Subject: BEECH - 95 registered SE-LUX, on 17/11/2019, at Malmo Airport - Sweden

Reply to Safety Recommendation SWED-2020-003 received on 17/11/2020

Safety Recommendation:	Evaluate and decide whether a warning system that clearly indicates that the battery is not being charged by the alternators can be introduced as an operational requirement for aircraft operated under instrument flight rules or in darkness. (RL 2020:11 R1)
Final response:	The subject aircraft design was certified by the Federal Aviation Administration (FAA) under Civil Aviation Regulations CAR 3, dated 15 May 1956, and validated under the applicable EU airworthiness certification regulations. According to the FAA Advisory Circular AC 23.1309E, referred to as acceptable means of compliance to the applicable EU Certification Specification CS-23 used for aircraft certification in accordance with Commission Regulation (EU) No 748/2012, a total loss of the aircraft function to provide electrical power would be classified as 'catastrophic' if all the primary flight instruments require electrical power. If some flight instruments (such as stand-by instruments) do not require electrical power, the pilot should still be able to see them, because Commission Regulation (EU) No 965/2012 on air operations requires an independent portable light to be available for each required crew member for aeroplanes operated for Commercial Air Transport (CAT) either by day or at night [see CAT.IDE.A.115 (a)(4)], and for aeroplanes operated for non-commercial operations by night [NCC.IDE.A.115 (f) and NCO.IDE.A.115 (f)]. With this consideration the classification of the failure condition would be 'hazardous' or lower, depending on the design architecture and flight phase. Providing a warning when the battery is not being charged by the alternators may not be appropriate in all cases. CS 23.2605 (c) in amendment 5 of CS-23 requires timely and clear information to be given to the pilot concerning unsafe conditions when he is responsible for taking corrective action. CS 23.1353 (h) of CS-23 amendment 4 requires that the battery has enough capacity, if the primary source fails, to supply the essential electrical loads for 30 minutes to complete a safe flight and landing including the time needed for the pilot to recognise the loss of generated power and to take appropriate load shedding action. CS 23.1353 (h) constitutes an Acceptable Means of Compliance with CS.23 2525 (c) of CS-23 amendment 5 where the prescriptive 30 minute limit has been amended to require enough time for safe flight and landing after failure of the primary electrical power source. In summary, under the current CS-23 (amendment 5) a warning must be provided to the pilot in accordance with CS 23.2605 (c) if and when

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	the primary electrical power source fails and pilot action is expected while the essential electrical loads are ensured by CS.23.2525 (c). With the above-mentioned considerations, the European Union Aviation Safety Agency has concluded that the safety issue is already suitably mitigated through the EU certification and air operations regulations, as described above. Requiring a warning system that clearly indicates that the battery is not being charged by the alternators for aircraft operated under instrument flight rules or in darkness would not provide proportionate and justified safety benefits.
EASA Status:	Closed – Disagreement

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