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1	Robinson Helicopter	Introductory Note	1	Robinson Helicopter Company appreciates the effort being made by EASA to address the possible future need for certification standards appropriate to diesel engine helicopters. Diesel engines have the potential to reduce the emission of greenhouse gases and eliminate the need for lead additives in fuel. A Special Condition is intended to provide special technical specifications when the related certification specifications do not contain adequate or appropriate safety standards because a product has novel or unusual design features. While it is agreed that existing certification specifications may not fully address certain aspects of diesel engine installations, this should be addressed by rulemaking rather than a Special Condition. Per Commission Regulation 748/2012 Annex I, Part 21, paragraph 21.A.16B, Special Conditions are applied to an individual "product" to address novel or unusual design features, not to a group of products. Features common to a group of products would not by definition be considered unusual. By creating a generally-applicable Special Condition, the more formal and comprehensive rulemaking process is being bypassed. As a result, there may be limited opportunity for review and correction of requirements with the potential to create inadequate or overly burdensome requirements unlikely to be harmonized with other certification authorities.	Withdraw the Special Condition and reformat as a rulemaking task with high priority. A product-specific Special Condition, based on the draft rules, can always be generated if a diesel engine certification project arises before rulemaking is completed.	No	Yes	Not accepted	This Special Condition is raised in the frame of a particular design change and will become part of the Certification Basis of the so modified particular product. The intention of the Special Condition is thus not to regulate a group of products but to compensate for the lack of adequate requirements in a particular certification project. In this respect it fully meets the conditions set out in 21.B.75, 21.B.105 and 21.A.101. Launching a rulemaking task, even with priority, would not be commensurate with the explained purpose to enable the certification of a particular design change. In line with its own procedures, EASA publishes Special Conditions that are considered important and invites for public comments that are then individually assessed and responded in a fair and transparent process. It has been decided that in order not to bias the public consultation process and to protect relevant applicant's design data, the applicant's name and proprietary design details will not be part of the EASA public consultation. Unlike a Certification Specification, a Special Condition is not directly (without discussion) incorporated in the certification basis of all similar new or modified products. Instead, a dedicated decision shall be taken by the Agency, in consultation with the applicant. It is at the same time fair to assume that in the case of a new application with the same characteristics, a similar Special Condition would be also raised by EASA. If it was identical or sufficiently similar to this already published Special Condition, that second Special Condition might not be considered important for publication. A general formulation of this Special Condition is deemed to facilitate its adaptation to other similar future projects. This does not prevent any different design feature or certification approach in that project to be properly considered in that new Special Condition. It is also fair to assume that any relevant experience acquired during the certification process and management of the continued airworthiness of the in-service fleet should also flow into subsequent Special Conditions for similar designs. Finally it can be expected that once a sufficiently large group of products actually exists that needs to be regulated, a rulemaking activity is launched and appropriate Certification Specifications and Accepted Means of Compliance are adopted following the corresponding process. So far no diesel engine powered rotorcraft has been certified by EASA.
2	Robinson Helicopter	Identification of Issue	1	In many cases the operating characteristics of diesel engines can be addressed by simply referencing the existing requirements for turbine engines. While the proposed special conditions do make this connection, they also add requirements. While achieving an acceptable level of safety is, of course, essential, care must also be taken not to require a level of safety beyond that of existing technology that would lead to a competitive disadvantage for diesel engine-powered helicopters.	Apply any rulemaking that is not diesel-specific to all engine technologies equally. Any such rulemaking should be in response to a known or likely unsafe conditions.	Yes	No	Not accepted	So far, no diesel engine powered rotorcraft has been certified. The SC is related to the design features and operational characteristics of diesel engines, based on experience with CS-23 aeroplanes where a similar SC is applied. As mentioned aboce this SC is raised to enable the certification of a particular design change . Similar to the introduction of diesel engine technology on CS-23 aeroplanes, this SC is not intended to require a level of safety beyond that of existing technology and to create a competitive disadvantage for diesel engine-powered rotorcraft.

