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“Wallentin-Hermann” and a Safe Flight

In Aviation there are No Minimum Rules on Maintenance

By Jochem Croon,* Amsterdam

Do Not Take Off

The captain of the transavia.com flight stands at Orly airport with all crew and passengers onboard. The cockpit receives clearance from the tower for start-up. After starting engine 1 and engine 2 of his Boeing 737-800, the PSEU light¹ in the cockpit illuminates. The captain grabs his Quick Reference Handbook (QRH)² and opens on the page showing the check list applicable when the PSEU light illuminates. He reads that he first has to “reset” the PSEU system. After doing so, the PSEU light remains illuminated. According to the checklist the pilot subsequently has to set the parking brake and shut down both engines. After engine shut down, the PSEU light stays illuminated. The check list states “do not take off”.

The “do not take off” condition means the cockpit calls in a certified engineer in order to analyse the possible defect and instigate further actions needed. Based on the maintenance instruction, the engineer gains access to the PSEU through the forward door outside on the nose of the aircraft, the engineer starts the PSEU BITE Control panel by pressing the “on”-switch. “Existing faults” is then displayed, and after pressing the “yes”-switch, the message “LDG flap a default” is shown. The engineer’s instructions show (MEL, see further below) that in the event that this message occurs, dispatch is *not* allowed and it also shows what the referral is to the necessary subsequent maintenance task.

This description is an everyday reality in aviation, and part of a system which guarantees the flight safety and continuing airworthiness by taking every indication of flaws in the technical features of the aircraft very seriously.

In the *Wallentin-Hermann v. Alitalia* (Case No. C-549/07) judgment of the European Court of Justice (ECJ), 22 December 2008 (“*Wallentin-Hermann*”)

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¹ PSEU (Proximity Sensor Electronics Unit) light is a warning light connected to a box which integrates different important technical systems such as the landing gear, speed brake, the right setting of the flaps on the wing needed for take-off and the cabin doors. When this light illuminates it is an indication there might be something wrong with one of these systems.

² The QRH is a handbook in the cockpit issued by the manufacturer - in this case Boeing - which describes what to do in case of every possible irregularity in relation to the operation of the aircraft.

^{3, 4}, the Court held that the fact that an air carrier has complied with the minimum rules on maintenance of an aircraft cannot in itself suffice to establish that that air carrier has taken “all reasonable measures” within the meaning of Article 5(3) of EU Regulation No 261/2004 (the Regulation) and therefore, to relieve that carrier of its obligation to pay compensation provided for by articles 5(1) (c) and 7(1) of that regulation⁵.

However, in aviation there are no minimum rules on maintenance, only tailor-made rules. This article intends to further contribute to the knowledge of parties outside aviation, such as the legislator, enforcement bodies and courts, with regard to the standards and practices of maintenance in aviation in correlation with the Regulation.

Maintenance and Flight Safety in Aviation.

The set-up of maintenance and flight safety in aviation comprises of:

1. Failure Modes Effects Analysis (FMEA);
2. Maintenance Planning Document (MPD);
3. Master Minimum Equipment List (MMEL) and Minimum Equipment List (MEL);
4. Operator Maintenance Program (OMP);
5. Certificate of Release to Service (CRS)

³ Judgement reprinted in German in ZLW 2009/295 pp.

⁴ *Croon, Jochem*, “Placing *Wallentin-Hermann* in line with Continuing Airworthiness”, Air and Space Law 36, no. 1 (2011). As explained in that contribution, it is the author’s opinion that *Wallentin-Hermann* redefined the scope of “extraordinary circumstances” defence of article 5 (3) of the Regulation by including a concept of defects “inherent to” the normal activity of an air carrier.

Since that decision, some National Enforcement Bodies (NEBs) of the Regulation and Courts have chosen to interpret those words as limiting the concept of extraordinary circumstances simply by applying this concept for all technical defects, thereby judging every technical failure to be “inherent to” the normal activity of an air carrier and thus for the passenger entitlement for the compensation of article 7 of the Regulation.

Whereas *Wallentin-Hermann* only applied the aforementioned concept for technical defects which i) emerge during regular maintenance or ii) that are a result of poor or imperfect maintenance (see consideration 24 and 25), all other technical defects could be “not inherent”, hence an extraordinary circumstance.

