

Chapter 8

Prevention of pollution-related cancers at Copenhagen Airport

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Unions at Copenhagen Airport have been campaigning for nearly ten years to get the pollution caused by aircraft and apron vehicles reduced. The air is cleaner as a result, but not yet clean enough. There is a good ongoing social dialogue between the management and the trade unions who share the view that healthy air is vital to protecting the health and safety of the workforce. However, there was not always such consensus. The issue of ensuring a clean working environment had been neglected for many years. The ubiquitous bad smell on the apron was simply considered an inconvenience – something to put up with.

The airport workers' trade union, 3F-Kastrup, has 2,500 to 3,000 members working on the aprons and exposed to air pollution. Mechanics, guards and other security personnel not belonging to 3F also figure among apron staff.

1. Nervousness among staff

For several years, the trade union took due note of the grievances of workers who were concerned about air pollution and those who, suffering from cancer, wanted to know whether the disease was caused by such pollution. We contacted researchers, but the matter had not been sufficiently investigated yet to consider an in-depth analysis of the area concerned. At that time, there was no indication that it was possible to get cancer through working at an airport.

It was frustrating for our trade union not to be able to help the workers or to initiate a procedure to determine whether the air at the airport was dangerous. The situation changed completely, however, when one of our members was diagnosed with early-stage bladder cancer and his condition was recognised as an occupational disease.

Compensation paid in the event of a work-related accident or occupational disease is fixed by law in Denmark. The legal framework of provisions relating to worker compensation insurance can be applied to determine which accidents and which pathologies can be recognised, and how much compensation is to be paid. Occupational diseases are recognised in two ways:

1. Via an official list of effects and symptoms used to qualify a disorder as an occupational disease;
2. An occupational disease commission adopts opinions on a case-by-case basis.

Particulates in the air at the airport come from aircraft and other vehicles. We know that the particulates emitted by diesel engines can cause lung and bladder cancer. These diseases are therefore recognised in Denmark, being on the list of occupational diseases. The substances and materials that the International Agency for Research on Cancer (IARC) lists under Group 2A (probably carcinogenic to humans) are automatically included in the Danish list. It is necessary to prove that the patient was exposed to carcinogens in each case. This evaluation is carried out by occupational physicians working for occupational medicine clinics.

By 2015, five people had had their bladder cancer recognised as being linked to air pollution at the airport, as had another person suffering from chronic obstructive pulmonary disease (COPD) (see Table 1).

Table 1 Recognised occupational diseases among Copenhagen Airport staff

Year	Recognised bladder cancer – non-smoker	Recognised bladder cancer – smoker/former smoker	Recognised COPD – non-smoker	Recognised COPD – smoker/former smoker
2008	1			
2011	1	1		1
2014	1	1		

As shown in the table, the disease is recognised even if the patient is or was formerly a smoker. In fact, the law on worker compensation insurance states that what needs to be worked out first is whether patient exposure was sufficient to cause the disease; only then are any other aggravating factors taken into account. The National Board of Occupational Accidents and Diseases (NBOAD) takes these factors into consideration when determining the amount of compensation, which means in practice that if an airport worker is or used to be a smoker, a lower level of compensation will be due.

The decision of the NBOAD is based on the medical expertise of cancerologists and physicians specialising in occupational medicine. The employer and its insurance company may oppose this decision and lodge a complaint against the NBOAD. However, such a case has not yet arisen.

A listing as an occupational disease is fundamental for prevention. Thanks to the mobilisation of the unions and the airport authorities, society as a whole now realises that airport employees can become ill because of their work. From a trade union perspective, this means the following:

- the workers see that their concerns are taken seriously, and it is becoming clear once and for all that something has to be done about pollution;
- the employers can no longer regard particulate matter pollution as negligible or claim that diseases can be put down to lifestyle alone;
- the press has improved access to evidence showing that people can fall seriously ill simply by doing their work.

The interest shown by the press has contributed to keeping the trade union spotlight on this working environment issue, a top priority for them. All this has been made possible by the workers concerned, who have come out of the shadows, and in doing so have made it possible to exert pressure on the airport's management.

