Finance and Corporate Services

Information Management



9 April 2014

FOIA reference: F0001869

Dear XXXX

I am writing in respect of your recent request of 17 March 2014, for the release of information held by the Civil Aviation Authority (CAA).

Your request:

"Using the criteria for my previous request F0001467, please provide updated data for the number of occasions that oxygen masks were used by staff in passenger jets in 2013".

Our response:

In assessing your request in line with the provisions of the Freedom of Information Act 2000 (FOIA), we are pleased to be able to provide the information below.

Incident reports are provided to the CAA under the terms of the Mandatory Occurrence Reporting (MOR) scheme, as described under Article 226 of the Air Navigation Order 2009 (ANO). Each report made is reviewed and, where appropriate, further investigation carried out and action taken.

We have searched the UK CAA database for all occurrences that have involved a revenue flight where, due to a smoke or fume event, oxygen has been used by any member of the crew, regardless of aircraft nationality, during the period 1 January 2013 to 31 December 2013. An excel summary is attached. We have, however, removed identifying information from these reports as this information is exempt from disclosure under Section 44 (1) (a) of the FOIA.

Section 44 (1) (a) of the FOIA provides that information is exempt information if its disclosure is prohibited by, or under, any enactment. Under Section 23 of the Civil Aviation Act 1982, information which relates to a particular person (which includes a company or organisation) and has been supplied to the CAA pursuant to an ANO is prohibited from disclosure (a copy of this exemption can be found below).

Information relating to passenger numbers is not a mandatory requirement and is not routinely supplied therefore this information has not been provided.

Civil Aviation Authority

If you are not satisfied with how we have dealt with your request in the first instance you should approach the CAA in writing at:-

Mark Stevens
External Response Manager
Civil Aviation Authority
Aviation House
Gatwick Airport South
West Sussex
RH6 0YR

mark.stevens@caa.co.uk

The CAA has a formal internal review process for dealing with appeals or complaints in connection with Freedom of Information requests. The key steps in this process are set in the attachment.

Should you remain dissatisfied with the outcome you have a right under Section 50 of the Freedom of Information Act to appeal against the decision by contacting the Information Commissioner at:-

Information Commissioner's Office FOI/EIR Complaints Resolution Wycliffe House Water Lane Wilmslow Cheshire SK9 5AF www.ico.gov.uk/complaints.aspx

Should you wish to make further Freedom of Information requests, please use the e-form at http://www.caa.co.uk/foi.

Yours sincerely

Rick Chatfield Information Rights and Enquiries Officer

CAA INTERNAL REVIEW & COMPLAINTS PROCEDURE

- The original case to which the appeal or complaint relates is identified and the case file is made available:
- The appeal or complaint is allocated to an Appeal Manager, the appeal is acknowledged and the details of the Appeal Manager are provided to the applicant;
- The Appeal Manager reviews the case to understand the nature of the appeal or complaint, reviews the actions and decisions taken in connection with the original case and takes account of any new information that may have been received. This will typically require contact with those persons involved in the original case and consultation with the CAA Legal Department;
- The Appeal Manager concludes the review and, after consultation with those involved with the case, and with the CAA Legal Department, agrees on the course of action to be taken;
- The Appeal Manager prepares the necessary response and collates any information to be provided to the applicant;
- The response and any necessary information is sent to the applicant, together with information about further rights of appeal to the Information Commissioners Office, including full contact details.

Freedom of Information Act: Section 44

- (1) Information is exempt information if its disclosure (otherwise than under this Act) by the public authority holding it-
 - (a) is prohibited by or under any enactment,
 - (b) is incompatible with any Community obligation, or
 - (c) would constitute or be punishable as a contempt of court.
- (2) The duty to confirm or deny does not arise if the confirmation or denial that would have to be given to comply with section 1(1)(a) would (apart from this Act) fall within any of paragraphs (a) to (c) of subsection (1).

Section 23 of the Civil Aviation Act is such a statutory prohibition. Accordingly, the obligations of the CAA to comply with Section 23 are unaffected by the Freedom of Information Act.

Under Section 23, information supplied to the CAA in connection with its regulatory functions and which relates to a particular individual or organisation must not be disclosed by the CAA unless such disclosure is authorised by one of the exceptions contained in Section 23 itself.

