

EASA Policy on the roles and responsibilities of personnel involved in aircraft line and base maintenance

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1 Introduction and objective

The provisions related to the functions and responsibilities of personnel involved in aircraft maintenance, contained in Regulation (EU) No 1321/2014, have frequently raised questions. A paper developed in December 2015: “EASA policy on Certificates of Release to Service for aircraft maintenance and associated responsibilities of maintenance organisations and CAMOs” did address some of the issues.

Questions on certifying staff and support staff emerged again recently from industry feedback, in particular as to how much this staff should be involved in the verification of maintenance. Besides, different amendments to the Regulation (EU) 1321/2014 were adopted since 2015. These 2 aspects led the Agency to issue this paper.

This paper intends to provide an updated status on the Agency views in respect of the roles and responsibilities of the personnel involved in aircraft maintenance. Hence, pending the review of the other chapters of the Dec. 2015 paper and although their intents remain valid, the chapters 5, 6, 7 and 8 of the December 2015 paper are considered to be superseded by this paper. The other chapters of the Dec. 2015 paper, as well as the topic of error-capturing methods (e.g. independent inspection) will be addressed in the future.



2 Scope and used terminology

The scope of this paper is to clarify the responsibilities of the personnel involved in aircraft maintenance carried out in a A-rated Part-145 organisation approved under Regulation (EU) No 1321/2014. For licencing purpose and better readability, it is assumed in this paper that the organisation/facility is located in the EU. However, similar principles apply to organisation/facility outside EU (ref. Appendix IV to Part-145), as well as to Part-CAO organisations, or to Part-145 organisations with B and C rating.

Point 145.A.50(a) (as amended by Reg. (EU) 2021/1963) states the following:

*“A certificate of release to service shall be issued by appropriately **authorised certifying staff** on behalf of the organisation when **that certifying staff** has **verified** that all the maintenance that was ordered has been properly carried out ...”*

In the rest of this document, the expression ‘**verification**’ or ‘**to verify**’ refers to the activity carried out by personnel authorised by the organisation to ensure that the ordered maintenance has been properly carried out before a certificate of release to service is issued.

As well, ‘**to the required standard**’ as used in this document refers to carrying out maintenance in accordance with:

- the instructions contained in the task cards;
- the applicable maintenance data;
- the applicable standard practices; and
- the procedures of the maintenance organisation and/or the operator, as appropriate.

The robustness of the maintenance activities by a maintenance organisation is ensured by the roles and responsibilities of personnel in such organisation. This paper will focus on certain personnel further described below, but other personnel are important in a maintenance organisation such as compliance monitoring auditor, planner etc.

- A **certifying staff** is a person with the appropriate aircraft-rated category C, B or L Part-66 licence who, in accordance with an authorisation delivered by the organisation, certify the maintenance that he/she verified or performed, with a certificate of release to service (CRS). The maintenance to be certified (and the individual (sub)tasks/steps composing that maintenance) are within the scope of his/her authorisation (which is based on his/her licence privileges as laid down in points 66.A.20(a)(2)/(a)(3)). Certifying staff also include category A or B2 task-trained licenced holders who can certify minor scheduled line maintenance and simple defect rectification that they perform themselves.

Important:

Certifying staff can only certify maintenance that is included in the scope of their authorisation!

- A **support staff** is a person with the appropriate aircraft-rated category B or L Part-66 licence who, in accordance with an authorisation delivered by the organisation, verify or perform maintenance during base maintenance activities. The maintenance that is verified is within the scope of his/her authorisation (itself based on his/her licence privileges as laid down in points 66.A.20(a)(2)/(a)(3)). The use of support staff with type-rated B licence is required during base maintenance of complex motor-powered aircraft (CMPA). For base maintenance of other types of aircraft, support staff is not required but may be used.

Important:

Support Staff can only verify maintenance that is included in the scope of their authorisation!

Note: The support and certifying staff authorisation may include limitations compared to the privileges of their licence, for example due to lack of experience with the relevant procedures of the maintenance organisation or recent experience with an aircraft type.

- Besides these certifying and support staff, other persons, with or without an appropriate licence, may carry out maintenance in an organisation when authorised by that organisation to sign off the tasks/steps that they have directly performed. Such person is referred to in the rest of this document as “**authorised person**”. All category B and L certifying staff and support staff, as well as personnel who carry out specialised tasks, are considered de facto also “authorised person” under their scope of authorisation.

