

CHAPTER 6

The Hong Kong Polytechnic University

**The Hong Kong Polytechnic University:
Repair and maintenance of university premises**

**Audit Commission
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This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 83 of the Director of Audit contains 8 Chapters which are available on our website (<https://www.aud.gov.hk>).



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THE HONG KONG POLYTECHNIC UNIVERSITY: REPAIR AND MAINTENANCE OF UNIVERSITY PREMISES

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THE HONG KONG POLYTECHNIC UNIVERSITY: REPAIR AND MAINTENANCE OF UNIVERSITY PREMISES

Executive Summary

1. The Hong Kong Polytechnic University (PolyU)'s predecessor, the Hong Kong Polytechnic, was established in 1972 through the enactment of The Hong Kong Polytechnic Ordinance (Cap. 1075), which was subsequently amended in 1994 (retitled as "The Hong Kong Polytechnic University Ordinance") to provide for the establishment of PolyU. PolyU's main campus is located in Hung Hom on a site of approximately 102,300 square metres. The premises house a range of facilities, such as teaching rooms, library, sports facilities, multi-purpose auditorium and theatre. In 2022-23, PolyU's expenditure on repair and maintenance of university premises was \$146.8 million. The Audit Commission (Audit) has recently conducted a review of PolyU's work relating to the repair and maintenance of university premises.

Planned maintenance

2. *Room for improvement in conducting Facilities Condition Assessments.* Each year, PolyU conducts Facilities Condition Assessments to assess the conditions of the building services installations in the university premises. Audit reviewed the ratings given to the facilities in the Facilities Condition Assessments conducted in the period from 2018-19 to 2023-24 and found room for improvement in conducting the assessments: (a) PolyU's guidelines did not clearly specify the basis for giving the ratings in the Facilities Condition Assessments. For example, in the period from 2020-21 to 2023-24, a lift with downtime of 0 to 29.5 hours (averaging 12 hours) per year was given a "poor" rating for the criterion of "availability" in all four years; and (b) while the scale adopted was from 0 to 4, a facility was given a rating of 4.5 in one of the evaluation criteria in the 2021-22 assessment (paras. 2.3 and 2.4).

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3. ***Need to enhance monitoring of maintenance of lifts and escalators to minimise occurrence of incidents.*** Audit reviewed the incident reports of the 74 lifts and the 10 escalators in 2022-23 and 2023-24. Audit found that: (a) for 69 (93%) of the 74 lifts, there were incidents occurred. The total number of incidents occurred was 413, ranging from 1 to 40 incidents for each lift (averaging 6 incidents). The total downtime involved was 2,523 hours, ranging from 0 to 324 hours for each lift (averaging 37 hours). The majority of the incidents (i.e. 266 (64%) of the 413 incidents) were caused by equipment failure, involving 1,855 (74%) hours of total downtime; and (b) for all the 10 escalators, there were incidents occurred. The total number of incidents occurred was 134, ranging from 2 to 41 incidents for each escalator (averaging 13 incidents). The total downtime involved was 648 hours, ranging from 3 to 140 hours for each escalator (averaging 65 hours). The majority of the incidents (i.e. 84 (63%) of the 134 incidents) were caused by equipment failure, involving 410 (63%) hours of total downtime (para. 2.7).

4. ***Works commenced before normal works orders were approved.*** Audit analysed the 903 completed normal works orders created in the period from July 2022 to March 2024. Audit found that for 488 (54%) of the 903 normal works orders, contrary to the requirements in PolyU's Operation Manual, the works had commenced 1 to 214 days (averaging 9 days) before obtaining the Section Heads' approvals. For 106 (22%) of the 488 works orders, the works had commenced even before the works order requests were endorsed. The works had commenced 1 to 111 days (averaging 8 days) before the works order requests were endorsed, and 1 to 124 days (averaging 16 days) before obtaining the Section Heads' approvals. For 72 (15%) of the 488 works orders, at the time the Section Heads' approvals were obtained, the works had been completed (paras. 2.13 and 2.14).

5. ***Room for improvement in issuing covering works orders.*** In cases where works need to be commenced before the issue of works orders, covering works orders may be issued in accordance with the requirements stipulated in PolyU's Operation Manual. Audit examined 10 completed covering works orders created in the period from July 2022 to March 2024. Audit found that: (a) for 1 (10%) works order, contrary to the requirement in PolyU's Operation Manual, the Section Head's prior endorsement was not sought before works commencement. The endorsement was only obtained 518 days after the works commencement, or 139 days after the works completion; (b) for 2 (20%) works orders related to urgent jobs, contrary to the requirement in PolyU's Operation Manual, the endorsements were obtained long after the works commencement (i.e. 69 and 203 days after the works commencement, or 69 and 198 days after the works completion); and (c) for 5 (50%) works orders, the

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special circumstances giving rise to the need for covering works orders were not stated in the endorsement applications. All the 5 works orders were endorsed without documenting the justifications (paras. 2.12, 2.13 and 2.15).

6. ***Long time taken to issue certificates of completion after completion of works.*** As at 30 June 2024, 1,054 works orders created in the period from July 2022 to March 2024 had been completed. Audit analysed the 1,054 works orders and found that: (a) on some occasions, long time was taken by PolyU to issue the certificates of completion after the works had been completed. For 390 (37%) of the 1,042 works orders with certificates of completion issued, the certificates were issued more than 60 days after the works had been completed; (b) for 8 works orders, as at 30 June 2024, the certificates of completion had not been issued, the time elapsed from the works completion date was 0 to 151 days (averaging 47 days); and (c) for the remaining 4 works orders, the information on the works completion date was not available. Therefore, the time taken to issue the certificates of completion could not be analysed (para. 2.18).

7. ***Need to enhance guidelines on site inspections.*** Audit examined the records of site inspections conducted by the Project Managers for 30 service contracts that were in effect as at 1 April 2024. Audit found that there were variations in the mode, frequency and timing, and the documentation of the results of site inspections: (a) for 27 (90%) contracts, the Project Managers visited the site in person to conduct the inspections, and for 3 (10%) contracts, the Project Managers asked the contractors to provide photos of the site for the purpose of inspections; (b) for the 27 contracts with records showing that site inspections had been conducted by the Project Managers, the number of inspections conducted in 2023-24 ranged from 1 to 12 (averaging 3). The records did not show whether the site inspections had been conducted at the critical stage of the maintenance work; and (c) for all the 30 service contracts, there were no records showing the scope covered in the site inspections and the results of site inspections. Audit also found that PolyU's Operation Manual did not specify the mode, frequency, timing and scope of site inspections, and the requirement for Project Managers to record the results of site inspections (paras. 2.20 and 2.21).

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On-request maintenance and other repair and maintenance work

8. *Need to improve spot checks on job orders for on-request maintenance.* According to PolyU's Operation Manual, Project Managers are required to conduct random spot checks on jobs done. Audit analysed the 80,997 job orders for on-request corrective maintenance and 2,679 job orders for on-request emergency maintenance created and completed in the period from 2021-22 to 2023-24. Audit found that: (a) for the 80,997 job orders for on-request corrective maintenance, spot checks were only conducted for 720 (0.9%) orders. While there were 15 job types for corrective maintenance, the types of job covered in the spot checks ranged from 1 (7%) in 2022-23 to 9 (60%) in 2021-22. In the period, no spot checks were conducted for 5 (33%) of the 15 job types; (b) for the 2,679 job orders for on-request emergency maintenance, only 1 spot check was conducted in 2021-22. No spot check was conducted in the period from 2022-23 to 2023-24. In the period, no spot checks were conducted for 5 (83%) of the 6 job types involved; and (c) for both on-request corrective maintenance and on-request emergency maintenance, the results of the spot checks were not documented (para. 3.5).

9. *Need to improve electronic survey for collecting users' feedback.* According to PolyU's Operation Manual, after an on-request maintenance job order has been completed, an electronic survey is automatically sent to the users for collecting feedback. Audit analysed the users' feedback collected for 80,997 job orders for on-request corrective maintenance created and completed in the period from 2021-22 to 2023-24. Audit found that: (a) of the 80,997 job orders, users' feedback was only collected for 2,391 job orders, representing a response rate of 3%; and (b) the response rate of users' feedback decreased from 3.7% (i.e. 927 users' feedback for 24,721 job orders) in 2021-22 to 2.5% (i.e. 702 users' feedback for 28,552 job orders) in 2023-24 (paras. 3.8 and 3.9).

10. *Need to ensure information necessary for performance monitoring is recorded and inputted into Computerised Maintenance Management System (CMMS).* PolyU sets performance pledge for handling requests for corrective maintenance services and emergency maintenance services. When the handling of a service request has been completed, CMMS calculates the time taken for completing or attending to the request and indicates whether the performance pledge has been met. Audit examined the data maintained in CMMS for the job orders created and completed in the period from 2021-22 to 2023-24. Audit found that the information

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on the job type of 2,857 (4%) of the 80,997 job orders for on-request corrective maintenance and 3 (0.1%) of the 2,679 job orders for on-request emergency maintenance was not available. Therefore, CMMS was unable to determine whether the performance pledge had been met (paras. 3.11 and 3.12).

11. ***Need to ensure that performance pledge for on-request maintenance is met.*** For the job orders created and completed in the period from 2021-22 to 2023-24, the information necessary for determining whether the performance pledge was met was available for 76,625 on-request corrective maintenance job orders and 2,676 on-request emergency maintenance job orders. Audit examined the performance of the 76,625 corrective maintenance job orders and 2,676 emergency maintenance job orders and found that the performance pledge for handling requests was not met for 6,080 (8%) corrective maintenance job orders and 19 (1%) emergency maintenance job orders. For 560 (9%) of the 6,080 corrective maintenance job orders and 11 (58%) of the 19 emergency maintenance job orders, the reasons for not meeting the pledge had not been recorded in CMMS (para. 3.13).

12. ***Need to ensure that cost estimates are prepared in a timely manner.*** According to the contract signed between PolyU and the quantity surveying consultant, upon receiving PolyU's notification, the consultant shall prepare the cost estimates within the stipulated timeframe. In the period from May 2021 to May 2024, the quantity surveying consultant received 2,348 requests for preparation of cost estimates. Audit examined the records of the 2,348 requests and found that, as at 31 May 2024: (a) cost estimates had been prepared for 2,342 requests. For 1,163 (50%) requests, there were delays in the preparation of cost estimates. The delays ranged from 1 to 80 working days, averaging 13 working days; and (b) although the contract period had expired, for 6 requests made prior to the contract end date, the cost estimates had not been prepared. The time elapsed ranged from 8 to 569 working days (averaging 164 working days) from the date of receiving the requests (paras. 3.33 and 3.34).

