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Panel on Education

**Background paper prepared by the Legislative Council Secretariat
for the meeting on 8 November 2010**

**Onscreen marking of examination papers implemented
by the Hong Kong Examinations and Assessment Authority**

Purpose

This paper summarises the discussion of the Panel on Education ("the Panel") on issues relating to onscreen marking of examination papers implemented by the Hong Kong Examinations and Assessment Authority ("HKEAA").

Background

2. HKEAA was formerly known as the Hong Kong Examinations Authority ("HKEA"). HKEA was an independent statutory body established in May 1977 under the Hong Kong Examinations and Assessment Authority Ordinance (Cap. 261). In July 2002, when the function of HKEA was widened to cover the administration of assessment, its name was changed to HKEAA. The statutory responsibility of HKEAA is to plan and conduct the Hong Kong Certificate of Education Examination ("HKCEE"), the Hong Kong Advanced Level Examination ("HKALE") and the Hong Kong Diploma of Secondary Education ("HKDSE") Examination to be implemented in 2012. On behalf of overseas examining bodies and local professional bodies, it also administers various examinations leading to academic, professional or practical qualifications, including the Associated Board of the Royal Schools of Music Examinations, Graduate Record Examination, University of London External Degree/Diploma Examinations and the Scholastic Aptitude Test.

3. By virtue of the passage of the Hong Kong Examinations and Assessment Authority (Amendment) Bill 2003 in November 2003, HKEAA has been empowered to conduct, on its own or jointly with others, examinations and assessment in or outside Hong Kong.

4. HKEAA is governed by a Council appointed by the Chief Executive. HKEAA Council is responsible for formulating examination policies and monitoring the work of HKEAA. It consists of 17 persons including six ex-officio members. The Education Bureau is represented on the Council and two of its committees. HKEAA operates on a self-financing basis and does not receive any recurrent subvention from the Government. It derives its income from examination fees, sale of publications and services to individuals and other organizations. HKEAA is required to submit its annual estimates of income and expenditure (including proposed examination fees), and a programme of its proposed activities to the Administration for approval.

5. The HKEAA Council commissioned a consultant in 2002 to conduct a strategic review of its functions and capability, and to identify the necessary changes to enable it to better fulfil its roles and functions. The Strategic Review Final Report was completed in May 2003. The Report recommended, among other things, that there was an immediate need for the Government to fund the assessment development activity over the next five years, given the financial constraints of HKEAA.

6. In February 2004, HKEAA was given a one-off grant of \$136.7 million to support its assessment development, policy and research activities for about five years until 2009 in the following areas -

- (a) assessment development;
- (b) use of technology to improve public examinations;
- (c) long-term regular guarding and comparison of students' standards/performance; and
- (d) strengthening support to teachers.

7. HKEAA established an external Review Committee in March 2005 to conduct a thorough review of its information systems and services. The Review Committee submitted its final report in August 2005. The report identified a number of ways to improve the examination systems and services, including the establishment of electronic scanning facilities and onscreen marking centres for centralized marking of examination scripts to improve the administration of examinations and reduce the risk of missing scripts.

8. On 2 December 2005, the Finance Committee approved a capital grant of \$198.87 million to HKEAA, among others, to modernize its examination systems by introducing centralized onscreen marking. On 7 July 2006, the Finance Committee approved a non-recurrent grant of \$16 million and a capital grant of about \$5.9 million to HKEAA to support the establishment of a

centralised onscreen marking centre for a period of four years. The Finance Committee further approved on 9 January 2009 the creation of a new commitment of \$152.309 million for HKEAA, among others, to develop a new system for HKDSE Examination.

Deliberations of the Panel

9. The Panel held a number of meetings to discuss issues relating to the introduction of centralized onscreen marking. The concerns of members are summarised in the following paragraphs.

Number and location of centralized marking centres

10. Members noted in 2005 that only two vacated school premises in Tsuen Wan and Lai King had been identified for conversion into centralized marking centres. Some members considered that the two locations were not convenient to markers residing in the New Territories East and the Hong Kong Island, and requested the provision of more marking centres.

11. The Administration explained that it would endeavour to provide more centralized marking centres at convenient locations, subject to the availability of vacant school premises for conversion. The Administration intended to provide centralized onscreen marking centres in the New Territories East, Hong Kong Island and Kowloon East, accommodation of which would have to be made available for conversion in mid-2006 so that these centres would be ready for trial by January 2007. In the event of slippage in the provision of longer-term accommodation, HKEAA was prepared to lease commercial premises to make up for the space shortfall.

