

Legislative Council Panel on Financial Affairs
Meeting on 1 November 1999

**Status Report on Migration of Hang Seng Index
Futures and Options to
the Automated Trading System**

Introduction

- 1.1 During the past few months, the Hong Kong Futures Exchange (“HKFE”) was working towards the migration of the trading in Hang Seng Index (HSI33) Futures and Options contracts from its open outcry system to the Automated Trading System (“HKATS”) (hereafter referred to as the “HSI33 migration”). HKFE was advised that, to obtain the approval from the Securities and Futures Commission (the “Commission”) for the HSI33 migration, it must, among other things, complete at least two “clean simulated trading tests” with no errors of material effect and that its system and Members must be ready for the migration.
- 1.2 This paper is a brief summary of the results of the simulation tests, the HKFE Board’s decision to postpone the HSI33 migration, HKFE’s new project plan and the follow-up work of the Commission.

Summary of Simulation tests and results

- 2.1 HKFE had conducted 9 simulation tests in total since 12 June 1999. The main objectives of the simulation tests were to test the system capacity of the HKATS and to assess the overall performance of the system under stressed conditions. In addition, HKFE conducted a number of internal tests during weekends to further confirm the system capacity and the efficacy of the changes made to the HKATS to resolve problems encountered during the simulation tests.
- 2.2 Commission staff and its consultant were present in the offices of HKFE in 8 of the 9 simulation tests (i.e. except the first one on 12 June 1999). Among these 9 simulations, only the 8th (4 September 1999) test was regarded as a “clean” test by both HKFE and the Commission’s consultants. New problems appeared in almost every single test, notwithstanding that almost all of them were subsequently resolved.

- 2.3 Test results of the first 3 simulation tests appeared to indicate that the HKATS could be expected to operate reasonably smoothly at three times the historical peak trading volume, a stress test level which the Commission and its consultant agreed is a reasonable benchmark to test the system capacity in view of HKFE's projected growth rate of approximately 20% per annum. Therefore, from the 4th simulation test, HKFE conducted simulation tests in a more controlled environment with a view to assessing the performance of the system at three times historical peak volume. Each HKFE member was provided with a test script which indicated the number of order inputs and trade executions to be achieved by that member during the testing sessions. The test script was compiled based upon the normal trading activities of the particular member.
- 2.4 Notwithstanding that the tests were conducted under a controlled environment, HKATS experienced performance problems (such as delay in transmitting information and interruptions/disconnection occurring for some HKFE members' workstations etc.). These problems occurred when the system experienced heavy loading.
- 2.5 Enhancements and changes were made to HKATS to rectify the problems encountered during the simulation tests and to shorten the delay time for information broadcasting to the members' workstations.
- 2.6 As a result of these changes, HKFE successfully conducted the 8th (4 September 1999) simulation test without major mishaps. At that point, HKFE planned to migrate in late September if one more round of clean tests was obtained. Unfortunately, a new problem at a very low system level was encountered in the 9th test (11 September 1999).
- 2.7 Prior to the HKFE Board meeting on 17 September 1999, HKFE sought advice from the Financial Services Bureau (the "Bureau") on the possibility of implementing the migration during the general Year 2000 change freeze period commencing 1 October 1999. The Bureau advised that the general change freeze date should be observed and that any exception to this guideline must be supported by robust, sound and compelling justifications regarding the need. Moreover, thorough, rigorous and responsible assessment by the organization itself must be performed, including a third party expert endorsement of the Y2K risks involved. The Bureau

also required that such risk assessment should cover not only the organization's own systems, but also its members/users' systems and the knock-on effects on other systems in the financial services sector.

- 2.8 In the light of the Y2K deadline, unstable system environment and inadequate member support (the test results of the last simulation test indicated that about 30% of HKFE members lacked confidence for the HSI33 migration in 1999), HKFE Board decided to defer the migration until early Year 2000.
- 2.9 HKFE Board further decided that they would employ an external project manager to review the migration process to strive for a successful migration next year.

3. Functionality Enhancements and Contingency Plans

- 3.1 The postponement of the migration provides HKFE with more time to enhance the proposed functionalities of the HKATS. Among other things, HKFE will install new fixes (software programs) to rectify the current malfunctions/deficiencies of the HKATS. HKFE has also requested OM Technology, the HKATS vendor, to deliver as soon as practicable the software for implementing the Bulletin Board trading for combination trades and the pre-market opening algorithm.
- 3.2 In addition, HKFE is working towards streamlining its fallback and Business Continuity contingency plans to account for any unexpected system failure during life operation. Reviewing and finalizing these contingency plans is an important task of the new project manager of the HSI33 migration project.

