sleep at home and performance

Performing Organization Name & Address:

Institut f. Arbeitsmedizin
Moorenstr. 10 - (D) Düsseldorf
Institut de Recherche des Transports
109, Av. Salvador Allende - (F) 69672 Bron
Instituut voor Milieuhygiene TNO
Postbus 214 - (NL) 2600 AE Delft
MRC Applied Psychology Unit - 5 Shaftesbury Road - (UK) Cambridge CB2 2BW

Sponsoring Organization Name & Address:

Commission of the European Communities
Environment and Raw Materials Res. Programme
200, rue de la Loi
(B) 1049 Brussels

Principal Investigator(s):

Miss B. Griefahn - Düsseldorf
Mr. M. Vallet - Bron
Mr. A. Jurriens - Delft
Mr. R. Wilkinson - Cambridge

Annual Funding:

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: The CEC contributed for 50 % of the costs, that is:

Comments: $484,993 $435,709
- (1.033.000 DM) - (197.870 UK £)
- (2.120.900 FF) $422,695
- (1. 599.650 N Fl) $678,091

Start Date: 1st July 1977

Completion Date: Estimated: 30 June 1981

Actual: _____

PROJECT OBJECTIVE: To determine the relationship between nois levels in the bedroom at hom and the physiological parameters of sleep, the performance and the subjective report the next day.

PROJECT DESCRIPTION: Four teams (D, F, NL, UK) recorded during 10 to 20 nights (from 2 to 5 weeks) the EEG, EOG, EMG, heart rate, finger pulse, signaled arousal on about 75 volunteers in the home, living near motorways since several years. The next day performance tests and sleep questionnaires were administrated. During the whole night, the noise level and sometimes the analog noise were recorded in the bedroom. On some nights the noise levels were varied in different ways, either reduced by double glazing, moving to rear bedroom, ear plugs or increased by opening windows.
Comparisons between "noisy" and "quiet" nights were made in the above measures; for each subject.

SUMMARY OF FINDINGS (if project completed):

So far, under quieter conditions, the performance on the next day was improved and also the subjective estimate of the quality of the sleep.
Funding on the EEC was not clear cut although there was a tendency for REM sleep to be reduced in noisier conditions.
Both the heart rate and the variability of the heart rate were increased as a function of the level and the variability of the level of noise on the basis of minute to minute correlation in the night.
No habituation of the cardiac response to noise could be found.
The analysis of data is still going on, particularly with reference to the influence of individual peaks of noise during the night and possible individual differences in response to noise.

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Effects on Sleep

COUNTRY: France

PROJECT TITLE: Interference des bruits de trains et des bruits routiers pendant le sommeil

Performing Organization Name & Address:

IRT-CERNE
109, Avenue Allende
69672 Bron Cedex
France

Sponsoring Organization Name & Address:

S N C F

Principal Investigator(s):

M. Vernet

Start Date:

Completion Date: Estimated: 1976
Actual: 1979

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (150000 FF) $29,895

Comments:

PROJECT OBJECTIVE: Interference of train noise and road noise with sleep

PROJECT DESCRIPTION: In situ recording of sleep physiological parameters of inhabitants living near road and train tracks. Comparison between the sleep interferences by train noise and road noise.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

1) For the same value of Leq, three times as many disturbances due to the noise from road traffic were found as there were due to the train noise. The data on sleep reactions for all the noise events (with same peak level) does not show a better adaptation than that for the road noise.
2) In a quiet place, emergence - namely difference between peak level and back ground noise - is a very important factor in sleep disturbation, therefore it is not in a noisy place. In both, there is a very good correlation between peak level and sleep disturbation.

AVAILABLE PUBLICATIONS (of research findings):

1) Journal of Sound and Vibration (1979) 66 (3), 483 - 492
2) Conclusions: unpublished.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Effects on Sleep

COUNTRY: France

PROJECT TITLE: Long term effect of aircraft noise on sleep

Performing Organization Name & Address:
I.A.T. Cerne

Sponsoring Organization Name & Address:
Ministere de la Qualite la Vie
Neuilly sur Seine

Principal Investigator(s):
M. Vallet

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: 1/1/81

Completion Date: Estimated: 31/12/82
Actual: _____

OR:
Total Funding Amount: _____
Comments:

PROJECT OBJECTIVE: To test the adaptation of electroenchelphalogram and heart rate of people exposed for 5 years to aircraft noise.

PROJECT DESCRIPTION:
Three parts:
- o Longitudinal study intra subject (1975-1981): comparison on EEG and ECG.
- o Comparison of ECH and EEG between 2 people: one with pills for sleep, the other without.
- o field survey on drugs consumption for people living around noisy airport.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Effects on Sleep

COUNTRY: FRANCE

PROJECT TITLE:
EEG AND CARDIOVASCULAR RESPONSES TO TRAFFIC NOISES DURING SLEEP

Performing Organization Name & Address:

Centre d'Etudes Bioclimatiques du CNRS
21, rue Becquerel
67087 Strasbourg Cedex
France

Sponsoring Organization Name & Address:

Ministère Français de la Culture et de l'Environnement

Principal Investigator(s):

Alain MUZET, M.D.

Annual Funding:

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (290,000 FF)

Start Date: July 1976

Completion Date: Estimated: _____

Actual: December 1979

Comments: $57,797

PROJECT OBJECTIVE: Study of the effects of traffic noises on EEG and cardiovascular system in different age groups and over several consecutive nights.

PROJECT DESCRIPTION: Traffic noises with peak intensities of 40 (45,50,55,60, and 65 dB(A)).

10 children (6 to 12 years old), 10 young adults (19 to 28 years old), and 8 old people (56 to 66 years old) were recorded during two non-disturbed and two disturbed nights.

6 young adults were recorded during 15 disturbed nights preceded and followed by 3 and 2 non-disturbed nights.

SUMMARY OF FINDINGS (if project completed):

The magnitude of the cardiovascular responses to traffic noises seen in children was as important as those seen in young adults and older subjects. Heart rate responses were lower in the oldest group while the finger vasoconstriction responses were lower in the young adults group.

There was a clear adaptation process of the subjective complaints about traffic noises after a few nights and, to a certain degree, there was a decrease of the EEG responses due to the noises from the first to the last disturbed nights.

On the opposite, it seemed that there was no adaptation process of the cardiovascular responses to traffic noises during the 15-night exposure.

WHERE FINDINGS PUBLISHED:

- Final report (in French)
- Journal "Coeur et Médecine Interne", 1979, tome XVIII, 19-56 (in French)
- Journal "Waking and Sleeping", in press (in English)
- Proceedings 5th European Sleep Research Congress, in press (in Engl)

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Effects of noise on Sleep

COUNTRY: Sweden

PROJECT TITLE:

Noise-induced sleep disturbance.

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
University of Gothenburg Department of Environmental Hygiene Box 33031 S-400 33 Göteborg 33	
Principal Investigator(s): Evy Öhrström, M.Sc.	Annual Funding: 1978: $7,480 (34.650:-) 1980: $50,959 (2360[illegible]:-) 1979: (191496:-) $41,343 1981: (240 000:-) $51,816 OR: Total Funding Amount:
Start Date: 1978 Completion Date: Estimated: 1981 Actual:	Comments:

PROJECT OBJECTIVE:

Study after-effects of noise-induced sleep-disturbances. The aim is to find a method which may enable large field investigations on sleep-disturbances.

PROJECT DESCRIPTION:

After effects of traffic noise during sleep are studied by use of subjective sleep questionnaire, mood questionnaire and a performance test. This effects are studied in relation to body movements recorded by an indicator attached to the bed. Different traffic noise climates are studied in laboratory experiments.

When the laboratory experiments are completed, field investigations in areas with different noise exposure will be performed.

SUMMARY OF FINDINGS (if project completed):

The first laboratory study shows that during nights with noise exposure there are more body movements, the subjective sleep quality is worse and the performance on the reaction-time test tends to be worse compared to quiet nights. The noise from 37 truck passages (80 dB(A)max, 34.1 dB(A) L_{eq}) caused more negative effects than an even traffic noise with the same L_{eq}-level

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise effects on sleep

COUNTRY: SWEDEN

PROJECT TITLE:
The Effects of Traffic Noise on the Sleep of Young and Elderly Males

Performing Organization Name & Address:

University of Lund
Department of Environmental Hygiene
Sölvegatan 21
S-223 62 Lund
SWEDEN

Sponsoring Organization Name & Address:

The National Swedish Environment Protection Board
Box 1302
S-171 25 Stockholm
SWEDEN

Principal Investigator(s):

Jacob Eberhardt Ph.D.

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: (SwCr 900,000:-)

Start Date: 1976

Completion Date: Estimated: _____
Actual: July 1, 1980

Comments: $194,310

PROJECT OBJECTIVE: The aim of the study is to find out whether long-term exposure to traffic noise leads to sleep disturbances, whether suitable sound insulation measures in the home improve sleep quality and to what degree sleep disturbances by traffic noise change with age.

PROJECT DESCRIPTION: EEG, EOG, EMG together with indoor and outdoor sound levels were registered in the homes of 7 young males (age 21-27) and 6 elderly men (age 63-74). The test persons lived along streets with heavy night traffic. The analysis was made visually and the result of every 30 s. epoch was punched out on cards for later computer processing. After 2-3 nights of acclimation and equally many nights of registration with normal sound level, the indoor sound level was lowered by approx. 10 dB(A). This was done by mounting sound insulating material over the windows. Three more registration nights were then carried out, after each of which a short questionnaire on sleep quality was answered by the testpersons.

SUMMARY OF FINDINGS (if project completed): The following results refer to noisy nights as compared to nights with sound insulation. For young males the amount of deep SWS (Slow Wave Sleep), stage -3 +4, was diminished and light SWS (stage -2 with much delta-activity) occured earlier in the night. For the older men, the time needed to fall asleep and the amount of stage-awake time had a tendency to increase. For both groups a delay of stage 4 relative to sleep onset was found. Contrary to our earlier laboratory experiments, the amount of body movements and sleep stage changes did not increase under noisy conditions and the amount of REM-sleep did not decrease. According to the questionnaire the older male subjects experienced their sleep as being more restful after nights with sound insulation. The young males reported more often that after noisy nights they awoke at least once during the night. They did not however, experience that their sleep quality was worse as compared to quiet nights. It can be concluded that fewer sleep disturbances occur in a homeenvironment than occur in the laboratory. This underlines the necessity to perform experiments in realistic surroundings. The testpersons living for longer periods along streets with heavy night traffic had not completely adapted to their normal noise level. Sound insulation leads to a less disturbed sleep.

WHERE FINDINGS PUBLISHED:

Report (in Swedish) to the National Swedish Environment Protection Board, July 1980.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Effects of Noise on Sleep

COUNTRY: West Germany

PROJECT TITLE: Influence of temporarily fluctuating noises (traffic noise) on sleep

Performing Organization Name & Address:

Institut fuer Arbeits- und Socialmedizin
Socialmedizin der Uni
Mainz (0768,04)
6500 Mainz

Sponsoring Organization Name & Address:

Bundesminister des Innern
Umweltbundesamt

Principal Investigator(s):

Prof. Jansen

Start Date: 1/1/78

Completion Date: Estimated: _____

Actual: 12/31/79

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (540000) $253,530

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Under as natural as possible sleep conditions (conventional environment), we studied the influence of night sleep with a temporarily fluctuating level (traffic noise) (different increase times and fluctuation widths, questioning, recording of waking reactions and sleep).

AVAILABLE PUBLICATIONS (of research findings):

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Effects on Sleep

COUNTRY: West Germany

PROJECT TITLE:
Impairments of sleep through traffic noise.

Performing Organization Name & Address:

Technische Universität Berlin,
Institut für Psychologie
Dovestraße 1
D-1000 Berlin 10

Sponsoring Organization Name & Address:

Umweltbundesamt
Bismarckplatz 1
D-1000 Berlin 33

Principal Investigator(s):

Prof.Dr.Rainer Guski,
Dr. Hans-Otto Finke

Annual Funding:
1978:_____ 1980: _____
1979:_____ 1981: _____
OR:
Total Funding Amount: 350.000 S

Start Date: 1.4.1979

Completion Date: Estimated: 31.3.1982
Actual: _____

Comments:

PROJECT OBJECTIVE: Determining the degree and kind of covariation between the level and amount of traffic noise and reported disturbances of sleep in a questionnaire study.

PROJECT DESCRIPTION: 21 residential areas of a large city are selected, they show a great variation of traffic noise during the night. 700 residents were studied through personal interviews with regard to their perception of their own quality of sleep, traffic noise, and factors that contribute to good or bad sleep. The level of noise is measured both inside the bedroom and outside the house, and traffic counts are made during the night.

SUMMARY OF FINDINGS (if project completed):

WHERE FINDINGS PUBLISHED:

not jet.

TOPIC: Noise effects on sleep

COUNTRY: West Germany

PROJECT TITLE:

Effects of noise on sleep and psychological performance

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Institut für Arbeitsmedizin Universität Düsseldorf Moorenstraße 5 D-4000 Düsseldorf FRG	a) Commission of the European Communities, Bruxelles, Belgium b) Umweltbundesamt (UBA) D-1000-Berlin FRG
Principal Investigator(s): Barbara GRIEFAHN & Eckhard GROS	Annual Funding: OR: Total Funding Amount:
Start Date: 1978 Completion Date: Estimated: 1981 Actual:	Comments:

PROJECT OBJECTIVES:

PROJECT DESCRIPTION:

Effects of road traffic noise on sleep. Field an laboratory studies on sleep disturbances, mood, well-being and psychological performance.

SUMMARY OF FINDINGS (if project completed):

WHERE FINDINGS PUBLISHED:

GRIEFAHN, B., GROS, E. & KAUTH, H.: Noise and sleep at home. General methodology. Proceedings of the 5th European Congress on Sleep Research. Basel: Karger, 1980/81

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Effects on Sleep

COUNTRY: West Germany

PROJECT TITLE: Effect of noise on sleeping persons

Performing Organization Name & Address:

Institut fuer Arbeitphysiologie der TU Muenchen
8000 Muenchen
Barbarastrasse 16

Sponsoring Organization Name & Address:

Bundesminister des Innern
Umweltbundesamt

Principal Investigator(s):

Prof. Dr. med. W. Mueller-Limmroth

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (318750) $149,653

Comments:

Start Date: 11/1/76

Completion Date: Estimated: _____

Actual: 12/31/79

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Creation of physiological, psychological and sociological and economical bases for noise combatting, especially legislation and in the space-effective planning as well as in standards and guideline work. Here: noise effect on the sleep of night workers. Studies concerning organizational measures to reduce the results of a lack of sleep caused by noise. Building and testing of two additional automatic recording systems and their use in sleep physiological field study series.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed

INDIVIDUAL AND COMMUNITY RESPONSE

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Austria

PROJECT TITLE: Noise nuisance on roads. Effectiveness and costs of noise protection measures - documents for planning.

Performing Organization Name & Address:

Testing Institute for Health and Sound Technology
Wachringestrasse 59, A-1090 Vienna, Austria

Sponsoring Organization Name & Address:

Dept. of Building and Technology
Stubenring 1, A-1011 Vienna, Austria

Principal Investigator(s):

Long, J/Stani, M

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: 1975

Completion Date: Estimated: 1977

Actual: Active

PROJECT OBJECTIVE:

Assessment of generally accepted limit values for traffic noise

PROJECT DESCRIPTION:

STATUS REPORT (if in progress): In the program of the research projects it is planned to question a representative sample of the Austrian population on their subjective assessment of road traffic noise and the value of noise protection measures. This information will be used to arrive at generally accepted limit values for traffic noise. Detailed working documents for determining traffic noise during the planning phase of roads, taking account of various influences, are to be collected. Noise protection measures, and in particular noise barriers, are to be developed in cooperation with Austrian manufactures.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Belgium

PROJECT TITLE: Measurement of traffic noise in cities and inquiry about the annoyance

Performing Organization Name & Address:
Laboratorium voor Akoestiek
Warmtegeleiding
Celestijnenlaan 200 D
B 3030 Heverlee (Belgium)

Sponsoring Organization Name & Address:
Ministry of Health and Household
Environmental Section
Vasaliuskwariter
Rijksadministratief Centrum
1010 Brussesl
Belgium

Principal Investigator(s):
Prof. Dr. H. Myncke
Dr. A. Cops

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: finished 1980: ------
1979: --- 1981: ------

Start Date: Jan. 1. 1974

Completion Date: Estimated: Dec. 31. 1978
Actual: Dec. 1. 1980

OR:
Total Funding Amount: $357.000

Comments:

PROJECT OBJECTIVE: The objective was to seek a relation between the experienced annoyance and physical measurements of the noise level.

PROJECT DESCRIPTION: For this investigation, 40 streets in Antwerp and 25 in Brussels were chosen according to traffic intensity of quite diverse character. As a functional relationship was sought between two "variables," namely annoyance and noise level, we strove to give these two variables the widest possible variation. Care was also given that certain "co-variables" or "parameters," such as street width, road surface, height of houses, were likewise of very diverse character.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

The results show that there is a substantial correlation between most noise indices in the day-time and "disturbance of activity during the day." The best correlation was obtained with L_{eq}. Still L_{10} and L_{50} are almost just as good. Even L_1 has a noteworthy coefficient of correlation. Also simply counting the number of vehicles can give a good indication of the expected annoyance.

More complicated indices, such as TNI and NPL, have obviously less conformity with the annoyance. The factor "Disturbance during the night" causes alot of problems.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Canada

PROJECT TITLE: Analysis of Audible Noise from High Voltage Transmission Lines, and Psychoacoustic Response Testing of People to This Noise

Performing Organization Name & Address:

Sound and Vibration Laboratory
Faculty of Engineering Science
The University of Western Ontario
London, Ontario
Canada
N6A 5B9

Sponsoring Organization Name & Address:

Canadian Electrical Association

Principal Investigator(s):

J.E.K. Foreman
G. Aarsten

Annual Funding:
(Check One: Fiscal Yr: X Calendar Yr:)

1977 to 1980: (230671) $191,849

1979: 1981: (131155) $109,081

Start Date: June 1976

Completion Date: Estimated: August 1982

Actual:

OR:

Total Funding Amount: (361826) $300,930

Comments:

PROJECT OBJECTIVE: Analysis of audible noise from high voltage transmission lines, and psycho-acoustic response testing of people to this noise.

PROJECT DESCRIPTION: The field tests in Canada are being conducted at selected test sites on Ontario Hydro and Hydro-Quebec right-of-ways. Portable trailers with instrumentation have been developed for automatic long-term statistical data logging of corona noise and associated environmental (weather)data; the Laboratory has also developed a micro-processor based system for the recording of corona sounds on studio-type four-channel recorders. Operating personnel from Ontario Hydro and Hydro-Quebec are cooperating with the Laboratory in servicing the test sites during this phase of the study.

SUMMARY OF FINDINGS (if project completed): The digital data obtained from the field tests are
STATUS REPORT (if in progress): being processed with the aid of the University computing facilities. A further phase of the project will involve testing and correlation of the reaction of a representative cross-section of people to audible noise from high voltage transmission lines through the playback of test tapes which have been prepared from the field noise measurements. The facilities of the Laboratory, including a specially prepared test room for subjective testing (which has been furnished and is acoustically calibrated and "shaped"), will be used for this part of the project. The procedures for the attitudinal testing and analysis of the subjective data are being undertaken in conjunction with the Department of Psychology at the University.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: DENMARK

PROJECT TITLE:

REACTIONS TO ROAD TRAFFIC NOISE

Performing Organization Name & Address:

Social Research Institute
26, Borgergade
DK-1300 Kobenhavn K.
and
Agency of Environmental Protection

Sponsoring Organization Name & Address:

Agency of Environmental Protection
29, Strandgade
DK-1401 Kobenhavn K.
Denmark

Principal Investigator(s):

Hans S. Christensen

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: (200.000 d.kr.) $30,060

Start Date: March 1980

Completion Date: Estimated: ~~December 1981~~
Actual: _____

Comments: Includes only traffic noise calculations and analysis of interviews w.r.t. traffic noise. Interview-costs are paid in another project

PROJECT OBJECTIVE:

Interviews of 5000 persons living all over Denmark

PROJECT DESCRIPTION:

The project tries to find the connections between road traffic noise and other living conditions such as : noise from other sources, air pollution, bad smells, and bad dwellings.