By judging every technical defect as “inherent to”, a strict liability is created for the air carrier.

This was not the original intention of the legislator, because the Regulation provides the defence for the air carrier of article 5 (3) of the Regulation; i.e. no compensation is due when the air carrier has taken all reasonable measures to avoid the circumstance. This defence becomes moot because the circumstance is seen as “inherent to” i.e. for the risk of the air carrier.

⁵ See consideration 43 of *Wallentin-Hermann*.

The maintenance starts at the aircraft manufacturer, namely with the certification of a new aircraft type.

During the certification, the manufacturer performs a so-called Failure Modes Effects Analysis (FMEA). It identifies the consequences of failures of components or systems, thereby testing the technical reliability. The tests provide the proper intervals for overhaul or inspections but could also lead to further constructive amendments and technical development.

On the basis of such a FMEA, the manufacturer prepares a Maintenance Planning Document (MPD) and a Master Minimum Equipment List (MMEL) for such aircraft type. Both are determined during certification of the aircraft type by the relevant certifying authority (e.g. the Federal Aviation Authority/FAA for the United States or the European Aviation Safety Agency/EASA for the EU). The MPD is continuously monitored and, where needed, amended by the Maintenance Review Board (MRB) of the aircraft manufacturer, based on information received from operators (air carriers) and suppliers.

The MPD forms the starting-point for maintenance to the specific aircraft type. On the basis of this document an Operator Maintenance Program (OMP) is drawn up by the air carrier - taking into account its specific operation, routes and geographic location - and offered for approval to its competent authority (i.e. its national Civil Aviation Authority)⁶. The purpose of the OMP is to ensure the continuing airworthiness of aircraft including any component, parts and appliances for installation thereto, thereby providing proper and timely maintenance.

An obligatory part of the OMP is the inclusion of a “reliability program” in order to ensure that the OMP tasks are effective and their periodicity is adequate. Such a reliability program may result in escalation or deletion of a maintenance task as well as the de-escalation or addition of a maintenance task. For instance; part of the OMP could be that a certain type of fuel filter has to be replaced after every 3,000 flight hours. Based on the reliability program showing the performance of these fuel filters in the fleet of the air carrier, the periodicity of the replacement is amended after every 2,000 flight hours. The reliability program provides an appropriate means of constantly monitoring the effectiveness of the OMP⁷. Alongside this reliability program of the operator, the manufacturer informs the operator of any updates to the MPD based on the input of the MRB. These MPD updates need to be incorporated in the OMP.

In the MMEL, the manufacturer indicates which systems or components may partly or wholly fail for a certain period without compromising the airworthi-

⁶ This OMP obligation is for EU carriers pursuant to the continuing airworthiness requirements - PART- M EC no. 2042/2003 as further amended by EU No. 707/2006, 376/2007, 1056/2008 and 127/2010 as enforced by the EASA (European Aviation Safety Agency).

⁷ See under AMC M.A.302 (f) Aircraft Maintenance Programme - reliability programmes of Part-M section A Subpart C.

ness of the aircraft and the associated procedures to follow in such a case in order to maintain airworthiness. The deployment of an aircraft also determines the circumstances and thereby the minimum requirements for the specific operation. This is also the reason why the air carrier must draw up a Minimum Equipment List (MEL) based on the Master of the manufacturer (MMEL). This MEL takes specific account of the carrier's own operational circumstances. Different environments of operation dictate different maintenance set-up. For instance, operation of the aircraft in desert surroundings results in different wear and tear to the systems and components of the aircraft compared to operation in arctic or wet climate conditions.

This MEL - taking into account the specifics of the relevant air carrier - also has to be approved by the competent authority of the air carrier.

Before an aircraft may conduct a flight it is inspected by authorised staff as part of the OMP and including the MEL. If the aircraft passes this inspection, the authorised staff will issue a „Certificate of Release to Service (CRS)“ constituting a formal release from maintenance, for the operation. In this way - complying with its OMP and MEL - the airline company has taken all mandatory and also all reasonable measures to declare the aircraft technically ready for the operational deployment. No other measures are available for the air carrier to avoid technical problems.

