



Flight safety information bulletin
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Subject: Procedures for the Application of SAE AS6286E with Regard to the Training and Qualification of Personnel Involved in Aircraft Ground De-Icing/Anti-Icing Operations

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This Bulletin is intended for aircraft de-icing/anti-icing service providers, aircraft operators, aviation training organizations, and the authorized organization in the field of civil aviation.

1. Introduction

The Joint Stock Company “Aviation Administration of Kazakhstan” (hereinafter – AAK) has conducted an analysis of the amendments introduced to the SAE AS6286 *Training and Qualification Program for Deicing/Anti-Icing of Aircraft on the Ground* standard with regard to the requirements for the training and qualification of personnel involved in aircraft de-icing/anti-icing operations.

In the current edition of the SAE AS6286E standard, the approach to the classification and training of personnel involved in aircraft de-icing/anti-icing operations has been revised. In particular, the qualification titles for personnel involved in ground de-icing/anti-icing operations (DI-L Qualification) have been changed; new qualifications and training requirements for these qualifications have been introduced; and the training content for certain qualifications has been revised.

Under the new edition of the standard, the qualifications of personnel involved in ground aircraft de-icing/anti-icing operations are divided into operational qualifications (DI-L10–DI-L70) and supporting qualifications (associated DI-L80–DI-L140).

In the Republic of Kazakhstan, the training requirements for qualified personnel involved in aircraft ground de-icing/anti-icing operations are regulated by the *Rules for the De-Icing/Anti-Icing Protection of Aircraft on the Ground*, approved by Order No. 141 of the Acting Minister of Industry and Infrastructure Development of the Republic of Kazakhstan dated 7 March 2023 (hereinafter referred to as the **Rules 141**).

The requirements were developed in accordance with internationally recognized provisions of SAE AS6286. However, due to the lengthy process involved in introducing amendments to regulatory legal acts, the current Rules do not reflect the latest amendments to SAE AS6286E, adopted in June 2026 and entering into force in August 2026.

As a result, a discrepancy has arisen between the personnel qualification categories established by the Rules 141 and those specified in SAE AS6286E.

In view of these amendments to the standard, and pending the introduction of corresponding changes to the Rules 141, ambiguity may arise regarding the personnel

qualification categories issued by training centers or civil aviation organizations of the Republic of Kazakhstan and by foreign training centers. This may also result in discrepancies with the qualification requirements established by aircraft operators.

2. The purpose of this Bulletin is to establish an approach to the organization of training and assessment of the qualifications of personnel involved in aircraft de-icing/anti-icing operations during the transitional period associated with the incorporation of the amendments to SAE AS6286 into the national Rules.

3. Analysis of Changes to the SAE AS6286 Requirements.

3.1 Changes to the Structure of Personnel Qualifications and Training Requirements.

The current edition of SAE AS6286E revises the structure of qualifications for personnel involved in aircraft de-icing/anti-icing operations. At the same time, the main personnel functions established by the current Rules have generally been retained; however, the qualification designations for a number of functions have been revised, certain functions have been separated into standalone qualifications, and new functions have been introduced.

In particular, the new edition of the standard:

- introduces the function of removing contaminants from aircraft engines and propellers, designated as DI-L30;

- establishes the aircraft inspection function before and after de-icing/anti-icing operations as a separate qualification, DI-L50;

- establishes communication between the flight crew and ground personnel as a separate qualification, DI-L70;

- divides aircraft de-icing/anti-icing fluid quality control functions into laboratory control (DI-L80) and field control (DI-L90);

- establishes the function of conducting internal and external audits of de-icing/anti-icing processes as a separate qualification, DI-L110.

At the same time, the core functions, including operation of aircraft de-icing/anti-icing equipment, performance of aircraft de-icing/anti-icing

operations, supervision of de-icing/anti-icing equipment operators, coordination of the aircraft de-icing/anti-icing process, provision of training, management of the training program, as well as training of flight and cabin crew, have been retained in the current edition of the standard, with the content of these functions appropriately clarified.

Thus, the amendments to SAE AS6286 concerning personnel qualifications and training are primarily aimed at providing a more detailed delineation of personnel functions and responsibilities.

3.2 Comparison of Personnel Qualifications and Functions

The new edition of SAE AS6286E revises the structure of personnel functional qualifications, including changes to their designations, scope, and allocation of functions. At the same time, certain functions that were previously combined under a single qualification have been established as separate qualifications. **Comparison of the qualification designations, purpose, and functions under Editions D and E of the standard is provided in Appendix 1 to this Bulletin.**

3.3 Comparison of Functions and Training Content

The revised qualification structure introduced in SAE AS6286E is accompanied by a redistribution of functions and corresponding training content among individual qualifications. However, the introduction of a new qualification does not necessarily mean that new training topics have been introduced, as the relevant knowledge and skills may already have been included in previously applicable training programs. **Comparison of the functions, key changes, and corresponding training content under Editions D and E is provided in Appendix 2.**

3.4 Comparison of Topics and Elements of Theoretical Training

In the new edition of SAE AS6286E, certain theoretical training topics have been retained, clarified, or redistributed among different functional qualifications. To determine the need for updating the training programs, a comparison of the theoretical training content under Editions D and E was conducted. **Comparison of the topics and elements of theoretical training is provided in Appendix 3.**

3.5 Comparison of Topics and Elements of Practical Training

In SAE AS6286E, the requirements for practical training and competency assessment of personnel have been clarified, considering the functions performed by the personnel. To identify the changes in practical training, a comparison was conducted of the relevant topics and elements of practical training specified in Editions D and E. **Comparison of the topics and elements of practical training is provided in Appendix 4.**

4. Impact of the Changes on the Organization of Personnel Training

The revised structure of personnel qualifications in SAE AS6286E does not require fundamental changes to the main areas of training established by Rules No. 141. However, the more detailed delineation of functions requires that, when organizing training, consideration be given to the functions actually performed by a particular employee, and the corresponding qualification and scope of training be determined accordingly.