2. The information and training of union representatives

The first recognition of a cancer as an occupational disease coincided with the publication of an Italian study on airport personnel which had a major impact in Denmark. That study showed that the DNA of some of the apron staff in Italian airports had been affected, with them developing cancer or reproductive disorders. Other documents also showed that airports could be hazardous workplaces. It was therefore important to provide correct information to our trade union representatives and occupational safety and health (OSH) officers.

We called on the services of an occupational medicine clinic. In cooperation with other researchers, it drew up a descriptive report on the situation. Using this as a basis, we organised a meeting with our members and other groups at the airport also exposed to harmful particulates. We also created an information website which is constantly updated. Being better informed, employee representatives can put the subject on the agenda of health and safety committees and works councils.

3. First measurements

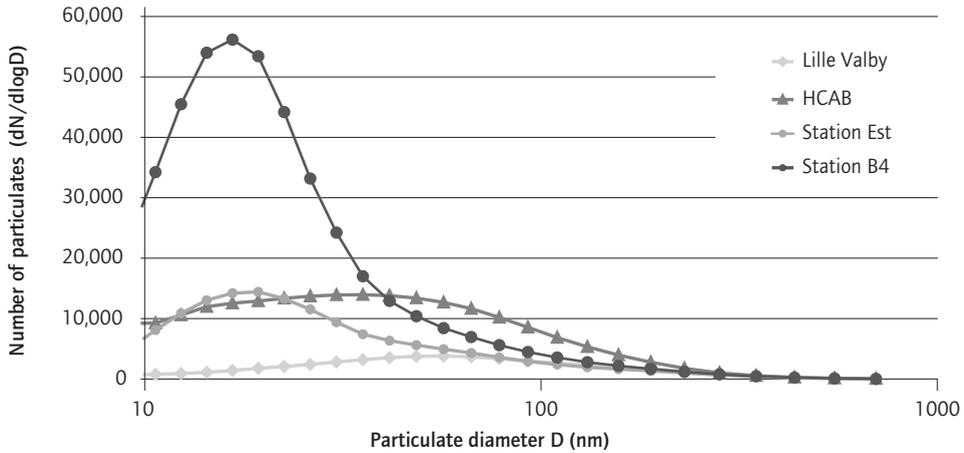
Although the cause-and-effect relationship between bladder cancer and working at the airport was duly recognised in 2008, two unknowns remained: the quantity of particulates workers had been exposed to and the contents thereof. Knowing that this was a complex technical question, we contacted an air pollution expert.

After a long discussion with the employers, we embarked on a measurement campaign. Independent experts were hired to make sure that these measurements were reliable, and a series of measuring stations was set up throughout the airport.

Figure 1 (p. 86) shows the average distribution according to the size of the particulates, checked at the B4 station, the East station, the HCAB station and the regional station of Lille Valby, in Roskilde. The measurements were carried out between 28 July and 30 September 2010.

The results show that ultra-fine particulates (UFPs or nanoparticles) pose a serious problem. UFPs are said to cause cardiovascular disorders, cancer and respiratory and other pathologies. We should point out that measurements were carried out round the clock, so they represent an average. The quantity of particulates was smaller at night, meaning that the daytime exposure of workers is far higher than that shown in this diagram.

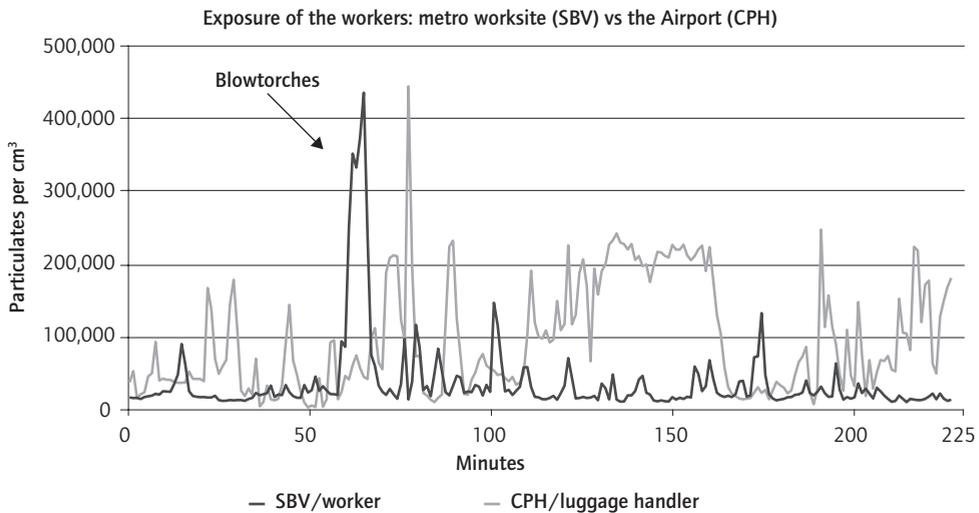
Figure 1 Particulates measured in the airport, in city centre and country side of Copenhagen