13. ***Need to ensure that requirements on processing of payment applications are complied with.*** Audit examination of the records of the processing of the 3,931 payment applications by the quantity surveying consultant in the period from May 2021 to May 2024 revealed that: (a) as at 31 May 2024, of the 1,954 completed payment applications, there were delays in the processing of 1,950 (99%) applications. The delays ranged from 3 to 634 working days (averaging 117 working days). Of the 1,977 payment applications pending consultant's

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processing, the time elapsed from the date of request up to 31 May 2024 ranged from 3 to 725 working days (averaging 214 working days); (b) in the period from May 2021 to May 2024, site checks had been conducted to only 17 or 0.4% of the 3,931 payment applications; and (c) for 575 (29%) of the 1,954 completed payment applications with final values agreed, the final values of works orders in the payment applications were not within a variance of 20% of the cost estimates. Contrary to the contract requirement, the notes on the cost differences had not been prepared for endorsement in 34 (6%) of the 575 applications (para. 3.38).

14. *Need to enhance performance monitoring on quantity surveying consultant.* According to PolyU's Operation Manual, if the performance mark is less than 50, the consultant's assessment report will be rated as "Adverse", and for the first adverse assessment report issued to consultant, a warning letter will be issued to the consultant and the consultant will be required to improve his performance. Audit found that the assessment report of the quantity surveying consultant covering a 22-month period from May 2021 to March 2023 was rated as "Adverse". However, after the first adverse report was issued to the consultant in June 2023, and up to the end of the contract period in May 2024, no warning letter had been issued by PolyU (paras. 3.45 and 3.46).

Procurement of services

15. *Need to enhance competition of tendering exercises.* Audit reviewed 60 open tendering exercises for repair and maintenance service contracts conducted in the period from 2019-20 to 2023-24, involving awards of contracts with a total contract value of \$80.8 million. Audit noted that in 25 (41%) exercises, the competition was limited and the responses from contractors were lukewarm: (a) in each of 8 (13%) exercises, only 1 tender was received; and (b) in each of 17 (28%) exercises, 2 tenders were received (para. 4.5).

16. *Need to improve issuing of notifications to unsuccessful tenderers.* According to the Manual of Purchasing Procedures, unsuccessful tenderers will be notified as soon as practicable with reasons explaining why their offers have not been accepted. However, the guidelines did not specify the required timeframe for issuing notifications to unsuccessful tenderers. Audit reviewed 60 tendering exercises for repair and maintenance service contracts conducted in the period from 2019-20 to 2023-24. Audit noted that, of the 52 tendering exercises where more than

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1 tender was received and hence the unsuccessful tenderers should be notified: (a) in 44 (85%) tendering exercises, notifications to the unsuccessful tenderers were issued more than 30 days (ranging from 31 to 816 days, averaging 257 days) after the acceptance of the successful tenders; and (b) in 35 (67%) tendering exercises, the notifications did not provide reasons explaining why the tenderers' offers had not been accepted (paras. 4.7 and 4.8).

17. *Need to ensure that the declaration and undertaking forms submitted by tender evaluation team members for service contracts are properly kept.* Audit examined 60 tendering exercises for repair and maintenance service contracts conducted in the period from 2019-20 to 2023-24, involving a total of 32 staff members taking up the responsibility as members of the tender evaluation teams. Audit noted that in 7 (12%) of the 60 tendering exercises, the declaration and undertaking forms for 1 member of each tender evaluation team (involving a total of 3 staff members) could not be located and were not available for Audit's inspection (para. 4.15).

18. *Need to ensure that performance bonds are arranged for term contracts in a timely manner.* The successful tenderer for a repair and maintenance term contract is required to arrange for a bond or a sum of money as surety or security for the due performance of the contract (i.e. a performance bond) for approval by PolyU. However, PolyU did not set the required timeframe for the submission of the performance bond. Audit examined the effective dates of the performance bonds submitted by the successful tenderers in 4 tendering exercises for repair and maintenance term contracts conducted in the period from 2019-20 to 2023-24. Audit noted that: (a) for 3 (75%) of the 4 contracts, the effective dates of the performance bonds were later than the commencement dates of the contracts by 8, 56 and 71 days respectively; and (b) for the remaining 1 (25%) contract, the commencement date of the contract was 28 June 2024. As at 31 August 2024, i.e. 64 days after the commencement date of the contract, the performance bond had not yet been submitted (paras. 4.24 and 4.25).

Campus restoration and security enhancement work and other issues

19. *Need to continue to keep under review security measures.* In late November 2019, to restore the campus environment from the damages resulted from the black-clad violence in 2019 and to enhance the protection of PolyU's campus,

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campus restoration and security enhancement work was carried out by phases and was completed in June 2022. As at 30 June 2023, the total expenditure incurred on the campus restoration and security enhancement work was \$235.8 million, comprising expenditure on recovery and reinstatement works of \$106.2 million and expenditure on security and safety enhancement measures of \$129.6 million. As part of the security enhancement measures to ensure the safety and security of people and property, and to cater for the need to comply with the public area requirements stipulated in the land leases, PolyU has implemented various access control policies. As at September 2024, access to the campus is restricted to students, staff and authorised persons. Campus users shall authenticate their identities using their access cards or access codes at the turnstiles at major campus access points. For areas that allow public access pursuant to the land lease requirements, access control is achieved by clear demarcation of public open space, enhanced access control and setting up of security point at designated location. Audit noted that, from time to time, members of the community raised concern about the open campus policy in PolyU. In its report to the University Grants Committee (UGC) on the enhancement of campus security in September 2022, PolyU indicated that it would continue to monitor the situation and adjust the access control and security measures, including mitigation of the measures when the situation justifies. Audit considers that PolyU needs to continue to keep under review the latest situation and adjust the security measures as appropriate (paras. 5.2, 5.4, 5.5 and 5.11 to 5.14).

20. ***Need to continue to conduct thorough risk assessments and enhance risk management plans.*** According to UGC's letter on the special grant issued to PolyU in June 2020, PolyU is entrusted to duly take into account the financial implications and sustainability of the security enhancement initiatives in the long run. UGC considered that the special grant also served the purpose of prompting universities to develop more robust risk assessment systems and effective control mechanisms. According to PolyU, it had observed the conditions required by UGC in the one-off special grant to PolyU in June 2020 when implementing the security enhancement measures and had submitted a report to UGC upon the completion of the enhancement measures in September 2022. Audit considers that PolyU should continue to conduct thorough risk assessments and enhance its risk management plans (paras. 5.15 to 5.17).

21. ***Need to improve recording and reporting of site safety inspections and irregularities.*** Audit reviewed the records of site safety inspections conducted on the work sites of the contractors and the reports on health and safety performance of the contractors compiled by the Campus Facilities and Sustainability Office (CFSO) and

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the Health and Safety Office (HSO) in the period from 2019-20 to 2023-24. Audit noted that: (a) site safety inspections conducted by CFSO in which no irregularities were identified were not recorded; (b) for 13 (2%) of the 549 irregularities recorded in the register of site safety irregularities of CFSO, the dates of completing the follow-up actions were earlier than the dates of identifying the irregularities; and (c) there was no consolidated system or database to capture information on all the site safety inspections conducted and the irregularities identified by CFSO and HSO on the work sites of the contractors to facilitate the generation of management reports for monitoring the health and safety performance of the contractors (para. 5.23).

22. *Need to enhance guidelines on issuing of written warnings to contractors.* According to the Construction Health and Safety Management Manual, CFSO should give verbal or written warnings to the contractors with unacceptable health and safety performance. Audit noted that the guidelines did not set out the circumstances under which written warnings should be issued to contractors. Audit examined the written warnings issued to the contractors by PolyU and the register of site safety irregularities of CFSO in the period from 2019-20 to 2023-24. Audit noted that the written warnings were not issued in a consistent manner on some occasions. For example, PolyU issued a written warning to a term contractor because of unsafe acts of its workers while working on scaffolds and frequent recurrence of irregularities concerning safety harness. While there were frequent recurrences of similar irregularities by the same term contractor and another term contractor on other occasions, no written warnings were issued on such occasions (paras. 5.25 and 5.26).

Audit recommendations

23. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has recommended that the President, The Hong Kong Polytechnic University should:**

Planned maintenance

- (a) **enhance guidelines on the Facilities Condition Assessments and ensure the accuracy of the ratings given to the facilities in the Facilities Condition Assessments (para. 2.10(a) and (b));**

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- (b) **enhance the monitoring of maintenance of lifts and escalators to minimise the occurrence of incidents (para. 2.10(c));**
- (c) **take measures to ensure that the requirements in PolyU's Operation Manual are complied with, including:**
 - (i) **normal works orders are approved and covering works orders are endorsed before works commencement (para. 2.23(a)(i));**
 - (ii) **for covering works orders for urgent jobs, the Section Heads' endorsements are sought at the earliest opportunity (para. 2.23(a)(ii)); and**
 - (iii) **the special circumstances giving rise to the need for covering works orders are stated in the endorsement applications and the justifications for endorsements are documented (para. 2.23(a)(iii));**
- (d) **ascertain the reasons for the long time taken to issue the certificates of completion for works orders and take measures to ensure that certificates of completion are issued as soon as practicable after the works are completed (para. 2.23(b) and (c));**
- (e) **take measures to ensure that necessary information of works orders is properly maintained with a view to facilitating the monitoring of the handling of works orders (para. 2.23(d));**
- (f) **enhance the guidelines on site inspections, and require the Project Managers to record the results of site inspections (para. 2.23(e));**

On-request maintenance and other repair and maintenance work

- (g) **enhance guidelines on conducting spot checks on job orders for on-request maintenance, and ensure that the spot check results are documented (para. 3.15(a));**

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- (h) take measures to improve the response rate of electronic survey for collecting users' feedback on on-request corrective maintenance services (para. 3.15(b));
- (i) take measures to ensure that all information necessary for performance monitoring of on-request maintenance services is recorded and inputted into CMMS (para. 3.15(c));
- (j) take measures to ensure that the performance pledge for on-request maintenance services is met and the reasons for not meeting the performance pledge are documented (para. 3.15(d));
- (k) ensure that cost estimates for repair and maintenance work are prepared by the quantity surveying consultant in a timely manner (para. 3.48(c));
- (l) ensure that the requirements on processing of payment applications are complied with by the quantity surveying consultant (para. 3.48(d));
- (m) enhance the performance monitoring on quantity surveying consultant and issue a warning letter to the consultant after an adverse assessment report is issued (para. 3.48(g));

Procurement of services

- (n) explore measures to further enhance competition of tendering exercises for service contracts (para. 4.17(a));
- (o) enhance the guidelines to specify the required timeframe for issuing notifications to unsuccessful tenderers for service contracts (para. 4.17(b));
- (p) take measures to ensure that unsuccessful tenderers for service contracts are notified in accordance with the required timeframe with reasons explaining why their offers have not been accepted (para. 4.17(c));

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- (q) ensure that the declaration and undertaking forms submitted by tender evaluation team members for service contracts upon taking up the responsibility are properly kept (para. 4.17(e));
- (r) take measures to ensure that performance bonds are arranged by the successful tenderers for term contracts in a timely manner (para. 4.36(c));

Campus restoration and security enhancement work and other issues

- (s) continue to keep under review the latest situation and adjust the security measures as appropriate (para. 5.18(a));
- (t) continue to conduct thorough risk assessments and enhance PolyU's risk management plans (para. 5.18(b));
- (u) take measures to ensure that all site safety inspections conducted by CFSO are recorded (para. 5.38(a));
- (v) take measures to ensure that the information recorded in the register of site safety irregularities of CFSO is accurate (para. 5.38(b));
- (w) consider regularly compiling a consolidated report capturing information on all the site safety inspections conducted and the irregularities identified by CFSO and HSO to facilitate performance monitoring (para. 5.38(c)); and
- (x) enhance guidelines on the circumstances under which written warnings should be issued to the contractors with unacceptable health and safety performance (para. 5.38(d)).