SUMMARY OF FINDINGS (if project completed):

24% of the interviewed persons are annoyed by road traffic noise.
7% are very annoyed.
Annoyance from road traffic noise is most frequent in the oldest dwellings (most concentrated in dwellings built up in the period 1925-49).

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: DENMARK

PROJECT TITLE:

REACTIONS TO RAILWAY NOISE

Performing Organization Name & Address:

Agency of Environmental Protection
29, Strandgade
DK-1401 København K.
Denmark

Sponsoring Organization Name & Address:

Same

Principal Investigator(s):

Tage V. Andersen, Karsten Kühl and Else Relster

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: (350,000 d.kr.) $52,605

Start Date: January 1978

Completion Date: Estimated: _____
Actual: October 1980

Comments:

PROJECT OBJECTIVE:

700 persons living along Danish railroads.

PROJECT DESCRIPTION: Interviews along 7 railway lines with 30-40, 80-100 and 260-320 trains per day. Interviews concerned annoyance from railway noise, disturbance of activities as conversation, telephone conversation, listening to TV and radio, reading, sleeping, opening of windows, and sitting in the garden. The answers were connected to L_{Aeq} and L_{Amax}.
L_{Aeq} varied between 43 and 71 dBA. L_{Amax} varied between 73 and 102 dBA.
3/4 of the interview-dwelling were sited closer than 30 m from the railway.

SUMMARY OF FINDINGS (if project completed): People in flats were more annoyed than people in single houses at the same noise level. Goods-trains were more annoying than other trains. The evening (kl. 19-24) was pointed out as the period, in which the railway noise was most annoying. The correllations : L_{Aeq} and disturbance during conversation, reading, headache and sleeping and the use of sleeping pills were very low. There were found good correllations of L_{Aeq} and telephone conversation, listening to TV and radio, opening of windows in day and in night, sitting in the garden, trying to insolate the house against noise and normal welfare.
It was also found that people with noise on their jobs were more sensitive to railway noise than people without noise on their jobs and people without a job (outside the home)

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community and Response

COUNTRY: FRANCE

PROJECT TITLE: EFFECT OF NOISE ON CHILDREN AT SCHOOL.

Performing Organization Name & Address:

Ecole Pratique des Hautes Etudes
Laboratoire d'Acoustique Animale
C. N. R. Z.
78350 JOUY-en-JOSAS, France

Sponsoring Organization Name & Address:

MINISTERE DE L'ENVIRONNEMENT ET DU CADRE DE VIE
S.G.H.C.E.
14, Boulevard du Général Leclerc
92521 NEUILLY-sur-SEINE, France

Principal Investigator(s):

A. LEHMANN
H. GRATIOT-ALPHANDERY

Annual Funding:
1978: 23 750 $ U.S. 1980: 2 820 $ U.S.
1979: 23 750 $ U.S. 1981: ____

OR:
Total Funding Amount: 73 575 $ U.S.

Start Date: 1977

Completion Date: Estimated: ____
Actual: 1980

Comments:

1977 Funding : 23 255 $ U.S.

PROJECT OBJECTIVE:

BEHAVIORAL MODIFICATION IN CHILDREN WORKING IN NOISY CLASSROOMS.

PROJECT DESCRIPTION:

A multidisciplinary team including acoustical engineers, psychologists specialized in children' psychology, school physicians, otolaryngologists and statisticiens was set up. They studied children 5 - 6 and 10 - 11 years old in schools situated near airports or highways before and after class rooms insulation. Noise was recorded inside and outside the class rooms and objective quantified observations of the children were made during these different insulation conditions. To these observations were added health controls and answers to questionnaires by parents and teachers.

SUMMARY OF FINDINGS (if project completed):

As soon as children are working in a quiet school room their behaviors change significantly. They are more attentive and less distracted specially during spoken activities. Intense reverberation is as harmful as noise.

Audition and health check up didn't show any major deficiency.

Some children which behavior was under the average, showing less attention or more disturbed behavior in noisy conditions, showed a greater improvement after insulation. These are mostly children living in small and noisy appartments. This is in favor of the increase deteriorating effect of several added stress : noise at school + noise at home + small size of the house.

WHERE FINDINGS PUBLISHED: UNPUBLISHED REPORT.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: France

PROJECT TITLE: Annoyance due to rolling noise.
Annoyance due to tire noise.

Performing Organization Name & Address:

IRT - CERNE
109, Avenue Allende
69672 Bron Cedex
France

Sponsoring Organization Name & Address:

SERES

Principal Investigator(s):

M. Vernet

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: (140000) $27,902

1979: _____ 1981: (70000) $13,951

Start Date: 1980

Completion Date: Estimated: 1981

Actual: _____

OR:

Total Funding Amount: (210000) $41,853

Comments:

PROJECT OBJECTIVE: Assessment of road noise and tire noise annoyance for the community. (Not for car drivers or passengers.)

PROJECT DESCRIPTION:

1980: Noise records of traffic flow rolling on different road surfaces. In laboratory, assessment of the annoyance and of the noisiness provoked by these noise records on a jury. Relation between surface characteristics, noise spectras, and annoyance scores.

1981: Jury reactions to car tire noise. Assessment of annoyance versus spectral characteristics.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: France

PROJECT TITLE: Elaboration of Noise Inconvenience Index Common to Automobile and Aircraft Traffic

Performing Organization Name & Address:
Institu de Rocherche de Transport

Sponsoring Organization Name & Address:

Principal Investigator(s):
Michel Vallet
Marie-Anne Page

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: 1976

Completion Date: Estimated: _____
Actual: 1979

OR:
Total Funding Amount: _____
Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION: The acoustic index allowing for appreciation of noise inconvenience to neighborhood residents depends on transportation means considered. But in many areas, the residents are exposed to noises originating from different from different sources. A common index was never tested. A poll of 700 people was prepared in 1976 and exhaustive acoustic measurements were made. The polling took place at the end of 1976. Total acoustic and psychological data are to be processed and the final report has been written (in 1979).

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): The authors consider that the acoustic indexes as Leq, Ldn, LNP are useful to describe the noise from different sources, when the total level is under 70 dB(A) expressed in Leq. LNP shows a short better(sic) correlation with the total annoyance, but Leq is easier to measure and to predict, as Leq is proposed as a common index.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Israel

PROJECT TITLE:

Socio-Acoustic Survey

Performing Organization Name & Address:
Environmental Protection Service
Ministry of the Interior
Jerusalem, ISRAEL

Sponsoring Organization Name & Address:
Environmental Protection Service
Ministry of the Interior
Jerusalem, ISRAEL

Principal Investigator(s):
Ms. Osnat Arnon
Mr. Nissim Moses

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: June 1978

Completion Date: Estimated: March 1981

Actual: _____

PROJECT OBJECTIVE:

Evaluation of public response to aircraft and traffic noise.

PROJECT DESCRIPTION:

1. Field survey or public response based on quesionnaires.
2. Noise measurement in the same areas where the questionnaires were distributed.
3. Statistic and data evaluation of information gathered.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Field survey and noise measurement completed.
Data evaluation incomplete at present time.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Japan

PROJECT TITLE: Effects of noise on annoyance of partients (sic)

Performing Organization Name & Address:
Department of Environmental Planning,
Faculty of Engineering
Kobe University
Rokkodai, Nada
Kobe 657
Japan

Sponsoring Organization Name & Address:
University Hospital
Faculty of Medicine
Kobe University
Kusunoki, Ikuta
Kobe 650
Japan

Principal Investigator(s):
Dr. Yoichi Ando, Associate Professor

Annual Funding:
1978: _____ 1980: (¥400,000.-) ($19,112)
1979: _____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1 April 1980
Completion Date: Estimated: 31 April 1981
Actual: _____

Comments:

PROJECT OBJECTIVE:
Noise from construction work

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: The Netherlands

PROJECT TITLE: Traffic Noise and Public Health in Amsterdam

Performing Organization Name & Address:
1) Coronel Laboratory/University of Amsterdam/ Eerste Const. Huygensstr. 20/ Amsterdam

2) Dept. of Epidemiology Ryksuniversiteit Limburg/Postbox 616 6200 Md Maastricht

Sponsoring Organization Name & Address:
Ministry of Public Health and Environmental Hygiene

Prevention Fund

Principal Investigator(s):

Paul Knipschild (2)
Hans Meijer (1)
Herman Salle (1)

Start Date: 1978

Completion Date: Estimated: 1981

Actual:

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE: Association between traffic noise and annoyance, hypertension, taking of drugs and consultation rate

PROJECT DESCRIPTION: Cross-sectional epidemiologic study, registration of above mentioned variables plus potential confounders among all participants of a cardiovascular screening program in Amsterdam (men and women, 42 years, response 75%, N=3700).

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Not completed yet. We are in the analysis-phase.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Norway

PROJECT TITLE:
Assessment of Noise Annoyance

Performing Organization Name & Address:

Electronic Research Laboratory
O.S. Bragstads Plass 6
N. 7034 Trondhiem - NTH
Norway

Sponsoring Organization Name & Address:

The Royal Norwegian Council
For Scientific and Industrial
Research

Principal Investigator(s):

Start Date: continous research program

Completion Date: Estimated: ____
Actual: ____

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: U.S. $30,000 1980: $30,000

1979: $30,000 1981: $30,000

OR:
Total Funding Amount: ____

Comments:

PROJECT OBJECTIVE:
To Establish a Model for Assessment of Noise Annoyance

PROJECT DESCRIPTION:
A new method for assessment of annoyance has been introduced. The method is based on measurement of Leq of noise levels above a predetermined level.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Subjective annoyance matches reasonably well with the proposed index. The distribution of quiet and noisy periods for normal noise conditions is being investigated.

AVAILABLE PUBLICATIONS (of research findings):
Several papers available.

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Poland

PROJECT TITLE: Effect of communall noise on a man

Performing Organization Name & Address:

State Institute of Hygiene
Chocimska Str 24
Warsaw

Sponsoring Organization Name & Address:

Ministry of Health and Social Welfare
Miodowa Str 15
Warsaw

Principal Investigator(s):

Z. Koszarny, W. Szata

Annual Funding:
(Check One: Fiscal Yr: ___ Calendar Yr: ___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments: Funding is a part of total research fund of the Institute

Start Date: 1980

Completion Date: Estimated: 1985

Actual: _____

PROJECT OBJECTIVE: To evaluation of a degree of population risk due to road traffic as wel as settlement of hygienic noise criteria and toxicity of car fumes.

PROJECT DESCRIPTION: In the areas of a definite noise level and air poluttion it is planned to fulfill surveys and psycho-medical examinations. Consideration in researches of concurrence of other, apart from noise, unfavorable factors of environment will enable the proper evaluatinn of reaction of population to noise and its influence on health, and working out hygienic standards.

SUMMARY OF FINDINGS (if project completed):

STATUS REPORT (if in progress): Hitherto researches/ 1976 -1980/ showed that the best method of evaluation of transport noise is equivalent noise level, L_{eq}. The critical noise level, producing evident growth of disturbences in functioning of human organism and discomfort is value L_{eq} = 60 dB /A/. In the areas planned for building of houses the equivalent noise level should not exceed 55 dB /A/. Near apartment houses situated in the city districts, commercial districts etc. the permissible equivalent of noise level is 65 dB /A/.

AVAILABLE PUBLICATIONS (of research findings):

We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Sweden

PROJECT TITLE:

Annoyance reactions due to railway noise.

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
The National Institute of Environmental Medicine Box 60208 S-104 01 Stockholm Sweden	The National Swedish Environment Protection Board Box 1302 S-171 25 Solna Sweden
Principal Investigator(s): Stefan Sörensen	Annual Funding: 1978: _____ 1980: _____ 1979: _____ 1981: _____ OR: Total Funding Amount: (SwCr 250 000) $53,975
Start Date: 1975-07-01 Completion Date: Estimated: December 1980 Actual: _____	Comments:

PROJECT OBJECTIVE:

To study the distribution of annoyance reactions from the exposure of noise from trains.

PROJECT DESCRIPTION:

Social survey studies to assess the presence of general annoyance were made in different areas exposed to railway noise. The areas of investigation were chosen in order to evaluate conditions in areas exposed to 70-90 dB(A).

SUMMARY OF FINDINGS (if project completed):

The results show that an increase in the number of passing trains increases annoyance up to a certain level, after which a leveling off takes place. Hence, there is no real annoyance in areas exposed to a maximum of 50 train passages/24 hours until the noise level reaches above 85 dB(A). If, on the other hand, train passages are 60 or more, annoyance increases according to the dB(A) level from the noisiest type of train.

WHERE FINDINGS PUBLISHED:

To be published.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and community response

COUNTRY: SWEDEN

PROJECT TITLE:
Analysis of dose-response relationships for environmental noise

Performing Organization Name & Address:

Department of Environmental Hygiene
University of Gothenburg
Fack 33031
S-400 33 SWEDEN

Sponsoring Organization Name & Address:

The National Swedish Environment
Protection Board
Box 1302
S-171 25 SOLNA

Principal Investigator(s):

Ulla Ahrlin, M.Sc.
Ragnar Rylander, M.D., professor

Annual Funding:
1978: _____ 1980: (81 977 SKr)
1979: (115 842 SKr) 1981: $18,346
OR: $25,010
Total Funding Amount: _____

Start Date: 1979

Completion Date: Estimated: 1980

Actual: _____

Comments:

PROJECT OBJECTIVE: Analysis of the annoyance concept - individual sensitivity to noise.

PROJECT DESCRIPTION:

The analysis is based on data from social surveys performed on annoyance due to different noise sources (aircraft noise, train noise and road traffic noise).
Relationships between annoyance and individual factors (demographic and socio economic) have been studied. The annoyance is described in terms "very annoye "rather annoyed", "not very annoyed" and "not annoyed".

SUMMARY OF FINDINGS (if project completed):

The results demonstrate that noise sensitive individuals are not able to be defined using either demographic or socioeconomic variables. No relationships could be demonstrated between annoyance expressed as "very annoyed" and factors such as age, sex, household conditions, living conditions etc.

The presence of a general sensitivity factor is however evident; a strong relationship between annoyance due to noise and annoyance due to other environmental agents (air pollution, car exhaust gases etc.) has been found.

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Sweden

PROJECT TITLE:

Annoyance reactions to traffic noise exposure

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Department of Environmental Hygiene University of Gothenburg Box 33031 S-400 33 Gothenburg SWEDEN	The National Swedish Protection Board Box 1302 S-171 25 Solna SWEDEN
Principal Investigator(s): Ragnar Rylander, M.D.	Annual Funding: 1978: _____ 1980: $ 5.000 1979: $ 5.000 1981: $ 5.000 OR: Total Funding Amount: _____
Start Date: 1977 Completion Date: Estimated: 1983 Actual: _____	Comments:

PROJECT OBJECTIVE: To study the relationship between exposure to different levels of road traffic noise and the distribution of annoyance reactions in exposed populations. The importance of the number of noise events as well as the noise level from the noisiest vehicles will be given particular attention.

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):

A relatively poor dose-response relationship is present between the proportion of persons expressing that they are very annoyed and the equal energy value (L_{Aq}) of traffic noise. An improved relationship is obtained if the noise levels from the heavy vehicles is used as a noise descriptor. The analysis will be completed in 1982.

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Switzerland

PROJECT TITLE:

Schlussfolgerungen aus Verkehrslarmuntersuchungen: Vorschlage fur Larmgrenzwerte

Performing Organization Name & Address:

Institut fur Hygiene und Arbeitsphysiologie
ETH 8092
Zurich
Switzerland

Sponsoring Organization Name & Address:

Principal Investigator(s):

J. Nemecek
Brigit Wehrli

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):

STATUS REPORT (if in progress): Based on four surveys, threshold limit values for noise are proposed; beside noise immissions, the quality of living has also been considered.

AVAILABLE PUBLICATIONS (of research findings):

Nemecek, J. and Brigit Wehrli, "Schlussfolgerungen aus Verkehrslarmuntersuchungen: Vorschlage fur Larmgrenzwerte." Sozial-und Praventivmedizin. 24, 1979, pp. 186-187.

Information obtained from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Switzerland

PROJECT TITLE:

Annoyance by Street Traffic Noise in the Night

Performing Organization Name & Address:
Institut fur Hygiene und Arbeitphysiologie der ETH
CH-8092 Zurich

Sponsoring Organization Name & Address:

Principal Investigator(s):
Brigit Wehrli H.U. Wanner
J. Nemecek
V. Turrian
H. Hofmann

Start Date:

Completion Date: Estimated:
Actual:

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: 1980:
1979: 1981:

OR:
Total Funding Amount:
Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

In order to obtain bases for the establishment of threshold values, a random sample survey with 1600 persons in urban and rural areas had been made on the degree of disturbance by street traffic noisein the night.

AVAILABLE PUBLICATIONS (of research findings):

Wehrli, Brigit, et al. "Auswirkungen des Strassenverkehrslarm in der Nacht." Kampf dem Larm. 25, 1978, pp. 138-149.

Information obtained from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Switzerland

PROJECT TITLE:

Office-Noise and its Effects

Performing Organization Name & Address:
Eidg. Tech. Hochschule Zurich
Institut fur Hygiene und Arbeitphysiologie
CH-8092 Zurich
Switzerland

Sponsoring Organization Name & Address:

Principal Investigator(s):

Prof. Dr. Grandjean

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):

STATUS REPORT (if in progress): In 57 offices noise measurements were made and 229 employees were interviewed, both separately for inside and outside noise. Relations between the acoustical parameters, the given circumstances, and the subjective evaluations were studied. The most important results: 1) inside noise, especially conversation, is mostly considered more disturbing than outside noise; 2) disturbances caused by outside noise often correlate with acoustical measurements (that does not hold true for inside noise); dynamics of noise are an important factor for its disturbing effect; the sensitivity to noise increases with work demand.

AVAILABLE PUBLICATIONS (of research findings):

Nemecek, Jan and Verena Turrian. "Der Burolarm und Seine Wirkungen." Kampf dem Larm. 25, 1978, pp. 50-57.

Information obtained from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: Switzerland

PROJECT TITLE: Office Noise and Its Effects on People

Performing Organization Name & Address:

Institut fur Hygiene und Arbeitphysiologie
Eidgenossische Technische Hochschule
ETH-Zentrum
CH-8092 Zurich

Sponsoring Organization Name & Address:

Principal Investigator(s):

Jan B. Nemecek

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: _____

Completion Date: Estimated: _____

Actual: 1980

PROJECT DESCRIPTION:

The most important source of complaints from people working in offices is noise. People complain about noise itself, about general annoyance, impairment of work performance or interference with speech intelligibility.

In the theoretical part the organic mechanism of hearing and the psycho-acoustical assessment processes of noise are presented. The annoyance effect is mainly determined by the physical qualities of noise, the nature of the work being performed and the individual psychological disposition of the person exposed to noise. In usual office surroundings the variability of the noise levels is responsible for the onset of annoyance. The susceptibility to noise is dependant on the difficulty of the task. Individual responses of persons to noise depend on their personality type, their values, susceptibility, their attitude towards their work, towards the person who is causing the noise, or also on her earlier experiece with noise. Noise conditions which guarantee sufficient speech intelligibility are in contradiction with the personal demand for acoustical privacy.