*Providing Continuing Airworthiness and Flight Safety:
The Paramount Interest*

The paramount and overriding principle of aviation is to guarantee flight safety and continuing airworthiness, which is of course, in the interest of everybody, including the passengers.⁸

⁸ In my opinion the ECJ does not seem to have this interest on its agenda however. Their focus seems to be that the passenger has to be compensated by fixed amounts for lost time. See under consideration 52 of the ECJ judgement “*Sturgeon*”, 19 November 2009 Cases C-402/07 and C-432/07 (reprinted in German (shortened) in ZLW 2010, 75 pp.) pursuant to which the argument was raised that the flat rates of compensation pursuant to article 7 of the Regulation are there to compensate passengers for lost time due to delay.

This notwithstanding, in the ECJ, ruling IATA/ELFAA of 2006, Case C-344/04 (“IATA/ELFAA”) the European Court clearly distinguished *two* separate kinds of damage as a result of long delay.

1. Passengers may suffer *identical* damage, equal for each passenger. This damage can be rectified by standard and immediate assistance or care for everybody concerned. The carrier provides refreshments, meals, hotels and telephone cards. *Identical damage, immediately redressed.*
2. Passengers may suffer *individual* damage, inherent in the reason for travelling, redress for which shall take place *subsequently* (not immediately) on a case-by-case/individual basis.

The ECJ in IATA/ELFAA holds that the Montreal Convention only deals with the *second* damage, not the first damage.

The reality of aviation is that technical failures and warning indications of possible failures occur while the aircraft is in operation, even though the proper maintenance has been performed in accordance with all applicable standards and practices. Unfortunately, even today, the technical standards are still not infallible.

These standards and practices (as previously mentioned) are part of the daily activity of an air carrier to do everything reasonably possible within its control to avoid technical failure in order to contribute to airworthiness and flight safety.

Hence when a technical failure or indication thereof occurs during operation of the aircraft, the air carrier will have to act on that - also as part of the prudent performance of the contract with the passenger - in order to uphold continuing airworthiness and flight safety, even when that leads to delay. If an air carrier then (after the lapse of 3 hours) has to pay compensation to the passengers as set by article 7 of the Regulation, the air carrier is in fact penalised for actually doing exactly what it should do in the interest of a safe flight and thus the interest of the passengers.⁹

1. The Montreal Convention permits the EU Community legislation to take care of inconvenience that can be immediately redressed (hunger, thirst, sleep, need to contact home). The standardized immediate assistance required by art. 6 of Regulation 261 to redress the *first category - identical damage - is not in conflict with Montreal*.
2. The Court confirms that the immediate redress does not prevent passengers from claiming further damage afterwards under the conditions of the Montreal Convention. This is the *second category, individual damage, which depends on the reason for travelling, and damage for loss of time*. This damage is not identical, cannot be immediately redressed and should be dealt with afterwards on a case-by-case basis.

The flat rate compensation of 250, 400 or 600 euro for loss of time is contrary to IATA/ELFAA and does not fit in the Montreal system of regarding claims on an individual basis.

The argument on compensation for lost time is wrong and never the intention of the legislator. It is also proven by the reality of distinction in the Regulation between the distances of the flight, also creating unequal treatment of passengers, because if both long haul and short haul passengers have the same length of delay, the latter will receive only 250 euro. The time lost is the same for both. Hence, proof of the fact that the fixed amounts are meant by the legislator as a punitive measure with a correlation to the commercial gain for the carrier. If it was indeed meant by the legislator as compensation for lost time, then there would have been a scheme of compensation amounts increasing depending on the duration of time lost.

⁹ The *Sturgeon* ruling of the ECJ provides the right for compensation as mentioned under article 7 of the Regulation in case of delay unless the situation can be seen as an extraordinary circumstance which could not have been avoided even taking all reasonable measures.

Wallentin-Hermann Gives Guidance

The upcoming review of the Regulation provides an opportunity to amend the Regulation in the sense that it will indeed protect this “safety system” which provides continuing airworthiness and therewith the basis for a safe flight.