Response from The Hong Kong Polytechnic University

24. The President, The Hong Kong Polytechnic University agrees with the audit recommendations.

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 The Third Plenary Session of the 20th Central Committee of the Communist Party of China, which was concluded in July 2024, highlighted the need to support Hong Kong in building itself into an international hub for high-calibre talent. Hong Kong has been actively contributing its strength to the needs of the country, endeavouring to complement the national education goals, as well as the necessary manpower support for Hong Kong’s development of the “eight centres” as outlined in the 14th Five-Year Plan. The Chief Executive of the Hong Kong Special Administrative Region (HKSAR)’s 2023 Policy Address has set out clearly the strategic directions and objectives for enhancing the quality of education in Hong Kong, with a view to developing Hong Kong into an international post-secondary education hub and a cradle of future talents, nurturing a diversified pool of talents, and enhancing Hong Kong’s momentum of development while promoting people-to-people exchanges and contributing to national development.

1.3 ***The Hong Kong Polytechnic University (PolyU).*** PolyU’s predecessor, the Hong Kong Polytechnic, was established in 1972 through the enactment of The Hong Kong Polytechnic Ordinance (Cap. 1075), which was subsequently amended in 1994 (retitled as “The Hong Kong Polytechnic University Ordinance”) to provide for the establishment of PolyU. As at 31 March 2024, in addition to the Graduate School, there were 28 academic units grouped under 6 Faculties (Business, Construction and Environment, Humanities, Engineering, Health and Social Sciences, and Science) and 3 independent Schools (Design, Fashion and Textiles, and Hotel and Tourism Management).

1.4 ***Government subventions.*** PolyU is one of the eight local universities funded by the University Grants Committee (UGC). In the financial year 2022-23

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(Note 1), PolyU received government subventions of \$4,439 million (comprising \$3,943 million (89%) from UGC and \$496 million (11%) from other Government agencies), representing 56.7% of its total income in the year.

1.5 ***Programmes and students.*** PolyU offers programmes ranging from sub-degree, undergraduate degree, postgraduate degree to doctoral degree levels in a wide range of disciplines through various modes of attendance including full-time, part-time, and mixed-mode. In the academic year 2022/23 (Note 2), PolyU offered 162 taught programmes, comprising 67 (41%) UGC-funded programmes and 95 (59%) self-financed programmes. In the same academic year, there were 28,410 students, including 15,778 (55%) undergraduate students, 12,129 (43%) postgraduate/doctorate students and 503 (2%) sub-degree programme students.

1.6 ***PolyU's main campus.*** PolyU's main campus is located in Hung Hom on a site of approximately 102,300 square metres (see Photograph 1). The premises house a range of facilities, such as teaching rooms, library, sports facilities, multi-purpose auditorium and theatre.

Note 1: *PolyU's financial year starts on 1 July and ends on 30 June of the following year. Unless otherwise specified, all years (e.g. 2022-23) mentioned in this Audit Report refer to financial years.*

Note 2: *PolyU's academic year starts on 1 September and ends on 31 August of the following year.*

Photograph 1

PolyU's main campus



Source: PolyU records

Governance and organisation structure

1.7 ***The Council.*** The governing body of PolyU is the Council. The Council is established under The Hong Kong Polytechnic University Ordinance. It comprises the President and Deputy President of PolyU as ex-officio members, 17 lay members from the business and professional sectors, three elected staff members, a member from the alumni and two elected full-time students. Of the 17 lay members of the Council, 9 are appointed by the Chief Executive of the HKSAR and 8 are appointed by the Council (Note 3). The Chief Executive of the HKSAR shall also appoint the Chairman and Deputy Chairman of the Council among the lay members. The proper

Note 3: *The Council has established the Council Membership Nominations Committee to help identify and recommend the appointments/re-appointments of the 8 lay members to be appointed by the Council.*

Introduction

conduct of Council business is supported by 13 Standing Committees of the Council (Note 4).

1.8 ***The Court.*** The Court is the supreme advisory body to the Council on matters of direction, with the objective of promoting the well-being of the university. The Chairman and members of the Court, being prominent leaders from the business and professional sectors, are appointed by the Council. They will be invited to provide advice to the Council on major strategic issues. As at 31 March 2024, the Court comprised 61 members (including the Chairman).

1.9 ***The Senate.*** The Senate is the highest authority on all academic-related matters within PolyU. Chaired by the President, the Senate draws its membership from representatives of all faculties and academic departments as well as the student body. Under the Senate are a number of faculty and school boards and standing committees (Note 5), with responsibility for various policy and functional areas.

1.10 ***Organisation structure.*** The Chief Executive of the HKSAR is the Chancellor of PolyU. The President of PolyU is appointed by the Council. The President, as the chief executive of the university, is responsible to the Council for the management, conduct and administration of the institution. The President is assisted by the Deputy President and Provost, the Executive Vice President, 4 Vice Presidents (1 of the 4 Vice Presidents is Interim Vice President), 5 Associate Vice Presidents, and Deans of Faculties, Schools and Graduate School. In academic year 2022/23, there were 5,987 full-time staff in PolyU, including 2,534 (42%) administrative/support staff, 2,026 (34%) research staff, and 1,427 (24%) academic

Note 4: *The 13 Standing Committees are: (a) Audit Committee; (b) Campus Development Committee; (c) Council Membership Nominations Committee; (d) Disciplinary Committee; (e) Executive Committee; (f) Finance Committee; (g) Governance Committee; (h) Honorary Degrees and Awards Committee; (i) Investment Committee; (j) Knowledge Transfer Committee; (k) Senior Executives Evaluation and Compensation Committee; (l) Staffing Committee; and (m) The Hong Kong Polytechnic University Foundation.*

Note 5: *The faculty and school boards and standing committees include the Academic Appeals Committee, Academic Planning and Regulations Committee, Faculty/School/College Boards, Graduate School Board, Learning and Teaching Committee, Academic Quality Assurance Committee, and Research Committee.*

and teaching/clinical staff (see Appendix A for an extract of the organisation chart of PolyU as at 31 March 2024).

1.11 *Campus Facilities and Sustainability Office (CFSO)*. PolyU's CFSO provides comprehensive facilities management services and is responsible for the repair and maintenance work of the main campus (Note 6). It coordinates and maintains building and facility related services at PolyU. PolyU's CFSO is headed by the Director of Campus Facilities and Sustainability and reports to the Interim Vice President (Campus Development and Facilities). As at 31 March 2024, CFSO had a staff establishment and strength of 172 and 153 respectively.

Repair and maintenance of university premises

1.12 In 2022-23, PolyU's total expenditure was \$6,895.5 million, of which \$918.7 million (13%) was related to "Premises and Related Expenses". The expenditure on "Repairs and Maintenance" under the "Premises and Related Expenses" was \$146.8 million (i.e. 16% of the "Premises and Related Expenses" or 2% of the total expenditure) in the year (Note 7). In the period from 2018-19 to 2022-23, PolyU's annual expenditure on "Repairs and Maintenance" of university premises ranged from \$97.0 million in 2020-21 to \$235.7 million in 2021-22 (see Table 1).

Note 6: *CFSO is also responsible for compiling strategic plans on campus sustainability as well as assisting in the management of catering services in PolyU.*

Note 7: *The expenditure on "Repairs and Maintenance" refers to the operating expenses on repair and maintenance, i.e. not inclusive of staff costs and benefits, and costs of depreciation.*

Table 1

**Expenditure on repair and maintenance of university premises
(2018-19 to 2022-23)**

Year	Expenditure (\$ million)
2018-19	101.5
2019-20	190.5 (Note 1)
2020-21	97.0 (Notes 1 and 2)
2021-22	235.7 (Note 1)
2022-23	146.8 (Note 1)
Total	771.5

Source: Audit Commission analysis of PolyU records

Note 1: In the period from 2019-20 to 2022-23, repair and maintenance expenditure of \$102 million was related to campus restoration and security enhancement work carried out on the campus facilities damaged during the black-clad violence in 2019. Regarding the campus restoration and security enhancement work, apart from the repair and maintenance expenditure of \$102 million, additional expenditure of \$133.8 million was incurred on other work and services (e.g. cleaning services, security services, consumables, ancillary services, landscaping and security enhancement works) (see para. 1.18).

Note 2: The expenditure in 2020-21 (i.e. \$97 million) was partially offset by an insurance compensation of \$40 million received in relation to the black-clad violence in 2019.

1.13 **Scope of repair and maintenance.** The scope of repair and maintenance of university premises comprises building services and building fabrics:

- (a) **Building services.** Building services refer to the systems installed in the buildings to make them comfortable, functional, efficient and safe for the users. The scope of building services in PolyU's premises includes:

- (i) building management system;
 - (ii) closed circuit television and access control;
 - (iii) electrical and fire services;
 - (iv) lifting appliances, lifting gears, boilers and pressure vessels;
 - (v) lifts and escalators;
 - (vi) lighting;
 - (vii) mechanical ventilation and air conditioning; and
 - (viii) pumps; and
- (b) ***Building fabrics.*** Building fabrics refer to components of any building, consisting of the roofs, walls, windows, doors, etc., but excluding any mechanical system. The scope of building fabrics in PolyU's premises includes:
- (i) external walls;
 - (ii) plumbing/drainage pipe works;
 - (iii) skylights and covered walkways;
 - (iv) slopes and fencing;
 - (v) walls, floors and ceilings;
 - (vi) waterproofing; and
 - (vii) windows and doors.

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Photographs 2(a) and (b) and Photographs 3(a) and (b) show examples of repair and maintenance work for building services and building fabrics respectively.