The results of the noise messurements in 57 offices and interviews of 228 employees are reported in the second part. In the average the noise levels were within the range recommended for offices. Two thirds of the questioned employees complained about noise, but a statistical analysis revealed, that only 3% of these complaints could be attributed directly to the noise itself, while attitudinal-psychological variables appear to be responsible for about 40% of the complaints. These findings correspond to the theoretical knowledge on physiology and psycho-acoustics described in the first part.

In the final discussion existing noise recommendations for offices are critically discussed. The results of our investigation suggest, that more positive concern for the human being, cooperative leadership and organizational steps towards more interesting and more satisfying work seem to have a better chance to reduce annoyance caused by noise than an overrated perfectionism of the technical office equipment.

AVAILABLE PUBLICATIONS (of research findings):

Dissertation ETH-Z No. 6597, (Zurich: Eidgenossischen Techischen Hochschule, 1980).

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE: Aircraft Noise and Psychiatric Morbidity

Performing Organization Name & Address:

Institue of Psychiatry
De Crespigny Park
Denmark Hill
London SE5 8AF

Sponsoring Organization Name & Address:

1. Medical Research Council
   20 Park Crescent
   London WIN 4AL
2. Department of Trade
   United Kingdom

Principal Investigator(s):

Dr. A. Tarnopolsky
Prof. Michael Sheperd

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (about 250000)

Comments: about $550,500

Start Date: 1975

Completion Date: Estimated: _____

Actual: 12/31/80

PROJECT OBJECTIVE: To assess the effects of aircraft noise on psychiatric admissions, psychosomatic symptoms, psychiatric disorders, use of medicines and of health services.

PROJECT DESCRIPTION: 1) Analysis of hospital statistics of admission from 3 hospitals over a 4 year period. Rural and urban districts exposed to aircraft operating to and from Heathrow were examined. Noise measurements in Noise and Number Index

2) Community survey in West London urban districts exposed to aircraft noise. Sample size=6000 Noise measurements in Noise and Number Index. Personal interviews with respondents assessing annoyance, sensitivity to noise, mental health states, symptomatology and illness behaviour.

SUMMARY OF FINDINGS (if project completed): Complex positive associations were found between aircraft noise exposure, annoyance and health variables.

AVAILABLE PUBLICATIONS (of research findings):

1) Tarnopolsky A. and Morton Williams. "Aircraft Noise and Psychiatric Disorders 1980, (80pp + Appendix) Available from Social Community Planning Research. 35 Northampton Square, London E.C.1 (£ 4)
2) McLean E.K. and Tarnopolsky A. 1977: Noise Discomfort and Mental Health. A review of the socio-medical implications of disturbance by noise: Psychological Medicine 1977
3) Tarnoposky A. et al 1978: The Effect of Aircraft Noise on the Mental Health of a Community Sample A Pilot Survey Psychological Medicine 1978 8 219-233
4) Jenkins L.M. et al 1979: Comparison of three studies of aircraft noise and psychiatric hospital admissions conducted in the same area Psychological Medicine 1979 9 681-693
5) Tarnopolsky A. et al: Aircraft noise and psychiatric admissions: a four year three hospital study To appear in Psychological Medicine 1981
6) Watkins G. et al: Aircraft noise and mental health. II Use of health care and social services. To appear in Psychological Medicine 1981
7) Tarnopolsky A. et al: Aircraft noise and mental health I Prevalence of individual symptoms. Psychological Medicine 1980 4 683-698

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE:

An Objective Experimental Method for Studying Aversion to Noise

Performing Organization Name & Address:

National Physical Laboratory
Teddington
Middlesex
TW11 OLW
United Kingdom

Sponsoring Organization Name & Address:

Principal Investigator(s):

H.C. Fuller
D.W. Robinson

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: _____

Completion Date: Estimated: _____

Actual: October 1980

PROJECT OBJECTIVE:

PROJECT DESCRIPTION: Fuller and Robinson report a novel method which avoids the need to rely on introspection and verbal descriptors in the experimental assessment of reaction to an aversive noise stimulus. They also report the results of an experment designed to test the method.

SUMMARY OF FINDINGS (if project completed):

STATUS REPORT (if in progress): Subjects were given the option of reducing the impact of an unpleasant auditory stimulus consisting of irregular impulses by substituting a continuous white noise, which at higher levels would itself become aversive. The Hypothesis was that at a particular level of the continuous noise, aversive reaction to the combined stimulus would reach a perceptable minimum. Objective measurement of this level would then give a non-verbal measure of a subjects's aversion to the impulse noise.

An experiment was conducted with three levels of impulse noise and it was found that the method could be used to differentiate successfully between the subject's reactions to these stimuli. Some subjects showed a marked reluctance to experiment with the available level control and there was an indication that the task used to normalize the subject's attention interfered with experiment, but both difficulties could be overcome.

AVAILABLE PUBLICATIONS (of research findings):

Fuller, H.C. and D.W. Robinson. "An Objective Experimental Method for Studiying Aversion to Noise National Physical Laboratory Acoustics Report Ac 98. October 1980.

Information obtained from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE:
A Study of the Effects of Fluctuation Frequency on Adverse Reactions to Noise

Performing Organization Name & Address:

National Physical Laboratory
Teddington
Middlesex
TW11 OLW
United Kingdom

Sponsoring Organization Name & Address:

Principal Investigator(s):
H.C. Fuller
D.W. Robinson

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____
Comments:

Start Date: _____

Completion Date: Estimated: _____
Actual: Oct. 1980

PROJECT OBJECTIVE:

PROJECT DESCRIPTION: As a result of theoretical considerations, it has been suggested that the fluctuation term in the formula for Noise Pollution Level should be weighted according to the frequency of the level fluctuations. In this modified form the term is down-weighted for level fluctuations which occur at high or low frequencies but is unchanged for intermediate frequencies.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): Fuller and Robinson investigated the effects of the frequency of level fluctuations on the adverse reaction generated by a noise stimulus. Test stimuli with levels varying by 10 dB and 20 dB with periods of between 6 and 600 seconds were used and the adverse reaction generated after 10 minutes was measured. The results were examined in relation to the noise ratings L_{NP}, L_{eq}, a measure of the rate of fluctuation of the level and the proposed modification of L_{NP}.

None of the four measures fully explains the results, but there is some evidence to support the modificaitons of L_{NP}, suggesting that only level fluctuations at frequencies between 0.1 Hz and 0.01 Hz contribute to the general adverse reaction.

AVAILABLE PUBLICATIONS (of research findings):
Fuller, H.H., and D.W. Robinson. "A Study of the Effects of Fluctuation Frequency on Adverse Reactions to Noise." National Physical Laboratory Report Ac 97, September 1980.

Information obtained from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE:

Eliminating the subjective biases in judging the loudness of a 1kHz tone.

Performing Organization Name & Address:

1. Medical Research Council, Applied Psychology Unit, Cambridge CB2 2EF
2. Dept. of Engineering, Cambridge Univ. Cambridge

Sponsoring Organization Name & Address:

Principal Investigator(s):

1. E.C. Poulton and R.S. Edwards
2. T.J. Fowler

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: _____

Completion Date: Estimated: _____

Actual: 1980

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

It is possible to eliminate most of the known subjective biases that affect judgments of sensory magnitude using numbers. Experiments are described which do this, and which also investigate some of the biases. The least biased estimate for doubling the loudness of a 1-kHz tone is found to be about 11.5dB. This value is still slightly affected by the logarithmic bias, although the bias could be eliminated. It is also affected by the stimulus equalizing bias, produced by the inequality between the finite range of loudness to which the ears are sensitive and the infinite range of numbers to which the loudnessess are matched. This last bias cannot be eliminated completely in direct magnitude estimation.

AVAILABLE PUBLICATIONS (of research findings): Poulton, E.C. et al. "Eliminating Subjective Biases in Judging the Loudness of a 1-kHZ Tone." Perception and Psychophysics, Vo. 27(2). 1980, pp. 93-103

Transcribed from the summary of the above-article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE:

Study of the effects of non physical aspects of traffic noise annoyance

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Atkins Research and Development, Woodcote Grove, Ashley Road, Epsom, Surrey, KT18 5BW England.	W. S. Atkins Group Woodcote Grove, Ashley Road, Epsom, Surrey, KT18 5BW England
Principal Investigator(s): F. R. Delauzun	Annual Funding: 1978:_____ 1980: _____ 1979:_____ 1981: _____ OR: Total Funding Amount: _____
Start Date: 1980 Completion Date: Estimated: 1981 Actual:	Comments: Not yet known

PROJECT OBJECTIVE:

Study of the non physical aspects of traffic noise annoyance

PROJECT DESCRIPTION:

The aim of this project is to identify and explore the aspects of noise annoyance which are not directly related to noise levels, such as attitude to the source of noise, satisfaction with other aspects of the environment, socio-economic variables, etc. By isolating the importance of such variables, it would be possible to reasses the actual "value for money" of purely physical solutions generally adopted to reduce annoyance, like double-glazing or noise barriers. Data will be collected by sample survey, completed by experiments using the priority evaluator technique.

SUMMARY OF FINDINGS (if project completed):

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: UNITED KINGDOM

PROJECT TITLE:

Noise insulation opinion survey

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
MAI Survey Research Ltd [illegible] Wellington Street LONDON [illegible]	Building Research Establishment Garston WATFORD Herts [illegible]

Principal Investigator(s):	Annual Funding:
Miss [illegible]	1978: ______ 1980: ______ 1979: ______ 1981: ______ OR: Total Funding Amount: (£[illegible])
Start Date: [illegible] October 19[illegible] Completion Date: Estimated: [illegible] February 19[illegible] Actual: ______	Comments: $46,352

PROJECT OBJECTIVE:

To assess user attitudes towards the Noise Insulation Package, installed under the Land Compensation Act

PROJECT DESCRIPTION: Interviews will be held at approximately [illegible] selected dwellings in Hertford, Watford, Garston, Greater London, Liverpool, Manchester, Birmingham, Derby, Cambridge, Luton, and Bury St Edmunds, to find residents' response to questions provided by the Building Research Establishment. Staff of the Building Research Establishment will be present at the briefing of all interviewers, and at the debriefing of [illegible] of the interviewers from selected sites at Birmingham, Derby, Cambridge, Bury St Edmunds and Greater London

SUMMARY OF FINDINGS (if project completed):

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE: Effects of Environmental Noise From Second London Heliport

Performing Organization Name & Address:
Rupert Taylor and Partners Ltd.
374 Edgware Road
London W2 1E8

Sponsoring Organization Name & Address:
London Bourough of Tower Hamlets
Town Hall
Patriot Square

Principal Investigator(s):
R.M. Taylor

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: August 1979

Completion Date: Estimated: Mid 1981
Actual: _____

OR:
Total Funding Amount: _____
Comments:
Not disclosed

PROJECT OBJECTIVE:
Determine the acceptability of noise from proposed heliport site.

PROJECT DESCRIPTION: To predict the noise levels likely to be produced by use of the heliport and to evaluate the effects on the surrounding resident population.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Not yet complete.

AVAILABLE PUBLICATIONS (of research findings):

Not yet complete.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE: Community Reactions to Railway Noise

Performing Organization Name & Address:

Institute of Sound and Vibration Research
The University
Southampton SO9 5NH
United Kingdom

Sponsoring Organization Name & Address:

Science Research Council
Swindon, Wilks, UK

British Railways Board
Railway Technical Center, Derby

Principal Investigator(s):
J.M. Fields
J.G. Walker

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: 1974

Completion Date: Estimated: _____
Actual: 1979

OR:
Total Funding Amount: _____
Comments:

PROJECT OBJECTIVE: To study the reactions to railway noise in residential areas close to railway lines in the United Kingdom.

PROJECT DESCRIPTION: The Institute of Sound and Vibration at the University of Southampton has concluded a four year study of reactions to railway noise in residential areas. The study was carried out using a combined social survey and noise measurement program in which residents' reactions and railway noise levels were measured in 403 neighbourhoods along 75 sections of railway routes in Great Britain. The reactions of 1463 residents were measured in 45 minute interviews. The descriptions of railway noise levels were based on complex computer analysis of tape recordings of over 1,700 pass-bys from the 403 measurement sites. The use of a probability sample design has enabled statistics to be computed which are statistically representative of the British population near railway lines.

SUMMARY OF FINDINGS (if project completed): The 24 hour Leq dBA noise index appears to be the most practical choice of indices for representing railway noise. The noise and number trade off implicit in Leq fits the data better than any of the other established indices tested. There appears to be an additional duration effect which Leq does not account for. The comparison of these railway data with three aircraft surveys (around Heathrow) and less annoying than noise from these other sources. The established size of the difference in reactions depends upon the survey with which the comparison is made as well as the noise level. As noise level increases the gap between reaction to railway and other sources increases. At railway noise levels equivalent to 74 dBA Leq the same level of annoyance is reached with the other sources at a noise level of 6 dB lower in one case and at least 10 dB lower in other cases. At high noise levels people alongside overhead electrified routes report less annoyance than people near third rail or diesel routes. In the 55-75 dBA Leq range the difference in general annoyance is equivalent to at least a 10 dBA difference in noise level.

AVAILABLE PUBLICATIONS (of research findings): J.M. Fields and J.G. Walker 1980, ISVR Technical Report 102, Reactions to railway noise: a survey near railway lines in Great Britain.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE:

Study of human sensitivity to traffic noise

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Atkins Research and Development, Woodcote Grove, Ashley Road, Epsom, Surrey KT18 5BW England.	Building Research Establishment, Building Research Station, Garston, Watford WD2 7JR

Principal Investigator(s):
I. D. Griffiths
F. R. Delauzun

Annual Funding:
1978: (£ 5000) $11,010 1980: _____
1979: (£ 5000) $11,010 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1978

Completion Date: Estimated: _____
Actual: 1979

Comments:

PROJECT OBJECTIVE:
Study of human sensitivity to traffic noise

PROJECT DESCRIPTION:

Repeated interview surveys were carried out at 8 selected sites in suburban residential areas of London, with noise levels between 57 and 82 dBA (L10, 06.00-24.00). At six of these sites four sets of interviews were conducted between Autumn and Spring and at two sites two sets of interviews were carried out in the Summer period. The total number of interviews carried out was 1363. At each site traffic noise levels were measured for 24 hours at each interview phase with a microphone 1m from the facade at first floor level. The programme of measurement yielded estimates of the L10, L50, L90 and Leq, both linear and A-weighted.

SUMMARY OF FINDINGS (if project completed):
Statistical analysis of the annoyance data showed that there was no significant difference between the responses at different times of year.

The present study allowed calculation of the correlation between two or more measurements on the same people, for both the seven points dissatisfaction scale used in previous studies and the four points bother scale used in aircraft noise studies. Both coefficients are highly significant statistically but amount to an estimate that the proportion of variance which is reliable is of the order of 40%. By averaging over four phases this coefficient is raised so that the proportion of variance which is reliable rises to 77% Averaging over three phases gives an indistinguishable result from averaging over four.

All noise indices were found to correlate to approximately the same degree with dissatisfaction, for both linear and weighted sound levels.

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE: Study of relationship between railway traction type and noise annoyance.

Performing Organization Name & Address:

University of Southampton
Southampton
United Kingdom

Sponsoring Organization Name & Address:

Science Research Council
P.O. Box 18
Swindon SN2 1ET
United Kingdom

Principal Investigator(s):

Prof. J.B. Large
Mr. H.E. Williams
Mr. R.L. Pocock

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

OR:

Total Funding Amount: (£ 24200 2 years) $53,288)

Comments:

PROJECT OBJECTIVE: The objective of the work proposed here are :1) to determine the causes of the different annoyance reactions to diesel, third-rail electric and overhead electrical trains and routes; 2) to examine the acoustical characteristics of the train noise which may be responsible for these differences; 3) to determine the subjective effect of changing from diesel to electrification of a route; 4) to examine other relevant factors which affect responses.

PROJECT DESCRIPTION: Comments by Prof. Large: 1) I believe that cooperative research in this field is important for not only does it avoid duplication of effort but it enables technology to be transferred into problems that have similar solutions, for example, some of the mechanisms of railway wheel noise generated are eqivalent to the noise generating mechanisms found in automobile tyres and therefore research in either area could have an effect on development of a noise control strategy in the other. The cooperative research is also very important in the area of noise effects particularly if standardised experimental techniques can be agreed. 2) Location: ISVR. Timing: Three possible dates next year are available for such a meeting. The first is in relation to an international course on engine noise and vibration control to be held at ISVR 23/26 March/ The second is the Third Railway Noise Workshop jointly sponsored by US Dept. Transportation, Bolt Beranek & Newman, and ISVR to be held in Pueblo, Colorado, May 6/7/8, and the third is Internoise 81 in Amsterdam on Oct. 6/7/8. Participants: Representatives from sponsoring organizations and researchers should be invited to participate but particiaption should only be for those directly involved with a particualr subject. Breadth: Single topics are more effective for example,, the railway noise workshops have stimulated work in this area, the meeting comprises workers from a number of countries who have a direct and active interest in railway noise control. The frequency of the meeting is dependent on the results of the first discussions and it is important any discussions be recorded and perhaps published as a document or paper in a journal.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE:
Effect of Pure Tones on Human Performance

Performing Organization Name & Address:

School of Architecture and Building Engineers
University
Bath
United Kingdom

Sponsoring Organization Name & Address:

Principal Investigator(s):
D.J. Croome

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed): The internal sound level of a building is usually
STATUS REPORT (if in progress): specified by the Noise Criterion or Noise Rating number. These were derived from experiments carried out using broad-band sound, the effect of which was assessed for particular groups of people. It is known that tonal characteristics, due to the blade passage frequecy of a fan for example, can be distracting or annoying even if the NR criterion is satisfied. The NR curves are mainly concerned with the loudness of noise over all frequencies whereas annoyance to noise depends not only on this attribute but also the presence of tones, their duration and intermittency and their information content. If a sound is known to have a significant tone 5 dB is added to the NR number in an attempt to mask it. The validity of this design procedure was checked by carrying out experiments on eight different classes of students exposed to noise, which included 80 Hz (at amplitudes of 67 or 73 dB), 160 Hz (at amplitudes of 55 dB or 64 dB), 315 Hz (at amplitudes of 59 dB or 65 dB) or 630 Hz (at amplitudes of 50 or 54 dB) tones during the duration of a one hour lecture. A Wilcoxon matched-pair signed rank test was used to discover the sifnificance of the thermal, visual or acoustical environment on annoyance and distraction.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: United Kingdom

PROJECT TITLE: 1) Noise annoyance and individual differences.
2) Noise and human performance.

Performing Organization Name & Address:

Dept. of Psychology
University of Warwick
Coventry, CV4 7AL
United Kingdom

Sponsoring Organization Name & Address:

University of Warwick

Earlier work sponsored by: Dept. of Applied Psychology, University of Wales Inst. of Science and Technology, Cardiff, U.K. and a Science Research Council's Research Studentship

Principal Investigator(s):

J. Russell Thomas

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Start Date: 1979 (at Warwick)

Completion Date: Estimated: Open ended

Actual: _____

Comments: Funding is covered within normal departmental funding and exact figures are unavail.

PROJECT OBJECTIVE: To determine the role of cognitive factors such as annoyance (due to noise) on environmental satisfaction and task performance.

PROJECT DESCRIPTION: The study has looked at individual differences in reported noise sensitivity (questionnaire) and then selected individuals have provided determinations of actual noise discomfort thresholds. The threshold findings have been related to serious parameters including their reported noise sensitivity.

The effects of noise on task performance has looked at discrete tasks and post noise exposure performance.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): (Findings at the present time).
The setting of noise discomfort levels are lower (by over 10 dBA) for female subjects than for male subjects. Reported deactivation level of the subject at the time of testing, also significantly influences the setting of the noise discomfort threshold. (Research is continuing on this project).

