

For immediate release  
22 October 1993

### HKUST a Partner in \$118M PADS Wind Shear Project

The Hong Kong University of Science and Technology (HKUST), in partnership with a major research organization and university in the US, have signed a four-year \$118.7 million contract with the HK Government to provide a weather monitoring system for the new airport. Entitled "Operational Windshear Warning System" (OWWS), the system will seek to warn pilots of windshear conditions around the new airport. The main contractor for the project is the company Weather Information Technologies, Inc. (WITI). In addition to HKUST, other members of the WITI team include the University Corporation for Atmospheric Research (UCAR), which operates and manages the National Centre for Atmospheric Research (NCAR), and the University of Wyoming. NCAR is sponsored by the US National Science Foundation and is one of the world's leading institutes of meteorological research. Throughout the project period, the team will work in close collaboration with Royal Observatory scientific person.

As an international affiliate of UCAR, HKUST will be heavily involved in many aspects of the project; its efforts will be coordinated by the University's Research Centre. Director of the Research Centre, Professor Jay-Chung CHEN, views the project as a great challenge as well as great opportunity. "This is probably the largest contract ever awarded to a tertiary institution in Hong Kong. It offers UST a real chance to begin fulfilling our mission to serve Hong Kong." In addition to Research Centre staff, personnel from HKUST's computer centre and faculty from the Mechanical Engineering and Mathematics Departments will also be working on the project.

The contract specifies that WITI will develop, install and validate an operational system for forecasting and detecting terrain-induced wind shear and turbulence for the new airport at Chek Lap Kok. Thus, the project involves not only scientific research but also operational development and evaluation. The mountainous terrain south of the site of the new airport together with the prevailing winds occasionally produce severe turbulence which could affect aircraft operations, particularly in takeoffs and landings. While improved aircraft design has overcome most of the traditional weather problems such as poor visibility, and icing, wind turbulence remains a significant problem. OWWS is intended to provide a reliable means to predict this turbulence well in advance, giving pilots valuable lead time to decide how to handle the problem. The OWWS approach should be applicable to any airport in the world, and will be particularly welcomed by those located near mountainous terrain.

Initially, weather stations will be established at various sites on Lantau, and nearby islands to record wind data. Site selection is already underway, and Research Centre personnel expect to begin taking measurements in February 1994. Later, based on data recorded, a mathematical model will be developed to enable prediction based on prevailing weather conditions. The research phase will be followed by development of the OWWS system. On the completion of the project, the scientific expertise accumulated in Hong Kong will enable the Hong Kong Government to further develop the system to cope with future changes in the operational environment at the Chek Lap Kok Airport.

Direct enquiries to the Research Centre, HKUST, telephone 358-6901.