IMPACT FACTORS OF ULTRA LONG RANGE FLIGHTS ON CABIN CREW AND PASSENGERS

“Pushing the plane – pushing the people”

by

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Abstract

Long distance flight is an entrenched transportation mode that has brought with it a range of issues and impacts on the human cabin occupants. Development of ultra long range aircraft allows a single airline flight to last more than 16 hours in flight time which will have added impact on cabin crew and passengers.

This study was conducted to analyse the varied and diverse issues that ultra long range flights present in relation to the cabin and its occupants. Research included two surveys, one survey to international airlines from around the world and one survey to New Zealand based cabin crew who operate on international flights. Both surveys analysed current long range flight impacts and allowed respondents to identify new ultra long range flight issues.

The survey to organisations was responded to by seven airlines with three of the respondents currently operating ultra long range flights. The seven respondents rated operational issues as areas to be addressed including cabin crew issues related to duties, training and in-flight rest. Passenger related areas were mainly in relation to customer comfort.

The cabin crew survey had 119 respondents with a range of international cabin crew experience up to 36 years and averaging 5.7 long range flights per month. The respondents rated their cabin safety role as extremely important but did not believe their employers rated their safety role as highly. Respondents rated fatigue, sleep and dehydration as the main health impacts from long haul flights and 97.3% believed these health impacts will increase with ultra long range flight. In regard to rest and rest facilities 62% of respondents believed the current rest periods provided were inadequate and 70.7% believed the current rest facilities were inadequate. There was found to be a strong statistical relationship between rest adequacy and rest facilities adequacy. In relation to ultra long range flight respondents rated in-flight rest facilities as the foremost item to address for cabin crew and cabin air quality as the foremost item to address for passengers.

In general the survey of cabin crew identified the cabin environment, fatigue and lack of management emphasis on cabin crew as areas to be addressed for ultra long range flight. For passengers the cabin environment, facilities, and seating issues need addressing for ultra long range flight.
Further analysis based on the survey results found that ultra long range flight research has focussed on aircraft performance, engine reliability and the impacts of extended flight time on flight crew. Study on the impact of ultra long range flight on cabin crew and passengers are limited and lack the depth of research given to flight crew. This study has identified that aircraft manufacturers and airline operators need to research and address a range of issues related to the cabin, in particular impacts related to cabin crew and passengers. Aviation regulators need to address many areas to improve regulations related to cabin crew and passenger health and safety. These areas need to be researched and addressed to ensure the impacts of ultra long range flight are reduced.
# Table of Contents

Abstract ............................................................................................................. ii  
Table of Contents ............................................................................................... iv  
List of tables ....................................................................................................... vi  
List of figures ...................................................................................................... vii  
Acknowledgments ............................................................................................. viii  
Glossary ............................................................................................................. ix  

Chapter 1  Introduction ....................................................................................... 1  
1.1  Background ............................................................................................... 1  
1.2  Ultra Long Range flight ........................................................................... 1  
1.3  ULR Research ......................................................................................... 3  
1.4  Organisation of this Thesis ...................................................................... 5  

Chapter 2  Literature Search ............................................................................. 6  

Chapter 3  Ultra Long Range flight .................................................................. 8  
3.1  What is ULR flight? ................................................................................ 8  
3.2  Aircraft development ............................................................................. 8  
3.3  ULR aircraft .......................................................................................... 9  
3.4  ULR flight routes .................................................................................. 11  
3.5  When will flights begin? ....................................................................... 14  
3.6  Chapter Summary .................................................................................. 15  
3.7  Research requirement ............................................................................ 16  

Chapter 4  Survey to organisations ................................................................. 17  
4.1  Method ................................................................................................... 17  
4.2  Results ................................................................................................... 19  

Chapter 5  Survey to cabin crew ................................................................. 23  
5.1  Method ................................................................................................... 23  
5.2  Results ................................................................................................... 25  