4. HKFE's New Project Plan

- 4.1 Immediately upon HKFE Board's decision to defer the migration of HSI33 contracts to HKATS until next year, the Commission followed up with HKFE management on their new project migration plan and the regulatory aspects of monitoring the operations of the existing open outcry system. The Commission was involved in setting the Terms of Reference and the evaluation criteria for the new project manager to ensure that all essential aspects of the migration exercise are covered.

- 4.2 HKFE plans to allow two weeks for candidates' submissions and two weeks for the evaluation. The announcement of the successful candidate is reported to be made on or about 8 November 1999.
- 4.3 HKFE Board has also appointed the following two special advisory committees to oversee and review the migration:
- i) Migration Technical Committee (MTC) to oversee the work of the project manager and advise the HKFE Board on technology issues;
 - ii) Migration Business Impact Committee (MBC) to advise the HKFE Board on the business impact of, among other things, HKATS functionalities affecting the migration and members' readiness, and to recommend new functionalities.

These two committees will coordinate with the project manager and related parties to review and assess all system and other issues critical to the migration.

- 4.4 In addition, Mr. John Strickland of the Hong Kong Exchanges and Clearing Limited Board will provide technical guidance on the migration.

5. **Follow-up Actions by the Commission in Monitoring the Open-outcry Trading**

- 5.1 In late 1998, two reviews relating to the futures market were conducted by the Commission. The first review, the floor trading review, aimed to examine the existing procedures and practices on the trading floor, and to assess whether the operations of the trading floor were in compliance with the requirements stipulated in the HKFE rules. A review report was produced, containing a number of recommendations to improve the operating and trading environment and the market surveillance system of HKFE. The second review focused on the trading activities and practices of four HKFE members. The two reviews identified some areas for improvement of the floor trading practices and procedures. The recommendations of these reviews were put forward to HKFE in February 1999.

- 5.2 Notwithstanding that HKFE was working towards the HSI33 migration, the Commission believed that some recommendations in

the report were equally applicable to an electronic trading environment. Accordingly, in the past few months, HKFE has put in place in respect of the open outcry system a number of measures to address the Commission's concerns.

- 5.3 In view of the postponement of the migration, Commission staff expedited their follow-up work with HKFE on the recommendations of the reviews. HKFE has extended its full cooperation to work towards an early implementation of the suggested improvement measures and strengthen their market surveillance system.
- 5.4 On 11 October 1999, HKFE issued a circular to its members on the introduction of a five-point plan to enhance the transparency on the trading floor. This five-point plan aims to address the outstanding matters raised in the review report. HKFE has appointed an ad hoc Floor Conduct Committee to review the proposals in the five-point plan. The Committee, which comprises seven active HKFE member, held its first meeting on 21 October 1999.

5.5 The five-point plan comprises the following measures:

5.5.1 A requirement that HKFE members install recording devices on all telephones located at the floor booths.

HKFE has introduced in late September 1999 a rule, which requires HKFE members to record all client orders and trade confirmations communicated over the telephone and to maintain such telephone recordings for at least three months. The new requirement will create proper audit trails for surveillance purposes.

5.5.2 A ban on untaped mobile communications devices on the trading floor

The implementation of this restriction will prevent untaped communications between individuals on the trading floor and external locations via mobile devices, including mobile phones, cordless phones and walkie-talkies. This restriction complements the requirement in 5.5.1.

5.5.3 Deployment of additional Exchange resources for surveillance of cross-trades

HKFE reminded its members that it would strictly enforce the current cross-trade procedures, particularly the requirement to announce the cross orders loudly and clearly inside the pit. It has also deployed additional resources to enforce the cross trade procedures in the trading pit. In addition, since April 1999, HKFE has prioritized the review of cross-trade activities in its inspection plan.

5.5.4 Enhanced price-reporting system

HKFE will carry out some system enhancements to the current price-reporting system and add additional price-reporting workstations in the trading pit to enhance timely reporting of the price information.

5.5.5 Market-opening procedures

HKFE is working on a call rotation mechanism for openings of the HSI futures market. The objective is to reduce excessive price movements and provide a better indication of price levels to the market at the market-opening period. The proposed mechanism was delivered to the Commission for its review. Mock sessions were recently held in the trading pit to seek HKFE members' comments on the proposed mechanism. HKFE intends to conduct a few more mock sessions to allow members to familiarize themselves with the mechanism prior to its implementation.

- 5.6 All of the 5-point plan (save the one described in 5.5.3 which has been implemented) will be reviewed by the Floor Conduct Committee and implemented by HKFE in the next few weeks.

6. Follow-up Actions by the Commission

- 6.1 The Commission will follow up closely the progress of the migration project and coordinate with HKFE's project manager and the Commission's consultant to ensure a smooth migration next year.