In my opinion, the interpretation of *Wallentin-Hermann* could give useful guidance for a solution for such protection.

Consideration 23 of *Wallentin-Hermann*¹⁰ makes a reference to consideration 14 of the Regulation¹¹. Hence it is established that the examples given under consideration 14 (e.g. weather conditions, strikes and unexpected flight safety shortcomings) can indeed constitute circumstances which are “not inherent” and are beyond the actual control of the air carrier on account of its nature or origin.

Furthermore, ECJ AG *Mr. Bot* states in his recent opinion that the term ‘extraordinary circumstances’ refers to all circumstances over which the air carrier has no control¹². Henceforth, the amount of times something occurs is not of relevance¹³, the only steering element is whether or not the air carrier had control in avoiding the circumstance from happening.

Unexpected flight safety shortcomings are not “inherent to”: If, after release of the aircraft for service (issue of a CRS), an error (technical failure) or a possible indication thereof surfaces during pre-flight check¹⁴ which, after follo-

¹⁰ Consideration 23 *Wallentin-Hermann*: “Although the Community legislature included in that list unexpected flight safety shortcomings and although a technical problem in an aircraft may be amongst such shortcomings, the fact remains that the circumstances surrounding such an event can be characterised as extraordinary within the meaning of article 5(3) of Regulation No 261/2004 only if they relate to an event which, like those listed in recital 14 in the preamble to that regulation, is not inherent in the normal exercise of the activity of the air carrier concerned and is beyond the actual control of that carrier on account of its nature or origin.”

¹¹ Consideration 14 EU Regulation 261/2004 provides examples of (extraordinary) circumstances in which the operating air carrier is not obliged to pay compensation, such circumstances may in particular occur in case of political instability, meteorological conditions, security risks, unexpected flight safety shortcomings and strikes.

¹² Opinion in case C-12/11 *McDonagh v Ryanair* under paragraph 34.

¹³ See also consideration 37 of *Wallentin Hermann* “...the frequency of the technical problems experienced by an air carrier is not in itself a factor from which the presence or absence of “extraordinary circumstances” within the meaning of article 5(3) of Regulation No 261/2004 can be concluded”.

¹⁴ See: *Balfour, John, The “Extraordinary Circumstances” Defence*, in EC Regulation 261/2004 after *Walentin Hermann v. Alitalia*, ZLW/2009, 224 pp., “It is not entirely clear whether the Court’s reference to “technical problems which come to light during maintenance of an aircraft” includes those coming to light during a pre-flight check. While the Court’s reasoning appears to be partly based on the fact that aircraft are subject to regular checks which are particularly strict”, its actual

wing through by the cockpit and/or technical staff the prescribed check lists, leads to an “aircraft on ground situation (AOG)” then this should in general constitute “an unexpected flight safety short coming”.

Such a situation is a ground for exemption from article 5(1)(c) of the Regulation. After all, the air carrier has performed the maintenance on the basis of its approved OMP. On that occasion it made an assessment with the aid of the approved MEL; ultimately the aircraft was in an airworthy condition. Due to the unexpected technical failure the aircraft is brought into a non-airworthy condition in a sudden and unforeseen manner. It goes without saying, an air carrier is not authorised to operate an aircraft that is in a non-airworthy condition. It will take the obligatory and necessary actions to resolve to restore the airworthiness as soon as possible.

This regulated system applicable to - and strictly adhered by - the air carrier providing and protecting the flight safety and continuing airworthiness should be given the absolute priority and is not to be influenced in anyway by wrong incentives such as compensation for passengers for lost time.

Back to our captain and the illuminating PSEU light. Every captain, in his legal obligation to ensure a safe flight, strictly adheres to all instructions and check lists applicable and mandatory for every possible situation which can occur. He will - like any other staff involved in maintenance and flight operation - not deviate from the instructions and checklists, and by doing so the right actions and decisions are taken to ensure a safe flight and continuing airworthiness¹⁵.

findings only relates to maintenance, which suggest that it did not have in mind problems becoming apparent during pre-flight checks”.