12. The Administration briefed members at the meetings of the Panel on 8 May and 12 June 2006 on its proposal to rent commercial premises for the operation of a centralized onscreen marking centre on the Hong Kong Island for four years. Members queried why vacant school premises were not identified for the purpose and considered the renting of commercial premises not an ideal long-term solution.

13. HKEAA explained to members the assistance provided by the Administration in terms of accommodation. According to HKEAA, the Administration had provided HKEAA with the ex-San Po Kong Primary School in Kowloon and two and a half floors in Southorn Centre on Hong Kong Island for offices and operations at nominal rent. In support of onscreen marking, the Administration had also allocated HKEAA two vacant school premises at nominal rent for accommodating the Kowloon West and the New Territories centralized onscreen marking centres.

14. The Administration stressed that it had made the best efforts to identify suitable vacant school premises or other surplus government accommodation for

the short-term Island Centre, with due regard to the long term accommodation plan of HKEAA and its service needs. However, as no vacant school premises or other suitable surplus government accommodation could be identified for immediate use by HKEAA, HKEAA had to resort to commercial leasing for setting up the short-term Island Centre. For such commercial lease, termination by the tenant after the first two years of fixed term was usually allowed. HKEAA could therefore have the option to terminate the lease and hence save the commercial rental if the long-term accommodation plan could materialize in less than four years. The Administration further explained that the long term accommodation plan of HKEAA was to identify suitable premises as HKEAA's headquarters which would consolidate its existing scattered offices and would free up its current offices in Southorn Centre and San Po Kong for conversion into a permanent Hong Kong Island onscreen marking centre and a Kowloon East onscreen marking centre by 2010.

15. As regards members' enquiry on the feasibility of implementing onscreen marking without establishing centralized marking centres, HKEAA explained that the provision of centralized marking centres would enhance security and supervision of the marking process. It would also facilitate the provision of timely professional support to markers and interactions between markers and the chief examiners in the marking process. Overseas experiences had shown that onscreen marking conducted by markers at their chosen locations was unsatisfactory.

16. As at 2010, there were four onscreen marking centres in Wan Chai, Lai King, Tsuen Wan and Sheung Shui.

Schedule of implementation

17. According to the proposed schedule of implementation, HKEAA would develop the new computer systems for on-line marking of the Chinese Language and English Language papers starting from the 2007 HKCEE, and extend the use of the systems to other subjects on a progressive basis. Onscreen marking and examination processing centres would need to be established with systems and equipment in place by 2007 in order to enable HKEAA to build up sufficient experience for a smooth transition to full implementation for the HKDSE Examination under the new senior secondary education structure in 2012.

18. Some members urged HKEAA to facilitate the implementation of onscreen marking through expediting the establishment of centralized marking centres. They also urged the Administration to simplify the administrative procedures for identification and allocation of suitable venues for the establishment of centralized marking centres in order to speed up the implementation process.

19. HKEAA pointed out that the implementation of onscreen marking was a major cultural change in script marking which had to be thoroughly tested. HKEAA had conducted a pilot run on onscreen marking of scripts starting

March 2006. The results of the pilot run which were carried out in June to September 2006 provided useful information for the refinement of procedures and operations as well as hardware and software requirements. The installation and testing of the onscreen marking system in selected centralized marking venues were carried out before March 2007, in preparation for onscreen marking of Chinese Language and English Language in the 2007 HKCEE. HKEAA would extend onscreen marking to other subjects in HKCEE and HKALE, having regard to the results of onscreen marking for the two subjects, and would adjust the implementation schedule in the light of experience.

20. As at 2009, on-screen marking had been extended to a total of 14 subjects in HKCEE and HKALE.

Reliability of digital scanning and onscreen marking

21. Some members were concerned about the reliability of digital scanning and onscreen marking. They urged HKEAA to ensure that the onscreen marking system was perfectly reliable before implementation, given the importance of public examination results to candidates in pursuing further studies or finding jobs. Members requested the formulation of appropriate contingency plans to cater for any failure of the onscreen marking system.