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3	Robinson Helicopter	Identification of Issue	1	Some of the concerns addressed by the proposed special condition can be handled at the engine (CS33) certification level. Duplication of effort should be avoided. Reference FAA Policy Memorandum ANE-2006-33.7-4-1 dated September 6, 2007 for examples.	Eliminate requirements that are more appropriately handled through CS33.	Yes	No	Not accepted	Only items related to engine installation (powerplant) are addressed in this special condition. Diesel engine certification is sufficiently covered by CS-E.
4	Robinson Helicopter	Identification of Issue	1	If a special condition (rather than rulemaking) is carried forward, it is not clear from the numbering system used in the proposal whether the Special Condition will be referenced in the certification basis as a single Special Condition, or 14 individual Special Conditions.	Clarify this point by identifying the special condition within the certification basis as a single item. Tracking 14 Special Conditions individually during a certification project would be a significant administrative burden with no technical or safety benefit.	Yes	No	Noted	The technical content of the Special Conditions is presented for public consultation. Administrative aspects like the organisation of the elements of the certification basis in the TCDS are not part of this public consultation.
5	Robinson Helicopter	SC-DIE.361 Engine Torque	7	The stoppage criterion defined in CS 27.361(a)(4) is applicable to turbine engines and is proposed to be extended to diesel engines. The guidance in AC27-1b applicable to this reads: *For sudden stoppage of turbine engines the engine manufacturers can reasonably provide FAA/AUTHORITY approved data to the applicant on inertia of rotating parts and the deceleration time expected in the event of sudden engine stoppage. This condition usually generates critical loads in the engine mounting and restraint system. These manufacturer's data should be acceptable for use in compliance with this part of the standard.* It is apparent that the concern is the rotational inertia of the engine and the loads a sudden stoppage would apply to the engine mount. It is therefore unrelated to the magnitude of the cylinder pressure and it is not appropriate to apply this requirement to a diesel engine.	Do not apply stoppage criterion to diesel engines. A mean torque multiplication factor dependent on the number of cylinders, similar to that applied to spark ignition engines, is considered more appropriate.	No	Yes	Not accepted	The same requirement is applied in Special Conditions for diesel engine installation on CS-23 aeroplanes due to the usually higher torque spikes of diesel engine at stoppage which is caused by the engine and independed of the kind of aircraft application. Applicants can propose a suitable multiplication factor with substantiation.
6	Robinson Helicopter	SC-DIE.361 Engine Torque	7	It is noted that the proposed rule lacks torque multiplication factors for engines other than those with 4 cylinders.	Address diesel engines with more than 4 cylinders.	Yes	No	Accepted	Wording changed to include engines with four cylinders or more. For these engines, the special condition defines a baseline factor of four.The applicant is free to make a different proposal with substantiation (as referred in NR 5)
7	Robinson Helicopter	SC-DIE-27.909 Turbo charger systems	7	It is noted that there exist type certificated helicopters with turbo-charged conventional piston engines and therefore this aspect of an engine installation is not new or novel. The turbocharger would normally be certified as part of the engine and therefore already meet the proposed special condition requirements. Turbochargers installed at the airframe level would already be subject to the requirements of CS27.1461.	Eliminate this requirement	No	Yes	Not accepted	Turbochargers can be installed at rotorcraft level (e.g. turbonormalizer). CS.27.1461 does address realease of high-energy debris only. Intercoolers (part of aircraft type design) need to be addressed in addition (see NR 18, NR 27).
8	Robinson Helicopter	SC-DIE.927 Additional tests	7	This requirement could easily be addressed during rulemaking by not using either the word turbine or the word diesel under (b).	Reword rule as "If engine torque output…"	Yes	No	Not accepted	This SC is related to the installation of a diesel engine only.