Source: Danish Ecocouncil (2012)

The Figure 2 shows that particulate matter pollution at the airport has peaks, and that these peaks correspond to peaks of activity on the aprons. Comparing this data with that from other sectors known for exposure to dust and particulates, we clearly saw that employees at Copenhagen airport were seriously affected.

Figure 2 Comparison between a construction site and the apron area at Copenhagen airport



Source : Press-Kristensen K. (ed.) (2012)

The main problem at Copenhagen Airport is the massive concentration of nanoparticles. This is a complex problem because there are no limit values either at national or EU level. This means that, as a trade union, we do not have a precise quantified objective to demand from the employers. It also means that it is difficult for the Labour

Inspectorate to issue an injunction against the airport authority with precise limit values to be complied with. Instead, it has to make do with keeping a close watch on the airport authority's action plans.

At present, UFP measurements at Copenhagen Airport are carried out by means of fixed measuring stations and individual meters, used to identify areas particularly at risk.

4. International attention

The high level of air pollution and the recognised cases of bladder cancer have attracted international attention. 3F-Kastrup has raised the issue with the EU and with the European Trade Union Confederation (ETUC), in particular by organising a conference at the European Parliament in 2013. A project was devised to raise awareness to the problem in other Member States as well. A document was prepared in four languages, describing the problem in the minutest detail, and we managed to create conditions conducive to local initiatives at East Midlands and Gatwick airports in the UK, where the trade unions are working on the same issue. Copenhagen Airport has every interest in seeing other airports delve into this matter, if only for competition reasons.

It is important that prevention be extended to all airports, starting in Europe where tens of thousands of people work in a polluted environment. Prevention potential is thus enormous.

As a trade union, we have insisted on the importance of prevention, even though precise limits have not been fixed yet. Fewer particulates would mean a healthier work environment and a reduced risk of developing a whole series of diseases. The level of particulates is so high that every initiative that reduces it represents an improvement.

Several workgroups have been set up for prevention purposes, mainly made up of health and safety officers, trade unionists and management representatives.

These groups focus especially on behaviour, technical solutions and changes in work organisation.

The efforts have already produced results in several areas:

- vehicle engines and auxiliary aircraft engines must be switched off, and vehicles must no longer drive empty;
- airport operators (including newcomers) must use environmentally-friendly equipment – and indeed we have been seeing 'greener' equipment appear, such as e-vehicles;
- more aeroplanes are now towed to the runways, reducing detours;
- three companies provide masks for their employees. They can wear them in those situations where they are most exposed, for example during take-off and peak activity periods, when many planes take off and land in a short space of time.

That prevention works is demonstrated by the fact that the measurements show that the level of particulates has been reduced by nearly half. It is still very high, and there is still room for improvement. We must not let down our guard but must remain focused on the risks related to working at the airport.

We firmly believe that this type of work can cause diseases other than cancer and COPD. We have therefore decided to take part in a new, large-scale study on other pathologies affecting apron personnel at airports, in particular cardiovascular diseases. One unknown factor remains though: the exact composition of the constituents of aircraft exhaust emissions. This is a subject we would like to study as well.

5. Conclusion

Nobody should become ill because of their work. The trade union must set a clear objective of helping prevent people falling sick because of their work. In addition to the fact that a healthy and fulfilling work environment is a legitimate right, studies have shown that investments in health and safety can pay off. When the workplace is not good, the cost of absences due to illness, treatment and declining productivity goes up. Investments in reducing particulate matter pollution are investments in life and health. They are also financially sound.

References

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