**Summary of MPIG / IMRBPB 'WG' discussion on CIP IND 2016-01 re Wear Damage Detection**

A mini WG was run for 1,5 hours after the discussion of the MPIG CIP in the IMRBPB meeting.

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IMRBPB : F Gasztowtt (EASA), J Cerra (FAA), F Lacerda (ANAC)

The WG concluded the following:

1) For over 30 years, measurements for the extent of wear have been identified by System WGs as 'FNC' even though this type of task does not satisfy the FNC definition.
2) The need to address wear between structural elements has only recently been emphasised in MSG-3 and there is thus no historical method to ensure common handling within the Industry. As a result a mix of FNC and SDI tasks has been issued.
3) The current SDI definition includes the use of NDT techniques and the use of equipment. The former may be either qualitative or quantitative. The latter is limited to tools that give a qualitative result.
4) Ideally, the same task type would be used to describe wear measurements irrespective of determination by Systems or Structure logic.
5) Current MSG-3 Structure logic does not provide for selection of FNC task (though there is no statement that this is not permitted).
6) Current MSG-3 Systems logic does allow the selection of SDI task (though in practice, with the exception of engine borescope tasks, this is rarely used.
7) A change to MSG-3 task definitions creates a very large impact on the whole TCH/Operator/Regulatory community and must only be proposed for very good reason.

The ideal solution would be to identify all tasks that require a dimensional measurement as SDIs. This task type can be selected by both Systems & Structure logic. The SDI definition would need to be modified by the inclusion of a quantitative tool (e.g. micrometer) in the equipment examples to clarify that 'equipment' is not limited to qualitative means. No change would be required to the FNC definition.

This ideal solution is not possible due to 30 years of identifying these tasks as FNC. No one would contemplate changing these to SDI. To legitimise this task selection it is necessary to extend the FNC definition to include the quantitative assessment of wear damage.

While changing the FNC definition appears to be appropriate, experience has not shown that this discrepancy has caused any difficulties. The value of correcting it and causing burden to the community is thus questioned.

Given that Systems WG will continue to select FNC for wear check measurements it is not desirable that they are given an alternative to also select SDI. This could lead to inconsistencies in the type of task common to all aircraft types. It is considered preferable to require all Systems logic wear measurement tasks to be FNC. To avoid the use of SDI by the Systems WG (for this purpose) it would not be appropriate to change the existing concept of 'equipment' to include a quantitative tool.

The WG conclude that it may be better not to change either of the definitions. The correction of the FNC definition (to include 'or degradation remains within specified limits') and the clarification of SDI (that NDT is for qualitative and quantitative assessment while equipment is for qualitative only) is considered as 'good to do' but not significant enough to justify the impact on the community.

The ‘problem’ remains that there is no consistency in the way wear measurements coming from Structure logic are described. Without the change to the SDI definition it is not clear that SDI shall not be used (unless NDT techniques are used for the dimensional assessment). While some TCHs will find a means to select a FNC, others will continue to select SDI. If the community wants a harmonised approach by all TCHs then it is proposed to include text in the Structures section of MSG-3 to require that any wear measurement task be described as a FNC.

Conclusion:

No change to either FNC or SDI definition

Consider adding a sentence similar to the following in MSG-3 Section 2-4-2.1

> If SSI analysis justifies the need for a wear measurement the consequent task shall be identified as a Functional Check unless it is achieved using NDT techniques.

MPIG withdraw the CIP.

Both MPIG and IMRBPB members are requested to examine the issue and determine whether a revised CIP should be developed to address the current lack of clarity in the identification of wear measurement tasks coming from SSI analysis.

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