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9	Robinson Helicopter	SC-DIE.961 Fuel System hot weather operation	8	Kerosene is less susceptible to vapor formation than avgas and therefore hot weather operation should be less of a concern for diesel engines. The inclusion of this special condition appears to be a consequence of the following item listed in the "Design features not envisioned in CS-27": *Some common-rail diesel engine designs include a return fuel system so that unused fuel from the fuel rail is returned to the fuel tank. A high volume of fuel that returns from the fuel rail to the fuel tank potentially leads to an excessive increase of the fuel temperature in the fuel tank.* Some helicopters with fuel injected spark-ignition piston engine installations also return a high volume of unused fuel to the fuel tank, potentially increasing the temperature of the fuel in the fuel tank. This is therefore not a new or unusual design feature. There is no evidence that this design feature on conventional piston engine installations creates an unsafe condition. Normally, an engine manufacturer will specify a limiting fuel inlet temperature and the airframe manufacturer will design the fuel system to maintain at or below that temperature.	Eliminate this requirement and update guidance only. If it is necessary to have a special condition to address fuel temperature elevation caused by fuel recirculation, the special condition should identify that it is applicable only to those diesel engine installations having a recirculating fuel system, given that the rationale identifies this as the issue being addressed.	No	Yes	Not accepted.	The return of a high volume of unused fuel to the fuel tank in rotorcraft with fuel injected spark-ignition piston engine installations is on the low pressure side of the fuel system (below 5 bar). The concern is related to the fuel flow from the high pressure side of diesel engines (>1000 bar), e.g. from the common rail back into the aircraft fuel tank.
10	Robinson Helicopter	SC-DIE.973 Fuel tank filler connection	8	It is argued that diesel-powered small rotorcraft will initially be developed from helicopters powered by conventional reciprocating engines which leads to the potential for misfuelling. There are examples of turbine powered helicopters being developed from conventional piston-engine powered helicopters where the same potential for misfuelling exists. This was also a concern for the turbine-powered R66 which is visually similar to the piston-powered R44. The concern was addressed through compliance with existing regulations and guidance and no instances of misfuelling have been reported in 10 years of operation. The issue of helicopters with similar appearance having different fuel requirements is not novel or unusual and is adequately addressed through existing regulations and guidance. The proposed requirement that "each filler connection must prevent misfuelling" requires that even attempts to deliberately use incorrect fuel must be prevented. As diesel engines are introduced, education of pilots and fuel personnel can also be very effective at minimizing the likelihood of misfuelling.	Eliminate this requirement and update guidance only.	No	Yes	Partially accepted.	Experience from rotorcrafts as well as CS-23 airplanes has shown that misfuelling events are still happening. The concern is related to misfuelling by mistake, not the deliberate misuse. In the wording of the SC "prevent" is replaced by "minimise the risk of" misfuelling.
11	Robinson Helicopter	SC-DIE.977 Fuel tank outlet	8	Subparagraph is added specifically for diesel engines.	Revise CS 27.977(a)(2) to read "For rotorcraft using kerosene-based fuels…" instead.	Yes	No	Not accepted.	This SC does address diesel engine powered rotocraft only, not rotorcraft powered by turbine engines.

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12	Robinson Helicopter	SC-DIE.1061 Liquid Cooling – Installation	8	The requirements created to address the addition of a water cooling system appear to be based on a combination of fuel tank requirements with additional prescriptive details. There is no rationale provided for the inclusion of these prescriptive requirement other than “experience from CS-23”. With the reorganization of CS-23 replacing prescriptive requirements with objective rules, CS 23.1061 has been eliminated. Specific items that are of concern are the requirement to support each coolant tank so that tank loads are distributed over a large part of the tank surface. This is prescriptive and yet vague, and goes beyond what is required for fuel tanks. Similarly the requirement for pads or other isolation means between the tank and its supports to prevent chafing are overly prescriptive. Fuel tanks have a similar requirement except include the words “if necessary” to provide an alleviation for designs that are not susceptible to chafing. It is also possible to envision integrated cooling systems without a traditional “cooling tank” per se. The cooling system is more properly addressed as part of the general engine installation requirements.	Revise requirements to be less prescriptive. A water cooling system is more analogous to an oil system than a fuel system as they both recirculate the fluid within a closed system and involve fluid volumes of the same magnitude. It would therefore be more appropriate to adapt the requirements for oil tanks to liquid coolant tanks rather than the requirements for fuel tanks.	No	Yes	Accepted.	The coolant tank capacity requirement has been rewritten to be more generic. It should be noted that prescriptive requirements of CS-23 Amdt. 4 and earlier are still used as accepted means of compliance for the objective-based rules of CS-23 Amdt. 5 or later. The same logic could be used in case of a possible change of CS-27 from prescriptive to objective-based rules.
