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for information

Report to the Advisory Council on the Environment
New Airport Master Plan - EIA Update
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1. Introduction

The New Airport Master Plan - Environmental Impact Assessment (NAMP-EIA) was completed in December 1991. A supplement to the NAMP-EIA was completed in November 1992. Both documents contained a range of recommended mitigation measures to be implemented by the Airport Authority (then Provisional Airport Authority) and Government for both the construction and operational phases of the new airport project.

The EIA process continued through both the detailed design (1993 - 1996) and construction (1993 - ongoing) phases of the project. Throughout both phases, the Authority co-ordinated closely with the Environmental Protection Department (EPD) and the Agriculture and Fisheries Department (AFD) to ensure the implementation of the NAMP-EIA mitigation measures.

A key commitment of the NAMP-EIA was for the Authority to complete an update of this EIA prior to airport opening. The purpose of this update was to assess the status of recommended mitigation measures and to provide updated findings and conclusions where necessary. This process was completed with Government in early 1998 and copies are provided to members as an attachment to this paper.

The EIA Update is not an EIA. Rather it is a document that accounts for all environmentally significant modifications to the New Airport Master Plan, both physical and operational, and which have been either implemented or are currently envisioned, by the Authority. Additionally, the operational phase environmental monitoring and audit programme will be further refined and modified as experience is gained during the early period of operations.

2. Construction Works

Throughout the construction phase, air, noise and water monitoring was carried out with the results reported to EPD on a monthly basis. The air monitoring programme conducted at Tung Chung, Sha Chau and Sha Lo Wan experienced a very limited number of exceedences over the five year monitoring programme. Favourable prevailing winds, as well as on-site mitigation measures helped to reduce dust impacts on these sensitive receptors. Dust levels were well within NAMP-EIA projections.

Noise impacts were also monitored for approximately five years. Results from the collected noise data indicate that construction noise was effectively mitigated and that noise levels were very close to NAMP-EIA projected levels. Monitoring logs indicate that for the few exceedences that were recorded during the early phases of construction, noise sources other than construction activities, such as Chinese opera performances, loud hailers from boats, insects and boisterous restaurant patrons, were the most likely causes.

Water monitoring was carried out continuously during construction with some 45 sample stations involved during the programme's peak. The programme resulted in many thousands of samples being taken over a large geographic area. A small percentage of samples were reported as exceedences although no exceedence was found to be directly attributable to marine works activities. A major difficulty encountered was that of determining whether each recorded exceedence was the direct result of airport marine works activities, rather than a result of highly variable, seasonal and localised fluctuations in water quality.

3. Flushing of Southern Sea Channel

The new airport is separated from the North Lantau Coastline by a sea channel called the "Southern Sea Channel". Throughout the planning and design of the sea channel, great efforts have been made to reduce polluting discharges to the channel and to ensure its design would allow an adequate level of flushing in order to maintain a high level of water quality. To confirm the design assumptions, detailed field studies were undertaken upon completion of the channel in 1996 and 1997. The results confirmed that:

- flushing design parameters were met or exceeded.
- net deposition of sediments was not occurring.
- the channel was, in fact, self-cleansing.

4. Operational Noise Contours

In the NAMP-EIA and its Supplement, noise contours were produced for the year 2000 and 2030 to represent the potential noise impacts of the initial and final phase, of the new dual runway airport. At that time, it was assumed that both runways would be used for independent, simultaneous, arrivals and departures (i.e. the airport would operate in the integrated mode). Civil Aviation Department now envisions that, in order to operate the airport safely, there is a need for a transitional period to the integrated mode of operation in order to allow time for air traffic controllers to familiarise themselves with dual runway operations. As a result, when the second runway becomes operational later this year the airport will be operated in a segregated mode, with the southern runway dedicated for departures and the northern runway for arrivals. As the date for transition from segregated to integrated mode is yet to be determined, it is assumed for planning purposes that in the year 2000 the airport will still be operating in segregated mode and that the transition to integrated mode will be completed before 2005. Operations in the integrated mode will then continue for the life of the facility.

The NAMP-EIA and its supplement assumed that by 2030 the dual runway system would approach Design Capacity and this was therefore considered to be representative of the final phase of operational noise impacts. In order to clarify this modelling scenario, the updated contours generated using the Design Capacity operating characteristics are now referred to as Design Capacity Contours.

Based upon all of these various factors, revised contours were generated for the years 2000, 2005 and operational Design Capacity. While the shape of these various noise contours have changed slightly as the result of revised flight tracks and operational modes, there is an overall reduction in the number of noise sensitive receivers within the design year 25 NEF contour, when compared with the NAMP-EIA 2030 contour. The new design year 25 NEF contour will now encroach into Tai Lam Chung. Although EPD is of the view this encroachment could be reduced or avoided by shifting flights from the northern to the southern runway, the resulting adverse impacts on operating safety and capacity as well as increased impacts on North Lantau, are not acceptable to CAD.

To monitor operational noise impacts, the CAD has installed a flight track and noise monitoring system which monitors both the flight path of individual aircraft as well as noise levels at a number of noise sensitive receivers. The CAD and AA will work together closely on responding to any noise complaints from those living near the airport.

In addition, special measures will be taken jointly by the Government and the AA in regard to the villagers of Sha Lo Wan on North Lantau, which is the only settled community living within either the Year 2000 or design year 25 NEF contours. The Government has decided that it is not practicable to seek forcibly to relocate all the 100 plus noise sensitive receivers involved as recommended in the NAMP EIA. Instead, owners of all domestic structures in the village will be compensated for the cost of noise insulation measures. Further construction of new village houses within the design year 25 NEF contour will continue to be prohibited.

5. Operational Phase Environmental Management

The AA recognises the importance of maintaining a responsible environmental management programme throughout the operational life of the airport. As we enter the operational phase, the Authority maintains a permanent staff of six environmental professionals plus a number of support technicians.

As Members are aware, the new airport is a complex facility involving airlines, freight forwarders, aircraft maintenance facilities, aircraft caterers and many other private and Government tenants. To ensure that all members of the airport community participate in a responsible environmental management programme, the Authority has included detailed environmental requirements in all major franchise and sub-lease agreements. Key amongst these is a requirement for each major tenant to prepare a detailed written environmental management plan for their facility and operation. A critical section of these plans is a detailed license analysis to ensure each tenant's facility and operations are in compliance with Hong Kong statutory environmental requirements.

Once each tenant has completed its license analysis, the analysis is reviewed together by the AA and EPD to ensure all required licenses are identified thereby ensuring that all such licenses will be obtained. The EPD and AA have met monthly over the past two years to review the status of license applications and to work with the various airport tenants to ensure they are in compliance by airport opening. This EPD/AA co-ordination on airport compliance will continue during airport operations.