AVAILABLE PUBLICATIONS (of research findings): Thomas, J.R. and D.M. Jones. "Factors Influencing the Threshold for Noise Discomfort." submitted to the London Conference of the British Psychological Society, 18-19, December 1980.

Proceedings of the "Second Oldenberg Symposium on Psychological Acoustics," September 17th-20th, 1980, Bad Zweischenahn, W. Germany. Some of the task performance work is also reported in "Response to Stress;" Occupational Aspects " edited by C. Mackay and T. Cox (1979) IPC Science and Technology Press.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: West Germany

PROJECT TITLE: Effect of Traffic Noise on Concentration Capability

Performing Organization Name & Address:

Institut fuer Ergonomie der Tu Muenchen
8000 Muenchen 40
Barbarstrasse 16

Sponsoring Organization Name & Address:

Bundesminister des Innern
Umweltbundesamt

Principal Investigator(s):

Prof. Dr. Heinz Schmidtke

Start Date: 12/1/77

Completion Date: Estimated: _____

Actual: 11/30/79

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (176400)

Comments: $82,823

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

On the basis of realistic, long-term traffic noise (test time per person about two weeks), it is to be tested whether there are great limitations in the concentration capacity. At the same time we should determine the degree of disturbance as a function of noise level.

AVAILABLE PUBLICATIONS (of research findings):

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: West Germany

PROJECT TITLE:

Noise Stresses Caused by Commercial Vehicles

Performing Organization Name & Address:

Chair and Institute for Motor Vehicle Technology
University of Hannover
Nienburger Strasse
3000 Hannover

Sponsoring Organization Name & Address:

German Research Society

Principal Investigator(s):

Dipl. -Ing. Siegfried Jakel

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (570000) $267,615

Start Date: April 1979

Completion Date: Estimated: _____

Actual: Sept. 1980

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):
Dissertation "Zum Gerauschverhalten von Nutzfahreug-Anhangern mit Blattfeiderung," S. Jakel 1980, Universitat Hannover

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Individual and Community Response

COUNTRY: West Germany

PROJECT TITLE: Comparison of the noise exposure of different noise sources

Performing Organization Name & Address:
Socialdata GmbH
Han Graessel-Weg 1
8000 Muenchen 70

Sponsoring Organization Name & Address:
Bundesminister des Innern
Umweltbundesamt

Principal Investigator(s):

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: 5/1/79

Completion Date: Estimated: _____
Actual: 1/31/80

OR:
Total Funding Amount: (98980)$46,424
Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed): Two areas of as equal as possible settlement
STATUS REPORT (if in progress):characteristics and social structure should be selected with the aspect that in one case the noise is caused only by street traffic, and in the other, by aircraft. In both cases, however, the average level LAm should be the same and actually lie between 73 dB(A) and 75 dB(A). A group of 100 test persons should be subjected for a half a day to the one as well as the other situation. The test persons should not be able to tell that the noise problems are in the middle of the study. The study was supposed to determine which of the two noise situations with the same average level are experienced more stressfullt or whether both types of noise are experienced equally as stressfully.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed source: Environmental research plan 1979 of the Federal Minister of Interior.

United Kingdom. Investigation of the Perception of Incidental Machinery Warning Sounds. J. Talmo, A.M. Martin, P.A. Wilkins. University of Southhampton, Institute of Sound and Vibration Research, Southhampton SO9 5NH.

NOISE-INDUCED HEARING LOSS AND HEARING CONSERVATION

See Also Pages:

22
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(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: Czechoslovakia

PROJECT TITLE:
Investigation of Noise Effects on Man in Working Environment

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Research Institut Preventive Medicine Limbova 14, 809 58 Bratislava	Ministry of Health Čsl. armády 10, 885 05 Bratislava

Principal Investigator(s):	Annual Funding: (Check One: Fiscal Yr: ___ Calendar Yr: ___)
MUDr.Jaroslava Gruberová MUDr. Imrich Borský	1978: _____ 1980: _____ 1979: _____ 1981: _____ OR: Total Funding Amount: _____
Start Date: 1976 Completion Date: Estimated: 1.part 1980 Actual: 1980	Comments:

PROJECT OBJECTIVE:
Health Protection of Workers in Noisly Workshops

PROJECT DESCRIPTION: 1. part 1976 - 80

Investigation of auditory evoked potentials and some vegetative responses during exposure to interrupted noise und the laboratory conditions

2. part 1981 - 85

Elaboration of a method for investigation of nonauditory noise effects in workers in industrial plants-medical examination of exposed workers using this method.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

It was found, that under laboratory conditions interrupted noise, in comparing with continual noise, does not affect the amplitude of auditory evoked potentials and vigility during 2 hour's exposure. We suppose, that time distribution of noise exposure is important in affecting the central nervous system.

Acral vasoconstriction and cardial arhytmia were found after exposure to interrupted noise.

AVAILABLE PUBLICATIONS (of research findings):
They will be prepared for "Pracovní lékařství"

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: France

PROJECT TITLE: Study of the stapedius reflex in workers

Performing Organization Name & Address:
Institut National de Recherch et de Securite
Avenue d. Boutgogue
BP27
54500 - Vandoeuvre
France

Sponsoring Organization Name & Address:
idem

Principal Investigator(s):
Lataye, R.
Damongeot, A.

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____
Comments:

Start Date: 1978
Completion Date: Estimated: 1979
Actual: 1979

PROJECT OBJECTIVE: Better knowledge of the operaion of the stapedius reflex of workers in real industrial situations.

PROJECT DESCRIPTION: Measurement of stapedius reflex, made in situ, in different workshops, on more than 100 workers, with a special equipment, at the beginning and during their work.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): We found differences in the efficiency of the stapedius reflex according to the type of noise and the point in time of the measure, but not to the age or the iniated hearing loss of the workers. We did not find any anticipation of stapedius reflex in case of noises controlled by the worker himself.

AVAILABLE PUBLICATIONS (of research findings):
o Rapport INES No. 470IRE (1980) (not published for the moment)

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: France

PROJECT TITLE: Correlation between audiometric data and sound measurements

Performing Organization Name & Address:

Institut National de Recherche et d. Securite
Avenue d. Bourgogue
BP27
54500 - Vandoeuvre
France

Sponsoring Organization Name & Address:

idem

Principal Investigator(s):

Thiery L.
Damongeot A.

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: 1974

Completion Date: Estimated: no imposed

Actual: _____

PROJECT OBJECTIVE: Better knowledge of effects of industrial noises on hearing

PROJECT DESCRIPTION: Epidemiological survey on workers exposed to industrial noises, in order to perceive the relationship existing between their hearing loss and the parameters of their exposure, especially the A-weighted sound pressure level. This survey is made on 10,000 workers, with specific protocols and specific files collected with the help of physicians from the companies.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Partial findings:

1) Study of a reference population hearing, not exposed to occupational noises (made with the collaboration of Electricite de France)
2) Study of the hearing of workers who are exposed to stable noises of the levels 95 and 100 dB(A)

AVAILABLE PUBLICATIONS (of research findings):

1) Revue d' Acoustique (1979)
2) Le Cahiers d. note documentaire (1980)/ 10th ICA (Perth Symposium) (1980)

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: France

PROJECT TITLE: Influence of acoustic pressure polarity on hearing loss produced by impulse noise.

Performing Organization Name & Address:

Equipe de Recherche sur l'Audition
Collège de France
11, place Marcelin Berthelot
75231 Paris Cedex 05

Sponsoring Organization Name & Address:

Ministère de l'Environnement
14 Bd du Général Leclerc
92521 Neuilly Sur Seine Cedex

Principal Investigator(s):

LECOUIX J.P. and PIERSON A.

Annual Funding:
1978:_____ 1980: _____
1979:_____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: January 1979

Completion Date: Estimated: December 1980
Actual: _____

Comments:

PROJECT OBJECTIVE: Determination of the difference of effects of positive and negative variations of pressure

PROJECT DESCRIPTION: The effect of condensation clicks of high intensity was compared to the effects of rarefaction clicks on cochlear potentials in the guinea-pig.

SUMMARY OF FINDINGS (if project completed): A significant difference in the cochlear fatigue was found according to the direction of pressure variations produced by impulse noise.

WHERE FINDINGS PUBLISHED:

Scandinavian Audiology, Suppl. n°12.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Induced Hearing Loss and Hearing Conservation

COUNTRY: France

PROJECT TITLE:

Danger of non-stable and impulse noises - Experimentation on animals

Performing Organization Name & Address:

Institut National de Recherche et de Securite
Avenue de Bourgogne
BP2F
54500 - Vandoeuvre
FRANCE

Sponsoring Organization Name & Address:

Principal Investigator(s):

Damongeot A. - Freidinger M.

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: 1976

Completion Date: Estimated: _____

Actual: no imposed

PROJECT OBJECTIVE:

Better knowledge of the evaluation criteria for non-stable and impulse noises.

PROJECT DESCRIPTION:

Groups of 16 guinea pigs are exposed on one hand to stable noises with different noise levels and on the other hand to impulse or non-stable industrial noises having the same A weighted level. Two noises, the one stable and the other, the industrial noise under study, giving the same Preyer Reflex Schift, are considered as being of a same hazard for the hearing. So,we can look for the algorithm adapted at the evaluation of such noises, i.e.: corrective term to add to L_{Aeq} in case of impulse noises.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Partial findings - Study of 3 industrial impact noises in comparison with 4 levels of stable reference noise (pink noise). We found a corrective term to add to the equivalent, A weighted level: L_{Aeq}, ranged between 1.2 to 5.5dB(A).

AVAILABLE PUBLICATIONS (of research findings):

40th ICA Sydney (1980)

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-induced Hearing Loss and Hearing Conservation

COUNTRY: France

PROJECT TITLE: Effects on Non-stable and Impulse Noises - Bibliographic Study

Performing Organization Name & Address:
Institut National de Recherche et de Securite

(INRI)
Avenue de Bourgogue
BP 27
34500 - VANDOEUVRE

Sponsoring Organization Name & Address:
- idem-

Principal Investigator(s):
Damongeot A. -Lataye R.

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

OR:
Total Funding Amount: _____
Comments:

Start Date: 1978

Completion Date: Estimated: 1979
Actual: 1979

PROJECT OBJECTIVE:
Bibliographic study of effects, or evaluation criteria of non-stable and impulse noises

PROJECT DESCRIPTION:

-idem-

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

We found noticeable divergences in the proposed evaluation modes, that may lead to very different admissible limits (i.e.: ISO amt OSHA criteria for non-stable noises, different values of corrective terms for impulse noises.)

AVAILABLE PUBLICATIONS (of research findings):
-Les Cahiers de Notes Documentaires (1979)

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: Hungary

PROJECT TITLE:
Experience with Noise Susceptibility and Ear Protection

Performing Organization Name & Address:
University E.N.T. Clinic
Szeged
Hungary

Sponsoring Organization Name & Address:

Principal Investigator(s):
Prof. Ottó Ribári, M.D.

Annual Funding:
1978:_____ 1980: _____
1979:_____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1977.

Completion Date: Estimated: _____
Actual: 1979.

Comments:

PROJECT OBJECTIVE:
The measuring of noise susceptibility and ear protection.

PROJECT DESCRIPTION:
To prevent noise deafness, the most sensitive working people can be selected in advance by several methods, and then taught, by means of the ear protectometer, to use the ear defenders correctly,and to wear them steadily.

SUMMARY OF FINDINGS (if project completed):
The author have condacted investigations for 15 years in different industrial plants with varying types and intensities of noise. He observed that sensitivity to noise may be detected quite early. In individuals being more susceptible to noise hearing damage to a great extent may be prevented by sufficient protection. For measuring effectiveness of ear protection he had worked out a simple device, the "earprotectometer".

WHERE FINDINGS PUBLISHED: ASHA Reports 10 The American Speech-Language-Hearing Association, Rockville, Maryland, April 1980.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: Norway

PROJECT TITLE:
Noise Induced Hearing Damage

Performing Organization Name & Address:

Acoustics Laboratory
Norwegian Technical University
7034 Trondheim - NTH
Norway

Sponsoring Organization Name & Address:

NTNF (Norwegian Council of Scientific Research)

Principal Investigator(s):

J. Trampe Broch
G. Oftedal

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr: X)

1978: (200000) $36,740. 1980:(250000) $45,925

1979: (250000) $45,925 1981:(250000) $45,925

OR:

Total Funding Amount: _____

Comments:

Start Date: 1976

Completion Date: Estimated: Unknown

Actual: _____

PROJECT OBJECTIVE: To establich an objective measurement technique for evaluation of noise induced hearing risk based on the actual damage mechanisms.

PROJECT DESCRIPTION: Theoretical and experimental investigations on hearing damage mechanisms. Experimental techniques involve animal experiments, behavioural as well as light - and electron microscopy. Experimental animals so far white rats and gerbels.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progess):

In a paper by Broch, listed below, he describes a theory that predicts hearing damage risk potentials for impulsive as well as non-impulsive types of noises in full conformacy with present experience. However, the theory does require for its utilization a noise measurement instrumentation which differs from the ones commonly used today. In a report by Oftedal, listed below, he reports that non-mechanical hearing damage may be caused by metabolic exhaustion due to excessive cell activity and/or insufficient supplies of oxygen and nutrients. Oftedal writes in the report that damage may also be caused by a shift in the cochlear ion balance, and accesses the changes that may be observed in the hair cell.

AVAILABLE PUBLICATIONS:

Broch, Jens Trampe, A Theory of Noise Induced Hearing Damage. a paper presented at the 50th Meeting of the Acoustical Society of America, Boston, Massachusetts, 11-15 June, 1979.

Oftedal, Gunnhild, Noise Induced Non-mechanical Hearing Damage Mechanisms. Acoustics Laboratory, The University of Trondheim, Norway.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: Norway

PROJECT TITLE: Noise Induced Hearing Damage

Performing Organization Name & Address:

Electronics Research Laboratory
O.S. Bragstads Plass 6
N-7034 Trondhjem-NTH
Norway

Sponsoring Organization Name & Address:

The Royal Norwegian Council
for Scientific and Industrial Research

Principal Investigator(s):

Funnhild Oftedal

Start Date: Continous research program

Completion Date: Estimated: _____

Actual: _____

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: $40,000 1980: $40,000

1979: $40,000 1981: $40,000

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

To establish a model for noise induced hearing loss.

PROJECT DESCRIPTION:

A model for velocity, acceleration and displacement of particles along the basilar membrane has been established. Possible damage due to metabolic processes has been studied. The connection between hearing loss and noise exposure (duration and level) is studied.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Several papers are available.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: Norway

PROJECT TITLE: Industrial Noise and Hearing Damage

Performing Organization Name & Address:

Acoustics Laboratory
Norwegian Technical Univ.
Trondheim - NTH

Sponsoring Organization Name & Address:

Principal Investigator(s):

J.A. Austnes

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: _____

Completion Date: Estimated: _____
Actual: _____

OR:
Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

Industrial noise and hearing damage

PROJECT DESCRIPTION: Surveys in certain Norwegian Industries.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

In the industries surveyed, no significant hearing damage problem seemed to exist. Project completed.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: POLAND

PROJECT TITLE: Studies on effects of prolonged acoustic trauma on the auditory system in man by the electrophysiological /EM/ approach.

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Audiology Department, E.N.T. Clinic, Institute of Surgery, Medical Academy of Warsaw. 02-097 Warsaw, Banacha 1a Poland	Institute of Professional Medicine 90-950 Łódź, Teresy 8 Poland

Principal Investigator(s):	Annual Funding:
Pietkowska Danuta M.D. Associated prof. Janczewski Grzegorz M.D. Associated prof. Mochanek Krzysztof Dipl.Ing. Dawidowicz Jerzy Dipl.Ing.	1978: ____ 1980: ____ 1979: ____ 1981: ____ OR: Total Funding Amount: (3 500 000 zl.pol.)

Start Date: 1979 Completion Date: Estimated: 1982 Actual:	Comments: $269,230

PROJECT OBJECTIVE: Studies on the functional state of the human cochlear nerve in the early stage of noise-induced hearing loss using the electrocochleographic technique /ECoG/.

PROJECT DESCRIPTION: The adaptation phenomenon of the action potential of the cochlear nerve is evaluated as an indicator of the noise-induced malfunctioning of the input to the auditory system. Due to the extratympanic ECoG technique the highest frequency region of the cochlea, which commonly is missed in the routine audiometry is studied. These investigations are performed in comparison to the normal hearing and noise free men.
Basing on the results obtained by the electrophysiological approach the routine audiometric procedures for the early detection of the noise-induced hearing loss will be proposed.

SUMMARY OF FINDINGS (if project completed):

PRELIMINARY RESULTS

Abnormal adaptation observed in the ECoG recordings in the group of industry /steel foundry/ workers with noise-induced hearing loss in comparison to the normal hearing and noise free men resembles the noise impaired function of the auditory end-organ within its highest frequency region.

WHERE FINDINGS PUBLISHED: SCANDINAVIAN AUDIOLOGY
SUPPL 12, 1980
pp. 257-264

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-induced Hearing Loss and Hearing Conservation

COUNTRY: Poland

PROJECT TITLE:

The Effects of Impulse Noise on Hearing of Industrial Workers

Performing Organization Name & Address:

Institute of Occupational Medicine
ENT and Audiology Dept.
Teresy 8, 90-950 Lodz
Poland
P.O. Box 195

Sponsoring Organization Name & Address:

NIOSH
4676 Columbia Parkway
Cincinnati, Ohio 45226

Principal Investigator(s):

Wiesław J. Sutkowski, M.D., Ph.D.

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (1915999) $147,384

Comments:

Start Date: 8/31/79

Completion Date: Estimated: _____

Actual: 12/31/81

PROJECT OBJECTIVE:

See Publication

PROJECT DESCRIPTION:

See Publication

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Partly: ASHA Reports 10, 1980
Scandinavian Audiology Suppl. 12, 1980

Transcribed from the original

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Induced Hearing Loss and Hearing Conservation

COUNTRY: Soviet Union

PROJECT TITLE: Changes in Auditory Sensitivity as a Function of Noise Exposure

Performing Organization Name & Address:

Sponsoring Organization Name & Address:

Principal Investigator(s):

Ye. I. Izrantseva
A. N. Kornilov Leningrad

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

Measure TTS vs equivalent energy of white noise.

PROJECT DESCRIPTION:

Using 20 male human subjects (age 19-33), various doses of continuous white noise were presented through earphones. Exposures ranged from 113 dB for 10 min. to 79 dB for 10 min. Using a 2000 Hz tone for testing of hearing acuity, time required for full recovery from TTS was measured.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

The most significant single factor in the effect of noise on the auditory analyzer is the energy of the noise dose.

AVAILABLE PUBLICATIONS (of research findings): Izrantseva, Ye. I and A. N. Kornilov. Changes in the auditory sensitivity as a function of Noise Exposure, Gigiena i Sanitariaya No. 1 1980 81-82.

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: Soviet Union

PROJECT TITLE:
Role of the Resonance of the Outer Ear Canal in Occupational Hearing Impairment

Performing Organization Name & Address:
Public Health
Medical Institute
Leningrad

Sponsoring Organization Name & Address:

Principal Investigator(s):
S. Olisov
E.N. Tsirolnikov
Yu. D. Melnikov

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____
Comments:

Start Date: _____
Completion Date: Estimated: 3/79
Actual: _____

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Clinical observations and audiologic and experimental studies have shown that occupational hearing impairment (initial selective reduction in auditory sensitivity to the frequency of 4000 Hz) depends to a large extent on the resonance of the outer ear canal. Of some importance are also acoustic properties of the mastoid process.

AVAILABLE PUBLICATIONS (of research findings):

Olisov, V.S. et al., "Role of the Resonance of the Outer Ear Conal in Occupational Hearing Impairment." Gigiena Truda i Professionalnye Zabolevaniya, 1979, 16-20.