13	Robinson Helicopter	SC-DIE.1145 Ignition switches	9	It is sufficient to say that the operating of a diesel engine is equivalent to a turbine engine with respect to ignition switch requirements. Because this regulation does not identify the need to provide an alternative and appropriate means of stopping a turbine engine, there is no need to identify the need to do this for a diesel engine. Engine manufacturers’ installation instructions provide alternate shutoff requirements (such as an air door) if the manufacturer deems it appropriate and necessary for their design. Note that for diesel engines as for any other type of engine, it is assumed that an approved installation manual per CS 33.5 will be available to the CS 27 airframe manufacturer.	Special condition is unnecessary. Update guidance instead.	No	Yes	Accepted.	Special condition SC.DIE.1145 is removed and Means of Compliance with CS 27.1145 for diesel engines is provided, which is better aligned with the SC for diesel installation on CS-23 aeroplanes where AMC only is provided.
14	ENAC	I.A	2	Common rail pump works at high pressure.	The high pressure should be included in the design features for the implication related to high pressure pipes and fuel contamination susceptibility.	no	no	Not accepted	High pressure lines are part of the engine type design, not of the engine installation.
15	ENAC	I.B	3	Common rail pump works at high pressure and water contamination is an issue.	Acceptable fuel filters, indication and related maintenance procedures should be highlighted.	no	no	Noted	Fuel contamination is addressed on engine level per CS-E 470, related engine needs per CS-E 25.
16	ENAC	I.B.4	3	Torsional vibration is typical for diesel engine.	Torsional vibration should be highlighted.	yes	no	Noted	Torsional vibration is covered by SC-DIE.361(a)(1).
17	ENAC	II.I	3	Stoppage criterion as defined in CS 27.361(a)(4) is understandable but for the factor four, used as an option, the rationale should be provided.	Please provide rationale for factor four.	yes	no	Noted	Factor four is based on the SC for diesel installation on CS-23 aeroplanes as worse case cenario (see also FAA PS-ACE100-2002-004), but the applicant can propose with substantiation another factor.

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18	ENAC	II	6	Intercooler could be part of the diesel engine TC. CS 23.909(d) amdt. 4 shoould be part of this SC.	Add CS 23.909(d) amdt. 4	no	YES	Accepted	The following text will be added: (d) Each intercooler installation, where provided, must comply with the following: (1) The mounting provisions of the intercooler must be designed to withstand the loads imposed on the system; (2) It must be shown that, under the installed vibration environment, the intercooler will not fail in a manner allowing portions of the intercooler to be ingested by the engine, and (3) Airflow through the intercooler must not discharge directly on any aircraft component (e.g. windshield) unless such discharge is shown to cause no hazard to the aircraft under all operating conditions.
19	ENAC		9	Common rail pump works at high pressure and water contamination is an issue. Water separation filter is normally used for avoid water entering the pump that could lead to the injector and fuel pump failures. Warning from fuel filter water sensor should be provided in the cockpit. The current CS 27.1305(q) is not addressing water contamination but only fuel flow reduction.	Add SC-DIE.1305 Powerplant Instruments for water sensor indication.	no	yes	Not accepted	Water contamination is is addressed at engine level per CS-E 470, related engine needs per CS-E 25. A general need for a water sensor is not seen, based on the service experience with fix-wing diesel engine powered aircraft.