Important:

Authorised persons can only sign-off tasks included in the scope of their authorisation!

Notes:

1. From GM 145.A.48:

SIGN-OFF

A ‘sign-off’ is a statement issued by the ‘authorised person’ which indicates that the task or group of tasks has been correctly performed. A ‘sign-off’ relates to one step in the maintenance process and is, therefore, different to a certificate of release to service.

2. There may be staff carrying out maintenance and not having received yet an authorisation to sign off, for example, a **trainee or a newcomer**. In this case, the task must be carried out under the direct supervision of an ‘authorised person’ who is authorised to, and will sign off the particular task. The staff supervising can be support staff or certifying staff or other staff authorised person, as established by the organisation.
3. A person may be authorised as “authorised person” to sign-off on aircraft type X, “certifying and/or support staff” on aircraft type Y, and “trainee” on aircraft type Z. The actual role may also be driven by the allocation of work in the organisation, i.e. a person can be carrying out maintenance and signing-off the tasks that he/she performed in a particular maintenance order and being support or certifying staff in another.

The maintenance organisation ‘**authorisation**’, as used above and in the rest of this document, should be according to a procedure described in the MOE and linked with the system that ensures the competence of the staff involved in maintenance (145.A.30(e)).

Note: A “sign off” authorisation doesn’t mean that the authorised person can sign-off all aircraft maintenance tasks. It means that he/she can sign-off tasks up to the authorised level, depending on the training and experience held. Furthermore, even if this person is qualified and able to carry out the task to the required standard, this does not mean that certifying staff and support staff are not needed. The presence of certifying staff and support staff is an additional safety barrier, as explained later

Furthermore, the authorisation implies that the organisation has verified compliance with all the applicable requirements, in particular:

- necessary expertise related to the job function, including relevant recent experience as applicable;
- licensing needs as applicable, in particular the authorisation of certifying and support staff cannot go beyond the privileges granted by the licence, as established in point 66.A.20;
- competence assessment of the personnel;
- initial and recurrent training programme, as applicable.

3 Functions and responsibilities of the personnel involved in maintenance

3.1 Maintenance certified by category C certifying staff

The following figure illustrates the main principles in this scenario.