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: Sweden

PROJECT TITLE: The Influence of Impulse Sound on Noise Measurement and the Risk for Occupational Hearing Loss

Performing Organization Name & Address:

The Research Foundation for Occupational Safety and Health in the Swedish Construction Industry
Box 26055
S-100 41 Stockholm
Sweden

Sponsoring Organization Name & Address:

Bilsom International AB
S-26050 Billesholm
Sweden

Principal Investigator(s):
Peter Voigt, PhD
Eric Ostlund, M.D.
Bendil Godenhielm, Ph.D.

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: _____

Completion Date: Estimated: _____
Actual: Dec. 1979

Comments: Financed by Bilsom AB (a study trip for P. Voigt to the Netherlands, Switzerland and W. Germany) and the basic funds of The Res Found.....

PROJECT OBJECTIVE:

PROJECT DESCRIPTION: This paper, listed below, makes an attempt to characterize various types of noise impulses in terms of their excitation mechanisms It also studies how impulse noise affects the L_{eq}, on the basis of measurements made at a number of workplaces. The paper concludes with a review of the incidence of hearing damage among groups of personnel exposed to different types of noise in the building industry.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): (From the Conclusion of the report listed below.)
As demonstrated, the frequency content, time-course and peak level of noise impulses vary considerably with the excitation mechanism. There is thus no single relevant definition of impulse noise. Consequently a number of parameters have to be determined before the effect of impulse noise on the hearing damage risk can be evaluated.

Impulse noise can either make little contribution or be totally decisive in determining the 8-hour L_{eq}, depending upon the type of work and the number of impulses per working day.

An evaluation of the relationship between audiometric observations and noise situations obtaining in the Swedish building industry, based on study of over 81,000 building workers, indicates that there is a higher incidence of hearing damage among those exposed to relatively constant noise levels. In other words, measurement of the Leq alone, no matter how accurate the measuring equipment, gives insufficient basis for evaluation of the risk of noise-induced hearing damage.

AVAILABLE PUBLICATIONS (of research findings):
Voigt, Peter, and Eric Ostlund. "The Influence of Impulse Sound on Noise Measurement and the Risk Criteria for Occupational Hearing Loss." (also, Bertil Godenhielm of the Helsinki University, Acoustics Laboratory, Esbo, Finland).

Transcribed

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: Sweden

PROJECT TITLE:

Fatigability of the stapedius reflex in industrial noise

Performing Organization Name & Address:

Departments of Audiology at Sahlgren's hospital, Göteborg and Karolinska hospital, Stockholm and Umeå hospital and Health and Medical care department, Götaverken, Göteborg

Sponsoring Organization Name & Address:

Swedish work environmental fund Wennergren center, Stockholm.

Principal Investigator(s):

Roland Nilsson, Erik Borg, Gunnar Lidén and Jan Erik Zakrisson

Annual Funding:
1978: 25000 S
1979: 30000 S
1980:
1981:
OR:
Total Funding Amount:

Start Date: 78 07 01

Completion Date: Estimated: 1981
Actual:

Comments:

PROJECT OBJECTIVE:

Study of the stapedius reflex characteristics in a realistic industrial noise environment

PROJECT DESCRIPTION:

Abstract. Normal hearing subjects were monaurally exposed to 30 min of tape recorded shipyard noise (97 dB (A)) which is characterized by a variable temporal structure. The stapedius muscle activity was continuously recorded in the opposite ear as a change of the ear's acoustic impedance. The reflex function was, in addition, assessed as stimulus-response curves obtained before and, at various time after, exposure.

SUMMARY OF FINDINGS (if project completed):

A slight reflex fatigue was observed, together with a parallel shift of the stimulus-response curve (average 4 dB). The recovery was slow and not complete even 10 min after the end of the exposure. The individual variability was large. For 5 of the subjects the exposure was repeated at a later session and the individual degree of fatigue was found to be largely producible. The present results suggest that the stapedius reflex might play a role in the clinical picture of noise induced hearing loss.

WHERE FINDINGS PUBLISHED:

Acta Otolaryngol (Stockholm) 89:433-439, 1980.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: United Kingdom

PROJECT TITLE: Clinical Characterization and Epidemiology of Auditory Disorders in Adults

Performing Organization Name & Address:

M.R.C. Institute of Hearing Research
University Park
Nottingham
NQ7 2RJ

Sponsoring Organization Name & Address:

Medical Research Council
20 Park Cresent
London WI

Principal Investigator(s):

Multi-centre team, coordinated by A.C. Davis and R.R.A. Coles

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: 1978

Completion Date: Estimated: 1983

Actual: _____

OR:

Total Funding Amount: _____

Comments:

Not separately identifiable.

PROJECT OBJECTIVE:

As in title.

PROJECT DESCRIPTION: The project is not primarily in the noise field but is expected to yield useful epidemiological data on noise-induced hearing loss and tinnitus, on the relationships between various measures of important and of reported auditory handicap, and on the relative contributors to handicap of the better and worse ears.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Pilot studies completed. Various publications, but none specifically on noise at this stage.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise - Induced hearing loss and hearing ~~conservation.~~

COUNTRY: United Kingdom.

PROJECT TITLE: Effects of moderately intense noise on cochlear responses and structure.

Performing Organization Name & Address:

Birmingham University
Neurocommunications Research Unit
The Medical School
Birmingham B15 2TJ

Sponsoring Organization Name & Address:

Medical Research Council
20 Park Crescent
London W1N 4AL

Principal Investigator(s):

Phyllis E Stopp. Ph.D.

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: (£14,000) $30,828

Start Date: March 1978

Completion Date: Estimated: Feb. 1981
Actual: _____

Comments:

PROJECT OBJECTIVE: To study the interaction between centripetal and centrifugal systems under noise-damaged ototoxic conditions.

PROJECT DESCRIPTION:

Studies are being carried out in the anesthetized and unanesthetized state of cochlear damage induced by moderately intense noise. The damage is assessed both electrophysiologically and by light and scanning electron microscopy.

SUMMARY OF FINDINGS (if project completed):

Inner hair cell stereocilia show transient effects, while those of the outer hair cells undergo delayed, but permanent damage. The influence of the olivo cochlear bundle under these conditions is also being investigated.

WHERE FINDINGS PUBLISHED: International Symposium on New Perspectives on Noise Induced Hearing Loss. Raven Press.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: United Kingdom

PROJECT TITLE:

Effect of moderate intensity noise on cochlear responses and morphology.

Performing Organization Name & Address:

Neurocommunications Research Unit
The Medical School
University of Birmingham
Birmingham B15 2TJ
England

Sponsoring Organization Name & Address:

Medical Research Council
20 Park Crescent
London W1N 4AL

Principal Investigator(s):

Dr Phyllis E Stopp.

Annual Funding:
(Check One: Fiscal Yr: ___ Calendar Yr: ___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (£18,000)

Comments: $39,636

Start Date: _____

Completion Date: Estimated: Feb. 1982

Actual: _____

PROJECT OBJECTIVE:

To determine extent of permanent or reversible damage in noise exposed cochleas.

PROJECT DESCRIPTION:

Both unanesthetized and anesthetized guinea pigs are subjected to 2 hour sessions of 95 dB SPL broad-band noise. over a period of several days for a total of 8 hours. Times from last exposure to day of sacrifice vary from 24 hours to several weeks. On the day of sacrifice the animals all anesthetized and thresholds of cochlear responses are determined. The cochleas are then fixed and prepared for either SEM or sectioning for light microscopy

STATUS REPORT (if in progress):

The stereocilia of the two types of hair cells behave differently over post-exposure periods, and these changes, some of which are reversible have a complex relationship with the cochlear responses.

AVAILABLE PUBLICATIONS (of research findings):

Effects of moderate intensity noise on cochlear potentials and structure. In New Perspectives on Noise Induced Hearing Loss, eds D.Henderson, R Hamernik & R. Salvi Raven Press. In preparation.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: United Kingdom

PROJECT TITLE: Acoustic Trauma Effects With Varying Exposure Times in Guinea Pigs

Performing Organization Name & Address:
Institute of Laryngology and Otology
330 Gray's Inn Rd.
London WCIX 8EE
United Kingdom

Sponsoring Organization Name & Address:
Same

Principal Investigator(s):
Dr. Ade Pye

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____
Comments:

Start Date: Ongoing Project
Completion Date: Estimated: _____
Actual: _____

PROJECT OBJECTIVE:

To study various paramenters of noise exposure experimentally.

PROJECT DESCRIPTION: Previously guinea pigs have been exposed to pure tones of various frequencies and intensities to obtain a restricted area of damage. Work has now concentrated on 20 kHz at an intensity of 120 dB SPL, but varying the exposure times and survival times.

SUMMARY OF FINDINGS (if project completed): Guinea pigs have been exposed to 20 kHz at 120 dB
STATUS REPORT (if in progress): SPL for exposure durations of 2 hr., 1 hr., 30 min., 15 min., 7.5 min., (and presently to 3.25 min). Survival times have been 3,6 and 12 weeks. Surface specimen technique for assessment of damage. Areas of outer hair cell damage were statistically confirmed for the various exposure durations. Significant differences were obtained only with 7.5 min., after a 3 week survival time, but this difference was no longer apparent after 12 weeks. Myelinated nerve fibre degeneration was more severe after longer survival time. Myelinated nerve fibre and inner hair cell degeneration coincided with total outer hair cell loss. Future experiments: to find which exposure time for this frequency and intensity and to study changes immediately after exposure.

AVAILABLE PUBLICATIONS (of research findings):

Br. Audiol. 12, 51-53 (1978)
Arch. Otoshiolaryngol. 224, 107-109 (1979)

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: United Kingdom

PROJECT TITLE:

OBJECTIVE TEST FOR HEARING PROTECTORS

Performing Organization Name & Address:

Lucas Industries Noise Centre
Lucas CAV Limited
P.O. Box 36, Warple Way,
London W3 7SS
England

Sponsoring Organization Name & Address:

Lucas Industries Limited
Great King Street
Birmingham
England

Principal Investigator(s):

Mr M F Russell
Mr R E Walford

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1974

Completion Date: Estimated: 1982
Actual: _____

Comments:

PROJECT OBJECTIVE: To develop means for measuring the true effectiveness of hearing protectors in the acoustic conditions typical of real factories.

PROJECT DESCRIPTION:

The adjustable head developed previously has been modified to incorporate a more accurate model of the external auditory meatus so that sound attenuation provided by earmuffs and ear plugs can be measured. The adjustable head has facilities which allow the standard deviation of hearing protector attenuation to be estimated in addition to measurements of mean attenuation.

SUMMARY OF FINDINGS (if project completed):

Recent work on plug-type protectors confirms some of the early hypotheses developed to explain discrepancies between objective tests on earmuffs in factory-like conditions and the subjective tests in precisely defined but untypical sound fields.

WHERE FINDINGS PUBLISHED:

The early work has been reported in Lucas Engineering Review, Vol. 7, No. 3, Oct. 1978.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-induced Hearing Loss and Hearing Conservation

COUNTRY: United Kingdom

PROJECT TITLE: Investigation and Application of Brainstem Response as a Measure of Hearing Aid Gain

Performing Organization Name & Address:

Polytechnic of South Bank
London SE1 07A

Sponsoring Organization Name & Address:

D.H.S.S.
Russel Sq.
London WCI

Principal Investigator(s):

I.J. King

Start Date: Jan. 1980

Completion Date: Estimated: Jan. 1982

Actual:

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (£ 2000) $4,404

Comments:

PROJECT OBJECTIVE: Better setting of gain of existing aids for those who are unable to set the gain themselves -- eg. very young, elderly.

PROJECT DESCRIPTION: Measurement of Brainstem Response at various levels shows latency good level with and without hearing aid. Correlation between gain of aid as measured objectively on patient and off patient about to be undertaken.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Latency of response is being used as an indicator of actual gain whilst on the subject. Early results with clicks encouraging but not conclusive. Study continues.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: West Germany

PROJECT TITLE: Studies on the pathophysiology of the equilibrium organ under the conditions of work-place bound harmful noise effects and their effects on human efficiency and work capability.

Performing Organization Name & Address:

Universitaets-Hals-, Nasen, Ohrenklinik der Gesamthochschule Essen
4300 Essen
Hufelanderasse 55

Sponsoring Organization Name & Address:

Bundesanstalt fuer Arbeitsschutz und Unfallforschung

Principal Investigator(s):
Prof. Dr. Med. Bernhard Minnigerode

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (430504)

Comments: $202,121

Start Date: 4/1/75

Completion Date: Estimated: _____

Actual: 3/31/81

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed): On the basis of the anatomical closeness and connection of the hearing and the equilibrium organ in the petrous portion of the human skull and clinical finds with patients made deaf by noise, the question arises whether noise can cause damage to the hearing and to the vestibulary organ. The following should be tested on test persons exposed to noise in comparison to a normal control group: 1) whether noise damages the equilibrium organ along with the auditory organ, or can only impair the vestibulary organ in its function in an isolated manner; 2) what kinds in the given case are equilibrium disturbances; 3) which function tests are suitable in the given case for work medical studies; 4) which measures must be resorted to for preventing accidents. In addition to the used, clinical, sufficiently tested measuring methods of audiometry and the study methods of the vestibulary organ, in particular the electronystagmographic findings of the experimental tests of the equilibrium organ should be subjected to a computer analysis relative to normal values of the nystagmus parameters.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed source DAKOR data bank of the Federal Ministry for Research and Technology
FKZ: 4AS0756L, research inquiry autumn 1978.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-Induced Hearing Loss and Hearing Conservation

COUNTRY: West Germany

PROJECT TITLE: Endangerment of hearing recovery due to the effect of noise in the recreation area with special consideration of traffic noise.

Performing Organization Name & Address:

Battelle - Institut e.V. (0050)
6000 Frankfurt 90
Am Roemerhof 35

Sponsoring Organization Name & Address:

Bundesminister des Innern

Principal Investigator(s):

Dr. Ivar Veit

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (251899) _____

Comments: $118,266

Start Date: 11/1/78

Completion Date: Estimated: _____

Actual: 10/31/80

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed): After a long effect of intense noise (e.g. during a noisy work shift) a reduced hearing sensitivity is to be observed (e.g. deafness), and rest is necessary for its restoration, since finally hearing damage sets in if recovery of the hearing is not complete (noise deafness) and rest necessary for hearing recovery must absolutely be guaranteed. There is the suspicion that detrimental street traffic and/or aircraft noise conditions prevent hearing recovery. The attempt should therefore be made to adhere to quiet conditions in order to guarantee hearing recovery in recreation time.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed source: Environmental research plan 1978 of the Federal Department of Interior.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-induced Hearing Loss and Hearing Conservation

COUNTRY: West Germany

PROJECT TITLE: Audiological long-term studies of those working under noise for several years to determine the progress of noise deafness

Performing Organization Name & Address:

Hals-, Nasen-, Ohrenklinik der Uni Heidelberg
6800 mannheim
Theodor-Jutzer-Ufer

Sponsoring Organization Name & Address:

Principal Investigator(s):
Prof. Dr. U. Legler

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (231995) $108,921

Comments:

Start Date: 10/1/76

Completion Date: Estimated: _____

Actual: 3/31/79

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Procedures should be determined concerning the course of noise deafness as a function of the intensity of the noise at the working place. These are important for the organization of preliminary investigations and the question of changing the working place with older workers.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed source: DAKOR data bank of the Fed. Min. for Research and Tech. (FKZ:4ASO319).

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-induced Hearing Loss and Hearing Conservation

COUNTRY: West Germany

PROJECT TITLE:
Long-term Studies of the Development of Hearing Loss in Noise Exposed Workers in the Iron and Steel Industry

Performing Organization Name & Address:
Betriebsforschungsinstitut
VSEh-Institut fur angewandte Forschung Gmbh
D-4000 Dusseldorf

Sponsoring Organization Name & Address:
Europaische Gemeinschaft fur Kohle und Stahl (European Community for Coal and Steel)
Batiment Jean Minnet A/2
L-Luxembourg

Principal Investigator(s):
Dirk Pannhausen

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

Start Date: 1980
Completion Date: Estimated: _____
Actual: _____

OR:
Total Funding Amount: _____
Comments:

PROJECT OBJECTIVE: To specify the relationship between the development of NIHL over time and factors such as noise level, age of worker at start of service, and duration of noise exposure.

PROJECT DESCRIPTION: This study is a continuation of an earlier one; together they encompass nine years. Both individuals and groups will be followed; exact data will be taken.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Translated from the original German.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise-induced Hearing Loss and Hearing Conservation

COUNTRY: West Germany

PROJECT TITLE: Centralized Monitoring of Iron and Steel Industry Workers as a Basis for an Occupational Noise Protection Program

Performing Organization Name & Address:

Betriebsforschungsinstitut
VDEh-Institut fur angewandte Forschung
Gmbh
D-4000 Dusseldorf

Sponsoring Organization Name & Address:

Europaische Gemeinschaft fur Kohle und Stahl (European Community for Coal and Steel)
Batiment Jean Monnet A/2
Plateau du Kirchberg
L-Luxembourg

Principal Investigator(s):

Dirk Pannhausen

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____
Comments:

Start Date: 01/01/1975

Completion Date: Estimated: _____
Actual: 31/12/1978

PROJECT OBJECTIVE: The noise-exposed employees will be tested and interviewed to learn what factors negatively influence hearing capability, with the ultimate goal of introducing hearing conservation measures.

PROJECT DESCRIPTION: Two phases were performed. First, a system was developed to encompass a number of data sets, the results of investigations into one system, simply and rationally according to one set of criteria. The doctors were to be released from the burden of routine calculations by means of the introduction of a computer. Statements to individuals and groups of individuals in a factory were to be made possible. In the second phase, building on the data and results of the first phase, the development of evaluations and policies applicable to the entire industry were to become possible. One goal was to clarify the relationship between hearing loss and variables such as age, duration of exposure, noise levels, previous illness, ect.

SUMMARY OF FINDINGS (if project completed): Approximately one third of workers studied hearing losses requiring doctor's examination. For less than one percent of these workers, there were lasting health grounds for excluding them from further work in noisy conditions. The investigation process increased the consciousness of the workers and their willingness to use personal noise-protective devices. A higher than average number of the young workers and workers already showing signs of NIHL were ready to use personal hearing protection devices. Hearing loss increases steadily with noise level and time of service. The rate of hearing loss is greatest in the first year of work. Also, workers who are relatively older when they first start working in the noise-exposed positions are susceptible to a more rapid onslought of hearing loss. No significant difference can be found in the influence of various types of noise, including impulse noise, on hearing, when the noise level is in the 90-100 dB range.

AVAILABLE PUBLICATIONS (of research findings):

Zeitschrift "Stahl und Eisen" 100(1980) Heft 11, Seite 575/580
Verlag Stahleisen m.b.H. Dusseldorf

Translated from the original German.

United Kingdom. Trial Service Developments in Rehabilitation of the Deaf Adult: Phase II. B. McCormick, R.R.A. Coles. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Measurement of Tinnitus in a Clinical Population. A.M. Martin, R.R.A. Coles, M. Bryan, A. Barks. University of Southampton, Institute of Sound and Vibration Research. Southampton SO9 5NH.

United Kingdom. Patient Satisfaction With B.E. Hearing Aids. P.A. Smith, G.C. Rice. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Field Test to Substantiate Benefits of Modified B.E. 11 Hearing Aids. M. Wald, C.G. Rice. University of Southampton. Institute of Sound and Vibration Research. Southampton SO9 5NH.

United Kingdom. Temporal Auditory Acuity. R.R.A. Coles, V.M. Priede, P. Mulcair. University of Southampton Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Investigation of the Adaptation of the Acoustic Reflex. V.C.G. Cleaver, A.M. Martin. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Clinical Applications of Transtympanic Electrocochleography. P.I.P. Evans, N.V. Morgan. University of Southampton, Institute of Sound and Vibration Reseach, Southampton SO9 5NH.