15 Recent case law in the Netherlands is encouraging:

In a recent ruling (Subdistrict Court Haarlem, The Netherlands, 12 June 2012, 521649/CV EXPL 11-9998) the Subdistrict Court Haarlem showed understanding of the concept that the moment the problem surfaces is of relevance for judging whether a technical problem constitutes unexpected flight safety problem. Furthermore, the Court understands that notwithstanding proper and timely maintenance, technical problems can occur. *“The Court believes that the circumstances advanced by ArkeFly can be considered “extraordinary”. The alleged technical problem occurred after the actual start of the flight - the aircraft was “off blocks” - and caused an unexpected flight safety problem, as a result of which the flight suffered the said delay. From ArkeFly’s explanation it must be concluded that the aircraft was always well maintained, the clutch was checked regularly and the defect (the breaking off and jamming of the clutch in the gear box) seldom occurs. A carrier cannot be expected to replace a working part other than within the framework of prescribed maintenance intervals. If that part subsequently breaks down, as in this case, after the start of the flight and compromises flight safety, the technical defect must be considered an extraordinary circumstance”.*

The Court of Amsterdam (Subdistrict Court Amsterdam, The Netherlands, 30 May 2012, CV 11-4525) gives more fundament to the idea that the process needed in order to deliver a safe flight is of primary importance and should not be pressured.

Conclusion

Judged on its own merits, the statement of the ECJ in *Wallentin-Hermann* (see consideration 43 of *Wallentin-Hermann*) stating - in short - that complying with the minimum rules on maintenance is not enough to establish that the air carrier has taken all reasonable measures to avoid the technical failure, is incorrect. It does not concur with the essential role of maintenance in aviation and the thorough and prudent way maintenance is formally arranged between all responsible parties in aviation (e.g. manufacturers, certifying authorities and air carriers). The obligation for the air carrier is and remains to strictly adhere to its Operators Maintenance Program (OMP) and Minimum Equipment List (MEL), which OMP and MEL constitutes by law the rules of maintenance for the specific carrier. The reality in aviation is that those (OMP and MEL) are the rules on maintenance tailor made for the specific air carrier. There are no minimum or maximum rules for the air carrier.

If, however, we follow the aforementioned statement of the ECJ, the OMP and MEL are then to be regarded as only the minimum rules on maintenance, and full compliance by the air carrier with its OMP and MEL does not suffice for having taken all reasonable measures to avoid the technical failure. As a consequence, the (legal) uncertainty is complete. The air carrier seems to have the (further unspecified) obligation to carry out maintenance above and beyond the rules as laid down in its OMP and MEL, creating a situation which is unenforceable and uncontrollable. It will leave the air carrier at the whims of the respective court or enforcement body. Only until the actual ruling does it become clear if the air carrier - for the specific situation and circumstances - in the opinion of the court or enforcement body had taken the right *extra* maintenance measures. This situation is clearly to be avoided, because then the whole maintenance system is eroded completely, leaving the setting of rules on maintenance to case law by non-technical persons.

If you judge the aforementioned statement of the ECJ in context with consideration 41 of *Wallentin-Hermann*¹⁶:

“even if it [being the air carrier, remark added by author] had deployed all its resources in terms of staff or equipment and the financial means at its disposal, it would clearly not have been able - unless it made intolerable sacrifices in the light of the capacities of its undertaking at the relevant time - to prevent the extraordinary circumstances with which it was confronted from leading to the cancellation of the flight”

“It does not promote the safety of air traffic if economic reasons put too much pressure on the decision-making process of crew and technical service when the occasion arises. Ultimately the malfunction is not inherent in running an airline company. After all, this was not a malfunction as a result of maintenance by the KLM nor a malfunction determined during maintenance either. KLM’s defense therefore succeeds.”

¹⁶ This context between consideration 43 and 41 was clearly explained by *John Balfour* in his contribution(see footnote 14 above).

Then -only in case of technical problems- the original test of “Extraordinary Circumstance that could not have been avoided even if all reasonable measures had been taken” pursuant to Article 5(3) of the Regulation is wrongfully further stretched. The air carrier, for its defense, now not only has to establish that it took “all reasonable measures” to avoid the occurrence of the extraordinary circumstance itself, but next to that, also that it took all reasonable measures to avoid the extraordinary circumstance from leading to a cancellation.

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