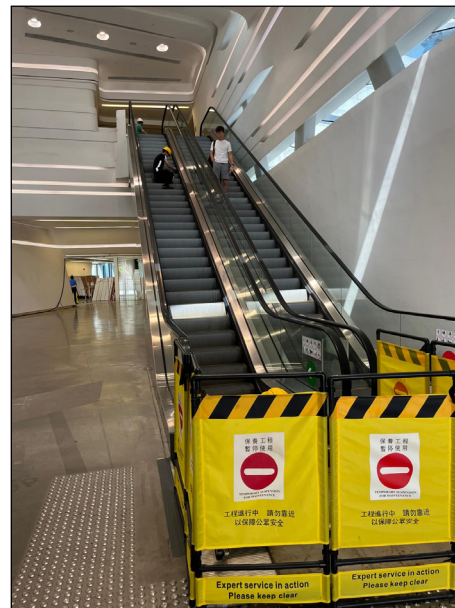
Photographs 2(a) and (b)

Examples of repair and maintenance work for building services

(a) Repair and maintenance work for a lift



(b) Repair and maintenance work for an escalator



Source: PolyU records

Photographs 3(a) and (b)

Examples of repair and maintenance work for building fabrics

(a) Repair and maintenance work for drainage pipes



Source: PolyU records

(b) Repair and maintenance work for floor tiles



Source: Photograph taken by Audit Commission on 23 May 2024

1.14 **Planned maintenance.** PolyU carries out planned maintenance work for the premises to maintain the campus environment and to ensure that the premises are in good condition. There are three types of planned maintenance work, comprising:

- (a) **Planned preventive maintenance.** Preventive maintenance aims at taking regular and appropriate inspections and maintenance activities before the occurrence of any breakdown or failure of a building element or system. Examples of such activities include regular inspections on air-conditioning systems, and routine cleaning, lubricating and calibrating of passenger lifts;
- (b) **Planned corrective maintenance.** When wears and tears, defects or failures are identified during preventive maintenance, corrective maintenance is performed to repair or restore the systems or facilities; and

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- (c) ***Cyclic replacement maintenance.*** Cyclic replacement refers to the process of replacing assets or equipment based on economic cycles.

PolyU engages service contractors and term contractors for carrying out the planned maintenance work (see para. 1.17(a)) (Note 8).

1.15 ***On-request maintenance.*** From time to time, PolyU officers or the campus users may detect failures, breakdowns, malfunctions, anomalies or damages of campus facilities, and raise service requests for repair and maintenance work. The on-request maintenance work can be categorised into corrective maintenance and emergency maintenance:

- (a) ***On-request corrective maintenance.*** Corrective maintenance is performed to correct failures, breakdowns, malfunctions, anomalies or damages detected, with an aim to restore the systems or facilities to the regular and required operation mode; and
- (b) ***On-request emergency maintenance.*** Emergency maintenance refers to the immediate remedial work that is performed in response to an urgent repair and maintenance service request.

The on-request maintenance work in PolyU is carried out by PolyU's in-house staff and the staff of service contractors (see para. 1.17(a)).

1.16 ***Other repair and maintenance work.*** PolyU engages consultants for the provision of consultancy services on repair and maintenance work (see para. 1.17(b)). As at 31 March 2024, the consultancy services comprised:

- (a) ***Assessments of structural integrity of building fabrics.*** PolyU engages a consultant to carry out assessments of the structural integrity of building fabrics for internal areas, external areas and facades of the main campus

Note 8: *In the period from 2018-19 to 2022-23, PolyU's annual expenditure on "Repairs and Maintenance" of university premises ranged from \$97.0 million to \$235.7 million each year (see para. 1.12). According to PolyU, no separate information is available on the respective expenditure on planned maintenance and on-request maintenance.*

buildings, in order to identify the defects and reasons for deterioration in those areas and to arrange for appropriate repair work; and

- (b) ***Quantity surveying services.*** PolyU engages a consultant to provide quantity surveying services. The consultant advises PolyU on matters including the costings of repair and maintenance work.

1.17 ***Service contractors, term contractors and consultants engaged by PolyU.*** Apart from its in-house staff, PolyU engages contractors and consultants for the provision of repair and maintenance work and related consultancy services. The contractors and consultants are engaged under service contract, term contract or consultancy service contract arrangements. As at 31 March 2024, there were 161 contracts in effect, comprising:

- (a) ***Planned maintenance and on-request maintenance services.*** There were 157 service contracts and 2 term contracts in effect, with contract durations ranging from 1 month to 8 years for the service contracts, and contract duration of 3 years for the term contracts; and
- (b) ***Consultancy services on repair and maintenance work.*** There were 2 consultancy service contracts in effect, each with a contract duration of 3 years.

Details of the contracts for repair and maintenance work and related consultancy services as at 31 March 2024 are shown in Table 2.

Table 2

**Contracts for repair and maintenance work
and related consultancy services
(31 March 2024)**

Type of contracts	Scope of services	Number of contracts
<i>Repair and maintenance work</i>		
Service contract	Building services	150
	Building fabrics	7
	Sub-total	157
Term contract	Building services	1
	Building fabrics	1
	Sub-total	2
<i>Consultancy services</i>		
Consultancy service contract	Assessments of structural integrity of building fabrics	1
	Quantity surveying services	1
	Sub-total	2
Total		161

Source: Audit Commission analysis of PolyU records

Campus restoration and security enhancement work

1.18 The black-clad violence in 2019 has resulted in extensive damage to PolyU's premises. According to PolyU, the incident had caused safety and hygiene hazards, blockages of access routes and damaged facilities in the university premises.

In late November 2019, PolyU carried out campus restoration and security enhancement work with the aims of quickly restoring a safe and healthy campus environment for the resumption of teaching and research activities, and enhancing the protection of PolyU's campus. The campus restoration and security enhancement work comprised:

- (a) ***Recovery and reinstatement works.*** Temporary recovery works (such as temporary building repair works, and building services systems checking) that were essential for the safety and the re-establishment of PolyU's core functions of teaching and research were carried out and completed in January 2020. Permanent reinstatement works (such as repairs and replacements of damaged facilities) for reinstating the campus to its original conditions were completed in June 2022; and
- (b) ***Security and safety enhancement measures.*** The security and safety enhancement measures included the installation of perimeter fencing, the enhancement of access controls, and the enhancement of closed circuit television system. The implementation of the measures was completed in January 2022.

In the period from 2019-20 to 2022-23, the expenditure incurred on the campus restoration and security enhancement work was \$235.8 million, comprising repair and maintenance expenditure of \$102 million (see Note 1 to Table 1 in para. 1.12) and other expenses (e.g. cleaning services, security services, consumables, ancillary services, landscaping and security enhancement works) of \$133.8 million.

Audit review

1.19 In April 2024, the Audit Commission (Audit) commenced a review of PolyU's work relating to the repair and maintenance of university premises (Note 9). This audit has focused on the following areas:

- (a) planned maintenance (PART 2);
- (b) on-request maintenance and other repair and maintenance work (PART 3);

Note 9: *The repair and maintenance of university premises at PolyU's main campus is covered in this Audit Report.*

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- (c) procurement of services (PART 4); and
- (d) campus restoration and security enhancement work and other issues (PART 5).

Audit has found room for improvement in the above areas and has made a number of recommendations to address the issues.

General response from The Hong Kong Polytechnic University

1.20 The President, The Hong Kong Polytechnic University agrees with the audit recommendations. He has said that he would like to express his sincere gratitude to Audit for the audit work on PolyU's repair and maintenance work, and the observations and recommendations Audit provided to facilitate PolyU's continuous enhancement.

Acknowledgement

1.21 Audit would like to acknowledge with gratitude the full cooperation of the staff of PolyU during the course of the audit review.

PART 2: PLANNED MAINTENANCE

2.1 This PART examines the planned maintenance work of PolyU, focusing on the following areas:

- (a) planning of repair and maintenance work (paras. 2.2 to 2.11); and
- (b) monitoring of repair and maintenance work (paras. 2.12 to 2.24).

Planning of repair and maintenance work

2.2 Planned maintenance is performed to maintain the campus environment and to ensure that the premises are in good condition. According to PolyU, it determines the extent of planned maintenance work based on a number of factors, including the statutory requirements on periodic maintenance, and the age and actual condition of the facilities. After the extent of planned maintenance work is determined, PolyU carries out Facilities Condition Assessments to determine the priorities of the planned maintenance work for the building services installations.

Facilities Condition Assessments

2.3 Each year, PolyU conducts Facilities Condition Assessments to assess the conditions of the building services installations in the university premises. The facilities are assessed based on four evaluation criteria, with different weightings assigned to each criterion. For each facility, PolyU gives a rating on each of the four criteria based on a 0 to 4 scale (i.e. 0 (excellent), 1 (good), 2 (satisfactory), 3 (poor) or 4 (very poor)). The four evaluation criteria and their respective weightings are as follows:

- (a) condition (weighting of 50%);
- (b) availability (weighting of 25%);
- (c) age (weighting of 12.5%); and

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- (d) obsolescence (weighting of 12.5%).

An overall rating based on the 0 to 4 scale is then calculated taking into account the weightings of the four criteria.

2.4 *Room for improvement in conducting Facilities Condition Assessments.*

Audit reviewed the ratings given to the facilities based on the four evaluation criteria in the Facilities Condition Assessments conducted in the period from 2018-19 to 2023-24. Audit found room for improvement in conducting the Facilities Condition Assessments:

- (a) PolyU's guidelines did not clearly specify the basis for giving the ratings in the Facilities Condition Assessments. For example, in the period from 2020-21 to 2023-24, a lift with downtime of 0 to 29.5 hours (averaging 12 hours) per year was given a "poor" rating for the criterion of "availability" in all four years; and
- (b) while the scale adopted was from 0 to 4, a facility was given a rating of 4.5 in one of the evaluation criteria in the 2021-22 assessment.

In response to Audit's enquiry, PolyU informed Audit in September 2024 that some of the ratings for the lift in (a) were mistakenly given and the rating of 4.5 for the facility in (b) was given due to input error.

2.5 Audit considers that PolyU needs to:

- (a) enhance guidelines on the Facilities Condition Assessments, including setting out the basis for giving ratings on the four evaluation criteria; and
- (b) ensure the accuracy of the ratings given to the facilities in the Facilities Condition Assessments.

Maintenance of lifts and escalators

2.6 As at 30 June 2024, there were 74 lifts and 10 escalators in PolyU's main campus:

- (a) **Lifts.** The age of the 74 lifts ranged from 2 to 23 years (averaging 10 years); and
- (b) **Escalators.** The age of the 10 escalators ranged from 2 to 11 years (averaging 9 years).

