



International Civil Aviation Organization

WORKING PAPER

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ASSEMBLY — 39TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 20: Environmental Protection – Aircraft Noise – Policy, Standardization and Implementation Support

AIRPORT AIR POLLUTION: A SERIOUS HEALTH RISK FOR AIRPORT WORKERS

(Presented by the International Transport Workers' Federation (ITF))

EXECUTIVE SUMMARY

This information paper points out new research on air pollution in airports, pollution sources, employee exposure to ultrafine particles and actions to limit the pollution.

It also highlights the success of solution-orientated cooperation involving Copenhagen Airport, companies operating in the airport and unions representing employees in the airport.

Every airport can make a difference by local actions, but to tackle the problem ICAO's involvement is a must.

The paper welcomes the progress, but at the same time emphasises the urgency of the problem.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective E – <i>Environmental Protection</i> .
<i>Financial implications:</i>	To bring this vital and long neglected problem to the attention of the global civil aviation community to produce viable solutions to it.
<i>References:</i>	

¹ English, Arabic, Chinese, French, Russian and Spanish versions provided by ITF.

1. INTRODUCTION

1.1 The International Transport Workers' Federation (ITF) is an international trade union federation of transport workers' unions. It consists of 674 independent trade union organisations representing 4.8 million transport workers in 147 countries. It is one of several Global Union Federations allied with the International Trade Union Confederation (ITUC). The ITF represents over 650 thousand civil aviation workers world wide and speaks for aviation employees globally.

1.2 Persons working close to exhaust from aircraft engines (main engines and the APU: Auxiliary Power Unit) and/or diesel engines (vehicles, handling and loading equipment, etc.) in airports are exposed to a complex mixture of potential health damaging air pollution. The first study documenting that these persons have an increased occurrence of DNA-damages was released eight years ago. The National Board of Industrial Injuries in Denmark has now recognized several cancer cases most likely caused by air pollution in airports. The pollution is a serious and overseen work related threat. The main concern is related to ultrafine exhaust particles from aircrafts and diesel engines. Ultrafine diesel particles are known to cause cancer, heart disease, blood clots, brain haemorrhage and airway diseases (bronchitis, COPD), thereby increasing the risk of serious work related illnesses and premature deaths. Thanks to a series of scientific studies we know more about the toxicity of ultrafine particles.

2. DISCUSSION

2.1 The day-to-day safe and secure operation of air transport worldwide depends on their skills and commitment. The difference between acute and chronic exposure with regards to air pollution in cities is well established and understood. For example, in 2015 researchers at UK's King's College published a study suggesting that air pollution shortens London's inhabitants' lives by nine to 16 months.

2.2 The four pollutants of most concern are nitrogen dioxide (NO₂, a gas emitted by car exhausts and particularly by diesels), ozone (a triatomic form of oxygen that irritates lungs), sulphur dioxide (SO₂) and soot-particles smaller than 2.5 microns (ultra-fine particles). These pollutants can cause a variety of medical difficulties, including asthma, heart disease, blood clots, lung cancer and some other types of cancers and stunted lung growth in children.

2.3 Levels of NO₂ in many major cities are routinely higher than World Health Organisation (WHO) guidelines about what constitutes a long-term hazard (annual average limits). The situation is the same for ultra-fine particles as well.

2.4 Air pollutant concentrations are measured at monitoring sites that are representative of population exposures. However, air pollution levels may be higher in the vicinity of specific sources of air pollution, such as roads, power plants and large stationary sources, and airports. Therefore, protection of populations living and working in such situations require special measures to bring the pollution levels to below the guideline values.

2.5 Another recent report by Transport 2000 entitled, "Plane Truth" points out that people and the environment face serious threats from the rapidly-growing aviation industry, including more noise and air pollution. Research in the United States has linked ultra-fine particles and air pollution in general generated by SeaTac airport in Chicago to elevated rates of cancer in the vicinity.

2.6 The situation for airport workers is grimmer. In 2010, a study was conducted at Copenhagen Airport to test the levels of ultra-fine particles and the exposure to employees working close

to aircraft. The results were alarming. The investigation showed that the levels of ultra-fine particles at one testing station were almost 4 times higher than background levels outside the airport. In 2011, the Danish Centre for Environment and Energy published a report agreeing that ultra-fine particle levels were 3 times higher than a busy street during rush hour and that during peak times readings could be seen as high as 5-6 times higher.

2.7 So far, in Denmark 10 bladder cancer cases suffered by airport workers are officially recognised as an occupational disease by the National Health Board.

2.8 At the 38th Triennial Assembly of ICAO the ITF submitted a working paper entitled “Damaging Effects of Exposure to Fine Particles”. The paper enjoyed widespread support from the delegates and was sent to the Committee on Aviation Environmental Protection:

2.8.1 In WP/327, the International Transport Workers’ Federation (ITF) described the potential health concerns regarding the exposure of airport employees to ultrafine exhaust particles from aircraft and diesel engines at airports, and invited the Assembly to urge ICAO to extend its policies and practices related to environmental protection into the protection of the health and safety of employees, accordingly. The ITF highlighted that a working group consisting of managers from Copenhagen airport, companies operating in the airport and unions representing employees in the airport had been established, and this could act as a starting point for discussions.

2.8.2 The Chairperson stated that ICAO continued to work with a number of international organisations, including the World Health Organisation, on the impacts of aviation on the environment in the vicinity of airports. It was made clear that CAEP is currently undertaking a programme of work, to develop a non-volatile PM (nvPM) certification Standard for aircraft engines and that research is ongoing to advance the understanding of volatile PM formation, and that the information provided by ITF would be brought to the attention of CAEP for consideration in its work.

2.9 The working paper invited the Assembly to urge ICAO to extend its policies and practices related to environmental protection into the protection of the health and safety of employees.

3. ACTION

- a) considering numerous recent scientific studies revealing the urgency of the issue and the progress made by all stakeholders at Copenhagen International Airport, the ITF once again wishes to highlight the importance and urgency of incorporating air pollution created by diesel engines into its “Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality”.
- b) the ITF also offers its expertise and knowledge to the CAEP or any of its members in order to follow-up the progress that has been achieved so far.