United Kingdom. The Evaluation of Hearing Protectors Following the British Standard Procedure. A.N.Martin, S.J. Karmy, P.A. Wilkins. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Development of Microprocessor Based Procedure for the Measurement of Pure Tone Thresholds. A.M. Martin, P.A. Wilkins, R. Rendell. University of Southampron , Institute of Sound Vibration Research, SO9 5NH.

United Kingdom. Studies of Middle-ear Dynamics and Contralateral and Ipsolateral Response of the Acoustic Reflex. A. Leverton, S.N. Guruprasad, N. Lutman, A.M. Martin. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Clinical Applications of Cochlear and Brainstem Evoked Response. A.R.D. Thornton. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Scientific Basis for the Fitting of Hearing Aids. B.W. Lawson, C.G. Rice, University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Characteristics of Hearing Aids Measureed on Real Ears, Ear Simulators, Acoustic Couplers and Manikins. B.W. Lawton, C.G. Rice, University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Assessment of Hazard to Hearing From Impulse Noise. A.M. Martin, C.G. Rice, R.R.A. Coles. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Determination of the Effect of Using Safety Glasses and Perspiration Covers Upon the Attenuation Offered by Earmuffs. S.J. Karmy, E. Whitham. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. Investigation of Masking-graph Technique for the Measurement of Tinnitus. R.R.A. Coles, M. Shailer. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

United Kingdom. The Investigation of Hearing Loss Referral Criteria Suitable for Use in Industry. S.J. Karmy. University of Southampton, Institute of Sound and Vibration research. Southampton SO9 5NH.

United Kingdom. Investigation of Hearing Conservation Procedures in Industry, S.J. Karmy, R.R.A. Coles. University of Southampton, Institute of Sound and Vibration Research, Southampton SO9 5NH.

BEHAVIORAL, SOCIAL AND
PERFORMANCE EFFECTS

See Also Pages:

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(We prefer responses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: New Zealand

PROJECT TITLE: Noise levels in primary school classrooms

Performing Organization Name & Address:
Regional Noise Control Engineer,
c/o National Acoustics Laboratory
Department of Health
98 Remuera Road
Aukaland, 5.

Sponsoring Organization Name & Address:
Department of Health
P.O. Box 5013
Wellington
New Zealand

Principal Investigator(s):
Mr. N.I. Hegley
Regional Noise Control Engineer
Dept. of Health, Aukland

Start Date: Septmeber 1980

Completion Date: Estimated: June 1981
Actual:

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: (10000) $9,210

1979: _____ 1981: (5000) $4,605

OR:

Total Funding Amount: (15000) $13,815

Comments: Funding relates to payment of fees and salary only.

PROJECT OBJECTIVE: To determine ambient noise levels in primary school classrooms and relate them to hearing acuity, behaviour, and performance effects in children.

PROJECT DESCRIPTION: The project will be undertaken in fulfillment of part of the requirements for the M.Sc. in Acoustics offered by the Institute of Sound and Vibration Research in Southampton, United Kingdom. Measurements will be made of ambient noise levels in primary school classrooms in Aukland, New Zealand, together with audiometric testing of pupils, in an attempt to relate noise interference effects with scholastic performance and class behaviour.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: Soviet Union

PROJECT TITLE: Hygienic Importance of Energy Temporal, and Informational Characteristics of Noises

Performing Organization Name & Address:
1. Institute of Work Hygiene and Occupational Diseases, Academy of Medical Sciences, Moscow
2. Donetsk Institute of Work Hygiene and Occupational Disease

Sponsoring Organization Name & Address:

Principal Investigator(s):
1. G.A. Suvorov, E.I. Denisov
2. A.V. Kolganov

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____
Comments:

Start Date: _____
Completion Date: Estimated: _____
Actual: _____

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): The biologic activity of inconsistent noises has been studied in relation to their energy, temporal, and informational characteristics. It is shown that the main determinant of adverse effects exerted by noise is the dose of noise. The temporal parameters of noise affect significantly only the state of hearing, and the contribution of these parameters may be taken into account by introducing corrections in the equivalent level of noise. Recommendations for hygienic evaluation of inconsistent noises have been formulated.

AVAILABLE PUBLICATIONS (of research findings):
Suvorov, G.A. et al., "Hygienic Importance of Energy, Temporal and Informational Characteristics of Intermittent Noise," Gigiena Truda i Professional'nyye Zabolevaniia, 1/80,5-9

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: Sweden

PROJECT TITLE: Annoyance of man due to vibrations in buildings

Performing Organization Name & Address:

National Swedish Road and Traffic Research Institute
S-581 01 Linkoping
Sweden

Sponsoring Organization Name & Address:

National Swedish Environmental Protection Board
Box 1302
S-171 25 Solna
Sweden

Principal Investigator(s):

Arnberg, P.W.

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: $25,000

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

Start Date: 1979

Completion Date: Estimated: _____

Actual: _____

PROJECT OBJECTIVE:

PROJECT DESCRIPTION: The aim of this project is to prepare the construction of an environmental simulator where vibrations, infrasonic noise and noise may be varied in such a way that different indoor environments can be simulated. The experiments in the simulator will show when disturbances on sleep, work and comfort occur.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: United Kingdom

PROJECT TITLE:

ACREFAIR NOISE CONTROL PROGRAMME (Y1546)

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Air Products Limited, *Coombe House* *New Malden* *Surrey* *ENGLAND.*	*Air Products Limited* *Coombe House* *New Malden* *Surrey* *ENGLAND.*
Principal Investigator(s): *K.T. JONES* *R. DAUNTON.*	Annual Funding: 1978:_____ 1980: _____ 1979:_____ 1981: _____ OR: Total Funding Amount: _____
Start Date: *MAY 1979* Completion Date: Estimated: *MARCH 1981* Actual: _____	Comments: *FUNDS FROM COMPANY*

PROJECT OBJECTIVE: *TO ASSESS THE NOISE EXPOSURE LEVEL OF THE WORK FORCE AND CARRY OUT ANY REMEDIAL ACTION FOUND NECESSARY.*

PROJECT DESCRIPTION: *A COMPREHENSIVE NOISE SURVEY WAS CARRIED OUT TO DETERMINE:-*

1. *The acoustic character of the building (Floor Area of over 10,000 m^2)*
2. *The acoustic characteristics of the noise sources-namely impact noise from hammering of large tank shells used for liquid storage.*
3. *Assess the noise reduction afforded by lining all walls and roof with acoustic absorption material.*

SUMMARY OF FINDINGS (if project completed):

The workforce were subjected to extremely high level impact noise, (over 140 dB(A) peak) and this was causing annoyance - loss of concentration and severe speech interferance for workers close to the noise source. It was observed that many workers were lip reading to overcome the speech interference problems.

The fitting of the acoustic material to the walls and roof reduced the reverberations and a significant reduction in worker annoyance has been recorded.

A re-survey is planned to evaluate the true reduction gained and the effect on the workers noise exposure level.

WHERE FINDINGS PUBLISHED:

Company Report -

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: United Kingdom

PROJECT TITLE:

Effects of Moderate Level Noise upon Tasks Involving Auditory Imagery.

Performing Organization Name & Address:

Department of Experimental Psychology
University of Oxford
South Parks Road
Oxford, OX1 3UD
England

Sponsoring Organization Name & Address:

Social Science Research Council
1 Temple Avenue
London, EC4Y 0BD
England

Principal Investigator(s):

Dr. D. E. Broadbent

Annual Funding:

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (14,995) $33,018

Comments:

Start Date: 1 October 1976

Completion Date: Estimated: _____

Actual: 1 October 1979

PROJECT OBJECTIVE:

To find effects on working efficiency from relatively low level noise.

PROJECT DESCRIPTION:

A number of tasks involving verbal material were performed in the laboratory in quiet and in noise of 80 or 85 dBC. The original intention was that such tasks might show effects on performance at levels below the 90 or 95 dBC previously thought necessary; because of effects on internal speech.

SUMMARY OF FINDINGS (if project completed):

A number of tasks were indeed found to be impaired in efficiency at these moderate difficulties of noise. However, no simple generalization would explain the results. That is, there was no evidence for a general increase or decrease in the use of internal speech, for a general reduction in the amount of semantic processing of verbal material, or anything of that sort. The most plausible conclusion was that noise produced a change in the allocation of effort between different aspects of the performance, and that the direction of the change depended up the precise parameters of the task.

WHERE FINDINGS PUBLISHED:

Numerous papers in scientific journals, references available from the principal investigator

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: United Kingdom

PROJECT TITLE: Continuous Noise Can Degrade Performance When Using Badly Designed Equipment

Performing Organization Name & Address:

Trinity Hall
Cambridge University
Cambridge CB2 1TJ

Sponsoring Organization Name & Address:

Principal Investigator(s):

E. C. Poulton

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Start Date: _____

Completion Date: Estimated: _____

Actual: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

An acclaimed important discovery was made in the ealy 1950s that noise degrades performance of certain manual tasks directly, by a mechanism other than the masking of sounds. It now appears that this is not so.

AVAILABLE PUBLICATIONS (of research findings):

Poulton, E.C. "Asychology of the Scientist: XLI. Continuous Noise Can Degrade Performance When Using Badly Designed Equipment: A Case History." Perceptual and Motor Skills. 50, 1980, pp. 319-330.

Transcribed from the summary from of the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: United Kingdom

PROJECT TITLE:

Perception of machinery indicator sounds

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
N.I.A.E. Silsoe Bedford United Kingdom	In house research project

Principal Investigator(s):	Annual Funding: (Check One: Fiscal Yr: X Calendar Yr:)
J.D.C. Talamd	1978: (£13,550) $29,837 1980: (£ 29,500) $64,959
	1979: (£26,000) $57,252 1981: (£ 29,250) $64,408
Start Date: Jan. 1978	OR:
Completion Date: Estimated: 1983	Total Funding Amount:
Actual:	Comments:

PROJECT OBJECTIVE: Investigate problems of tractor perception of farm machinery indicator sounds (cues) with particular reference to effects of 'quick' cab enclosures.

PROJECT DESCRIPTION:

1. Field data collection of machinery noise and effect of closed cab.
2. Driver questionnaire on cues used (n=600).
3. Laboratory experiments to determine thresholds for change in complex signals.
4. Future- Effects of duration (boredom, fatigue), work load.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Literature review in progress.

General analysis of field data completed.

Driver questionnaire 1st half (seminar) completed.

Laboratory experiments to measure masked threshold and frequency difference per min. completed.

AVAILABLE PUBLICATIONS (of research findings):

Talmo, J.D.C. The perception of indicator sounds. Cost Ergonomics and Forestry. Sparsholt. Winchester. 1980.

Talmo J.D.C. The perception of indicator sounds 1. Measurement of the marked threshold. Dept. Note. DN/E/1004/02003 N.I.A.E. 1980.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: United Kingdom

PROJECT TITLE: Hazard to Hearing Represented By Industrial Time-Fluctuating Noise

Performing Organization Name & Address:

Institute of Sound and Vibration Research
University of Southampton
Highfield
Southampton

Sponsoring Organization Name & Address:

EEC
Health and Safety Directorate - V
Social Affairs
Batiment Jean Monnet
Rue Alcide de Gasperi/Luxembourg

Principal Investigator(s):

Mr. K. Howell
Mr. S.J. Karmy

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Start Date: August 1, 1980

Completion Date: Estimated: _____

(first phase) Actual: June 30, 1981

Comments: Information available from sponsor only.

PROJECT OBJECTIVE: To assist the health and safety directorate to draft a directive specifying the permitted exposure of employees to industrial noise.

PROJECT DESCRIPTION: Discussion of the scientific literature describing various items relating to industrial noise exposure, e.g. continuous/ time-varying, 3 dB or 5 dB roll, impulse noise, L_{eq}, relevance of dB(A), ect. ect.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: West Germany

PROJECT TITLE: Study of sound within endangerment and exposure moments

Performing Organization Name & Address:

Kommission fuer Schallforschung der Oesterreichischen Akademie der Wissenschaften
A-1010 Wein
Liebiggasse 5

Sponsoring Organization Name & Address:

Oesterreichische Akademie der Wissenschaften

Principal Investigator(s):

Start Date: _____

Completion Date: Estimated: _____
Actual: _____

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): Importance of sound in: a) biology, b) oral communication, c) music including voice and instrument research, d) noise research e) for therapeutic purposes, f) specific effects and uses of environmental sound.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed source: Data of the Austrian Federal Institute for Health Systems.

: Behavioral, Social and Performance Effects

: West Germany

PROJECT TITLE:

Effects of noise on particular groups of people

Performing Organization Name & Address:

Sponsoring Organization Name & Address:

Umweltbundesamt (UBA)
Bismarckplatz
D-1000-Berlin FRG

Principal Investigator(s):

Prof..Dr.Dr.Gerd JANSEN
Institut für Arbeitsmedizin
Universität Düsseldorf
Moorenstr. 5, D-4000 Düsseldorf FRG

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: _____

Completion Date: Estimated: _____
Actual: completed

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

Basic research in the area of noise protection. Creation of physiological, psychological, sociological and economic bases for noise control, especially in the area of legislation and in spatial planning as well as in work involoving the developemnt of norms and guidelines.

SUMMARY OF FINDINGS (if project completed):

MAJOR FINDINGS PUBLISHED:

JANSEN, G., REHM, S. & GRIEFAHN, B., Wirkungen von Lärm auf besondere Personengruppen. Berlin: Umweltbundesamt, 1978

(We prefer resporses in English, but can accept material in other languages.)

TOPIC: Behavioral, Social and Performace Effects

COUNTRY: West Germany

PROJECT TITLE:

Noise effects during complex information processing and relaxation periods.

Performing Organization Name & Address:

Freie Universität Berlin
Institut für Psychologie
Fachbereich 12
Habelschwerdter Allee 45
1000 Berlin 33
Germany (West)

Sponsoring Organization Name & Address:

Umweltbundesamt
Bismarackplatz 1
1000 Berlin 33
Germany (West)

Principal Investigator(s):

Prof. Dr. Wolfgang Schönpflug

Annual Funding:

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (DM 523.400,00)

Start Date: January 1978

Completion Date: Estimated: _____

Actual: December 1981

Comments: $254,736

PROJECT OBJECTIVE:

Model of behavior regulation under internal and environmental stress.

PROJECT DESCRIPTION: Series of field and laboratory studies. Modelling of occupational activities within a laboratory. Computer control of responses. Traffic noise below 100 decibels.

SUMMARY OF FINDINGS (if project completed):

AVAILABLE PUBLICATIONS (of research findings):

SCHÖNPFLUG, W. Stress, fatigue and the economics of behavior. In: Hockey, R.B. (Ed.), Stress and Fatigue. London: Wiley, in print.

SCHÖNPFLUG, W. and SCHULZ,P. Lärmwirkungen bei Tätigkeiten mit komplexer Informationsverarbeitung. Forschungsbericht 79-105 01 201, Berlin: Umweltbundesamt, 1979.

SCHULZ,P. and SCHÖNPFLUG,W. Regulatory activity during states of stress. In: Krohne,W. and Laux,L. (Eds.) Achievement, Stress, and Anxiety. New York: Wiley/Hemisphere, 1980, 51-73.

SCHÖNPFLUG,W., KAUSCHE,J. und WIELAND,R. Verkehrslärm in der Freizeit. Einige experimentelle Beobachtungen. Kampf dem Lärm, 1978, 25, 21-25. Berlin: Springer-Verlag.

(We prefer responses in English, but can accept material in ocher languages.)

TOPIC: Behavioral, Social and Performance Effects

COUNTRY: West Germany

PROJECT TITLE:

Influence of noise on learning processes of different lengths.

Performing Organization Name & Address:

Psychologisches Institut der Uni Bochum
Univeritaeestrasse
4630 Bochum

Sponsoring Organization Name & Address:

Bundesminister des Innern
Umweltbundesamt

Principal Investigator(s):

Prof. Dr. rer nat. Hans Hoermann

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: 1/1/78

Completion Date: Estimated: _____

Actual: 2/28/80

OR:

Total Funding Amount: (208289)

Comments:

$97,791

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Creation of physiological, psychological, sociological and economic bases for noise combatting, especially in legislation and space-effective planning as well as in standards and guideline work.

AVAILABLE PUBLICATIONS (of research findings):

Research environmental plan 1977 of the Federal Ministry of the Interior.

Transcribed from the original.

United Kingdom. Medico-legal Aspects of Industrial Deafness and Hearing Conservation. R.R.A. Coles. University of Southampton, Institute of Sound and Vibration Research, Southampton S09 5NH.

COMMUNICATION INTERFERENCE

See Also Page:

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(We prefer responses in English, but can accept material in other languages.)

TOPIC: Communication Interference

COUNTRY: Japan

PROJECT TITLE:

Communication Interference of noise estimated by dissemination

Performing Organization Name & Address:

Kyushu University, Depertment of Architectural Environment, 10-1 Hakozaki 6 Chome Higashi-ku Fukuoka Japan

The Institute of Public Health, 6-1 Shirogamedai 4 Chome 108 Tokyo Japan

Sponsoring Organization Name & Address:

no sponsored

Principal Investigator(s):

Nobusuke Sakata
Takumasa Yoshida
Chiaki Haruta

Annual Funding:

1978:_____ 1980: _____

1979:_____ 1981: _____

OR:

Total Funding Amount: _____

Start Date: March 1975

Completion Date: Estimated: March 1984

Actual: _____

Comments:

PROJECT OBJECTIVE: To estimate interference of noise with Japanease communication by using a measure of dissemination of information

PROJECT DESCRIPTION:

Interference of noise with Japanease communication is investigated in relation to articulation of mono-syllable and dissemination of its information. Assessment of interference of various noises is intended as using dissemination of information that means information loss or efforts of hearing in noise environment.

SUMMARY OF FINDINGS

The simple relation was obtained between articulation and dissemination of information in Octave Band noise fields and it was found that data more than sixty could be demanded for obtaining stable mean of dissemination of information in one condition of noise of experiments.

WHERE FINDINGS PUBLISHED:

Transactions of the Architectural Institute of Japan, No.275, pp79-86, 1979

Transactions of the Architectural Institute of Japan, No.286, pp93-99, 1979

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Communication Interference

COUNTRY: The Netherlands

PROJECT TITLE:
Effect of ambient noise on the vocal output and the preferred listening level of conversational speech

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Ministry of Health and Environmental Protection The Netherlands	

Principal Investigator(s):	Annual Funding: (Check One: Fiscal Yr:___ Calendar Yr:___) 1978: _____ 1980: _____ 1979: _____ 1981: _____ OR: Total Funding Amount: _____ Comments:
Start Date: _____ Completion Date: Estimated: _____ Actual: July 1978	

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): The effect of ambient noise on vocal output and preferred listening level of conversational speech was investigated under conditions typical of everyday speech communication. For a speaker-listener distance of one meter, vocal putput and preferred listening level in quiet were both about 50 dB(A). Deviations from this value were observed when the noise level exceeded a level of about 40 dB(A). The regression lines for the data points above this level showed a three dB rise for a ten dB rise in noise level. The experiments furthermore suggest that both speaker and listener (when the latter is able to control the playback level of recorded speech) try to compensate for the noise interference by raising the level of speech in order to keep the (subjective) loudness of speech in noise equal to the loudness of speech and quiet.

AVAILABLE PUBLICATIONS (of research findings):

Report VL-DR-18-01 of the ICE, Ministry of Health and Environmental Protection in the Netherlands.