2.7 *Need to enhance monitoring of maintenance of lifts and escalators to minimise occurrence of incidents.* Audit reviewed the incident reports of the 74 lifts and the 10 escalators in 2022-23 and 2023-24. Audit found that:

- (a) **Lifts.** For 69 (93%) of the 74 lifts, there were incidents occurred during the period (see Table 3):
 - (i) the total number of incidents occurred was 413, ranging from 1 to 40 incidents for each lift (averaging 6 incidents);
 - (ii) the total downtime involved was 2,523 hours, ranging from 0 to 324 hours for each lift (averaging 37 hours) (Note 10); and
 - (iii) the majority of the incidents were caused by equipment failure. Of the 413 incidents, 266 (64%) were caused by equipment failure, involving 1,855 (74%) hours of total downtime; and

Note 10: *For 29 incidents, no downtime was involved because the incidents were due to failure of parts (e.g. display panels) that did not cause the suspension of lift services.*

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Table 3

**Analysis of lift incidents
(2022-23 and 2023-24)**

No. of incidents	No. of lifts (a)	Total downtime (b) (Hour)	Average downtime (c) = (b) ÷ (a) (Hour)
1 to 5	41	626	15
6 to 10	19	629	33
11 to 15	5	348	70
16 to 20	2	513	257
More than 20 (Note)	2	407	204
Overall	69	2,523	37

Source: *Audit analysis of PolyU records*

Note: *For the lift with the highest number of incidents, the number of incidents was 40. The total downtime involved was 199 hours.*

- (b) **Escalators.** For all the 10 escalators, there were incidents occurred during the period (see Table 4):
- (i) the total number of incidents occurred was 134, ranging from 2 to 41 incidents for each escalator (averaging 13 incidents);
 - (ii) the total downtime involved was 648 hours, ranging from 3 to 140 hours for each escalator (averaging 65 hours); and
 - (iii) the majority of the incidents were caused by equipment failure. Of the 134 incidents, 84 (63%) were caused by equipment failure, involving 410 (63%) hours of total downtime.

Table 4

**Analysis of escalator incidents
(2022-23 and 2023-24)**

No. of incidents	No. of escalators (a)	Total downtime (b) (Hour)	Average downtime (c) = (b) ÷ (a) (Hour)
1 to 5	2	8	4
6 to 10	2	150	75
11 to 15	4	275	69
More than 15 (Note)	2	215	108
Overall	10	648	65

Source: Audit analysis of PolyU records

Note: For the escalator with the highest number of incidents, the number of incidents was 41. The total downtime involved was 135 hours.

2.8 ***Need to improve monitoring of issuing warning letters to lift contractors for non-compliances with contract requirements.*** According to the lift maintenance contracts signed between PolyU and the lift contractors, the monthly service availability shall be maintained at not lower than 98.5%. The contracts also stipulate that written warning would be issued if the lift contractor fails to comply with the requirement. Audit examined the service availability of the lifts in 2022-23 and 2023-24, and found that in one month, a contractor was not able to comply with the requirement on service availability. The monthly service availability for the lift maintained by the contractor was 88.4%. However, PolyU did not issue any warning letter to the contractor.

2.9 Audit considers that PolyU needs to:

- (a) enhance the monitoring of maintenance of lifts and escalators to minimise the occurrence of incidents; and

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- (b) improve the monitoring of issuing warning letters to lift contractors for non-compliances with contract requirements.

Audit recommendations

2.10 **Audit has *recommended* that the President, The Hong Kong Polytechnic University should:**

- (a) **enhance guidelines on the Facilities Condition Assessments, including setting out the basis for giving ratings on the four evaluation criteria;**
- (b) **ensure the accuracy of the ratings given to the facilities in the Facilities Condition Assessments;**
- (c) **enhance the monitoring of maintenance of lifts and escalators to minimise the occurrence of incidents; and**
- (d) **improve the monitoring of issuing warning letters to lift contractors for non-compliances with contract requirements.**

Response from The Hong Kong Polytechnic University

2.11 The President, The Hong Kong Polytechnic University agrees with the audit recommendations. He has said that:

- (a) for the Facilities Condition Assessments, PolyU has enhanced the assessment guidelines by specifying the basis for giving ratings. Better data input controls have also been implemented; and
- (b) except for the single case identified in paragraph 2.8, the monthly service availability of all lifts in the campus had attained the service target as specified in the service contracts in 2022-23 and 2023-24. An enhanced measure has been adopted for monitoring the lift contractors' performance.

Monitoring of repair and maintenance work

Need to strengthen controls in handling works orders

2.12 PolyU issues works orders to the term contractors for delivery of repair and maintenance work. There are two types of works orders:

- (a) ***Normal works orders.*** PolyU's Operation Manual stipulates that the following procedures need to be carried out before a normal works order can be issued:
 - (i) the Project Managers raise a works order request for endorsement from the appropriate authorities by preparing a works order request form, which details the description of works, commencement and completion dates and cost estimate;
 - (ii) the works order is created in the computer system;
 - (iii) the Section Heads approve the works order in the computer system; and
 - (iv) the works order is issued to the contractor for the commencement of works; and
- (b) ***Covering works orders.*** In cases where works need to be commenced before the issue of works orders, covering works orders may be issued in accordance with the requirements stipulated in PolyU's Operation Manual as follows:
 - (i) issuing covering works orders should be avoided as far as practicable except under very special circumstances;
 - (ii) the Project Managers may consider issuing covering works orders provided that prior endorsement from the Section Head is obtained; and

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- (iii) for urgent jobs, the Section Head's endorsement should be sought at the earliest opportunity after instructing the term contractor to do the jobs.

2.13 In the period from July 2022 to March 2024, 1,086 works orders were created. As at 30 June 2024, 1,054 of the 1,086 works orders had been completed, comprising 903 normal works orders and 151 covering works orders. Audit examined the records of the works orders and found room for improvement in PolyU's handling of works orders.

2.14 ***Works commenced before normal works orders were approved.*** Audit analysed the 903 completed normal works orders and found that, for 488 (54%) of the 903 normal works orders, contrary to the requirements in PolyU's Operation Manual (see para. 2.12(a)), the works had commenced before the normal works orders were approved. The works had commenced 1 to 214 days (averaging 9 days) before obtaining the Section Heads' approvals. Of the 488 works orders:

- (a) for 106 (22%) works orders, the works had commenced even before the works order requests were endorsed (see para. 2.12(a)(i)). The works had commenced 1 to 111 days (averaging 8 days) before the works order requests were endorsed, and 1 to 124 days (averaging 16 days) before obtaining the Section Heads' approvals; and
- (b) for 72 (15%) works orders, at the time the Section Heads' approvals were obtained, the works had been completed.

2.15 ***Room for improvement in issuing covering works orders.*** Audit examined 10 of the 151 completed covering works orders. Audit found that, of the 10 covering works orders:

- (a) ***Endorsement for covering works order not obtained before works commencement.*** For 1 (10%) of the works orders, contrary to the requirement in PolyU's Operation Manual (see para. 2.12(b)(ii)), the Section Head's prior endorsement was not sought before works commencement. The endorsement was only obtained 518 days after the works commencement, or 139 days after the works completion. In the

endorsement application, there was no indication as to whether the job was urgent;

- (b) ***Endorsements for urgent jobs obtained long after works commencement.*** For 2 (20%) of the works orders related to urgent jobs, contrary to the requirement in PolyU's Operation Manual (see para. 2.12(b)(iii)), the endorsements were obtained long after the works commencement. The endorsements were obtained 69 and 203 days after the works commencement, or 69 and 198 days after the works completion; and
- (c) ***Special circumstances giving rise to the need for covering works orders not mentioned in endorsement applications.*** For 5 (50%) works orders, in the applications for Section Heads' prior endorsements, the special circumstances giving rise to the need for covering works orders were not stated. All the 5 works orders were endorsed without documenting the justifications for endorsements of the covering works orders.

2.16 To strengthen the controls in handling works orders, Audit considers that PolyU needs to take measures to ensure that the requirements in PolyU's Operation Manual are complied with, including:

- (a) normal works orders are approved and covering works orders are endorsed before works commencement;
- (b) for covering works orders for urgent jobs, the Section Heads' endorsements are sought at the earliest opportunity; and
- (c) the special circumstances giving rise to the need for covering works orders are stated in the endorsement applications for the Section Heads' consideration and the justifications for endorsements are documented.

Long time taken to issue certificates of completion after completion of works

2.17 According to the term contracts signed between PolyU and the contractors:

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- (a) as soon as PolyU considers that the works have been substantially completed and have passed any final test that may be prescribed by the contracts, PolyU shall issue a certificate of completion in respect of the works (Note 11); and
- (b) the submission of testing and commissioning record, and other appropriate records (e.g. drawings for building services installations) shall form part of the conditions for the issuance of the certificate of completion of works order.

2.18 As at 30 June 2024, 1,054 works orders created in the period from July 2022 to March 2024 had been completed (see para. 2.13). Audit analysed the 1,054 works orders and found that:

- (a) on some occasions, long time was taken by PolyU to issue the certificates of completion after the works had been completed. For 1,042 works orders, the time taken for issuing certificates of completion ranged from 0 to 652 days (averaging 70 days) from the date of works completion. Of the 1,042 works orders with certificates of completion issued:
 - (i) for 390 (37%) works orders, the certificates were issued more than 60 days after the works had been completed; and
 - (ii) for 17 (2%) works orders, the certificates were issued more than 365 days after the works had been completed (see Table 5);

Note 11: *The requirement is stipulated in the “General Conditions of Contract for Term Contracts for Building Works” issued by the Government in 2004.*

Table 5

**Time taken for issuing certificates of completion
from the date of works completion
(July 2022 to March 2024)**

Time taken (Day)	Number of works orders
14 and below	338 (32%)
15 to 30	153 (15%)
31 to 60	161 (16%)
61 to 150	235 (22%)
151 to 365	138 (13%)
More than 365 (Note)	17 (2%)
Total	1,042 (100%)

Source: Audit analysis of PolyU records

Note: The longest elapsed time was 652 days.

- (b) for 8 works orders, as at 30 June 2024, the certificates of completion had not been issued, the time elapsed from the works completion date was 0 to 151 days (averaging 47 days); and
- (c) for the remaining 4 works orders, the information on the works completion date was not available. Therefore, the time taken to issue the certificates of completion could not be analysed.

2.19 In Audit's view, PolyU needs to:

- (a) ascertain the reasons for the long time taken to issue the certificates of completion for works orders;

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- (b) take measures to ensure that certificates of completion are issued as soon as practicable after the works are completed; and
- (c) take measures to ensure that necessary information of works orders (e.g. works completion date) is properly maintained with a view to facilitating the monitoring of the handling of works orders.

Need to enhance guidelines on site inspections

2.20 In accordance with PolyU's Operation Manual, PolyU's Project Managers monitor the contractors' performance on planned maintenance work by conducting periodic inspections to the work sites. Audit examined the records of site inspections conducted by the Project Managers for 30 service contracts (comprising 16 service contracts for lift maintenance and 14 service contracts for other facilities) that were in effect as at 1 April 2024. Audit found that there were variations in the mode, frequency and timing, and the documentation of the results of site inspections:

- (a) ***Mode of site inspections.*** Of the 30 service contracts:
 - (i) for 27 (90%) contracts, the Project Managers visited the site in person to conduct the inspections; and
 - (ii) for 3 (10%) contracts, the Project Managers asked the contractors to provide photos of the site for the purpose of inspections;
- (b) ***Frequency and timing of site inspections.*** The duration of the 30 service contracts ranged from 5 months to 7 years. For the 27 contracts with records showing that site inspections had been conducted by the Project Managers, the number of inspections conducted in 2023-24 ranged from 1 to 12 (averaging 3). The records did not show whether the site inspections had been conducted at the critical stage of the maintenance work; and
- (c) ***Documentation of results.*** For all the 30 service contracts, there were no records showing the scope covered in the site inspections and the results of site inspections. Of the 30 service contracts:

- (i) for 26 (87%) contracts, the Project Managers provided the photos taken during the site inspections as the records;
- (ii) for 1 (3%) contract, the Project Manager only recorded the dates of site inspections in the site diary; and
- (iii) for 3 (10%) contracts, the Project Managers used the photos provided by the contractors as the records.