20	Continental Aerospace Technologies GmbH	SC-DIE.1141	9	Change the wording to match CS-E 50 c)	Change to”essentially no single failure”	Yes	Yes	Not accepted	At engine level, no single failure is limited to electrical failures. At aircraft level, no single failure malfunction is allowed.
21	Continental Aerospace Technologies GmbH	SC-DIE.361	7	For reciprocating engines oftenly a device for smoothing the torque of the engine is used. If one is installed, the peak torque of the engine is not significantly higher than the mean torque.	DC-DIE.360 (a)(1): The mean torque for maximum continuous power multiplied by 4 with 4 cylinders *if no torque damping device is used.*			Noted	Provision for using other than the proposed factors is already included (“unless shown otherwise by the applicant”). Justification will need to be provided by the applicant.
22	*DGAC-F*	I.A. 6th bullet point	2	This particularity is not limited to common-rail technology. Traditional diesel fuel pump also has fuel return which can be either be managed in a “hot fuel loop” engine side, with a heat exchanger if required, or returned to the fuel tank.	Remove “common-rail” in the text	YES	NO	Not accepted	Traditional diesel pump fuel return is usually on the low pressure side of the injection pump. The concern is related to the fuel flow from the high pressure side (>1000 bar), e.g. from the common rail back into the aircraft fuel tank.
23	*DGAC-F*	I.B.1. 2nd bullet point	2	Low engine speed is in fact beneficial for flameout prevention. The auto-ignition of the fuel is characterized by a delay between fuel injection and starting of the combustion, which is a function of pressure, temperature and cetane number. Flameout occurs when the delay is too long compared to the injection timing, resulting in the fuel not being ignited when pressure and temperature start to decrease past TDC. For a given angular timing and pressure/temperature conditions, lowering the RPM provides more time between injection and TDC and therefore helps preventing flame-out.	Remove reference to “low rpm”	YES	NO	accepted	Comment accepted and changed from “low rpm” to “certain engine speed” to be more technology agnostic. . Based on the service experience with fix-wing diesel engine powered aircraft this parameter needs to be considered
24	*DGAC-F*	II.I. CS 27.1141	5	The same rationale can be applied to EEC controlled engines (referring to non full authority EECs / mechanical backups architectures…)..	“CS27.1141(e) is made applicable for Diesel engines directly controlled by a FADEC / EEC.”	YES	NO	Partially accepted	SC-DIE.1141 and IM to AMC to 27.1309 shall cover all kinds of electronic engine control and do not differentiate between dual channel or single channel with mechanical backup.

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25	*DGAC-F*	II.I. CS 27.1145	5	This § should consider the shut-off means in case of engine runaway through combustion of the oil (resulting from internal leaks). Shutting off the FADEC won't help in this case. Even though this is a rare failure situation, it is known to happen on diesel engines in the automotive industry. In this situation, the engine increases power/rpm (producing lots of smoke) up to engine failure due to over speed or loss of lubrication. As an example, the SMA engine incorporates an air shut-off valve to cope with some failure cases leading to engine runaway.	Add the following text: "Failure cases, including engine runaway through combustion of the oil through internal leaks, should be considered."	NO	YES	Not accepted	Internal engine failures are to be considered in the frame of engine certification per CS-E. Any related effects on engine installation have to be addressed per CS-E 20(d) and considered during aircraft certification. This includes the mentioned failure case. Special condition SC.DIE.1145 is removed and Means of Compliance with CS 27.1145 for diesel engines is provided, which is better aligned with the SC for diesel installation on CS-23 aeroplanes where AMC only is provided.