File number	UTC date	Aircraft Make/Type	Headline	Narrative text
201300442	18/01/2013	ROFING	PAN declared due to smoke in the flight deck and cabin.	The a/c had been liberally de-iced before departure. Shortly after take-off, both flight crew detected a burning smell and the flight deck quickly filled with a brown/grey smoke. Cabin crew also reported smoke in the cabin. PAN declared and a/c levelled at 5000ft. QRH actioned and flight crew went on oxygen. When APU bleed was switched off, the smoke quickly cleared. ATC agreed to allow the flight to fly the LAM SID at 5000ft and the flight was continued. It is suspected that the de-icing fluid had entered the APU inlet and that this was the cause of the smoke.
201300442	10/01/2013	BOLING	COUTT	Initially pressure changes registered as +/- 4000fpm. A/c levelled off, PAN declared and oxygen masks donned as a precaution. A/c made slow descent back to FL100 and preparations made for a/c to return in the direction of point of departure. Whilst actioning QRH, cabin staff reported smoke in rear of cabin from the overhead compartments in the vicinity of the chemical oxygen generators. ATC advised of intention of returning. During descent and return a/c pressurisation manually controlled and MAYDAY declared. Cabin staff advised that smoke had not re-appeared. MAYDAY downgraded to PAN. CAA Closure: Flight crew oxygen masks were donned as a precaution but there was no cabin O2 mask drop. The QRH checklist was not ultimately actioned as the situation was then escalated by reports of smoke in the cabin. These were
201300742	24/01/2013	BOEING	Large and erratic pressure changes passing FL100 in climb. Cabin staff then reported smoke in rear of cabin. Return initiated, MAYDAY declared.	later realised to be incorrect and were a short term misting associated with the pressurisation change. According to Maintenance Control, if it had been completed, the selection of ALTN on the pressurisation panel may have rectified the situation. Pressurisation controller BITE carried out on box 1 and 2 and box 1 fault showed an outflow valve failure. Valve replaced and function checked satisfactorily.
			A/c diverted due to fumes (thick oily smell) on flight deck and in upper deck cabin causing illness to	Flight crew went onto oxygen. Two cabin crew members were physically ill and three passengers on upper deck were also affected. Fuel dumped and diversion initiated. Engine runs confirmed intermittent oil leak on nr3 engine bleed system. Nr3 engine bleed to be locked out for dispatch. CAA Closure: On arrival at diversion airport engineers carried out extensive ground runs were carried out. During initial parts of the high power runs, a smell was detected from nr3 engine and following this the aircraft was positioned back to base with the nr3 bleed system locked out. Further ground runs were carried out with detection equipment with no findings. The engine was replaced. The investigation of the engine found oil leakage from the front bearing compartment, but no oil was seen within the compressors and the leakage from the front bearing compartment was no worse than seen on other engines without cabin odour reports. The conclusion is that the odour event was caused by nr3 engine bleed, but the understanding why on this flight and not others is not understood. It may have been down to an operational issue
201301569			MAYDAY declared due to smoke throughout a/c shortly after take-off. A/c returned.	with the flight. No further reports on this aircraft since the engine change. A/c climbing through 6000ft for FL100 approx 1min after take-off. Cabin crew member entered flight compartment to report smoke in cabin. Fumes obvious in flight compartment therefore flight crew donned oxygen masks. MAYDAY declared and request made for immediate return. Air conditioning and engine bleeds turned off at which time the smoke began to dissipate. Flight crew were aware a/c had just returned from maintenance input where nr2 engine had been changed. Reporter also notes vision impairment wearing oxygen mask due to condensation on the exterior of the mask. CAA Closure: The nr2 engine had been installed on 15 Jan 2013, having recently been repaired after a double surge event during operation. Most of the modules were disturbed during the repair but there was no smell detected during engine run post engine installation, which requires the engine to be run to max climb for a limited period. The sector immediately after the engine change was the sector in this report. As a result of the airborne return the aircraft was taken off service for extensive troubleshooting. The galley electrical and cabin equipment was tested with no faults found and work was carried out which requires the engines to be run extensively with various bleed/pack configurations, in order to isolate the offending hardware. Troubleshooting failed to identify engine oil or any other source of the smell. There was no detectable

