three or more engines, § 25.149(g) requires the minimum control speed to be determined for a one-engine-inoperative landing approach in which a second critical engine suddenly fails. The FAA proposed to revise §§ 25.149(f) through 25.149(h) to clarify and revise the criteria for establishing these minimum control speeds, V_{MCL} and V_{MCL-2}, respectively, for use during approach and landing.

The FAA proposed to clarify that V_{MCL} and V_{MCL-2} apply not only to the airplane's approach configuration(s), as prescribed in the current standards, but also to the landing configuration(s). The FAA recognizes that configuration changes occur during approach and landing (e.g. flap setting and landing gear position) and considers that the minimum control speeds provided in the AFM should ensure airplane controllability, following a sudden engine failure, throughout the approach and landing.

Applicants would have the option of determining V_{MCL} and V_{MCL-2} either for the most critical of the approach and landing configurations (i.e., the configuration resulting in the highest minimum control speed), or for each configuration used for approach or for landing. By determining the minimum control speeds in the most critical configuration, applicants would not be required to conduct any additional testing to that already required by the current standards. Only if these resulting speeds proved too constraining for other configurations would the FAA expect applicants to exercise the option of testing multiple configurations.

The FAA also proposed to add provisions to state the position of the propeller, for propeller airplanes, when establishing these minimum control speeds. For the critical engine that is suddenly made inoperative, the propeller position must reflect the most critical mode of powerplant failure with respect to controllability, as required by § 25.149(a). Also, since credit cannot be given for pilot action to feather the propeller during this high flightcrew workload phase of flight, the FAA proposed that V_{MCL} and V_{MCL-2} be determined with the propeller position of the most critical engine in the position it automatically achieves. For $_{MCL-2}$, the engine that is already inoperative before beginning the approach may be feathered, since the pilot is expected to ensure the propeller is feathered before initiating the approach.

To ensure that airplanes have adequate lateral control capability at V_{MCL} and V_{MCL-2}, the FAA proposed to require airplanes to be capable of rolling, from an initial condition of steady straight flight, through an angle of 20 degrees in not more than 5 seconds, in the direction necessary to start a turn away from the inoperative engine. This proposed addition to § 25.149 is contained in the current JAR 25.149.

The FAA also proposed guidance material for AC 25–7 to enable applicants to additionally determine the appropriate minimum control speeds for an approach and landing in which one engine, and, for airplanes with three or more engines, two engines, are already inoperative prior to beginning the approach. These speeds, $V_{MCL(1\ out)}$ and $V_{MCL-2(2\ out)}$, would be less restrictive than V_{MCL} and V_{MCL-2} because the pilot is assumed to have trimmed the airplane for the approach with an inoperative engine (for $V_{MCL(1\ out)}$) or two inoperative engines (for $V_{MCL-2(2\ out)}$). Also, the approach and landing procedures under these circumstances may use different approach and landing flaps than for the situations defining V_{MCL} or V_{MCL-2}. These additional speeds could be used as guidance in determining the recommended procedures and speeds for a one-engine-inoperative, or, in the case of an airplane with three or more engines, a two-engine-inoperative approach and landing.

The FAA proposed to revise § 25.125 to require the approach speed used for determining the landing distance to be equal to or greater than V_{MCL}, the minimum control speed for approach and landing with all-engines-operating. This provision would ensure that the speeds used for normal landing approaches with all-engines-operating would provide satisfactory controllability in the event of a sudden engine failure during, or just prior to, a go-around.

Proposal 5. The FAA proposed to revise the stall demonstration requirements of § 25.201 to clarify the airplane configurations and procedures used in flight tests to demonstrate stall speeds and stall handling characteristics. The list of acceptable flight characteristics used to define the occurrence of stall would also be revised. To be consistent with current practice, § 25.201(b)(1) would require that stall demonstrations also be conducted with deceleration devices (e.g., speed brakes) deployed. Additionally, the FAA proposed clarifying the intent of § 25.201(b) to cover normal, rather than failure, conditions by requiring that stalls need only be demonstrated for the approved configurations.

Section 25.201(c) would be revised to more accurately describe the procedures used for demonstrating stall handling characteristics. The cross-reference to § 25.103(b), currently contained in § 25.201(c)(1), would be moved to a new § 25.201(b)(4) for editorial clarity and harmony with the JAR–25 format. Reference to the pitch control reaching the aft stop, which would be interpreted as one of the indications that the airplane has stalled, would be moved from § 25.201(c)(1) to § 25.201(d)(3).

The list of acceptable flight characteristics that define the occurrence of a stall, used during the flight tests demonstrating compliance with the stall requirements, is provided in § 25.201(d). The FAA proposed to revise this list to conform with current practices. Section 25.201(d)(1)(ii) would be removed to clarify that a rolling motion, occurring by itself, is not considered an acceptable flight characteristics for defining the occurrence of a stall. The proposed § 25.201(d)(2) would replace the criteria of §§ 25.201(d)(1)(iii) and 25.201(d)(2) because only deterrent buffeting (i.e., a distinctive shaking of the airplane that is a strong and effective deterrent to further speed reduction) is considered to comply with those criteria. Finally, the proposed § 25.201(d)(3) would define as a stall a condition in which the airplane does not continue to pitch up after the pitch control has been pulled back as far as it will go and held there for a short period of time. Guidance material was proposed for AC 25–7 to define the length of time that the control stick must be held in this full aft position when using § 25.201(d)(3) to define a stall.

Proposal 6. Section 25.201 currently requires stalls to be demonstrated at airspeed deceleration rates (i.e., entry rates) not exceeding one knot per second. JAR 25.201 currently requires, in addition, that turning flight stalls must be demonstrated at accelerated rates of entry into the stall (i.e., dynamic stalls). According to the JAA, the intended procedure for demonstrating dynamic stalls begins with a 1 knot per second deceleration from the trim speed (similar to normal stalls). Then, approximately halfway between the trim speed and the stall warning speed, the flight test pilot applies the elevator control to achieve an increase in the rate of change of angle-of-attack. The final angle-of-attack rate and the control input to achieve it should be appropriate to the type of airplane and its particular control characteristics.

The AIA/AECMA petition detailed various difficulties with interpretation of the JAR–25 requirement, noted that