2.21 Audit found that while PolyU's Operation Manual required Project Managers to conduct periodic inspections to the sites to monitor the work of the contractors, the Operation Manual did not specify:

- (a) the mode (e.g. physical visits, scheduled/surprise inspections), frequency, timing (e.g. inspections conducted at the critical stage of the maintenance work) and scope of site inspections; and
- (b) the requirement for Project Managers to record the results of site inspections or to prepare inspection reports upon the completion of the inspections. They were only required to record the dates of inspections in the site diary.

2.22 Audit considers that PolyU needs to enhance the guidelines on site inspections (including the mode, frequency, timing and scope of site inspections), and require the Project Managers to record the results of site inspections.

Audit recommendations

2.23 **Audit has recommended that the President, The Hong Kong Polytechnic University should:**

- (a) **take measures to ensure that the requirements in PolyU's Operation Manual are complied with, including:**
 - (i) **normal works orders are approved and covering works orders are endorsed before works commencement;**

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- (ii) **for covering works orders for urgent jobs, the Section Heads' endorsements are sought at the earliest opportunity; and**
- (iii) **the special circumstances giving rise to the need for covering works orders are stated in the endorsement applications for the Section Heads' consideration and the justifications for endorsements are documented;**
- (b) **ascertain the reasons for the long time taken to issue the certificates of completion for works orders;**
- (c) **take measures to ensure that certificates of completion are issued as soon as practicable after the works are completed;**
- (d) **take measures to ensure that necessary information of works orders (e.g. works completion date) is properly maintained with a view to facilitating the monitoring of the handling of works orders; and**
- (e) **enhance the guidelines on site inspections (including the mode, frequency, timing and scope of site inspections), and require the Project Managers to record the results of site inspections.**

Response from The Hong Kong Polytechnic University

2.24 The President, The Hong Kong Polytechnic University agrees with the audit recommendations. He has said that PolyU has formed a Taskforce on Enhancement of Repair and Maintenance Work to conduct a holistic review of the workflow and procedures for the repair and maintenance work, and to enhance measures for monitoring compliance with the requirements in PolyU's Operation Manual.

PART 3: ON-REQUEST MAINTENANCE AND OTHER REPAIR AND MAINTENANCE WORK

3.1 This PART examines the on-request maintenance and other repair and maintenance work of PolyU, focusing on the following areas:

- (a) on-request maintenance (paras. 3.2 to 3.16);
- (b) assessments of structural integrity of building fabrics (paras. 3.17 to 3.26);
and
- (c) quantity surveying services (paras. 3.27 to 3.49).

On-request maintenance

3.2 *Requests for repair and maintenance services.* When a need for repair and maintenance services arises, campus users can raise a request by contacting CFSO via CFSO's help desk or online system. Upon receiving a request, a job order will be created and handled in accordance with the work flow stipulated in PolyU's Operation Manual. In the period from 2021-22 to 2023-24, 80,997 job orders for on-request corrective maintenance and 2,679 job orders for on-request emergency maintenance were created and completed.

3.3 *Monitoring of on-request maintenance work.* According to PolyU's Operation Manual, all completed job orders are to be checked and confirmed completion by the Project Managers. The Operation Manual also stipulates the following requirements:

- (a) Project Managers are required to conduct random spot check of the jobs done;
- (b) after the Project Managers have confirmed the completion of job orders, an electronic survey is sent to the users for collection of feedback; and

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- (c) the compliance of performance pledge.

3.4 ***Computerised Maintenance Management System (CMMS)***. CMMS is a computer system developed to facilitate the management of maintenance services. Information on the service requests (e.g. date and time of requests) and job orders (e.g. creation date and completion date of job orders) are recorded in CMMS. The functions of CMMS include the recording and monitoring of job orders, conducting surveys to collect users' feedback and preparation of reports (such as report on job orders issued, spot check report and survey report) for management purpose.

Need to improve spot checks on job orders for on-request maintenance

3.5 According to PolyU's Operation Manual, Project Managers are required to conduct random spot checks on jobs done. In the period from 2021-22 to 2023-24, 80,997 job orders for on-request corrective maintenance and 2,679 job orders for on-request emergency maintenance were created and completed (see para. 3.2). Audit analysed these job orders and found that:

- (a) ***Job orders for on-request corrective maintenance***. For the 80,997 job orders for corrective maintenance:
 - (i) ***Number of spot checks conducted***. Spot checks were only conducted for 720 (0.9%) of the 80,997 job orders. The percentage of job orders with spot checks conducted ranged from 0.2% (i.e. 55 of the 27,724 job orders) in 2022-23 to 1.9% (i.e. 459 of the 24,721 job orders) in 2021-22. Furthermore, the percentage of job orders with spot checks conducted decreased from 1.9% in 2021-22 to 0.7% (i.e. 206 of the 28,552 job orders) in 2023-24;
 - (ii) ***Types of job covered in spot checks***. The job orders for corrective maintenance were categorised into 15 job types (Note 12). The

Note 12: *The 15 job types for on-request corrective maintenance comprised: (a) air conditioning; (b) carpentry; (c) door/lock works; (d) fire service repairs; (e) laboratory system; (f) lighting/fluorescent tube replacement; (g) lighting repairs (transformer and gear replacement); (h) mechanical system; (i) metal works; (j) painting works; (k) plastering works; (l) plumbing and drainage; (m) power supply (non-urgent); (n) sanitary services; and (o) water seepage repairs – building fabrics.*

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types of job covered in the spot checks ranged from 1 (7%) in 2022-23 to 9 (60%) in 2021-22:

- in 2022-23, all the 55 spot checks conducted were related to fire service repairs. In the year, the number of job orders on fire service repairs was 59, i.e. 0.2% of total number of job orders of 27,724. No spot check was conducted on the other 14 job types; and
 - in the period from 2021-22 to 2023-24, no spot checks were conducted for 5 (33%) of the 15 job types. In the period, the number of job orders on these 5 job types was 33,202, i.e. 41% of the total number of job orders of 80,997; and
- (iii) **Documentation of spot check results.** The results of all spot checks conducted in the period were not documented; and
- (b) **Job orders for on-request emergency maintenance.** For the 2,679 job orders for emergency maintenance:
- (i) **Number of spot checks conducted.** Only 1 spot check was conducted in 2021-22. No spot check was conducted in the period from 2022-23 to 2023-24;
 - (ii) **Types of job covered in spot checks.** The job orders for emergency maintenance were categorised into 7 job types (Note 13). In the period from 2021-22 to 2023-24, the jobs involved 6 job types. Of the 6 job types, no spot checks were conducted for 5 (83%) of the job types. In the period, the number of job orders on these 5 job types were 1,405, i.e. 52% of the total number of job orders of 2,679; and
 - (iii) **Documentation of spot check results.** The results of the spot check conducted in the period were not documented.

Note 13: *The 7 job types for on-request emergency maintenance comprised: (a) fire (false alarm); (b) flooding/pipe blockage/pipe burst; (c) incident (e.g. accident, crime); (d) lift trap case; (e) no air conditioning for facilities; (f) power failure; and (g) water dripping from air conditioning.*

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3.6 Audit also found that PolyU's guidelines did not specify the detailed requirements on conducting spot checks for on-request maintenance, for example:

- (a) the extent of spot checks, including the percentage of job orders to be selected for checking;
- (b) the scope of checking;
- (c) the criteria for selecting job orders to conduct spot checks; and
- (d) the documentation of spot check results.

3.7 Audit considers that PolyU needs to enhance guidelines on conducting spot checks on job orders for on-request maintenance, including the extent of spot checks, scope of checking and criteria for selecting job orders to conduct spot checks, and ensure that the spot check results are documented.

Need to improve electronic survey for collecting users' feedback

3.8 According to PolyU's Operation Manual, after an on-request maintenance job order has been completed, an electronic survey is automatically sent to the users for collecting feedback. The survey seeks the users' feedback on the quality of the maintenance work and the quality of CFSO staff's customer service.

3.9 ***Low response rate of electronic survey for on-request corrective maintenance job orders.*** Audit analysed the users' feedback collected for 80,997 job orders for on-request corrective maintenance created and completed in the period from 2021-22 to 2023-24. Audit found that, in the period:

- (a) of the 80,997 job orders, users' feedback was only collected for 2,391 job orders, representing a response rate of 3%; and
- (b) the response rate of users' feedback decreased from 3.7% (i.e. 927 users' feedback for 24,721 job orders) in 2021-22 to 2.5% (i.e. 702 users' feedback for 28,552 job orders) in 2023-24.

3.10 Audit considers that PolyU needs to take measures to improve the response rate of electronic survey for collecting users' feedback on on-request corrective maintenance services.

Need to enhance performance monitoring for on-request maintenance

3.11 PolyU sets performance pledge for handling requests for corrective maintenance services and emergency maintenance services:

- (a) ***On-request corrective maintenance.*** Performance pledge has been set on the time taken to complete the requests (Note 14). Depending on the job type, the performance pledge ranges from 3 working days (for lighting/fluorescent tube replacement) to 10 working days (for water seepage repairs); and

- (b) ***On-request emergency maintenance.*** Performance pledge has been set on the time taken to attend to the requests (Note 15). Depending on the job type, the performance pledge ranges from 4 minutes (e.g. for lift trap cases and false fire alarms) to 20 minutes (e.g. for flooding/pipe blockage/pipe burst).

3.12 ***Need to ensure information necessary for performance monitoring is recorded and inputted into CMMS.*** When a service request is received, a job order is created in CMMS. The information on the request (e.g. date and time of request, job type) is inputted into CMMS. Based on the date/time of request and the job type, CMMS generates a pledge date/time for the service request. When the handling of a service request has been completed, CMMS calculates the time taken for completing or attending to the request and indicates whether the performance pledge has been met. Audit examined the data maintained in CMMS for the job orders created and completed in the period from 2021-22 to 2023-24. Audit found that:

Note 14: *According to PolyU, the time taken to complete a request refers to the duration from the receipt of service request to the completion of the relevant job order.*

Note 15: *According to PolyU, the time taken to attend to a request refers to the duration from the receipt of service request to the time when a staff arrives at the site.*

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- (a) ***On-request corrective maintenance.*** Of the 80,997 job orders:
 - (i) the information on the job type of 2,857 (4%) was not available. Therefore, CMMS was unable to determine whether the performance pledge had been met; and
 - (ii) for 1,515 (2%), they were classified by PolyU as “non-pledged jobs”. Therefore, performance pledge was not applicable; and
- (b) ***On-request emergency maintenance.*** Of the 2,679 job orders, the information on the job type of 3 (0.1%) was not available. Therefore, CMMS was unable to determine whether the performance pledge had been met.