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201301799	21/02/2013	AIRBUS	Fumes detected throughout aircraft during climb. Aircraft returned.	Fumes initially apparent during pushback but dissipated after engine start. Fumes returned after take-off and notably increased when selecting packs to normal flow. Approaching FL300 crew elected to don oxygen masks and return. QRH for smoke/fumes consulted and initial items actioned. Bleeds selected off after normal landing. CAA Closure: Investigation found both oil supply / return tubes to the APU oil cooler defective with the retention clamps for tube end connections distorted. One tube was found extremely loose and had been allowing oil to escape into the APU bay. From further investigations it would appear that one of the pipes had not been pushed in squarely and as such was seated at an angle and not fully located. This misalignment was sufficient to allow oil to pass the 'O' rings and leak external to the oil cooler. The Quality Dept are to follow up this report to further investigate the reasons for the incorrect pipe fitting. It was also unclear when distortion of the securing brackets occurred, to which the Quality Dept will be following up.
201302423	08/03/2013	AIRBUS	Oily fumes and mist in cabin and flight deck caused cabin crew illness.	Cabin crew and passengers noticed the fumes in the cabin and two cabin crew members suffered with headaches, nausea and sickness. Oxygen used. FO also felt chest irritation. On landing, engineers reported oil inside APU intake as a possible source of the fumes, also residual de-icing fluid on the tail (even though a/c had not been de-iced). A/c removed from service. Cabin crew were positioned back and doctor subsequently diagnosed them with chemical intoxication of glycol, symptoms lasted two further days. CAA Closure: It was identified that a build up of de-icing fluid in the APU intake was the root cause of the event. A full pack burn out and a clean of the area around the intake was completed. There are a number of project streams already starting in preparation for the 2013/14 season which includes; - Reviewing a technical modification to the APU inlet (lead time 2 years); - A weekly maintenance task to clean any residual de-icing fluid from the APU intake; - Education of ground crews (de-icing operators), flight crew and cabin crew; - Possible use of non-thickened fluid (Type 1) for the stabiliser to prevent ingestion, congealing and rehydration of the fluid as occurs now with Type 2/4 fluid.
201302479	11/03/2013	AIRBUS	PAN declared and aircraft diverted due to smoke and fumes in the flight deck.	The Captain noticed a burning smell and smoke was observed coming up the side of the flight deck forward side window. QRH and troubleshooting commenced and a PAN was declared. Reports of smoke in the cabin came from the cabin manager and the decision was made to immediately divert. Flight crew donned oxygen masks. No warnings, cautions or advisories were showing and all systems appeared normal. ATC coordinated a diversion and the aircraft landed safely. After landing, it became apparent that the burning smell was throughout the cabin and there was a smoke haze reported at floor level at the rear of the cabin. CAA Closure: Fault traced to the toilet vacuum generator in the rear cabin which had burnt out. It was not possible to determine the cause as the part was removed from the operators stock before a workshop report could be obtained. However the part in question is not considered to be a reliability issue.
201302862	18/03/2013	AIRBUS	PAN declared due to strong, oily fumes on the flight deck.	Descending through an icing layer, the engine anti-ice was switched on and the fumes then entered the flight deck. Checklists actioned and the fumes began to clear. Captain and FO began to feel effects so went onto oxygen and declared a PAN. Both felt better by short finals so emergency services stood down. Investigation under 201302423.
201302888	20/03/2013	BOEING	PAN declared and a/c returned due to strong fuel fumes throughout the a/c.	QRH actioned and flight crew donned oxygen masks. Aircraft landed safely with emergency services in attendance. CAA Closure: The evidence indicates that the LH recirc fan was damaged by a foreign object impacting the fan and causing the rotating element to contact its housing, liberating a burning smell. The source of the foreign object could not be identified. It is likely that the same foreign object damaged the check valve. The RH recirc fan appears to be a bearing failure, causing an imbalance that allowed the rotating element to contact its housing and liberate a burning smell.