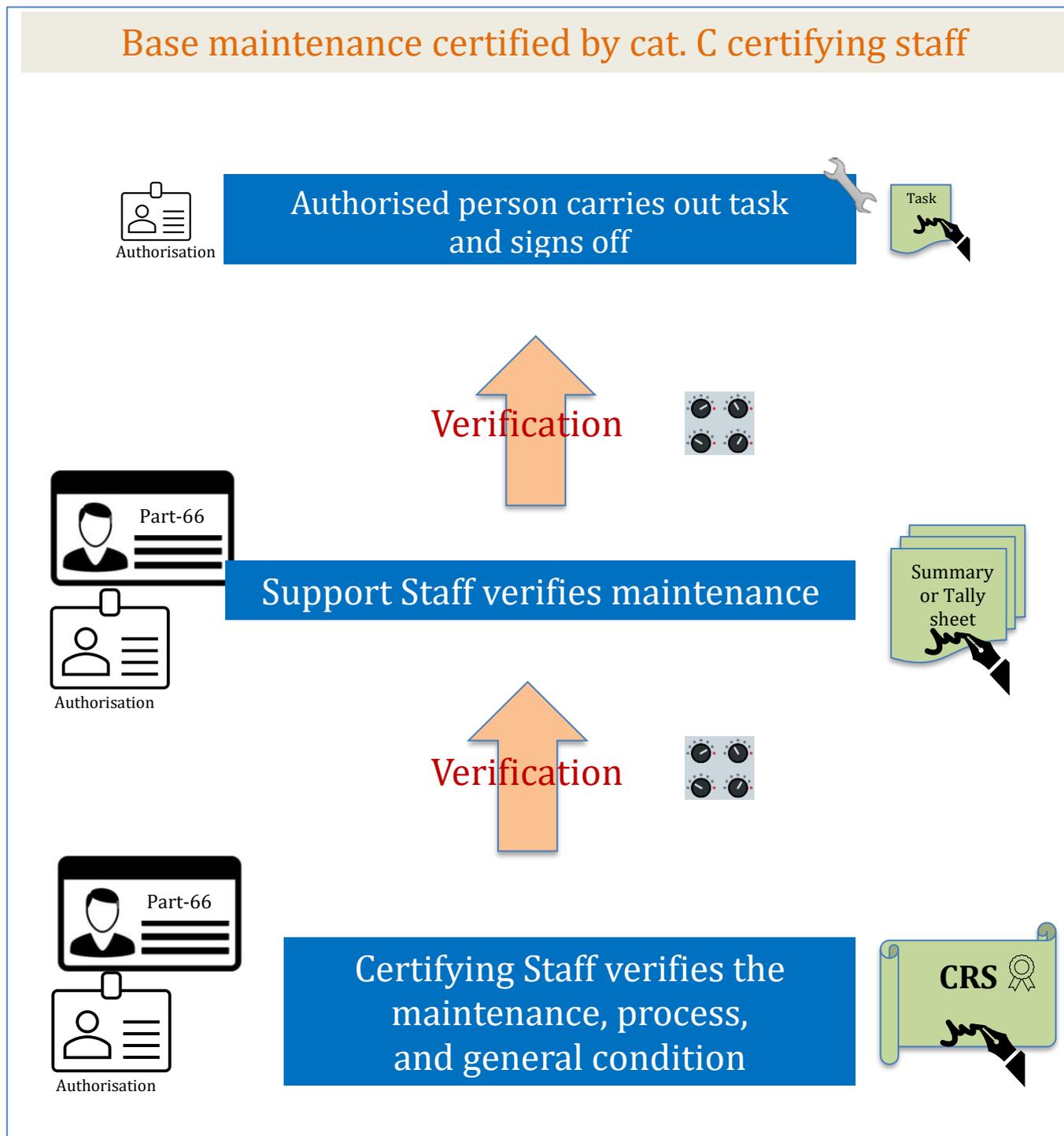


Figure 1

The figure 1 can be described as follows:

In accordance with his/her authorisation, the **authorised person** carries out a task to the required standard. If the task is performed by a staff not having yet an authorisation to sign off the task (e.g. trainee, newcomer), then it is subject to direct supervision by a staff with an authorisation to sign off. The authorised person that carried out (or supervised) the task, signs off the task or the steps after its completion.

The **support staff** verifies correct accomplishment and completion of ongoing maintenance, according to a certain *level of verification* (see chapter 4).

The support staff formalise the fact that he/she has verified the work, by signing for example a summary sheet or tally sheet for the verified maintenance. He/she informs the certifying staff of the progress of the work, and of any significant issue.

The **certifying staff** verifies the general setup, the progress, and that all maintenance ordered has been carried out or deferred according to the approved procedures (completion of the base maintenance package), as well as the general condition of the aircraft ensuring a final compliance verification (e.g. MOE procedures have been followed, authorised persons and support staff were involved as applicable in the performance of tasks, all maintenance ordered has been carried out or deferred, ensure there is no non-compliances which are known to endanger flight safety etc.). At the end of the base maintenance event, he/she issues the aircraft CRS in respect of the base maintenance carried out.

Even if the presence of the category C certifying staff in the hangar may not be comparable to that of the support staff (precisely because of the role played by the support staff), such cat. C certifying staff is expected to be directly involved in the evolution of the base maintenance event, monitoring its progress, and to visit the hangar regularly as well as when necessitated by issues encountered in the performance of the work (e.g. to evaluate a defect found during the maintenance activities).

3.2 Maintenance certified by category A/B/L certifying staff

Maintenance released by category B/L aircraft-rated certifying staff consists of line maintenance, as well as base maintenance of non-CMPA. Such maintenance can be carried-out by the certifying staff itself or by another 'authorised person'. Maintenance released by category A certifying staff is limited to line maintenance carried out by him(her)self.

In general in this case, the involvement of the category B/L certifying staff is higher than when the maintenance is released by a Category C certifying staff (see paragraph 3.1).

The following figure illustrates the main principles in the case where the B/L certifying staff release maintenance carried out by another 'authorised person'.