3.13 ***Need to ensure that performance pledge for on-request maintenance is met.*** For the job orders created and completed in the period from 2021-22 to 2023-24, the information necessary for determining whether the performance pledge was met was available for 76,625 (i.e. 80,997 – 2,857 – 1,515) corrective maintenance job orders and 2,676 (i.e. 2,679 – 3) emergency maintenance job orders (see para. 3.12). Audit examined the performance of the 76,625 corrective maintenance job orders and 2,676 emergency maintenance job orders. Audit found that:

- (a) ***On-request corrective maintenance.*** Of the 76,625 job orders, the performance pledge was not met for 6,080 (8%) orders. For 560 (9%) of the 6,080 orders, the reasons for not meeting the pledge had not been recorded in CMMS; and
- (b) ***On-request emergency maintenance.*** Of the 2,676 job orders, the performance pledge was not met for 19 (1%) orders. For 11 (58%) of the 19 orders, the reasons for not meeting the pledge had not been recorded in CMMS.

3.14 Audit considers that PolyU needs to:

- (a) take measures to ensure that all information necessary for performance monitoring of on-request maintenance services is recorded and inputted into CMMS; and

- (b) take measures to ensure that the performance pledge for on-request maintenance services is met and the reasons for not meeting the performance pledge are documented.

Audit recommendations

3.15 **Audit has *recommended* that the President, The Hong Kong Polytechnic University should:**

- (a) **enhance guidelines on conducting spot checks on job orders for on-request maintenance, including the extent of spot checks, scope of checking and criteria for selecting job orders to conduct spot checks, and ensure that the spot check results are documented;**
- (b) **take measures to improve the response rate of electronic survey for collecting users' feedback on on-request corrective maintenance services;**
- (c) **take measures to ensure that all information necessary for performance monitoring of on-request maintenance services is recorded and inputted into CMMS; and**
- (d) **take measures to ensure that the performance pledge for on-request maintenance services is met and the reasons for not meeting the performance pledge are documented.**

Response from The Hong Kong Polytechnic University

3.16 The President, The Hong Kong Polytechnic University agrees with the audit recommendations. He has said that PolyU will enhance guidelines on conducting spot checks, explore and implement more effective ways to collect users' feedback, and conduct regular reviews to ensure data integrity for enhanced performance monitoring of on-request maintenance work.

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Assessments of structural integrity of building fabrics

3.17 Since March 2018, PolyU has appointed a building professional consultant to carry out assessments of the structural integrity of building fabrics. Key details of the current and the previous two contracts for assessments of structural integrity of building fabrics are shown in Table 6.

Table 6

**Contracts for assessments of structural integrity of building fabrics
(1 March 2018 to 13 June 2027)**

Contract	Contract period	Contract sum (\$ million)
Contract 2018/2021	1 March 2018 to 28 February 2021	4.08
Contract 2021/2024	27 May 2021 to 26 May 2024	4.59
Contract 2024/2027	14 June 2024 to 13 June 2027	4.29

Source: Audit analysis of PolyU records

3.18 According to the contracts signed between PolyU and the building professional consultants, the scope of consultancy services include:

- (a) assessments of structural integrity of building fabrics for internal areas, external areas and facades of main campus buildings, in order to identify the defects, reasons for deterioration in those areas and to arrange for appropriate repair work;
- (b) review of maintenance records provided by PolyU for recommendation of the priority of assessments and subsequent repairs;

- (c) investigation for the purpose of identifying/diagnosing the existence, extent and causation of defects in the structural elements in the specific locations and setting out recommended options for repair works; and
- (d) design, supervision and project management on remedial works to defects and associated works in order to ensure the safety of usage.

Need to enhance monitoring of progress in completing assessments of structural integrity of building fabrics

3.19 According to the contracts signed between PolyU and the building professional consultants, the consultants are responsible for completing the structural integrity assessments of 6,000 square metres of internal areas and 6,000 square metres of external building facades per annum. Audit noted that the annual targets were not always met:

- (a) in 2019-20, only 2,760 square metres of internal areas and 3,180 square metres of external building facades were covered in the structural integrity assessments, representing 46% and 53% of the targets respectively. According to PolyU, some of the work was suspended due to the coronavirus disease (COVID-19) epidemic; and
- (b) in 2022-23, only 5,400 square metres of external building facades were covered in the structural integrity assessments, representing 90% of the target. PolyU subsequently revised the target for external building facades to 90% of the original target (i.e. 6,000 square metres × 90%, or 5,400 square metres).

3.20 According to PolyU's Campus Development Committee's paper, the condition surveys and necessary remedial works of the cyclic maintenance project would be completed by phases in 10 years, i.e. a total of 60,000 square metres each for internal areas and external building facade would be completed by 2027. In the period from March 2018 to June 2024 (63% of the time elapsed), the consultants completed the assessment of 36,162 square metres of internal areas and 36,819 square metres of external building facades, representing 60% and 61% of the total areas required respectively.

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3.21 With a view to achieving the 10-year target, Audit considers that PolyU needs to enhance the monitoring of progress in completing the assessments of structural integrity of building fabrics.

Need to ensure that statutory submissions for works commencement are completed by consultant/contractor in a timely manner

3.22 PolyU issues written instructions (i.e. service orders) to the consultant when the needs for consultancy services arise. The written instructions specify the locations, scopes of services and the total working areas involved. At the statutory submission stage, the consultant/contractor is required to prepare the necessary information and documents to make statutory submission to the relevant Government department at least 7 days before the commencement of works (Note 16). According to the contract signed between PolyU and the building professional consultant, the consultant is required to ensure that the statutory submissions for works commencement are completed in a timely manner by the consultant itself or the contractor.

3.23 In the period from May 2021 to May 2024, 91 written instructions had been issued to the consultant. Audit examined the records of 10 written instructions. Audit found that for 4 (40%) of the 10 written instructions, there were delays in the statutory submissions for works commencement. The delays ranged from 14 to 40 days, averaging 26 days.

3.24 Audit considers that PolyU needs to take measures to ensure that the statutory submissions for works commencement are completed by the consultant/contractor in a timely manner.

Audit recommendations

3.25 **Audit has recommended that the President, The Hong Kong Polytechnic University should:**

Note 16: *According to PolyU, these are minor repair and maintenance works in nature.*

- (a) **enhance the monitoring of progress in completing the assessments of structural integrity of building fabrics; and**
- (b) **take measures to ensure that the statutory submissions for works commencement are completed by the consultant/contractor in a timely manner.**

Response from The Hong Kong Polytechnic University

3.26 The President, The Hong Kong Polytechnic University agrees with the audit recommendations.

Quantity surveying services

3.27 PolyU engages a consultant for the provision of quantity surveying services under a term contract arrangement. The consultant advises PolyU on matters including the costings of the repair and maintenance work. Key details of the current and the previous two contracts for quantity surveying consultancy services are shown in Table 7.

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Table 7

**Contracts for quantity surveying consultancy services
(23 April 2018 to 3 June 2027)**

Contract	Contract period	Contract sum (\$ million)
Contract 2018/2021	23 April 2018 to 22 April 2021	2.15
Contract 2021/2024	24 May 2021 to 23 May 2024	3.80
Contract 2024/2027	4 June 2024 to 3 June 2027	4.41

Source: Audit analysis of PolyU records

3.28 The major service requirement in the contracts is to carry out quantity surveying services for repair and maintenance work, including:

- (a) provision of cost estimate for repair and maintenance work for issuing of works orders and site instructions; and
- (b) provision of post-contract administration services, final account processing and valuation of works orders.

Need to specify requirement on preparation of cost estimates for building services works

3.29 According to PolyU:

- (a) in September 2005, PolyU's Internal Audit Unit recommended that the duties of cost estimation and checking of payment bills should be separated; and

- (b) to implement the segregation of duties, in November 2005, a quantity surveying consultant was appointed to carry out the cost estimate of work and check the payment bills submitted upon completion of the work.

3.30 Audit reviewed the preparation of cost estimates for building services works carried out by term contractors and found that:

- (a) according to PolyU, for building services works carried out by the term contractors with estimated works value of \$100,000 or above, PolyU required that the cost estimates should be prepared by the quantity surveying consultant; and
- (b) however, the requirement of preparation of cost estimates by the quantity surveying consultant for building services works carried out by the contractors with estimated works value of \$100,000 or above was not specified in PolyU's Operation Manual.

3.31 In the period from July 2018 to May 2024, 1,154 works orders for building services works carried out by term contractors were created. Of the 1,154 works orders, the estimated works value of 114 works orders was \$100,000 or above. Audit reviewed the cost estimates of the 114 works orders and found that, for 15 (13%) of the 114 works orders, the cost estimates were not prepared by the quantity surveying consultant:

- (a) for 13 (11%) works orders (involving estimated works value of \$100,000 to \$144,000 each, averaging \$114,592), the cost estimates were prepared by the Project Managers, who were also responsible for site supervision; and
- (b) for 2 (2%) works orders (involving estimated works value of \$125,728 and \$198,900 respectively), the cost estimates were prepared by officers involved in the processing of payments.

3.32 Audit considers that PolyU needs to:

- (a) specify in its Operation Manual the requirement on the preparation of cost estimates by quantity surveying consultant for building services works

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carried out by the term contractors with estimated works value of \$100,000 or above; and

- (b) take measures to ensure that the requirement on the preparation of cost estimates by quantity surveying consultant for building services works carried out by term contractors is complied with.

Need to ensure that cost estimates are prepared in a timely manner

3.33 According to the contract signed between PolyU and the quantity surveying consultant, upon receiving PolyU's notification, the consultant shall prepare the cost estimates within the stipulated timeframe according to the types of request:

- (a) ***Urgent requests.*** The cost estimates should be prepared within 2 working days;
- (b) ***Normal requests.*** The cost estimates should be prepared within 5 working days; and
- (c) ***Requests for revisions, re-assessments or updates.*** The cost estimates should be prepared within 2 working days.