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201303744	09/04/2013	BOEING	Fumes detected throughout aircraft.	Fumes described as similar to burning rubber. Flight crew donned oxygen masks as a precaution. QRH actioned. Buses isolated, recirc fans seat power and IFE. Fumes stabilised and decreased. Fumes returned in flight deck during intermediate approach then dissipated except for the region of door 2. Cabin crew members reported that fumes caused chest irritation, sore throats and watering of eyes. CAA Closure: It is concluded that the source of the reported smell is most likely to have originated from door 4R supplementary heater which then passed into the recirculation system. Engineering Services will monitor events such as this as it is possible that due to an aging fleet it is reasonable to expect similar reports in the future however at this time it is not considered a fleet issue therefore no further action is proposed.
201304339	23/04/2013	BOEING	Acrid fumes throughout a/c when crew boarding.	Acrid smell and haze visible on crew boarding. Highest concentration on upper deck and flight deck. Crew vacated a/c and called engineering. APU bleed switched off and all main deck doors opened to clear fumes. Nr4 engine run to ensure fumes purged. Nr4 engine continued to run to provide air conditioning. Crew boarded and passenger boarding followed. No further fumes detected.
201304353			Burning smell in cabin near door 2L and 4L. Passengers and cabin crew felt unwell.	During flight, a number of passengers and cabin crew reported shortness of breath and difficulty breathing. One cabin crew member fainted and required oxygen. Suspected poor air quality due to poor air flow in zones D and E. Pack 1 U/S and one lower recirc fan U/S. A/c had been dispatched with several ADDs and only just acceptable for departure. Pack one and 'A' temp sensor replaced. Door 2 and 4 supplement heater deactivated as a precaution. This a/c had ADD for pack one locked out due to inoperative sensor which was robbed from another company a/c. The pack was reinstated but the ADD was not cleared. Investigation under 201303744.
				Fumes in passenger cabin only and not detected in flight deck. One cabin crew member on oxygen, others feeling ill. All cabin crew stood down temporarily to attend hospital as a precaution and were able to return to duty for return sector. Subsequent cabin crew reports state that they positioned back as passengers due to persistent headaches, lightheadedness and nausea and several sick days followed.
				CAA Closure: This aircraft has had extensive intermittent cabin odour reports during 2012 and 2013. Latest reports identified pack 2 as source in climb and descent and with the pack off, smell dissipated. A review of the Tech Log history confirms numerous attempts to identify root cause including proving flights and use of Aerotracer equipment to detect oil traces in cabin air. The latest history identified oil wetting on the APU intake plenum. The APU was replaced and a subsequent decontamination of the air conditioning system was carried out along with stage 1 and 2 cleaning and purge. Pack condensers and recirculation filters were also replaced. The engine LP and HP compressors, combustion chamber and turbine stage 1 inspected using boroscope with no evidence of leak. An engineer flew four sectors on the aircraft without
201304716	01/05/2013	AIRBUS	Strong fumes in passenger cabin during descent.	any reports of oil smell or other cabin odour. Oil was again reported in the APU intake plenum, but not drawn in from APU EICAS 'Autothrottle Disc' message received at FL400. QRH actioned and auto throttle successfully re-engaged afterwards. Shortly after re-engagement a burning smell was observed in flight deck by both pilots lasting 5-10secs. Approx 10mins later another similar burning smell was observed. Auto throttle disconnected and smell disappeared. Cabin services director came to flight deck and stronger fumes noticed by all to the extent of everyone feeling light headed and dizzy. Diversion requested and PAN declared. QRH drills actioned and fumes no longer apparent. Two cabin crew members required oxygen on the ground.
201305015	07/05/2013	BOEING	Serious Incident: Burning smell in flight deck and cabin during cruise, oxygen masks deployed. Diversion and PAN declared. Foreign Authority investigation.	CAA Closure: The right hand recirculation fan suffered catastrophic bearing failure that caused rotating components to contact stationary parts and severe internal overheating. The operator's proposal is in work to fit vibration monitors to these fans. This is the operator's proven technology and is their simplest, most cost effective solution to the issue. Currently, the fans contain internal overheat protection, which automatically shuts the fan down - although this may not happen until after an external burning smell has occurred - and provides EICAS indication, but there is no report of this occurring. It is possible the internal temperature did not get high enough before the power to the fan was removed as per
201305833	16/05/2013	AIRBUS	Strong gassy/solvent fumes in the cabin.	Smell became strong around the overwing exits. Cabin crew member felt faint and dizzy and was put on oxygen. Another passenger also complained of feeling ill.
201307144	18/06/2013	BOEING	Sudden and strong electrical burning fumes throughout a/c.	Approx 60mins prior to landing whilst still in cruise flight crew detected a sudden and strong electrical burning smell. Status message 'EQUIP COOLING FAN R'. After approx 3/4 mins fumes had dissipated from the flight deck, smoke/fumes checklist discussed not actioned. After initial descent at 10000ft a similar smell was again detected on flight deck and reports were received from Club galley cabin crew. Captain went on emergency oxygen as a precaution at this point until after landing. Fumes again dissipated after 10mins. On final approach cabin crew at door 1R complained of eye irritation. Fumes cleared after landing. Engineering consulted on stand.

