

## - Safety Assessments: Applicants and Certifier -

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When we were working as certifying officer in the “Divisão de Certificação de Produto Aeroespacial (CPA)” of the “Instituto de Fomento e Coordenação Industrial (IFI) of the Departamento de Ciência e Tecnologia Aeroespacial (DCTA)”, we had several opportunities to examine risk (safety) assessments held by applicants.

We were aware that this was a task that required a lot of patience. The objective of this MSC is exactly draw the attention of applicant analysts, who perform safety assessments, and certifiers analysts, who analyze these assessments, for the immense responsibility in these tasks.

First, the certifier analyst must know well the tool that the applicant analyst has used in his assessment. He should organize its analysis in order to thoroughly address each item of assessment. It is the tool of the “patience”.

Although it is rare, unfortunately there are applicants analysts who present safety assessments that do not correspond exactly to the system that claims to have evaluated. To detect this problem, the certifier analyst must know very well the tool that the applicant analyst has used and, again, be extremely patient.

The certifier analyst must have an inflexible behavior if he finds poorly done analyses. We always said that he had to have a behavior of a Tax Revenue Service, that is, what has to be refuted must be refuted.

To Analyze a safety assessment is different of analyzing a design solution, from the point of view of mission accomplishment.

One must keep in mind that is the safety of persons or combat resources (military aircraft) that is at stake.

One criterion that facilitates this analysis by the certifier analyst is to use one table with at least the columns shown in Figure 1. Incidentally, this

table formatting can be applied in many other analyses. It is simple, but effective.

Avaliação Item	Title	Acceptance		Comments
		Yes	No	

Fig. 1 – Tabela para análise de Avaliações de Segurança.

We cannot lose sight of the fact that safety assessments are reports that have numbered items. Then, in the first column is inserted the number of each item.

The second column refers to the title of each item.

In the column “Acceptance”, the certifier analyst would mark with an X the acceptance or not of the contents of that item.

In the last column, the comments would necessarily those relating to items not accepted. Sometimes an item is not accepted simply because it is unclear. Other times, however, the item is not accepted because the statement is not correct.

To not accept an item, the certifier analyst needs to be pretty sure of his decision because maybe he has to discuss the matter with the applicant analyst, who usually knows very well what he was doing. This is a very common and democratic discussion.

This happened to us several times, and often had to discuss with the applicant's analysts in the security area, hence the need the certifier analyst to know well what he will write in the column “Comments”, in the event that an item is not accepted.

When the applicant analyst is a high-level analyst and the certifier analysts dominates the subject, we may have a long and fruitful discussion between the two, as was the case of

an assessment presented by a Brazilian supplier.

But sometimes situations may arise which, in our opinion, could be classified as criminal, such as one occurred when we had the opportunity to discuss three reports on the safety assessments of three equipment from the same supplier.

The tool used by the applicant analyst was FMECA (Failure Mode And Effects Criticality Analysis).

Then we followed the above methodology. We employ approximately 16 hours to analyze the first report. In the end, the table presented three or four items not accepted. So far, so good.

The problem arose when we did the analysis of the second report. Although the report was relevant to other equipment (other nomenclature and other Part Number), with different functions of the first, the content of the report was identical to the first.

This report was refused and the analyst considered negligent or malicious.

But this was detected because we used this powerful tool named patience. But in general we have always to use two inseparable tools: "patience and knowledge". They allow us to have a nice sense of accomplishment.

We conclude here. We encourage applicants' analysts and the certifier analyst to maintain always the spirit of seriousness in these assessments and analyzes.

This time, we do not present references, since it was only a transmission of opinion formed with our experience in the subject.

See you