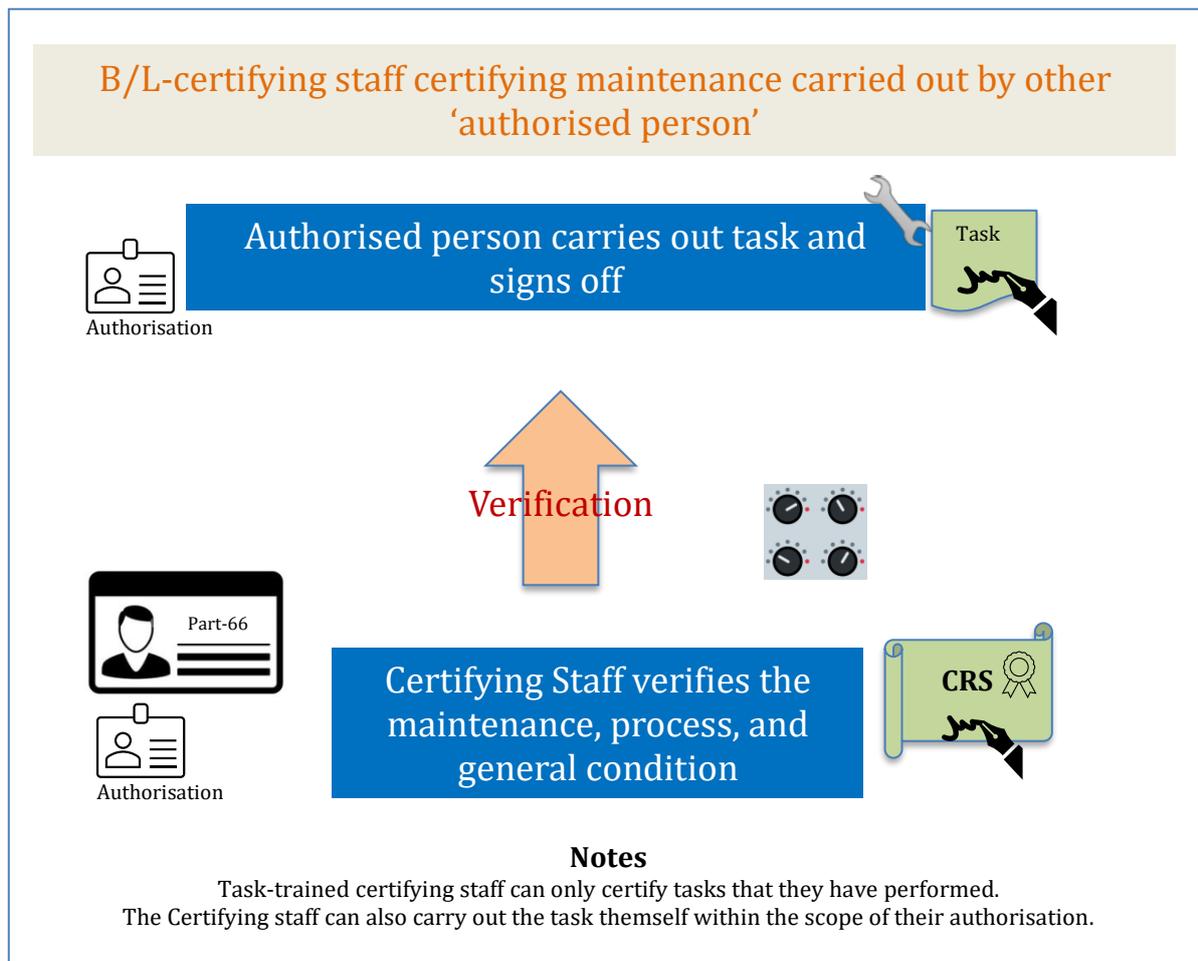


Figure 2

The figure 2 can be described as follows:

An 'authorised person' or a team of 'authorised persons' carry out the tasks in similar way than Figure 1. The certifying staff verifies the whole process. The certifying staff's role follows the same principles indicated in paragraph 3.1 for support staff, in addition to his/her certifying staff responsibilities. The verification by the certifying staff is subject to a *level of verification*, which is further explained in the chapter 4. This approach is not possible for task-trained certifying staff, i.e. for Cat. B2 certifying staff in case of minor scheduled line maintenance and simple defect rectification, and for Cat. A certifying staff. In this case, only one person performs the task¹, and issues the CRS at the end of the process.

¹ Or physically assisted by another person when the nature of the maintenance task requires it (e.g. lifting a heavy component).

4 Level of verification

4.1 Verification activities

The ‘verification’ is the activity exercised by a support staff or certifying staff while monitoring, assisting and checking maintenance work performed by the staff carrying out the maintenance. It is a necessary step before certification of any maintenance.