201308623 15/07/2013 EMBRAER Fumes in flight deck upon starting Cabin crew illness. Crew members symptoms of being affected by fun PAN declared on approach due to stee flight deck and the cabin. PAN declared due to cabin crew illness symptoms. PF donned oxyge preaution. PAN declared due to strong smell of deck. PAN declared due to fumes in flight deck. PAN declared due to strong smell of deck.	
Cabin crew illness. Crew members symptoms of being affected by fun PAN declared on approach due to strong smell of deck. PAN declared due to cabin crew illness. Pr donned oxyge precaution. PAN declared due to cabin crew illness. Pr donned oxyge precaution. PAN declared due to strong smell of deck. PAN declared due to strong smell of deck. PAN declared due to strong smell of deck. PAN declared due to fumes in flight deck. PAN declared due to strong smell of deck. PAN declared due to fumes in flight deck.	APU started as flight deck temp was 38deg. First Officer noted a strong chemical smell. APU bleed was turned off and windows opened. The smell dissipated and APU bleed was switched back on. The smell did not return. During taxi out the
Cabin crew illness. Crew members symptoms of being affected by fun PAN declared on approach due to streng the flight deck and the cabin. PAN declared due to cabin crew illness. PF donned oxyge precaution. PAN declared due to cabin crew illness. PF donned oxyge precaution. PAN declared due to strong smell of deck. PAN declared due to strong smell of deck. PAN declared due to fumes in flight deck. PAN declared due to strong smell of deck. PAN declared due to strong smell of deck. PAN declared due to fumes in flight deck. PAN declared due to fumes in flight deck. PAN declared due to fumes in flight deck.	FO started to feel unwell. Bleed air turned off again. Decision made to return to stand. As aircraft taxied back the Captain
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201311738 15/09/2013 BOEING deck. 201311837 17/09/2013 BOEING PAN declared due to fumes in fligh Fumes in the cabin and flight deck descent. Also, birdstrike during lan Aircraft diverted due to smoke in c flight deck.	as a precaution. Inspection of the aircraft found hydraulic oil to be leaking from the undercarriage bay and tracking rearwards to the APU inlet. The source of leak was identified as CSMG Constant Speed Motor Generator. Unit replaced.
201311837 17/09/2013 BOEING PAN declared due to fumes in flight 201312547 01/10/2013 AIRBUS Fumes in the cabin and flight deck descent. Also, birdstrike during lan Aircraft diverted due to smoke in cabin and flight deck.	during the QRH actions. The smell was not evident in the cabin.
Fumes in the cabin and flight deck descent. Also, birdstrike during lan Aircraft diverted due to smoke in cabin and flight deck.	Oil smell was evident during cruise, it dissipated during the descent at idle power but returned once power was applied in level flight. Both flight crew used oxygen as a precaution. After landing, cabin crew reported vapour fumes at front of cabin and that crew oxygen had also been used. QRH consulted for information. Fire services met aircraft on arrival and inspected on stand both inside and out. CAA Closure:
201312547 01/10/2013 AIRBUS descent. Also, birdstrike during lan Aircraft diverted due to smoke in c. flight deck.	t deck. Extensive trouble shooting failed to determine a cause. The a/c was returned to service with no further reports.
201312580 02/10/2013 AIRBUS flight deck.	ding. crew went on oxygen. AOG for investigation. Bird (Falcon) remains found by airport staff.
201312589 01/10/2013 BOEING Fumes in flight deck during take-of	Investigation found a faulty bearing within the air cycle machine.
Frames in flight deck during take-0	Sweaty socks' smell was noticed by both flight crew and believed to be oil contaminants from engines. FO donned oxygen
	f. mask as a precaution. After 5mins oxygen mask taken off as smell had dissipated.
201313782 27/10/2013 AIRBUS Oily fumes in the flight deck and ca	On stand during heavy rain, APU bleed on. A familiar oily smell, similar to that of an engine after shutdown was evident in the cockpit and throughout the cabin. No haze. Engines started with view of testing improvement with engine bleed air. Smell reduced but not entirely removed. Continued departure. At TOC, smell returned and remained for remainder of flight though not strong. Apparently in flight, only sensed in front galley and to row 2. In descent, a/con packs switched off in turn; no noticeable difference. No PAN call made since no approach delay and no evident ill effects in crew or pax. APU bleed air cleared smell by shutdown. Initial heavy rain presumed to have moved contaminant into APU bleed air & air con system. Assumed it would clear with engine bleed air. Precautionary use of one EROS mask in descent. Approach satisfactory and landing carried out without mask.