Transcribed from an abstract in the ICE Review of Dutch Noise Reports (10/80)

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Communication Interference

COUNTRY: The Netherlands

PROJECT TITLE:

Preferred listening level for speech disturbed by fluctuating noise

Performing Organization Name & Address:
Ministry of Health and Environmental Protection
The Netherlands

Sponsoring Organization Name & Address:

Principal Investigator(s):

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Start Date: _____

Completion Date: Estimated: _____

Actual: November 1979

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): This article is a sequel to an earlier one in which we investigated, among other things, the influence of stationary background noise on preferred listening level. The influence of fluctuatings in noise level on preferred listening level was compared to the influence of stationary noise. It turned out that the preferred listening level for a read-aloud text, adjusted by listeners against a background of noise, is hardly influenced by fluctuations in the noise, provided the equivalent noise level (L_{eq} in dB(A)) remains the same. This holds both for systematically modulated noise down to 0.1 Hz and more randomly fluctuating noise like traffic noise. Average preferred listening level proved to be an accurate measure for evaluating various conditions, such as modulation frequency and noise level proved to be an accurate measure for evaluating various conditions, such as modualtion frequency and noise level, in a single experiment.

AVAILABLE PUBLICATIONS (of research findings):
Report VL-DR-18-03 of the ICE, Ministry of Health and Environment Protection in the Netherlands.

Transcribed from an abstract in the ICE Review of Dutch Noise Reports (10/80).

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Communication Interference

COUNTRY: The Netherlands

PROJECT TITLE:
Intelligibility of intercovalic consonants in noise

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Ministry of Health and Environmental Protection The Netherlands	

Principal Investigator(s):	Annual Funding: (Check One: Fiscal Yr:___ Calendar Yr:___)
	1978: _____ 1980: _____
	1979: _____ 1981: _____
Start Date: _____	OR:
Completion Date: Estimated: _____	Total Funding Amount: _____
Actual: December 1978	Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): In this study the extent to which the intelligibility of consonants decreases with increasing noise level is studied. With respect to criteria on just acceptable noise levels of community noise, this consonant intelligibility is supposed to be an adequate measure for the decrease of redundany in speech and for the decrease in listening comfort with increasing noise level. In order to have a sensitive measure, representative of normal communication, the intelligibility of intervocalic consonants excerpted form conversational speech was used. This consonant intelligibility score was averaged over consonants (18), speaker (5), and listeners (10), about 70% in quiet, and started to degrade at a signal-to-noise ratio of 7 to 10 dB. If the free conversation is conducted against a background of noise, the speaker produces more vocal output but also articulates better resulting in a higher intelligibility of the intervocal consonants at the same signal-to-noise ratio.

AVAILABLE PUBLICATIONS (of research findings):
Report VL-DR-18-02 of the ICE, Ministry of Health and Environmental Protection in the Netherlands.

Transcribed from an abstract in the ICE Review of Dutch Noise Reports (10/80)

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Communication Interference

COUNTRY: Sweden

PROJECT TITLE: Speech intelligibility in and speech interference levels of traffic noise in hearing-impaired and normal listeners.

Performing Organization Name & Address:

Audiologiska avdelningen
Sahlgrenska Sjukhuset
413 45 GÖTEBORG
Sweden

Sponsoring Organization Name & Address:

Statens Naturvårdsverk
Box 1302
171 20 SOLNA
Sweden

Principal Investigator(s):

Med. Dr. Gunnar Aniansson

Annual Funding:

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (Sw Cr.160,000) $38,862

Start Date: 1976-10-01

Completion Date: Estimated: _____

Actual: 1979-10-01

Comments:

PROJECT OBJECTIVE: Speech intelligibility (PB-words) in traffic-like noise was investigated in three common listening situations, two indoors and one outdoors. The maximum noise levels still permitting 75% intelligibility of PB words in these three situations were also defined.

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed): In the indoor situation the hearing-impaired groups mainly retained good speech intelligibility in 40 dBA masking noise. Lowering the noise level to less than 40 dBA resulted in a minor improvement in speech intelligibility. Normal hearing listeners maintained good speech intelligibility in the outdoor listening situation with noise levels up to 60 dBA, without speech reading. For hearing-impaired groups, representing more than 1/2 million inhabitants (8% of the population) in Sweden, with hearing loss due to age and/or noise, the noise level outdoors should be lowered to 45 dBA, in order to achieve good speech intelligibility at 1 m, without speech-reading.

WHERE FINDINGS PUBLISHED:

Acta Otolaryngol, Suppl. 360:109-112, 1979

The Proceedings of the Third International Congress on Noise as a Public Health Problem. In press.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Communication Interference

COUNTRY: Sweden

PROJECT TITLE: Annoyance caused by traffic noise in persons with normal and impaired hearing.

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Audiologiska avdelningen Sahlgrenska Sjukhuset 314 45 GÖTEBORG Sweden	Statens Naturvårdsverk Box 1302 171 20 SOLNA Sweden

Principal Investigator(s):	Annual Funding:
Med. Dr. Gunnar Aniansson	1978: $27,119 (125 612) 1979: $31,212 (146 086) 1980: $35,163 (162 360) 1981: OR: Total Funding Amount:

Start Date: 1978-10-01 Completion Date: Estimated: 1981-10-01 Actual:	Comments:

PROJECT OBJECTIVE: This investigation is mainly concerned with comparison between subjects with normal hearing and with impaired hearing with respect to:

1. Annoyance caused by traffic noise in four different activities (laboratory study).
2. Speech intelligibility tests in connection with 1.
3. Tolerance levels to noise (laboratory study).
4. Sensitivity to noise (questionnaire in connection with 3).

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):

WHERE FINDINGS PUBLISHED:

: prefer responses in English,
t can accept material in
ıer languages.)

TOPIC: Communication Interference

COUNTRY: United Kingdom

OJECT TITLE: The Effects of Wearing Hearing Protection on the Perception of Warning Sounds.

rforming Organization Name & Address:
Institute of Sound and Vibration Research,
The University,
Southampton.
SO2 1LW.
U.K.

Sponsoring Organization Name & Address:
Health and Safety Executive,
25, Chapel St,
LONDON, NW1,5DT

incipal Investigator(s):

P.A. WILKINS.

A.M. MARTIN.

Annual Funding:
1978: 1980:
1979: 1981:
OR:
Total Funding Amount:

art Date: 1st January, 1978

mpletion Date: Estimated: 31st December 1980
Actual: as above

Comments: Information available from sponsor only.

OJECT OBJECTIVE: To assess the potential hazards of using hearing protection on the wearer's ability to hear important auditory warnings.

OJECT DESCRIPTION: The project has involved an extensive survey of warning sounds used in industry and a thorough review of the relevant literature. A series of laboratory experiments have investigated the psychoacoustic basis of the influence of wearing hearing protectors on the perceptual processes involved, and these are being validated in a field study.

MMARY OF FINDINGS (if project completed):

The laboratory-based experiments have shown that for subjects with normal hearing the protectors will not adversely affect the detection or attention demand of an auditory warning. However, in realistic environments where the warning is unexpected and must be recognised amongst other irrelevant sounds, it is possible that the wearing of hearing protectors may further degrade the perception of warning sounds which are not sufficiently distinct from the other discrete sounds or the background noise.

HERE FINDINGS PUBLISHED:

I.S.V.R. Technical Report 98, Manuscripts in preparation, Scandinavian Audiology (in press).

We prefer responses in English, but can accept material in other languages.)

TOPIC: Communication Interference

COUNTRY: United Kingdom.

PROJECT TITLE:

Auditory Communications in Industry.

Performing Organization Name & Address:

Institute of Sound and Vibration Research.
The University,
Southampton.
SO2 1LW.
U.K.

Sponsoring Organization Name & Address:

Proposals currently being considered by:

Health and Safety Executive.
25, Chapel St,
LONDON. NW1.5DT

Principal Investigator(s):

P.A. WILKINS.

Annual Funding:

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Start Date: 1st Jan, 1981 (proposed).

Completion Date: Estimated: 31st Dec, 1983.

Actual: _____

Comments: Information available from sponsor only.

PROJECT OBJECTIVE:

To investigate various aspects of auditory communications relevant to industrial environments.

PROJECT DESCRIPTION:

Proposed research projects include:

(i) The development of optimal auditory warnings for future use in industry.
(ii) The effects of hearing protection on the perception of indicator sounds.
(iii) The effects of a noise-induced hearing loss and hearing protection on the perception of warning sounds.

SUMMARY OF FINDINGS (if project completed):

- not relevant -

WHERE FINDINGS PUBLISHED:

United Kingdom. Brainstem Responses to Stimuli With an Interaural Delay. E. Saunders, A.R.D. Thornton. University of Southampton, Institute of Sound and Vibration, Southampton SO9 5NH.

NOISE ENVIRONMENT DETERMINATION AND EXPOSURE CHARACTERIZTION

See Also Pages:

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75

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Environment Determination and Exposure Characterization

COUNTRY: FINLAND

PROJECT TITLE:

INDUSTRIAL IMPULSE NOISE MEASUREMENTS

Performing Organization Name & Address:

Institute of Occupational Health
Laajanilityntie 1
01620 Vantaa 62
Finland

Sponsoring Organization Name & Address:

Academy of Finland
Ratamestarinkatu 2
00520 Helsinki 52
Finland

Principal Investigator(s):
Eero Lampio
Tapio Lahti
Jussi Pekkarinen
Jukka Starck

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1.1.1979

Completion Date: Estimated: 31.12.1981
Actual: _____

Comments:

PROJECT OBJECTIVE: To develop a detailed method for use in a damage survey and to arrive a simpler procedure for further monitoring of the exposure

PROJECT DESCRIPTION:
Field measurements are being taken at a shipyard concerning the noise exposure of the welders, platers and grinders in conjunction with a simultaneous audiometric follow-up study. Signals from stationary and also personal microphones using PCM telemetric system were recorded and the following function were analyzed for the 10 minutes records; the mean signal power L_{eq}, the spectral density and the probability density. Moreover the peak and slow RMS levels were recorded.

SUMMARY OF FINDINGS (if project completed):

Preliminary results show that a measurement method for industrial impulse noise can be a combination of conventional sound level determinations with basic signal analyzis functions. Instrumentation tape recorders when any weighting is used and modern precision sound level meters were found to be adequate for impulse reproduction and RMS detection. At the shipyard the L_{eq}'s and the spectra has been nearly the same for the welders, platers and grinders. Only the histogram showed greater differencies.

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Environment Determination and Exposure Characterization

COUNTRY: Finland

PROJECT TITLE: Noise in the Cabs of Moving Machinery

Performing Organization Name & Address:

Institute of Occupational Health
Laajanityntie 1
SF-01620 Vantaa 62
Finalnd

Sponsoring Organization Name & Address:

National Board of Labour Protection
Pl 536
SF-33101 Tampere 10
Finland

Principal Investigator(s):

Seppo Aatola
Jukka Starck

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (30000 SMK)

Comments: $7,332

Start Date: 010679

Completion Date: Estimated: _____

Actual: 010680

PROJECT OBJECTIVE: Draft a proposal for a simple field noise measuring method concerning moving machinery in Finland.

PROJECT DESCRIPTION: The noise was measured and recorded near the worker's ear during normal work and then analyzed with a statistical processor to determine the statistical parameters of the noise level and their relations to L_{eq}. Five multiprocess-machines and 14 fork-lift trucks.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Our conclusion was that the value L_{10}, (L_N = sound level, which is exceeded in N% of the measuring time) can be used to estimate L_{eq} in simple field measurements by subtracting three dB from L_{10}, because the standard deviations 0.3 to 0.7. The differences between the values of L_5 and L_{16} were about 2 dB with standard deviations 0.2 to 1.1 dB.

AVAILABLE PUBLICATIONS (of research findings):
At this time only in : NAS-80 Proceedings, Abo 10-12 juni 1980 (Nordiska Akustika Sallskapet)
Can be ordered from: The Acoustical Society of Finland/ Laajanityntc. 1, SF-01620 Vantaa 62, Finland.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Environemnt Determination and Exposure Characterization

COUNTRY: Soviet Union

PROJECT TITLE: Effect of medium-level noise on machine information processing operators

Performing Organization Name & Address:

Institute of Work Hygiene and Occupational Disease
Academy of Medical Sciences
Moscow

Sponsoring Organization Name & Address:

Principal Investigator(s):

L.N. Marmysheva G.A. Suvorov
V.G. Ovakimov
E.I. Denisov

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: _____

Start Date: _____

Completion Date: Estimated: _____

Actual: 8/79 (approx)

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): Hygienic, sociologic, physiologic, and clinical studies have been carried out to examine key-punch and automatic data processing room operators (239 female workers in all) exposed to noise at 64 and 77 dB(A) and performing work classified as category 2 or 3 of intensity. These levels of noise caused tension of the auditory analyzer without hearing loss as will as produced irritant effects and fatigue, which led to nonspecific functional distrubances of the cardiovascular and nervous systems. A factor analysis of the results of the physiologic study showed that the factors of noise and work intensity had equal effects on the organism. This biologic equivalence justifies the introduction of differential hygienic standards for noise according to the type of work. It is also shown that in evaluating the fatigue and irritant effect caused by noise, it is advisable to take into account the loudness of noise in sones.

AVAILABLE PUBLICATIONS (of research findings):

Marmysheva, L.N., et al., "Effect of Medium-level Noise on Machine Information Processing Operators," Gigiena Truda i Professional'nyye Zabolevaniya, VIII, 1979, 3-7.

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Environment Determination and Exposure Characterization

COUNTRY: Sweden

PROJECT TITLE:

Investigation of the Physical Working Environment for Cabin Attendants Within SAS

Performing Organization Name & Address:

Acoustics Group
Department of Work Sciences
University of Lulea
Sweden

Sponsoring Organization Name & Address:

Scandinavian Cabin Crew Association
(Swedish portion)

Principal Investigator(s):

Ulrik Sundback
Bror Tingvall

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: _____

Completion Date: Estimated: _____
Actual: _____

OR:
Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

DC9: The noise levels in DC9 are very high. A fixed mounted noise dose meter in the rear part of the cabin showed equivalent noise level above 90 dB(A) during a 1-hour flight.

DC8: The noise levels are rather high. Very occasionally the noise dose meters have shown an equivalent calue above 85 dB(A) in the rear of part of the cabin.

DC10: The noise levels are lower in DC10 than in DC9 and DC8. In the rear galley the noise level varies very strongly. During certain periods the level is 87-88 dB(A) and during other periods the level is about 10 dB(A) lower.

B747: The noise levels in the Boeing 747 are rather high. Even in this aircraft, the noise level is especially high in the rear part of the cabin. A personal noise dose meter recorded that the equivalent noise level was 88 dB(A) during a flight over 8 hours.

AVAILABLE PUBLICATIONS (of recent fundings): Sundback, U. and B. Tingvall. Investigation of the Physical Working Environment for Cabin Attendants Within SAS. Technical Report. University of Lulea. May 1981.

Transcribed from the summary of the above-mentioned report.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Environment Determination and Exposure Characterization

COUNTRY: United Kingdom

PROJECT TITLE:

EVALUATION OF HEARING DAMAGE RISK TO ATTENDERS AT DISCOTHEQUES

Performing Organization Name & Address:

School of Constructional Studies,
Leeds Polytechnic,
Brunswick Terrace,
LEEDS, LS2 8BU.

Sponsoring Organization Name & Address:

Noise Advisory Council,
Department of the Environment,
Beckett House,
Lambeth Palace Road,
LONDON.

Principal Investigator(s):

John Rickerdike

Annual Funding:
(Check One: Fiscal Yr: ___ Calendar Yr: ___)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (£15,000) $29,060

Comments:

Start Date: January 1977

Completion Date: Estimated: _____

Actual: May 1980

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed): The report presents and discusses the results of **STATUS REPORT (if in progress):** a sound level survey in 40 discotheques and interviews with 416 discotheque attenders and others. Existing Damage Risk Criteria (DRC) based on the Burns and Robinson NPL/NAC data was used to assess the risk of hearing damage. The sound level and attendance data show that, overall, the 50%, 10% and 5% NIL values for the survey are 85dB, 94dB and 97dB respectively but higher values are possible with correspondingly lower levels of probability. The results indicate that the risk of attenders achieving a 30dB average threshold shift at 1, 2 & 3 kHz at the end of their attendance period is small and amounts to some 0.02% of an estimated 6 million regular attenders. These results apply to risk at discotheques only but in addition some 10-12% of attenders may have an added risk by noise exposure at work whilst 10% also attend pop concerts which is also likely to add to their risk. Comments are made on various classes of premises and possible variations in attendance patterns and future trends discussed. The report recommends the introduction of a Code of Practice and a schools educational programme.

AVAILABLE PUBLICATIONS (of research findings):

An Evaluation of Hearing Damage Risk to Attenders at Discotheques
Rickerdike J. & Gregory A. NAC/Leeds Polytechnic.
From Leeds Polytechnic, School of Constructional Studies, Brunswick Terrace, Leeds LS2 8BU
(£5.00 abroad) (£4.75 ...)

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Environment Determination and Exposure Characterization

COUNTRY: West Germany

PROJECT TITLE: Measurements of Long-term Exposure to Noise

Performing Organization Name & Address:
Institut fuer Landtechnische Grundlangenforschung der Bundesforschungs-anstalt fuer Landwirtschaft
3300 Braunschweig
Bundesallee 50

Sponsoring Organization Name & Address:

Principal Investigator(s):
Dr. -Ing. Ernst Witte

Start Date: 7/15/76

Completion Date: Estimated: _____
Actual: _____

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____

OR:
Total Funding Amount: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

The measurements serve to determine the noise exposure caused by the technical production medium on the working place and in the neighborhood and form the basis for logical combatting measures. Furthermore, the measurements are supposed to show to what extent the sound level values measured in test stand experiments correlate with the noise exposure occurring in practical use, and how the noise exposure changes with the technical progress. The long term measurements took place during the practical use of economic production. In addition to the average level, we also determined the frequency distribution or the sum frequency.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed source: Questionnaire inquiry autumn 1978.

NOISE CONCOMITANT WITH VIBRATION

See Also Pages:

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(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Concomitant With Vibration

COUNTRY: Canada

PROJECT TITLE: Sound and Vibration in Relation to Health

Performing Organization Name & Address:
Division of Physics
National Research Council of Canada
Ottawas, Ontario
Canada K1A OR6

Sponsoring Organization Name & Address:
Naitonal Research Council of Canada
(An independent national research agency established by the Canadian Parliament).

Principal Investigator(s):

E.A.G. Shaw

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: (50000) $41,563

1979: (45000) $37,426 1981: (55000) $45,743

Start Date: Ongoing: indefinite duration

Completion Date: Estimated: _____

Actual: _____

OR:

Total Funding Amount: _____

Comments: The scientific/tech manpower allocated is 4.5 man/yrs rising to 5.5 in '81.

PROJECT OBJECTIVE: To develop new knowledge, experimental data and physical techniques required to deal with actual and potential health probelms associated wiht sound and vibration.

PROJECT DESCRIPTION: In the developed contries, human populations are exposed to average sound intensity levels exceeding by two or more orders of magnitude the levels in the natural environment. In certain industries and in transportation vehicles, the vibration levels are also much greater that the natural levels. A proper understanding of the physical mechanisms which determine the interactions between the energy sources and the human sensory systems is a prerequisite of effective preventive and remedial measure.

This project comprises several strategic investigations: 1) the study of external and middle-ear acoustics which is relevant to the measurement and specification of noise exposure, high frequency audiometry, otology, the calibration and design of earphones and hearing aids, and the spatial perception of sound; 2) the development of earphone measurement techniques which are complimentary to the fundamental studies of the ear; 3) the investigation of hearing conservation techniques including hearing protector mechanisms; 4) the study of hand-arm vibration which is relevant to the quantification and control of the white-finger syndrome associated with the prolonged use of vibrating tools such as chain-saws; 5) the quantification of the effect of noise on sleeping persons which is addressed to a major non-auditory effect of environmental noise.

Close cooperation is maintained with government, university and industrial laboratories in Canada and elsewhere, with national and international standards organizations and with advisory bodies and government agencies especially the agencies which are responsible for protecting public health, controlling industrial hazards and setting environmental quality standards.