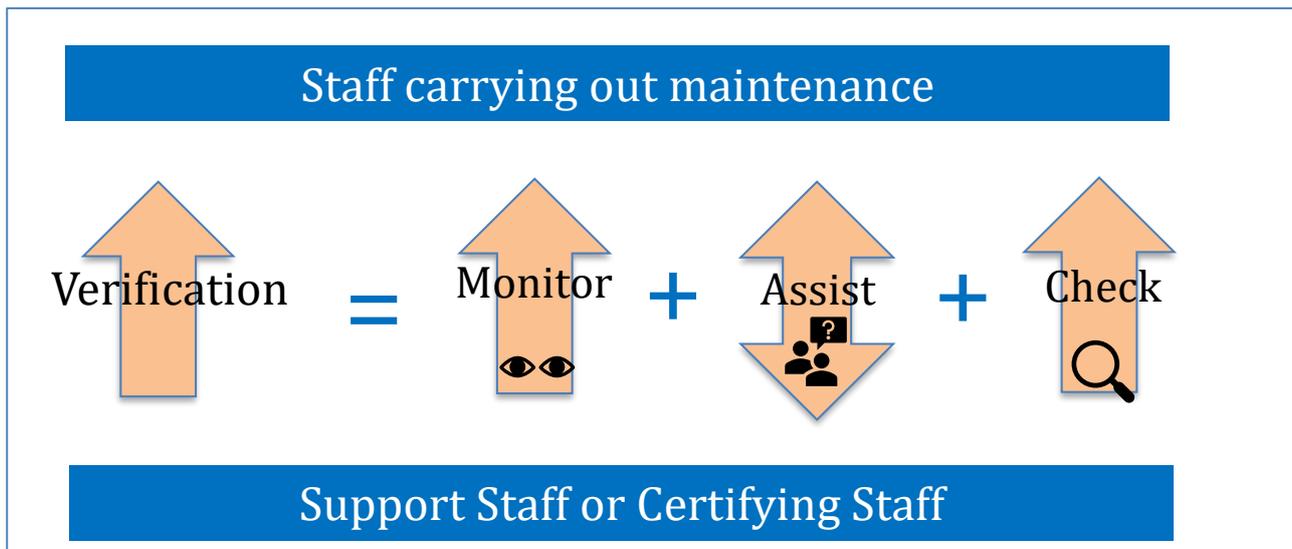


Figure 3

The figure 3 can be described as follows:

- **Monitor:** the support staff or certifying staff monitor the progress of the work of the team, enquiring about the status, unexpected defects or difficulties in a task accomplishment.
- **Assist:** The support staff or certifying staff ensure proper involvement by checking and asking questions to the maintenance staff. In parallel, the staff carrying out the maintenance can request help, directives or clarification to the support/certifying staff
- **Check:** this includes checking documentation and records (complete and accurate), the aircraft general condition, and that the maintenance tasks are completed to the required standard.

4.2 Determining the necessary level of verification

The organisation is responsible to allocate enough personnel to the maintenance event. In particular, the number of support staff allocated to base maintenance should take into account the necessary support or certifying activity that is expected for the work to be carried out. This “expected” level may need to be adapted during the actual accomplishment of the work due to actual circumstances. The level of verification refers to the degree of intensity exercised by a certifying staff or support staff while verifying maintenance.

These elements should be based on the actual experience gained by the organisation.

The following figure illustrates an example of general principles that can be used to determine the *level of verification*.