Where an employee performs multiple functions, the organization shall ensure that the employee obtains the qualifications corresponding to those functions by completing the relevant training. At the same time, topics common to several qualifications do not need to be completed repeatedly. For additional qualifications, it is sufficient to provide training covering the topics and subjects specific to those qualifications.

For example, if an employee qualified as an operator additionally performs functions related to the field quality control of aircraft de-icing/anti-icing fluids, the employee's training program shall include the relevant knowledge and practical skills specified for DI-L90.

At the same time, if a specialist obtains the DI-L20 qualification, the training under this qualification includes aircraft inspections before and after treatment, as well as communication procedures. Therefore, the specialist is not required to undergo additional training for the DI-L50 and DI-L70 qualifications to perform these functions. The DI-L50 and DI-L70 qualifications are required for personnel who perform only the functions specified under these qualifications and do not directly perform aircraft de-icing/anti-icing operations.

Thus, the fundamental principle for organizing personnel training is that the scope of training shall correspond to the functions actually performed by the personnel.

Due to changes in the structure and designations of qualifications in the current edition of SAE AS6286E, the designation of the same function may differ from that used in the previous edition of the standard. In addition, new functions have been assigned to certain qualifications in the current edition of SAE AS6286E. Therefore, when comparing personnel qualifications for training purposes, the content of the relevant function, rather than solely the numerical designation of the qualification, shall be taken into consideration.

5. Guidelines

Taking into account that the current Rules No. 141 are still based on the qualification system of SAE AS6286D, while SAE AS6286E has already revised the qualification structure, the following transitional procedure for the application of SAE AS6286E shall be followed until the relevant amendments are introduced into Rules No. 141. All aircraft de-icing/anti-icing service providers shall map the functions performed by their personnel against the new SAE AS6286E qualification structure and identify any competency gaps in order to determine the qualifications required for training.

For the purpose of updating training programs, the latest edition of SAE AS6286E shall be applied. Changes to the content and topics of training programs shall be taken into account as specified in *Appendices 2 and 3 to this Bulletin*. At the same time, training programs developed by training centers of the Republic of Kazakhstan and civil aviation organizations providing training to personnel involved in aircraft de-icing/anti-icing operations shall include a description of the personnel functions and a dual qualification designation system, with references to the Rules and the applicable edition of the standard, in accordance with the matrix provided in Appendix 1 to this Bulletin.

The training hours established by the Rules shall not be reduced and shall be supplemented by the subjects and topics specified in SAE AS6286E. If a qualification is not provided for in Rules No. 141 or in SAE AS6286D, this shall also be indicated in the heading of the relevant training program.

Existing qualifications obtained in accordance with Rules No. 141/SAE AS6286D shall remain valid. The entry into force of SAE AS6286E in itself shall not constitute grounds for repeating the full initial training. Accordingly, personnel who have previously completed training for the relevant qualification shall undergo recurrent training to the applicable extent. For new qualifications that were not previously established, initial training shall be provided to the full applicable extent.

When issuing certificates, training centers of the Republic of Kazakhstan or civil aviation organizations shall indicate the personnel function and qualification in accordance with Rules No. 141 (SAE AS6286D), followed by a slash (/) and the corresponding qualification under SAE AS6286E, with the name of the standard and its edition indicated in parentheses.

The same dual designation shall be used when issuing an order authorizing personnel to perform their duties independently.

For example:

Aircraft De-Icing/Anti-Icing Operator:
DI-L20 (Rules No. 141 / AS6286D) / DI-L20 (AS6286E);

Engine Contamination Removal Staff:
- (Rules No. 141 / AS6286D) / DI-L30 (AS6286E).

6. Recommendations:

The Aerodromes and Ground Handling Department of the JSC "Aviation Administration of Kazakhstan" recommends.

For Service Providers:

- familiarize personnel responsible for the development and updating of training programs, as well as personnel involved in aircraft de-icing/anti-icing operations, with this Bulletin;
- review the existing personnel training system for aircraft de-icing/anti-icing operations, taking into account the current edition of SAE AS6286E, identify the functions actually performed by personnel and, where necessary,

update the relevant training programs and internal documents;

- when arranging personnel training through external organizations, request and assess their training programs to ensure that they are up to date and comply with the requirements of Rules No. 141 and the current edition of SAE AS6286E.

For Aircraft operators:

- familiarize personnel involved in aircraft de-icing/anti-icing processes with this Bulletin, including personnel responsible for organizing and conducting training, developing and updating training programs, as well as conducting internal and external audits of aircraft de-icing/anti-icing processes;
- when arranging personnel training through external organizations, request and assess their training programs to ensure that they are up to date and comply with the requirements of Rules No. 141 and the current edition of SAE AS6286E;
- when conducting audits of aircraft de-icing/anti-icing service providers, take into account the provisions of this Bulletin with regard to mapping the personnel training categories established by Rules No. 141 against the corresponding functions and qualification categories specified in the current edition of SAE AS6286E.

For Aviation Training Organizations:

- familiarize personnel responsible for organizing and conducting training, as well as for developing and updating training programs, with this Bulletin;
- develop training programs taking into account the possibility of one employee performing multiple functions, while ensuring the required scope of theoretical and practical training and assessment of the relevant knowledge and skills;
- ensure that training and methodological materials are updated to reflect the amendments introduced to SAE AS6286 with regard to personnel functions, competencies, and training requirements.

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