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201313876	28/10/2013	AIRBUS	Fumes on flight deck after take-off.	Shortly after take-off a 'sweaty sock/oily smell' was present on the flight deck. TOGA power used was used for take-off. First Officer donned oxygen mask as a precaution while Captain liaised with cabin crew. Cabin crew described a 'plasticy' smell which was dissipating. Capt oxygen not used to ease liaising with sccm and due initial fumes appearing to be dissipating. Plan discussed for return to departure airport if fumes remained.
				Cabin crew entered flight deck and confirmed fumes. FO donned oxygen mask. Smell dissipated then 5mins later a stronger burning smell in flight deck observed. CAA Closure:
				Engineering investigations confirmed that the failure of the fan-end bearing on the right equipment cooling supply fan caused the reported smell/fumes event. Partial collapse of the bearing caused the rotor to rub against the stator. This would cause a significant amount of friction and a build up of heat as the fan continued to rotate, eventually causing the thermal switch in the motor to open. The material used to coat the motor components can give off quite an acrid, electrical burning type smell when overheating and this the likely cause of the discomfort experienced by crew in the flight deck. This is a common failure mode and a typical end of life condition for this type of fan. The part is conditioned monitored and is not subject to scheduled maintenance. The front fan-end bearing bears the load and will eventually fail due to breakdown of the bearing lubricant over time. The 4100941 series fans are not serialised in engineering records so
			Strong burning smell in flight deck. MAYDAY	the exact flying hours are unknown. An estimated figure is at least 59000fh. This is far above the 37000fh MTBUR figure
201314441	09/11/2013	BOEING	declared, oxygen donned and diversion initiated.	for another, similar, rotable fan. The aircraft performed as expected in this event. The overheat condition was detected,
004045500	45 (44 (0040	ALDRILIG	Fumes in flight deck on engine start and in cabin in	On taxi out Captain noticed 'sweaty socks' fumes. No other crew members aware of fumes. In descent to destination fumes returned, all crew aware of fumes in flight deck and passenger cabin. Flight crew donned oxygen masks and requested a medical examination on arrival. Following examination crew stood down and positioned to base. CAA Closure:
201315522	15/11/2013	AIRBUS	descent.	A faulty APU cooling fan assembly causing oil to enter the airconditioning system. The crew actions were law SOP.
201315997	10/12/2013	TWIN TURBOPROP	PAN declared and aircraft returned due to fumes in the cabin and flight deck.	Chlorine like smell was present throughout the aircraft. Flight crew donned oxygen masks for landing and aircraft taxied to stand under fire services escort. Once passengers had been disembarked, engineers boarded and advised that the smell was compressor wash from maintenance. Cabin crew raised concerns that there is no policy for them to go on portable oxygen when flight deck do and that flight deck/cabin crew communication was slightly restricted due to oxygen mask usage.
201316223	15/12/2013	BOEING	Strong fumes and smell of electrical burning in flight deck.	Relevant checklist actions carried out. One flight crew member used emergency oxygen. PAN declared, fuel jettisoned to maximum landing weight. Aircraft returned. Fault traced to equipment cooling supply fan. Later that day, the aircraft returned and fumes were once more experienced in the flight deck with visible misting,
			Smelly socks' fumes reported in flight deck. Oxygen	
201316748	26/12/2013	AIRBUS	masks used.	On the previous sector an oily smell was also noticed during approach.
201316880	27/12/2013	BOEING	Fumes in the cabin caused cabin crew illness.	One cabin crew member could detect a faint chemical smell. It caused sore throat and dizziness and the crew member was removed from service and oxygen administered to ease the symptoms. The area was checked for the source of any fumes but none could be found. After landing, two other crew members had similar symptoms but had not been aware of the fumes. Engineers informed.