

Advisory note on increasing knowledge and awareness of cabin air quality among airline staff

In this advisory note, the Dutch National Cabin Air Advisory Group (NAC) provides advice on training cabin, cockpit and technical staff and on reporting of incidents involving cabin air. This advisory note was presented by the NAC to the Dutch Minister of Infrastructure and Water Management.

This advisory note on training of cabin, cockpit and technical staff aims to:

- Increase knowledge and awareness of cabin air quality;
- Being able to recognize odours, fume events¹ and symptoms;
- Establish how and when reports can be made;
- Provide instructions on follow-up after a flight with a smell or fume event

Advice Technical Report on training

The Technical Report NPR-CEN/TR 17904² contains the following recommendation (no. 11.1):

Airline operators shall develop and implement training/education programmes for pilots, cabin crew, and maintenance workers to enable them to recognize, respond to, and document the suspected/confirmed presence of transient/sustained ventilation supply air system-sourced fumes. This training and education shall be provided at regular intervals, including initial training, and at least annually.

Airline operators shall review and update their training/education programmes and supporting materials on at least an annual basis to ensure that the delivery is effective, and the information is current.

Airline operators shall maintain a record of workers' participation.

Observation by the NAC

The NAC has noted that fewer reports of smell and fume events are being made to the Civil Aviation Incident Analysis Department (ABL) of the Human Environment and Transport Inspectorate (ILT). It is not clear whether the events actually occur less often or whether they occur but are not identified and/or reported.

Cabin, cockpit and technical staff as well as passengers can report smell and fume events directly to the ABL³. The reports are collected by the ABL in the context of European Regulation 376/2014. This regulation sets out how the ABL must handle these reports, taking into account any confidentiality. It is also possible to report anonymously. The existence of this route of reporting is practically unknown.

It also appears that the standard terms to describe reports are not sufficiently detailed. For example, the exact cause of a fume event. As a result, the ABL cannot register reports at a detailed level and analyses of reports currently provide insufficient insight.

Dutch National Cabin Air
Advisory Group

National Institute for Public
Health and the Environment
P.O. Box 1
3720 BA Bilthoven
The Netherlands
[www.rivm.nl/vliegtuigcabine-
luchtkwaliteit](http://www.rivm.nl/vliegtuigcabine-luchtkwaliteit)

Authors: Dutch National
Cabin Air Advisory Group

Contact: nac@rivm.nl

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¹ The release of gases, vapours and/or smoke due to a chemical process such as combustion, heating or explosions.

² <https://www.nen.nl/npr-cen-tr-17904-2022-en-303562>

³ <https://www.ilent.nl/onderwerpen/voorvallen-luchtvaart>

A short poll among the active members of the Federation of Dutch Trade Union for cabin staff (FNV Cabine) shows that cabin crew is poorly informed about the various smells that are abnormal or alarming and therefore need to be reported. It also appears that cabin crew are insufficiently aware of the potential dangers (physical impact) of smell and fume events. This group also indicated that if a smell or fume event would be detected on board, the method of reporting is not known.

During a NAC meeting in December 2021, the Dutch Airline Pilots Association (VNV) indicated that the flight crew is not trained to recognize these odours on board. The Dutch Association of Aviation Technicians (NVLT) further indicated that years ago it was already indicated that the nose may not be actively used for signalling according to the occupational health and safety legislation in The Netherlands.

NAC opinion on training

In addition to other signalling options (such as installing sensors and detectors, which has also attention by the NAC), the NAC emphasizes the importance of training and raising employee awareness. This involves recognizing odours, fume events and symptoms that give rise to reporting, actions on board and/or medical follow-up. The NAC advises the Dutch minister to advise airlines to fit this within the training already offered by the airlines to cabin, cockpit and technical staff.

The NAC emphasizes that the nose may not be used to replace equipment such as detectors and sensors. The desire for research into further options for filtering and monitoring pollution in cabin air remains. The NAC strives for a total package that should ultimately ensure that risks due to contaminants in the cabin air are better controlled. Training and informing flight crew are part of this. The aim is to increase flight safety and offer airline staff a healthy and safe working environment.

In addition to this advisory note, the NAC aims to provide advice on how should be dealt with reports. Information from the Technical Report CEN/TR 17904 and other studies will be taken into account. This may include any handling of the aircraft after a report has been made. Or how to deal with staff who suspect they have been exposed and/or who are experiencing symptoms of possible exposure to chemicals in the cabin air.

Advice on training

Airlines have a legal obligation to train cabin, cockpit and technical staff annually. The NAC provides the following advice:

1. Train cabin, cockpit and technical staff annually on this subject: about the way in which the air enters the cabin, about bleed air, about the possible exposures in the case of a fume event and exposures during standard operations and maintenance. Also inform crew about the possible adverse health effects and symptoms that may be caused by exposure.
2. Train cabin, cockpit and technical staff annually on how to recognize and distinguish different odours by the description of odours. It is emphasized that workers should not be exposed to hazardous substances as part of training.
3. Train cabin, cockpit and technical staff annually on possible symptoms in case of a fume event such as dizziness, nausea and disorientation, and inform them on how to access medical care after an incident.
4. Train cabin, cockpit and technical staff annually on how to report odours and fume events and any resulting symptoms.

5. Train all involved employees of the safety and health department and the medical services about the above.

Advice on notifications

The Civil Aviation Incident Analysis Department (ABL) registers and analyses the mandatory reporting of occurrences such as fume events in Dutch civil aviation. The NAC provides the following advice:

1. Report to the NAC at least annually on developments in the number of reports. This will be included in the annual NAC report.
2. Take the initiative to establish more detailed standard terms for reports, in consultation with the NAC, to enable better registration with the ABL reporting system.⁴

⁴ ABL uses the European reporting system ECCAIRS-system, which cannot be easily adjusted. Therefore, the advice is to improve the reporting and not the system.