



## Memorandum

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### A330-900 NEO - Fatigue MRM FAF loading for SMM5-9 Release Note

This release note summarizes the data delivered by ESCSAA on the 14<sup>th</sup> of August 2015 in the scope of the A330-900 NEO FAF analysis for **Fatigue Medium Range Mission (MRM)**.

#### **GFEM:**

The GFEM is a complete aircraft model but the stress results are relevant for and only for:

- ✓ **SMM5-9** (Ref. G53ME1526573)
- ✓ **FAF parts**, consisting of:
  - S13
  - S14
  - S14A
  - S15A (From [C53.2 skin – C53.3 frame] to C54)
  - S16
  - S17
  - S18
  - S19 (until C91-)

The GFEM SMM5-9 has been stored in GISEH environment, in the German server <http://caeapp-portal.de.eu.airbus.corp/sgd/>, in the following main directory:

[/projects/ST\\_A330NEO\\_AIRBUS\\_FAF\\_FEM/archive/d150731/issy\\_upd/gfem](#)

**Target load cases from Flight Physic:**

The Target load cases files to achieve the loading have been delivered by Flight Physic on the 8<sup>th</sup> of May 2015. An update for some cases has been delivered on the 15<sup>th</sup> of June 2015.

The loads files have been stored on the GISEH environment, in the German server <http://caeapp-portal.de.eu.airbus.corp/sgd/>, under the following directories:

Directory	Description
<a href="#">/projects/ST_A330NEO_AIRBUS_FAF_FEM/LOADS_FlightPhysic/TARGET/FATIGUE/A330-900/D150508_MRM</a>	Fatigue loads
<a href="#">/projects/ST_A330NEO_AIRBUS_FAF_FEM/LOADS_FlightPhysic/TARGET/FATIGUE/A330-900/d150615_MRM_FRA-FYF</a>	Updates of the load cases belonging to the family: <ul style="list-style-type: none"><li>- FRA</li><li>- FYF</li></ul>

**Note:**

Three of the load cases have all values equal to 0. An investigation is carrying out in Flight Physic to understand those cases. The cases are:

FLY0LE     => G944L010.FFLY1M39.CFLYM39001  
FLZ0LW     => G944L010.FFLZ1M39.CFLZM39001  
FRO0MH     => G944L010.FFRO1M10.CFROM10001

Those cases should not be taken into account in the Fatigue analysis.

**ULC:**

The Unit Load Cases, ULC, used to load the GFEM SMM5-9 have been stored in GISEH environment, in the German server <http://caeapp-portal.de.eu.airbus.corp/sgd/>, in the following main directory:

[/projects/ST\\_A330NEO\\_AIRBUS\\_FAF\\_FEM/archive/d150731/loads](#)

ULC file:

A330-900\_NEO\_ULC\_d150731\_v1.0.bdf

**Stress Results:**

The Stress Results of the loaded GFEM SMM5-9 have been stored in GISEH environment, in the German server <http://caeapp-portal.de.eu.airbus.corp/sgd/>, in the following main directory:

[/projects/ST\\_A330NEO\\_AIRBUS\\_FAF\\_FEM/archive/d150731/issy\\_upd/results](#)

The results have been created using Nastran 2013.1



### **LCDEF for Fatigue Combined Load Cases:**

A LCDEF containing the factor to create the Fatigue CLC have been stored in GISEH environment, in the German server <http://caeapp-portal.de.eu.airbus.corp/sgd/>, in the following main directory:

[/projects/ST\\_A330NEO\\_AIRBUS\\_FAF\\_FEM/archive/d150814/loads](#)

The LCDEF file name is:

**LCDEFFAT.SDB**

This LCDEF contains:

- ✓ One pure Pressure Case: DP = 593mbar => CLC 1
- ✓ Fatigue Cases: 1082 cases => CLC 2 – 1083

This LCDEF has been created using ISSY productive version 13102.

### **Note:**

3 Load Cases should not be taken into account (see also note in § Target load cases from Flight Physic):

FLY0LE	=>	G944L010.FFLY1M39.CFLYM39001	=>	CLC 162
FLZ0LW	=>	G944L010.FFLZ1M39.CFLZM39001	=>	CLC 180
FRO0MH	=>	G944L010.FFRO1M10.CFROM10001	=>	CLC 558

The list of CLC is stored with the LCDEF:

LoadCases\_Description\_Fatigue\_A330-900\_NEO\_FAF-MRM\_SMM5-9\_v1.0.xlsx

### **Documentation:**

Technical reports for the GFEM, ULC and CLC shall be written.