**Title: pCR adding Evaluation and Conclusion Sections to the Report**

**Source: ATIS**

5.2 Evaluation of Change 3GPP Specification Template to Simplify Customizations

Advantages:

- OPs that customize Word files may be able to simplify this process if they update their tools.

Disadvantages:

- OPs currently use tools that depend on the existing template. Changing the template would require considerable effort for the MCC and OPs (maybe even OPs that do not themselves do customization).

For the current process it seems unlikely that the effort of making this change is worthwhile. However, if 3GPP introduces new templates or editing tools in future then we recommend that these are designed with a view on how they can easily accommodate the common customizations that OPs perform during transposition.

5.3 Evaluation of Collaboration between MCC and OPs to identify and fix Word files with technical problems

Advantages:

- Improved quality of Word files leading to fewer problems during transposition processing.

Disadvantages:

- OPs and MCC will need to put some effort in to sharing information on problem files and finding solutions.

- There may be some disagreement over what constitutes a technical problem (e.g., is a failure to produce a PDF using a particular tool a problem with the Word file, or with the tool?)

Collaboration already takes place between the MCC and OPs to improve the quality of Word files and resolve problems. We recommend that OPs that discover problems with particular files communicate this information to the MCC so the MCC can investigate and, if possible, resolve the problems.

5.4 Evaluation of MCC delivers OPs PDFs for specifications

Advantages:

* OPs that create PDFs for publication will have to do less document processing themselves
* Some parts of the process may be more optimally done in a more centralized way

Disadvantages:

* This will be a considerable increase in work performed by the MCC
* It may be hard to design a process that fulfils the differing needs of all OPs
* Some OPs do not use PDF versions of specifications for transposition, or are content with the existing process. These OPs may not want any costs associated with this change to be transferred to them.
* Once the process is established it may be hard to make subsequent changes which will inhibit innovation or optimization by individual OPs.

Any transfer of major responsibilities to the MCC would need a resourcing and funding model that was acceptable to all OPs. OPs would need to agree whether all OPs would use the same system, or whether OPs would opt-in to it.

Prior to making any changes, the technical feasibility of a centralized system that met all OP requirements would need to be established.

Considering the complexity of this change, this study does not recommend implementing it at this time. However, it may be relevant in two future situations:

1) If 3GPP introduces new templates or editing tools in future then we recommend that these are designed to simplify the production of transposition documents, e.g. by automating the process in a way that meets the requirements of different OPs.

2) If all or most OPs can agree to use PDF files generated from 3GPP specifications without customizations of the Word file then it may be sensible to optimize generating these PDFs by having them produced using a shared process.

5.5 Evaluation of Remove page numbers from table of contents in 3GPP specifications

Advantages:

* Significant time saving for MCC by not providing page numbers in ToC which are probably little used by most specification readers

Disadvantages:

* Users of the specs that depend on the ToC containing page numbers will be disadvantaged
* May cause problems for some OPs transposition tools if they depend on the current format of the ToC

If further evaluation shows that removing page numbers from the ToC are acceptable to the OPs and specification users, or that the disadvantages can be mitigated (e.g. by providing a Word macro to reinsert the page numbers), then this change may be justified due to the time saving for the MCC. It is recommended that the OPs and participants in 3GPP working groups are consulted before implementing any change.

# 6. Conclusions

The process of producing transpositions can be burdensome for OPs, particularly as the quantity and complexity of 3GPP specifications continues to increase. In this environment, OPs have adopted different approaches to producing transpositions (see clause 2). Some of these approaches can significantly reduce the amount of document processing OPs need to perform.

This study has reviewed transposition problem areas (see clause 3) and generated and evaluated ideas to improve the process (clause 4 and clause 5).

In summary, the main recommendations of this study are:

1) OPs may individually consider actions they can take within their own control to simplify transpositions (see clauses 4.2, 4.3, and 4.5).

2) OPs are encouraged to report technical problems found in 3GPP specification files to the MCC to enable these to be resolved where possible (see clause 4.4).

3) Document handling in the MCC may be improved by removing page numbers from the Table of Contents (ToC) of specifications (see clause 4.7). If the MCC wishes to implement this change we recommend that OPs and participants in 3GPP working groups are consulted first.

4) This study does not recommend any further changes to the transposition process between OPs and 3GPP at this time. However, if 3GPP introduces new templates or editing tools in future then we recommend that these are designed to easily accommodate the needs of different OPs to produce transposed specifications. Requirements from OPs should be collected early in the process and included as part of the plan for new tools.