Backgrounder 5A January 2010

ENVIRONMENTALLY- FRIENDLY OPERATIONS

The effects of climate change have been a great concern to many in recent years. The challenge for the aviation industry is to reduce its greenhouse gas emissions while improving the efficiency of its operations. Presently, the industry is responsible for two per cent of global CO2 emissions and is projected to increase to three per cent in 2050. This works out to be just 12 per cent of CO2 emissions from all transport sources, which contributes to 74 per cent of emissions.

Singapore Airlines employs the best environmental practices in all areas of its business. It pursues policies designed to conserve and recycle, moving away from processes or activities that are harmful to the environment.

In accordance with ISO 14001 standards, the best environmental practices, open communications on environmental issues, full regulatory compliance, and an environmental action plan are in place for the Singapore Airlines Group. An Environmental Management System (EMS) has also been adopted, further strengthening Singapore Airlines' commitment to sound environmental practice in all management functions.

Environmental Management System

- To minimise the impact of Singapore Airlines' products, services and processes on the environment, the Singapore Airlines Group has implemented a comprehensive EMS since 1996.

- To date, Singapore Airlines' Engineering Division, Flight Operations Division and the Singapore Airlines Engineering Company, and Singapore Flying College (a wholly-owned subsidiary of Singapore Airlines Limited) have been awarded ISO 14001:2004 Certification.

Cleaner, More Efficient Aircraft

- Singapore Airlines maintains one of the youngest aircraft fleets in the industry. The average age of Singapore Airlines' passenger fleet is six years four months (as at 1 Jan 2010).

- Singapore Airlines leads the industry in its efforts to reduce noise pollution and air emissions.

- All aircraft in Singapore Airlines' fleet fully meet ICAO Chapter 3 standards for noise or US Federal Aviation Regulation Stage 3 certification. In addition, all Singapore Airlines aircraft also meet the more stringent Chapter 4 Standard, which will apply to all new aircraft produced from 2006. Chapter 4 is effectively one third (10 EPNdB) quieter than Chapter 3 Standard.

- A fuel efficiency programme contributes towards cost reduction and produces lower emissions. This include:-

  - Flight operation procedures that minimise fuel use without compromising safety;

  - Adjusting fuel uplift basing on Zero-Fuel Weight;

  - Maintenance programs for both airframes and engines that ensure operational efficiency and enhanced fuel efficiency.

  - Route planning procedures that ensure that Singapore Airlines planes fly the most fuel-efficient routes possible.

  - Airline operations (such as use of lighter weight crockery, galley service equipment and cargo containers; and

  - Flight Operations active participation in international arena on route restructuring.

  The fuel saving initiatives achieved a reduction in fuel consumption of 58.6 million AG of fuel a year. The impact on the environment is reduced emissions of 559,000 tonnes of carbon dioxide.

Efficient Use of Resources and Waste Reduction

- Singapore Airlines' environmental action plan includes an energy conservation program embracing green building designs and introducing energy conservation measures to reduce energy usage. Continuous efforts have been channelled towards optimization of building services equipment and introducing new energy efficient devices such as energy saving lightings with reflectors, motion sensors to activate toilet lightings, special light dimming devices and timer switches to turn off lighting during off-peak periods.

- Extensive recycling programmes are in place for substances like waste cooking oil, carton boxes, used paper, aluminium cans, glass bottles and scrap materials. thus reducing haulage and disposal costs.

- Waste treatment plants process chemical wastes generated from component cleaning and degreasing. All waste water is monitored before discharge.

- Water conservation is a priority across the Singapore Airlines Group's operations. Water saving devices, such as flow restrictors and self-closing taps, are widely used.

- Singapore Airlines Engineering Company uses a non-atomising process for its paint stripping operations, reducing the levels of volatile organic compounds and air pollutants. Cleaning processes adhere to environmental best practices to minimise the release of volatile compounds.

- Annual reports, staff newsletters, inflight safety cards, as well as brochures and promotional material, are printed on recycled paper wherever possible.

Environmental Planning

- Environmental policies form a core component of the future planning for the Airline. As Singapore Airlines' base at Singapore Changi Airport expands, considerable investment is going into creating a clean, energy-efficient environment.

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