26	*DGAC-F*	SC-DIE.361 (a)(1)	7	The factor of 4 should be applied to engines with 4 cylinders or more, to be consistent with the SC applied to 23 aircraft (and with FAA PS-ACE-2002-004)	The mean torque for maximum continuous power multiplied by 4 with 4 cylinders.	YES	NO	Accepted	The factor of 4 is made applicable to four cylinders or more. This should be the baseline as proposed also by FAA Memorantum (policy statement diesel engine installation PS-ACE100-2002-004). Nonetheless the applicant is free to propose with substantiation differently (refer also to NR 5 and NR 6)
27	*DGAC-F*	SC-DIE.909	7	As most diesel engines use high compression ratio turbochargers, they are most of the time fitted with an intercooler, therefore (d) should be added. Moreover, as the suggested text reflexes CS23.909 with the provision for a turbocharger not part of engine TC, (e) may also be included (less critical, as the turbocharger will be part of the engine TC in most of the applications, if not all).	Add the subparagraph (d) and consider adding (e): "(d)Each intercooler installation, where provided, must comply with the following: (1)The mounting provisions of the intercooler must be designed to withstand the loads imposed on the system; (2)It must be shown that, under the installed vibration environment, the intercooler will not fail in a manner allowing portions of the intercooler to be ingested by the engine, and (3)Airflow through the intercooler must not discharge directly on any aeroplane component (e.g. windshield) unless such discharge is shown to cause no hazard to the aeroplane under all operating conditions. (e)Engine power, cooling characteristics, operating limits, and procedures affected by the turbocharger system installations must be evaluated. Turbocharger operating procedures and limitations must be included in the rotorcraft flight manual in accordance with CS 27.1581."	YES	NO	Accepted	Subparagraphs (d) and (e) are added. See also response to comment NR 7 and NR 18.
28	*DGAC-F*	SC-DIE.1145	9	The SC should cover the failure cases , including cases where fuel shut-off through FADEC/EEC command or shutoff won't shut the engine off quickly (for instance engine runaway through combustion of the oil through internal leaks).	Addition of the following sub-paragraph: (d) No engine failure mode may prevent the engine from being quickly shut off. And add the following AMC to SC-DIE.1145 In case an engine failure mode is identified where the available fuel injection shutoff means does not quickly shut off the engine, an induction air shutoff means should be considered.	NO	YES	Not accepted.	Special condition SC.DIE.1145 is removed and Means of Compliance with CS 27.1145 for diesel engines is provided, which is better aligned with the SC for diesel installation on CS-23 aeroplanes where AMC only is provided.. Internal engine failures are to be considered in the frame of engine certification per CS-E, any related effects on engine installation have to be addressed per CS-E 20(d).
29	*DGAC-F*	SC-DIE.1557	10	(c)(1)(ii) does not apply to diesel engine.	Remove sub-paragraph (ii)	YES	NO	Accepted.	content of subparagraph (c)(1)(ii) removed, marked as [Reserved]. The rest of the (c)(1) subparagraphs maintain their numbering.

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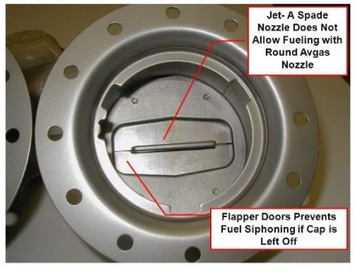
30	*DGAC-F*	MOC SC-DIE.973	12	This AMC refers to CS-23 Amdt.4 which is not adequate for Diesel engine on this point (23.973(f) is applicable to turbine engines only, and a Special Condition was required to apply 23.973(f) instead of 23.973(e) on diesel engine aeroplanes). The text should therefore refer to 23.973(f) for clarity. Alternatively, a reference to ASTM F3063/F3063M may be made (this standard rephrases 23.973 as follows: *5.7.6 Fuel filler openings should be designed to preclude the use of fuels other than those approved for use.* *5.7.6.1 Fuel filler openings no larger than 60 mm [2.36 in.] are appropriate for aeroplanes with engines requiring gasoline as the only permissible fuel.* *5.7.6.2 Fuel filler openings no smaller than 75 mm [2.95 in.] are appropriate for aeroplanes with engines requiring turbine fuel as the only permissible fuel.)