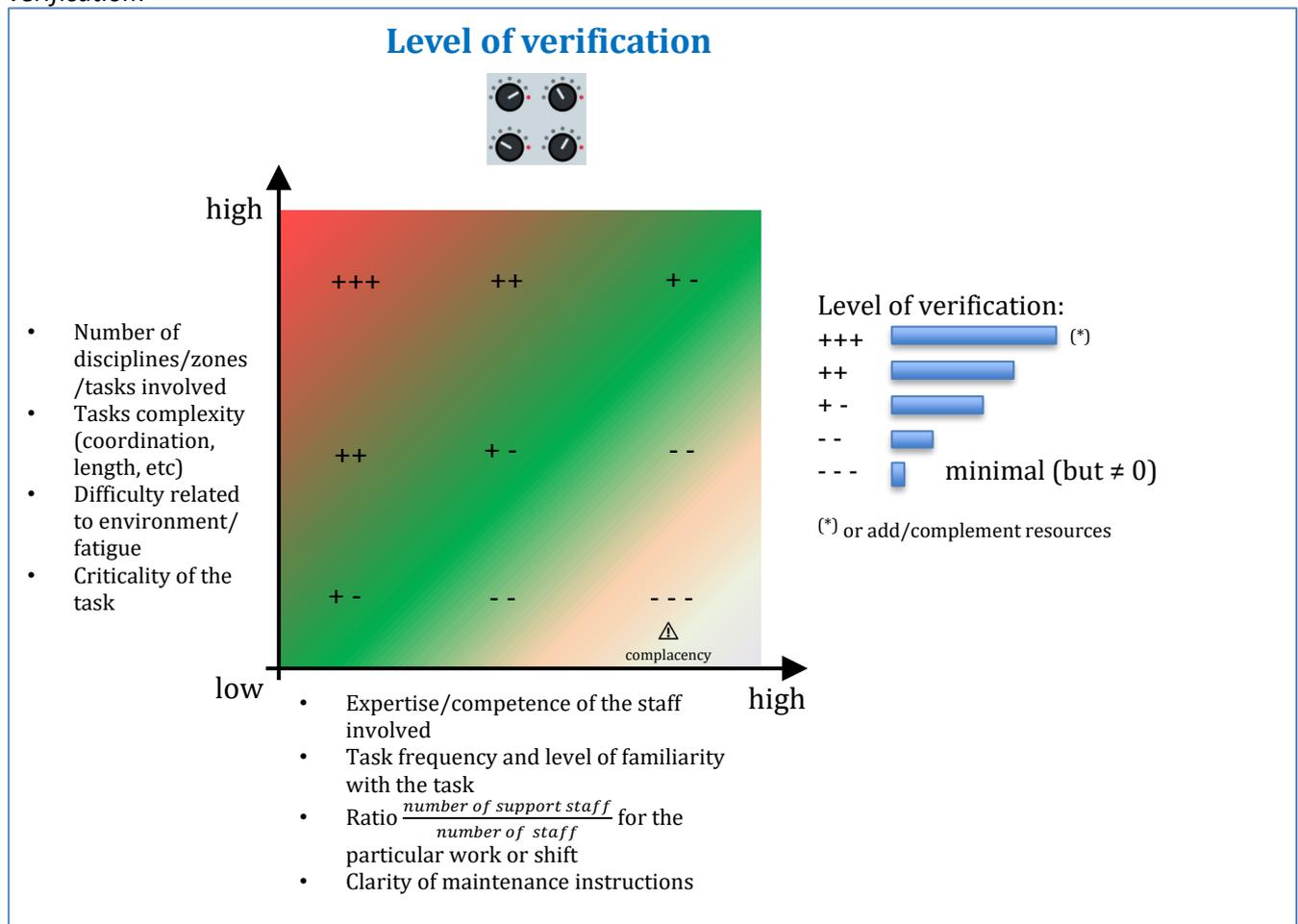


Figure 4

The figure 4 can be described as follows:

- There are some elements (horizontal axis) which drive to allow reducing the level of verification of the support staff or certifying staff, for example when the authorised person is very knowledgeable of the particular task being carried out.
- However there are elements (vertical axis) which drive to increase the level of verification of the support staff or certifying staff.
- All in all, the level of verification elements should be tuned (by the certifying staff or support staff, as applicable) considering various positive and negative inputs. For example, the ratio between number of support staff and involved staff may be reduced if the experience of the staff is high or if the complexity of activities is low. But this assessment may be compromised by the fatigue of the staff working for example away from their main base.

Important: The level of verification cannot be zero !

NOTE: The level of verification applied by the certifying/support staff is not something fixed. The evolution of the maintenance (e.g. unexpected difficulty) and/or external conditions (e.g. too hot working conditions) may require adjustments (increase workload, work on low complexity tasks). The level can also be adapted to a particular task or a particular situation (e.g. increase verification for a staff with signs of fatigue).

The level of verification applied by the certifying/support staff can be based on principles provided in the MOE, but, the certifying staff and/or support staff should have the last call to increase their level of verification for any reason (e.g. difficulty of a particular task, unexpected problems), if they consider that the situation requires so, to be fully satisfied that the maintenance has been done to the required standard and can be certified.

Important: the verification by certifying staff or supporting staff is not limited to paperwork and cannot be performed from a remote location