AVAILABLE PUBLICATIONS: The laboratory provides scientific advice, consulting services, standard measurements, ect. to gov't. agencies and other bodies.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Concomitant with Vibration

COUNTRY: Japan

PROJECT TITLE:
Combined effects of noise and vibration on performance

Performing Organization Name & Address:

The Institute of Public Health
6-1 Shiroganedai 4 Chome Minato-ku
108 Tokyo Japan

Sponsoring Organization Name & Address:

Japan Environmental Agency
1-1 Kasumigaseki 3 Chome
Chiyoda-ku 100 Tokyo Japan

Principal Investigator(s):

Takumasa Yoshida

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: September 1978
Completion Date: Estimated: March 1982
Actual: August 1982

Comments:

PROJECT OBJECTIVE:
To clear effects of noise and vibration acting individually and combined effects of these stressors on performance

PROJECT DESCRIPTION:
In a view of public nuisence, effects of noise and vibration acting individually and combined effects of these stressors at rather low levels will be (have been) investigated on tasks of reaction time and paired assosiates learning. Noise employed ranges from 40 to 80 dBA. Vibration employed ranges from 60 to 80 dB(ref.=$10^{-5}m/s^2$, acceleration level)

SUMMARY OF FINDINGS

The results were considerably complicated, but the effects of noise and vibration changed depending on thier levels . The effects of intermittent noise changed depending on residual noise.

WHERE FINDINGS PUBLISHED:
1978 Reports of Environmental Protection of Japan Environmental Agency pp, 19-9, 12
1979 Reports of Environmental Protection of Japan Environmental Agency pp, 19-9, 12 .

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Concomitant With Vibration

COUNTRY: Japan

PROJECT TITLE:
Evaluation of physiological and psychological effects of noise and vibration

Performing Organization Name & Address:
Working Group on Physiological and Psychological Effects of Noise and Vibration
Project Team for Evaluation Mthods for Noise and Vibration
c/o Y.Osada,M.D.
The Institute of Public Health
6-1,Shirokanedai 4-chome,Minatoku,Tokyo 108,Japan

Sponsoring Organization Name & Address:
Ministry of Education
Kasumigaseki,Chiyodaku,Tokyo 100,Japan

Principal Investigator(s):
Y.Osada (Chairman),T.Yamamoto,T.Miwa,T.Teranishi, O.Kitamura,H.Iwata,J.Ohsaki,H.Sakamoto,K.Yamazaki, S.Namba,and K.Saito

Annual Funding:
1978: Ca.$5,000 1980: Ca.$5,000
1979: Ca.$5,000 1981:
OR:
Total Funding Amount:

Start Date: 1979
Completion Date: Estimated: March 1981
Actual:

Comments:

PROJECT OBJECTIVE:
To offer informations of health effects of noise and vibration for the project team on the evaluation methods for noise and vibration

PROJECT DESCRIPTION:
The group makes meetings twice or three times a year to review and discuss the studies, performed by the group members and others,on the health effects of noise and vibration, aiming to offer the basic informations to the project team.

SUMMARY OF FINDINGS (if project completed):

WHERE FINDINGS PUBLISHED:
Abstracts of papers read at the meetings "Evaluation of Physiological and Psychological Effects of Noise and Vibration" 1978 & 1979 (in Japanese).

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Concommitant with Vibration

COUNTRY: JAPAN

PROJECT TITLE:

Subjective Effects of Traffic Noise and Vibration.

Performing Organization Name & Address:

Tokyo Metropolitan Research Institute for Enviromental Protection
2-7-1, Yurakucho, Chiyoda-ku,
Tokyo 100, JAPAN

Sponsoring Organization Name & Address:

Principal Investigator(s):

Ichiro Aoki
Masao Kobayashi

Annual Funding:

1978: _____ 1980: _____

1979: $10,989 1981: _____

OR:

Total Funding Amount: _____

Start Date: April 1, 1979

Completion Date: Estimated: _____

Actual: March 31, 1980

Comments:

PROJECT OBJECTIVE:

Study for subjective response of human body exposed to the traffic noise and vibration.

PROJECT DESCRIPTION:

15 healthy male students were exposed to short time traffic noise and vibration which were reproduced through speaker and shaker. The stimuli were consisted 49 types;they were combined 7 kinds of sound level (55~85 dB(A))with 7 kinds of vibration level (55~85 dB),and each stimulus was arranged random order. We analysed the sensory responses which were graded 5 categories in the interest of Annoyance, Sensibility and Uncomfortableness etc.

SUMMARY OF FINDINGS (if project completed):

1. We tried to conclude the equivalent level of noise and vibration stimuli; i.e. sound level 55 dB(A) equaled vibration level 51~57 dB, and sound level 75 dB(A) equaled vibration level 71~77 dB.
2. We could find out noise stimulus had no interaction or no correlation with vibration stimulus; it may be better to have a conclusion that there are no promoting reaction between noise and vibration.

WHERE FINDINGS PUBLISHED:

This report may be published in March 1981, as the annual report of Institute.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Concomitant With Vibration

COUNTRY: Soviet Union

PROJECT TITLE: Combined Effects of Noise, Vibration and Short Exposure of Exhaust Gases on Maritime Engineers

Performing Organization Name & Address:	Sponsoring Organization Name & Address:
Lenningrad Insitute of Work Protection	Same

Principal Investigator(s):
E.A. Bukharin
V.N. Vladimirov
N.T. Svistunov

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____
Comments:

Start Date: _____

Completion Date: Estimated: 1976
Actual: _____

PROJECT OBJECTIVE: To investigate the combined effects of noise, vibration and exhaust gases on sailors working in the engine room of a ship.

PROJECT DESCRIPTION: Eight sailors (18-21 years old) were followed for 22 days on each of the ships. Watches: 4 hours on, 8 hours off. Noise dose on watch: 110-130 dB in engine room for 3 hours, 80-95 dB in "rest room." Vibration: 194-350 cm/sec^2 in engine room; 45-85 cm/sec^2 in "rest room." Gases (22nd day only in one ship): CO: 5-10 mg/cubic meter; nitrogen oxide: 10-20 mg/cubic meter.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Adaptation to working conditions around, with no further systematic changes after 18-21 days. TTS of 6-11 dB was observed. No significant blood pressure changes were noted. After the engine room subjects in one ship were exposed to the exhaust gases for one day, significant shifts were noted in the central nervous system and cardiovascualr system; in particular, heightened systolic blood pressure. On the other hand, no significant additional effects of the gases were noted in the activity of the auditory organ.

AVAILABLE PUBLICATIONS (of research findings):

Findings published in: Gigena Truda: Professionalnyeye Zabolevaniya, No 9:46-8, 1977.

Information obtained and translated from the above-mentioned article.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Concomitant With Vibration

COUNTRY: Sweden

PROJECT TITLE: Disturbance in men from vibration in buildings

Performing Organization Name & Address:

National Swedish Road and Traffic Research Institute
S-581 01 Linkoping
Sweden

Sponsoring Organization Name & Address:

National Swedish Environemnt Protection Board
Box 1302
S-171 25 Solna
Sweden
and the National Swedish Road and Traffic Research Institute

Principal Investigator(s):

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: 79-06-08

Completion Date: Estimated: _____

Actual: _____

OR:

Total Funding Amount: $350,000

Comments:

PROJECT OBJECTIVE: Vibration Noise Infrasound Human Buildings Simulator Sleep-disturbance Traffic Interdisciplinary

PROJECT DESCRIPTION: Experiments in buildings and in a simulator will be carried out in order to study how different types of vibration combined with noise and infrasound affect man. The activivty of man will vary from recreational activity to sleep. Different types of physiological and psychological measures will be carried out. e.g. EEG.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

AVAILABLE PUBLICATIONS (of research findings):

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Concomitant With Vibration

COUNTRY: Sweden

PROJECT TITLE: The working environment of professional drivers (noise and infrasound)

Performing Organization Name & Address:
National Swedish Road and Traffic Research Institute
S-581 01 Linkoeping
Sweden

Sponsoring Organization Name & Address:
Swedish Vocational Training and Working Environment Council of the Transport Trades (TYA)
Vaestra vaegen 11A
S-171 46 Solna, Sweden

Principal Investigator(s):
Ulf Sandberg
Sven-Olof Lundkvist

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr: X)
1978: _____ 1980: 533,000
1979: _____ 1981: _____

Start Date: 1977

Completion Date: Estimated: 1985
Actual: _____

OR:
Total Funding Amount: _____
Comments:

PROJECT OBJECTIVE: To determine a desirable noise and infrasound environment in vehicles with respect to drivers' health, performance and comfort.

PROJECT DESCRIPTION: The present vehicle interior environment with respect to noise and infrasound is investigated and compared to different criteria. Where the environment is found to be unacceptable, proposals are made for improvements. The measurements methodology is investigated. Different criteria are reviewed using literature surveys, contacts with specialists and own experiments. Also, the generating mechanisms are investigated roughly in order to see what the improvement potential is.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): Just started is an experiment with the intention to determine the influence on different levels and combinations of noise, infrasound and vertical vibration on human performce and comfort. In the laboratory experiment, which uses a driving simulator, the driving task and environment is imitated as closely as practically possible.

Measurements of noise and infrasound in buses have been made both systematically using fixed driving conditions, and using noise and infrasound dose meters giving average exposure levels for drivers during ordinary working days. The exposure ranges between 68-75 dBA (L_{Aeq}) in modern Swedish buses, while older buses can be considerably noisier.

Generating mechanisms for infrasound and noise in buses have been identified as air turbulence in the entire frequency range (2-10000 Hz), road roughness in the frequency range 5-500 HZ, tire defects in the frequency range 4-25 Hz and engine noise in the frequency range 20-500 Hz. All these mechanisms are non-neglectable for one of the buses used for extensive tests, and their relative importance is depending on the frequency of interest, driving conditions, type of road, wind and type of bus.

Transcribed from the original.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Concomitant With Vibration

COUNTRY: West Germany

PROJECT TITLE: Skin temperature, fluvography, fingerpulseamplitude under simultaneous influence of noise and hand-arm-vibration (intraindividual changes)

Performing Organization Name & Address:
Institute for occupational health
and social medicine
of Johannes Gutenberg-University Mainz
Obere Zahlbacher Straße 67
6500 Mainz

Sponsoring Organization Name & Address:
University

Principal Investigator(s):
L. Ess

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 12-1978
Completion Date: Estimated: 12-1980
Actual: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:
Noise and vibration simulation under laboratory conditions. Subjects being exposed for 8 minutes. Skin temperature, fluvography and fingerpulse amplitude continuously measured. Ten repetitions per subject at different days.

SUMMARY OF FINDINGS (if project completed):
current in 1980

WHERE FINDINGS PUBLISHED:

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise Concomitant With Vibration

COUNTRY: West Germany

PROJECT TITLE: Study of the problem of low frequency, mechanical vibrations and their effects on humans on board ships.

Performing Organization Name & Address:

Berhard-Nacht-Institut fuer Schiffs- und Tropenkrankheiten an der Uni Hamburg
2000 Hamburg 4
Bernhard-Nocht-Str. 74

Sponsoring Organization Name & Address:

Bundesanstalt fuer Arbeitsschultz und Unfallforschung

Principal Investigator(s):

Dr. med. Hartmut Goethe

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)

1978: _____ 1980: _____

1979: _____ 1981: _____

Start Date: 5/1/77

Completion Date: Estimated: _____

Actual: 12/31/77

OR:

Total Funding Amount: (89580) 542,057

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

Effects of available technical vibration measurement records of ships in order to evaluate the exposure of ship crews to low-frequency mechanical vibrations. Our own studies on board sea ships with relation to the order of magnitude of vertical and horizontal vibration stresses occurring at different places.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed source: Data bank DAKOR of the Fed. Ministry for Research Tech. (FKZ:4AS0376); Questionnaire Investigation in the fall of 1978.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Noise concomitant with vibration

COUNTRY: West Germany

PROJECT TITLE:

Vasospastic syndrom (white fingers) on forest workers

Performing Organization Name & Address:

Institute for occupational health
and social medicine
of Johannes Gutenberg-University Mainz
Obere Zahlbacher Straße 67
6500 Mainz

Sponsoring Organization Name & Address:

University

Principal Investigator(s):

E. Woelke-Seidl

Annual Funding:
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 9-1978

Completion Date: Estimated: 5-1981
Actual: _____

Comments:

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

25 noise and vibration exposed workers and 25 workers without noise and vibration exposition medically examined measuring skin temperature, vibration sensitivity, contact thermography, coldness provocation test and audiometry. Tests before and after 1 hour working with motor chain saw under field conditions. The research will be continued with 100 forest workers.

SUMMARY OF FINDINGS (if project completed):

current in 1980

WHERE FINDINGS PUBLISHED:

APPENDIX A

Other Literature Search/Evaluation/Compilation Efforts

See Also Page:

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(We prefer responses in English, but can accept material in other languages.)

TOPIC: Other

COUNTRY: Canada

PROJECT TITLE: Health effects of noise: literature search and evaluation.

Performing Organization Name & Address:
McMaster University,
1280 Main Street West,
Hamilton, Ontario, L8S 4K1,
Canada.

Sponsoring Organization Name & Address:
Motor Vehicle Manufacturers Association of the United States, Inc.,
300 New Center Building,
Detroit, Michigan, U.S.A. 48202.

Principal Investigator(s):
Dr. S.M. Taylor,
Dr. J.P. Young,
Mrs. S.E. Birnie,
Dr. F.L. Hall

Annual Funding:
(Check One: Fiscal Yr: ___ Calendar Yr: X)

1978: _____ 1980: _____

1979: _____ 1981: _____

OR:

Total Funding Amount: (37,900) $31,321

Comments:

Start Date: January 1980

Completion Date: Estimated: _____

Actual: September 1980

PROJECT OBJECTIVE: To review the existing evidence with respect to the health related effects of noise on humans.

PROJECT DESCRIPTION: The project involved conducting a title search using computer based bibliographic data bases. The 1,038 titles which were judged to be relevant were classified on the basis of noise source, type of effect, study type, and the judged importance of the study to the research question. Those papers which were judged to be most important were obtained where possible. Each of the 146 papers containing original research was evaluated according to methodological criteria.

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress): Few papers were found that measured actual health outcomes, as opposed to a physiological parameter which has an unspecified causal relationship with health. Approximately one-half of the studies were conducted in field settings, and one-half were laboratory experiments. A very small number of the studies had powerful research designs, such as randomized trials or cohort studies. The majority were surveys or lab studies.

Of the papers that were evaluated, approximately thirty percent were considered to have conclusions which were justified in light of the analytical results and methodology. Of those, one-half dealt with noise induced hearing loss, and generally had the most powerful designs, and provided the best evidence. Contradictory findings with respect to hypertension and hemodynamics occurred in different papers. The studies concluded that there was no good evidence for effects on mental health or birth defects. No conclusive evidence was found with respect to mental task performance and various physiologic effects.

AVAILABLE PUBLICATIONS (of research findings):
Taylor, S.M., Young, P.J., Birnie, S.E., Hall, F.L. (1980) Health effects of noise: a review of existing evidence. A report submitted to the Motor Vehicle Manufacturers Association of the United States, Inc.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Other

COUNTRY: Japan

PROJECT TITLE:

Noise Effects on Man --- Recent Bibliography.

Performing Organization Name & Address:

Study Group on Psycological and Physiological Effects of Noise
c/o Dr.Y.Osada,Dpt.Physiological Hygiene, Inst.Publ.Health,1-6,Shirokanedai 4-chome, Minatoku,Tokyo 108,Japan

Sponsoring Organization Name & Address:

Ministry of Education
Kasumigaseki,Chiyodaku,Tokyo 100
Japan

Principal Investigator(s):

Y.Osada(editor)

Annual Funding:
1978:_____ 1980: _____
1979:_____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1980

Completion Date: Estimated: _____
Actual: _____

Comments:

PROJECT OBJECTIVE:

Bibliographic study on noise effects on man.

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):

More than 500 papers are listed which has been published in and out of Japan within recent several years.

WHERE FINDINGS PUBLISHED:

Ref. Dr.Y.Osada

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Other

COUNTRY: Japan

PROJECT TITLE:

Effects of Noise on Man---Bibliography with Abstracts

Performing Organization Name & Address:

Research Committee on Noise Effects
c/o Prof.T.Yamamoto
Dept.Civil Engineering
Faculty of Engineering,Kyoto University
Yoshidahoncho,Sakyoku,Kyoto 606,Japan

Sponsoring Organization Name & Address:

Ministry of Education
Kasumigaseki, Chiyodaku,Tokyo 100,Japan

Principal Investigator(s):

Drs.T.Yamamoto and Y.Osada (Editors)

Annual Funding:
1978:_____ 1980: _____
1979:_____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1979

Completion Date: Estimated: _____
Actual: _____

Comments:

PROJECT OBJECTIVE:

Collection of papers on noise effects on man in and out of Japan, covering about 10 years.

PROJECT DESCRIPTION:

More than 600 papers and books published in recent 10 years are collected and are abstracted.

SUMMARY OF FINDINGS (if project completed):

Published in 1979 by Nakanishiya Book Co.,53,Yoshidanihonmatsucho,Sakyoku,Kyoto 606,Japan in two volumes.

WHERE FINDINGS PUBLISHED:

Available from Nakanishiya Book Co.,Kyoto.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Other

COUNTRY: Japan

PROJECT TITLE:
Bibliographic research in noise induced hering loss -- Bibliography with Abstracts

Performing Organization Name & Address:
International Medical Information Centre Japan
26,Daikyocho,Shinjuku-ku,Tokyo 160,Japan

Sponsoring Organization Name & Address:
Environment Agency
Kasumigaseki, Chiyodaku 100,Tokyo,
Japan

Principal Investigator(s):

Annual Funding:
1978:_____ 1980: _____
1979:_____ 1981: _____
OR:
Total Funding Amount: _____

Start Date: 1979
Completion Date: Estimated: _____
Actual: _____

Comments:

PROJECT OBJECTIVE:
Most important one hundred papers are selected and abstracted.

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
Most important 100 papers were selected from more than 1,000,published in and out of Japan and were abstracted in Japanese. Some, eight articles, of them were translated into Japanese. These were printed in two volumes.

WHERE FINDINGS PUBLISHED:
Ref.: Section of Noise and Vibration,Division of Special Pollution,Bureau of Air Pollution Control, Environmental Agency,Tokyo,Japan.

(We prefer responses in English, but can accept material in other languages.)

TOPIC: Other

COUNTRY: West Germany

PROJECT TITLE: Literature Study Concerning Evaluation Criteria for Noise Effects

Performing Organization Name & Address:
Institut fuer Ergonmie der TU Muenchen
8000 Muenchen 40
Barbarstrasse 16

Sponsoring Organization Name & Address:
Bundesminister des Innern
Umweltbundesamt

Principal Investigator(s):
Prof. Dr. Heinz Schmidtke

Annual Funding:
(Check One: Fiscal Yr:___ Calendar Yr:___)
1978: _____ 1980: _____
1979: _____ 1981: _____
OR:
Total Funding Amount: (81212) $38,129
Comments:

Start Date: 2/1/76
Completion Date: Estimated: _____
Actual: 6/30/78

PROJECT OBJECTIVE:

PROJECT DESCRIPTION:

SUMMARY OF FINDINGS (if project completed):
STATUS REPORT (if in progress):

At the suggestion of the environmental experts, statements are made concerning evaluation criteria for the noise effect within the framework of the next environmental survey on the basis of social-empirical studies. The present, extraordinary comprehensive study material of the last twenty years is to be evaluated in a comparative literature study in order to determine which evaluation methods actually correspond to the reality of noise on humans.

AVAILABLE PUBLICATIONS (of research findings):

Transcribed

COUNTRY INDEX OF RESEARCH PROJECTS