* In addition, reference to SAE AS1852D would be beneficial, as it provides for the "oval" refueling nozzle which prevents misfuelling (the AVGAS nozzle won't fit in the oval opening, and the oval Jet Fuel Nozzle won't fit in an AVGAS opening having a diameter of less than 60mm). Jet-A Fueling  	Suggested rewording: "In respect to the existing AMC to CS.27.973 which is applicable, the following should be considered for diesel engine installations: - A different filler connection diameter could be used as specified in CS-23 Amd 4 §23.973(f) (or ASTM F3063/F3063M §5.7.6), or - A filler connection design as defined in AC20-122A and SAE AS1852D could be used. In addition, adequate markings in proximity of the refuelling port could be provided."	YES	NO	Accepted	MoC text changed as suggested
31	*DGAC-F*	IM to AMC toCS 27.1309	13	The same rationale can be applied to EEC controlled engines (referring to non full authority EECs / mechanical backups architectures…).	Replace "FADEC" by "FADEC/EEC"	YES	NO	Partially accepted.	FADEC means full control system (EEC + FMU). Wording changed to "FADEC or other electronic systems". SC-DIE.1141 and IM to AMC to 27.1309 should cover all kinds of electronic engine controls and do not differentiate between dual channel or single channel with mechanical backup.
32	*FAA*	B. 1. Fuels	2	This should be addressed in the Part 33 certification by the engine manufacturer. The installer, Using Part 27, has no control over the engine cetane requirements and can only install the engine in their aircraft within the limitations of the Part 33 certification		Yes		Noted.	Aspects of fuel are considered in the frame of engine certification per CS-E. These information and aspects need to be taken into account at rotorcraft level too.

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33	*FAA*	CS 27.973 - SC-DIE.973	4 - 8	Disagree. The existing Part 27 requirements differ from the Part 23 requirements, which specify a specific fuel filler opening size. The existing 27.973 coupled with the 27.1557 special condition language are all the can practically be done		NO	Yes	Accepted	Wording of last sentence of the assessment provided on CS 27.973 changed to: "Therefore a special condition is proposed to minimise the risk of misfuelling." The associated Means of Compliance has also been modified – refer also to response to comment NR 10 and NR30.
34	*FAA*	CS 27.1141 - SC-DIE.1141	5 - 9	This was typically separated from the diesel specific special conditions, and placed into FADEC specific special conditions due to the additional requirements beyond the requirements of 27.1141(e): software, HIRF, electrical power, etc.		YES	YES	Noted.	For practical reasons, we prefer to have it embedded into the SC. We do not see a need for separate FADEC specific special condition. Software, HIRF, etc. will be addressed during engine certification and installation.
35	*FAA*	Turbo charger systems - SC-DIE.909	6 - 7	Partially disagree: This requirement would only be necessary if the turbocharger was not part of the original Part 33 certification, and was installed by the aircraft manufacturer on the engine after the engine was already certificated.		NO	YES	Accepted	That is correct. This paragraph was only intended for turbochargers not part of the engine type design/not addressed in engine certification. Please note that now also subparagraphs d) and e) have been included as intercooler installation is usually part of the aircraft. See also response to comment NR 18 and NR 27
36	*FAA*	MOC SC-DIE.973	12	This seems reasonable; however, a special condition for this is not needed.		NO	NO	Noted	SC and MOC are kept and wording is modified as mentioned above. (please also refer to comments NR 10, NR 30 and NR 33)
37	*FAA*	IM to AMC to CS 27.1309	13	FADEC special conditions should be developed for this, as the engines and their hardware cannot meet the probability of failure requirement as specified in the guidance for 2X.1309 without lowering the hazard category to an unrealistic value. Specific criteria need to be developed to be used in lieu of the 2X.1309 probability values.			YES	Not accepted	This is not different from the installation of other FADEC on rotorcraft. At EASA, we are refering to AMC 20-1 to adequately consider the FADEC/ EEC certification aspects..

* Please complete this column using the word "yes" or "no"
** Please complete this column using the word "yes" or "no"