Chapter 6  Analysis and Discussion ............................................................... 37  
6.1  ETOPS and LROPS .............................................................................. 37  
6.2  Diversions ............................................................................................. 45  
6.3  Cabin Crew ............................................................................................ 59  
6.4  Cabin Crew health and safety ............................................................... 68  
6.5  Cabin Environment ............................................................................... 80  
6.6  Passengers – Customers or cargo? ...................................................... 99  
6.7  Chapter Summary ............................................................................... 108  

Chapter 7  Findings and Recommendations .............................................. 109  
7.1  Findings ............................................................................................... 109  
7.2  Recommendations .............................................................................. 112
APPENDIX 1
Schematic view of cabin impacts ................................................................. 115

APPENDIX 2
Aircraft data .................................................................................................. 116

APPENDIX 3
Survey to organisations .................................................................................. 117

APPENDIX 4
Survey to cabin crew ..................................................................................... 121

APPENDIX 5
FAA ETOPS Regulations before and after proposed ETOPS rule changes .... 128

APPENDIX 6
FAA Polar routes regulatory requirements ...................................................... 129

Bibliography .................................................................................................... 130
<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Ultra Long Range Capable Aircraft Statistics</td>
<td>10</td>
</tr>
<tr>
<td>Table 2</td>
<td>Polar Route Cost Savings</td>
<td>13</td>
</tr>
<tr>
<td>Table 3</td>
<td>Singapore Airlines ULR Departure Times</td>
<td>15</td>
</tr>
<tr>
<td>Table 4</td>
<td>ULR Flight - Summary and Individual Ranking</td>
<td>19</td>
</tr>
<tr>
<td>Table 5</td>
<td>Cabin Crew ULR Flight Areas to Address - Summary and Individual Ranking</td>
<td>20</td>
</tr>
<tr>
<td>Table 6</td>
<td>Passenger ULR Flight Areas to Address - Summary and Individual Ranking</td>
<td>20</td>
</tr>
<tr>
<td>Table 7</td>
<td>Analysis of in-flight rest adequacy and the number of years experience as international cabin crew</td>
<td>30</td>
</tr>
<tr>
<td>Table 8</td>
<td>Analysis of in-flight rest adequacy and the average number of flights per month as international cabin crew</td>
<td>31</td>
</tr>
<tr>
<td>Table 9</td>
<td>Analysis of in-flight rest facilities adequacy and in-flight rest adequacy</td>
<td>32</td>
</tr>
<tr>
<td>Table 10</td>
<td>Boeing 777 Crew Rest Facilities</td>
<td>76</td>
</tr>
<tr>
<td>Table 11</td>
<td>David Hiles Survey of Airline Seat Pitch</td>
<td>97</td>
</tr>
<tr>
<td>Table 12</td>
<td>Evening Standard Airline Seat Survey</td>
<td>98</td>
</tr>
<tr>
<td>Number</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Figure 1</td>
<td>Number of years international cabin crew experience of respondents</td>
<td>26</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Importance respondent's Airline places on Cabin Crew safety role</td>
<td>27</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Improvement in Crew Resource Management compared by flight crew</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>involvement in training</td>
<td></td>
</tr>
<tr>
<td>Figure 4</td>
<td>In-flight rest adequacy compared by the number of years experience as</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>international cabin crew</td>
<td></td>
</tr>
<tr>
<td>Figure 5</td>
<td>In-flight rest adequacy compared by the average number of flights per</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>month as international cabin crew</td>
<td></td>
</tr>
<tr>
<td>Figure 6</td>
<td>Comparison of cabin crew in-flight rest adequacy and cabin rest facility adequacy</td>
<td>31</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Importance of specific ULR issues to be addressed compared by number</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>of years experience as international cabin crew</td>
<td></td>
</tr>
<tr>
<td>Figure 8</td>
<td>Structure of a Fatigue Risk Management System</td>
<td>77</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Changes in Partial Pressure of Oxygen as altitude increases</td>
<td>84</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Comparison of the quantity of aircraft cabin fresh air supply from various studies</td>
<td>89</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Comparison of findings on aircraft cabin Relative Humidity levels</td>
<td>91</td>
</tr>
</tbody>
</table>
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Glossary

ACI – Airports Council International. An international association of airport operators.

