PROJECT TITLE: End Pad Fatigue Analysis Methodology and Template Development

OBJECTIVE: To define the fatigue analysis methodology, implement it in an analysis template and prepare a user guide for the template.

DESCRIPTION: The student will be asked to be familiar with classical fatigue analysis methodology used at Bell Helicopter and perform typical analysis. The student will be asked to combine the classical fatigue analysis methodology with Finite Element Analysis results into a robust and fast analysis methodology for End Pads.

DELIVERABLES:

- Analysis Template
- User Guide

SCHEDULE: May to September

NO OF HOURS: Total hours: 500

SOFTWARE:

- Microsoft Excel
- Visual Basic for Application (VBA)
- MSC Nastran/Patran
- Ansys

PRE-REQUISITES:

- Undergraduate student in mechanical or aerospace engineering, 3rd-4th year student.
- Familiar with macros and functions creation in Excel using VBA.
- Familiar with finite element method
- Ability to write technical documentation.

BENEFITS:

- Efficiency (cost reduction).
- Enhance the efficiency of fatigue analysis.
- Insure consistency between the various projects.

PROJECT SUPERVISOR AT THE UNIVERSITY:

- TBD

BELL PROJECT SUPERVISOR:

- Alain Colle

REVISION: 0
PROJECT COST: Unknown
UNIVERSITY:

SUBMITTED BY: Pierre Drouin