22. According to HKEAA, some 14 to 15 cities and provinces in the Mainland had practised onscreen marking for their public examinations for many years. The United Kingdom had also started onscreen marking. The implementation experience in these places showed that the reliability of digital scanning with the use of appropriate equipment and paper was almost 100%. HKEAA had set up a working group to work out contingency plans, including manual marking in case of system failure, and would make reference to the experience in other places in the course of developing the onscreen marking system.

Training for markers

23. Members enquired how HKEAA would familiarize markers with the operations of the onscreen marking system and enhance candidates' confidence in the reliability of onscreen marking. HKEAA pointed out that teachers might initially have reservations about onscreen marking of scripts at centralized marking centres. However, experiences in other places had indicated that teachers would prefer onscreen marking to manual marking when they became familiar with the features and operations of onscreen and centralized marking. HKEAA would ensure that the operations of the onscreen marking system were simple and user-friendly, and would organize sufficient training for markers before implementation.

24. As regards the mechanism for monitoring markers' performance, HKEAA explained that specific training would be given to the markers.

Onscreen marking would enable the chief examiners to perform real-time monitoring of the entire marking process such that a marker with unsatisfactory quality of marking would not be allowed to continue marking, and the scripts which had already been marked by the marker would be re-marked. A marker who was found to be too harsh or too lenient in his/her marking and who failed to make improvement would not be employed again.

Costs

25. Members noted with concern the costs for implementing centralized onscreen marking, which were estimated to be around \$102 million. They pointed out that these costs were higher than those of similar projects undertaken by the Mainland.

26. The Administration explained that a direct cost comparison between the Mainland and Hong Kong on the provision of onscreen marking might not be appropriate because the systems and capacities in the Mainland were different. In the Mainland, universities were used as examination centres and police officers were deployed to supervise and ensure security of examination operations. As for Hong Kong, heavy investment had to be made in the provision of centralized onscreen marking centres. Moreover, as the information technology infrastructure for onscreen marking was relatively new, a consultant had to be engaged to work out the tender specifications before tendering.

Impact on examination fees

27. Noting that HKEAA had been given various grants in the past few years to develop and modernize its examination system, members were concerned whether such development would bring about an increase in examination fees.

28. HKEAA explained that non-recurrent grants were paid directly by the Government and would not have any impact on examination fees. HKEAA recognized the community's expectation of improved quality of examination services at affordable fees. In this regard, HKEAA had taken measures to develop new sources of income and to reduce costs. Given a deficit estimate of about \$11 million and \$12 million in the 2006-2007 and 2007-2008 years respectively, HKEAA had managed to reduce the deficit to about \$6 million in 2006-2007 and was expecting a lesser deficit in 2007-2008. As compared with the examination fees in the United Kingdom, the examination fees in Hong Kong were relatively low. For different subjects in the General Certificate of Secondary Education examinations, the examination fees ranged from £ 20 to £ 50. As for the General Certificate of Education (Advanced Level) examinations, the examination fees ranged from £ 80 to £ 160. In Hong Kong, the examination fees for HKCEE subjects only ranged from \$110 to \$194 and those for HKALE subjects from \$150 to \$600. The examination fee for the subjects of Chinese Language and Use of English in HKALE at \$600 was higher

because of the need for double marking.

Relevant papers

29. A list of the relevant papers on the Legislative Council website is in the **Appendix**.

Council Business Division 2
Legislative Council Secretariat
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**Relevant papers on onscreen marking of examination papers implemented by
the Hong Kong Examinations and Assessment Authority**

Meeting	Date of meeting	Paper
Panel on Education	15.12.2003 (Item V)	Minutes Agenda
Finance Committee	20.2.2004	Minutes FCR(2003-04)58
Finance Committee	27.2.2004	Minutes FCR(2003-04)65
Legislative Council	21.4.2004	Official Record of Proceedings Pages 10 - 14 (Question)
Panel on Education	14.11.2005 (Item IV)	Minutes Agenda
Finance Committee	2.12.2005	Minutes FCR(2005-06)33
Panel on Education	8.5.2006 (Item VI)	Minutes Agenda
Panel on Education	12.6.2006 (Item V)	Minutes Agenda
Finance Committee	7.7.2006	Minutes FCR(2006-07)18
Panel on Education	8.12.2008 (Item V)	Minutes Agenda
Finance Committee	9.1.2009	Minutes FCR(2008-09)56