Airbus – Airbus Industries. European airliner manufacturer.

Air operator – An organisation certificated and approved by an aviation regulatory authority to conduct air transport or commercial transport operations e.g. an airline.

ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers Inc.


Cabin crew – Persons assigned by an air operator to a safety role in the cabin area of an aircraft. Also known as Flight Attendants or Cabin Attendants.

cfm – cubic feet per minute.

Circadian rhythm – The internal body biological clock that regulates human physiological functions according to the time of day through external cues and is reset every 24-25 hours.

CO – Carbon Monoxide. Carbon monoxide is an odourless, colourless and toxic gas.

CO² - Carbon Dioxide. Carbon dioxide is a colourless odourless gas.


DVT – Deep Vein Thrombosis. The formation of a blood clot within a vein.

EASA – European Aviation Safety Agency. An agency of the European Community tasked to further develop the work that the JAA performs in regard to setting aviation safety standards and regulations.

ETOPS - Extended Twin Operations Performance Standards. Regulatory aircraft operational performance requirements for twin engine airliners that operate further than 60 minutes from a suitable diversion airport.

FAA - The United States Federal Aviation Authority.

FARs – The United States Federal Aviation Regulations.

Flight crew – Persons assigned by an air operator to operate an aircraft. Includes Pilots and Flight Engineers.

FRMS - Fatigue Risk Management System. An integrated safety management system designed to ensure crew alertness and performance is not impaired due to fatigue.


IATA – International Air Transport Association. An international organisation whose represents member airlines and air operators.
ICAO – International Civil Aviation Organisation. The specialized agency of the United Nations whose mandate is to ensure the safe, efficient and orderly evolution of international civil aviation. ICAO co-ordinates and establishes safety and technical standards for international civil aviation regulations with contracting states through establishment of standards and recommended practices.

IFALPA – International federation of airline pilot associations. The international organisation representing airline pilots.

JAA - Joint Aviation Authorities. Associated body of European civil aviation authorities which aims to set common safety standards and regulations.

JAR - Joint Aviation Regulations. Aviation regulations established by the JAA.

Long Range Flights – Aircraft flights of 10 to 16 hours in duration.

LROPS - Long Range Operations Performance Standards. Proposed new regulatory aircraft operational performance requirements for twin, triple and quad engine airliners that operate more than 180 minutes from a suitable airport.

MEL – Minimum equipment list. A list of equipment that must be installed and operable for the aircraft to be considered airworthy to operate.

nm - Nautical mile. A nautical mile is 1,852 metres, or 1.852 kilometres. In the English measurement system, a nautical mile is 1.1508 miles, or 6,076 feet.

NIOSH – National Institute for Occupational Safety and Health (United States). The main US federal agency responsible for conducting research into occupational safety and health matters.

NOTAM – Notice to airmen. Publication to inform pilots of new or changed aeronautical facilities, services, procedures, or hazards, temporary or permanent.

NPRM – Notice of Proposed Rule Making. An aviation regulator document detailing proposed changes to a rule or regulation which is published for public comment on the proposal.


O³ - Ozone gas. Ozone is a pale blue gas irritating to the nose and throat.

ppm – Parts per million.

Relative Humidity – The amount of water vapour in the air expressed as a percentage of the maximum water vapour that air at that temperature can hold.

SARPS - ICAO prescribed Standards and Recommended Practices. A Standard is required to be complied with by ICAO member states. A Recommended Practice is not mandatory for ICAO member states but they should endeavour to comply with it.

Seat Pitch - The distance from the back of an aircraft seat to the same position on an aircraft seat directly behind.

ULR - Ultra Long Range Flights. Aircraft flights of greater than 16 hours in duration.