3.34 ***Delays in preparation of cost estimates.*** In the period from May 2021 to May 2024, the consultant received 2,348 requests for preparation of cost estimates. Audit examined the records of the 2,348 requests and found that, as at 31 May 2024:

- (a) cost estimates had been prepared for 2,342 requests. For 1,163 (50%) requests, there were delays in the preparation of cost estimates. The delays ranged from 1 to 80 working days, averaging 13 working days (see Table 8):
 - (i) ***Urgent requests.*** The percentage of requests with delays in the preparation of cost estimates was the highest for urgent requests. Of the 471 urgent requests, there were delays in the preparation of cost estimates for 309 (66%) requests. The delays ranged from 1 to 80 working days (averaging 16 working days);

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- (ii) **Normal requests.** Of the 1,081 normal requests, there were delays in the preparation of cost estimates for 613 (57%) requests. The delays ranged from 1 to 59 working days (averaging 14 working days); and
- (iii) **Requests for revisions, re-assessments or updates.** Of the 790 requests for revisions, re-assessments or updates, there were delays in the preparation of cost estimates for 241 (31%) requests. The delays ranged from 1 to 41 working days (averaging 6 working days); and

Table 8

**Delays in preparation of cost estimates
(May 2021 to May 2024)**

Delay (Working day)	Type of requests		
	Urgent	Normal	Revisions, re-assessments or updates
No delay	162 (34%)	468 (43%)	549 (69%)
1 to 30	259 (55%)	550 (51%)	239 (30%)
31 to 60	46 (10%)	63 (6%)	2 (1%)
61 to 90	4 (1%)	—	—
Total	471 (100%)	1,081 (100%)	790 (100%)

Source: Audit analysis of PolyU records

Remarks: The longest delays for the preparation of cost estimates for urgent requests, normal requests, and requests for revisions, re-assessments or updates were 80 working days, 59 working days and 41 working days respectively.

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- (b) although the contract period for Contract 2021/2024 had expired, for 6 requests made prior to the contract end date, the cost estimates had not been prepared. The time elapsed ranged from 8 to 569 working days (averaging 164 working days) from the date of receiving the requests.

3.35 Audit considers that PolyU needs to ensure that cost estimates for repair and maintenance work are prepared by the quantity surveying consultant in a timely manner.

Need to ensure that requirements on processing of payment applications are complied with

3.36 Upon receiving payment applications from the repair and maintenance work contractors, the quantity surveying consultant is required to perform checking of payment applications to ensure that the services required in the works contracts have been completed by the contractors. After the checking is completed, the consultant proceeds to review/agree on the final value of works orders and forward the agreed payment application to PolyU's officers for settlements of the payments (Note 17).

3.37 According to the contracts signed between PolyU and the quantity surveying consultant, the requirements on the processing of payment applications are as follows:

- (a) ***Checking of payment applications.*** The checking involves site checks, technical checks, and liaisons with contractors, consultants, Project Managers and other PolyU officers. The quantity surveying consultant is required to complete the checking within 14 working days upon receiving the payment applications; and
- (b) ***Review/agreement on final value of works orders.***

Note 17: *According to the contracts between PolyU and the repair and maintenance contractors, interim payments of up to 80% of the estimated costs can be made to the contractors before the completion of works orders. After the works orders have been completed and the final values have been agreed, PolyU will settle the balance of payments with contractors. According to PolyU, the balance of payments is recognised as an accrual of expenditure based on the percentage of works completion at the end of the accounting period.*

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- (i) for final value of works order that is within a variance of 20% of the cost estimate, the quantity surveying consultant is required to agree the final account with the contractor and forward the agreed payment application to PolyU's officers for settlement. The entire process should be completed within 2 working days; and
- (ii) for final value of works order that is not within a variance of 20% of the cost estimate, the quantity surveying consultant is required to compare and summarise the major cost differences, review the cost differences with the Project Managers and prepare notes on the cost differences for endorsement. The consultant should then agree the final accounts with the contractor and forward the agreed payment application to PolyU's officers for settlement. The entire process should be completed within 7 working days.

3.38 ***Processing of payment applications.*** In the period from May 2021 to May 2024, 3,931 payment applications were received. Audit examination of the records of the processing of the 3,931 payment applications by the consultant revealed that:

- (a) as at 31 May 2024, 1,954 payment application processing had been completed and 1,977 payment applications were pending consultant's processing. As stipulated in the contract, the consultant was required to complete the processing of payment applications in 16 working days (i.e. 14 + 2 working days (see para. 3.37(a) and (b)(i)) or 21 working days (i.e. 14 + 7 working days (see para. 3.37(a) and (b)(ii)) upon receiving the payment applications. However, Audit found that there were delays in the consultant's processing of payment applications:
 - (i) of the 1,954 completed payment applications (involving total estimated works value of \$56.6 million, averaging \$28,979 per application), there were delays in the processing of 1,950 (99%) applications. The delays ranged from 3 to 634 working days (averaging 117 working days); and
 - (ii) of the 1,977 payment applications pending consultant's processing (involving total estimated works value of \$92.4 million, averaging \$46,717 per application), the time elapsed from the date of request up to 31 May 2024 ranged from 3 to 725 working days (averaging

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214 working days). For 1,805 (91%) of the 1,977 applications, the time elapsed was over 21 working days;

- (b) according to the contract, the consultant is required to carry out site checks on approximately 5% of the payment applications. In the period from May 2021 to May 2024, of the 3,931 payment applications, site checks had been conducted to only 17 or 0.4% of applications; and
- (c) for 575 (29%) of the 1,954 completed payment applications with final values agreed, the final values of works orders in the payment applications were not within a variance of 20% of the cost estimates. Contrary to the contract requirement (see para. 3.37(b)(ii)), the notes on the cost differences had not been prepared for endorsement in 34 (6%) of the 575 applications.

3.39 Audit considers that PolyU needs to ensure that the requirements on processing of payment applications are complied with by the quantity surveying consultant.

Need to ensure that progress reports are submitted by quantity surveying consultant at monthly intervals

3.40 According to the contract signed between PolyU and the quantity surveying consultant, the consultant shall submit to PolyU progress reports at monthly intervals. The report shall include a list of those parts of the work the execution of which are behind the programme together with proposal to expedite progress, so as to complete the services on time.

3.41 Audit reviewed the records of consultant's submissions of progress reports in the 36-month period from May 2021 to May 2024 and found that, for 27 (75%) of the 36 months, there was no record of the consultant's submission of progress reports.

3.42 Audit considers that PolyU needs to ensure that progress reports are submitted by the quantity surveying consultant at monthly intervals as stipulated in the contract and that records of submission are properly maintained.

Need to urge quantity surveying consultants to expedite clearance of backlogs in payment application processing

3.43 A quantity surveying consultant (Consultant A) was engaged to provide quantity surveying consultancy service to PolyU in the period from April 2018 to April 2021. Audit noted that although the contract between PolyU and Consultant A had expired in April 2021, the processing of payment applications received during the contract period had not been completed by Consultant A. According to the contract, the consultant shall allow for the time for the completion of services beyond the contractual service period. Subsequently, Consultant A continued to work on the backlogs in the processing of payment applications. Despite that Consultant A committed in May 2023 to settle 150 payment applications per month and targeted to complete the processing of the backlogs by March 2024, only 357 payment applications (averaging 36 applications per month) have been processed in the period from June 2023 to March 2024. As at 31 March 2024, 1,222 payment applications were still pending Consultant A's processing.

3.44 The Contract 2021/2024 between PolyU and the quantity surveying consultant (Consultant B) had also expired in May 2024. As at 31 May 2024, 1,977 payment applications were pending Consultant B's processing (see para. 3.38(a)(ii)). Audit considers that PolyU needs to take effective measures to urge the quantity surveying consultants in the previous contracts (i.e. Consultants A and B) to expedite the clearance of backlogs in payment application processing.

Need to enhance performance monitoring on quantity surveying consultant

3.45 According to PolyU's Operation Manual:

- (a) the Project Manager is responsible for the performance monitoring of the quantity surveying consultant. With effect from April 2023, assessment reports on the consultant should be completed on a half-yearly basis and a final assessment report should be completed within three months after the end of the account measurement period;
- (b) a performance mark is derived from the ratings of 11 individual performance aspects in the assessment report. If the performance mark is

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less than 50, the report will be rated as “Adverse”. Otherwise, the report will be rated as “Not adverse”; and

- (c) for the first adverse report issued to consultant, a warning letter will be issued to the consultant and the consultant will be required to improve his performance. If the consultant continues to receive “Adverse” rating for next consecutive report period:
 - (i) the consultant will be suspended from tendering similar kind of contract for 2 years or next contract, whichever is later; and
 - (ii) performance report shall be made for the consultant on a quarterly basis until a “Not adverse” report is received.

3.46 Audit found that the assessment report of the quantity surveying consultant covering a 22-month period from May 2021 to March 2023 was rated as “Adverse”. The consultant was rated as “Poor” in some of the aspects (i.e. “Adherence to Programme/Plan of Work”, “Professional supervision” and “Partner involvement”) (Note 18). However, after the first adverse report was issued to the consultant in June 2023, and up to the end of the contract period in May 2024, no warning letter had been issued by PolyU.

3.47 Audit considers that PolyU needs to enhance the performance monitoring on quantity surveying consultant and issue a warning letter to the consultant after an adverse assessment report is issued.

Note 18: *For the second assessment report covering the period from April 2023 to September 2023 and the third assessment report covering the period from October 2023 to March 2024, the reports were rated as “Not adverse”, and the ratings of “Adherence to Programme/Plan of Work” remained as “Poor”.*

Audit recommendations

3.48 **Audit has *recommended* that the President, The Hong Kong Polytechnic University should:**

- (a) **specify in PolyU's Operation Manual the requirement on the preparation of cost estimates by quantity surveying consultant for building services works carried out by the term contractors with estimated works value of \$100,000 or above;**
- (b) **take measures to ensure that the requirement on the preparation of cost estimates by the quantity surveying consultant for building services works carried out by term contractors is complied with;**
- (c) **ensure that cost estimates for repair and maintenance work are prepared by the quantity surveying consultant in a timely manner;**
- (d) **ensure that the requirements on processing of payment applications are complied with by the quantity surveying consultant;**
- (e) **ensure that progress reports are submitted by the quantity surveying consultant at monthly intervals as stipulated in the contract and that records of submission are properly maintained;**
- (f) **take effective measures to urge the quantity surveying consultants in the previous contracts (i.e. Consultants A and B) to expedite the clearance of backlogs in payment application processing; and**
- (g) **enhance the performance monitoring on quantity surveying consultant and issue a warning letter to the consultant after an adverse assessment report is issued.**

Response from The Hong Kong Polytechnic University

3.49 The President, The Hong Kong Polytechnic University agrees with the audit recommendations. He has said that:

- (a) PolyU's Taskforce on Enhancement of Repair and Maintenance Work is conducting a comprehensive review of the requirements for cost estimate preparation by the quantity surveying consultant and the administration of payment processes, as well as the measures to strengthen the performance monitoring of quantity surveying consultant; and
- (b) extra manpower has been deployed to handle outstanding payment applications.

PART 4: PROCUREMENT OF SERVICES

4.1 This PART examines PolyU's work on procurement of repair and maintenance services, focusing on the following areas:

- (a) procurement of services through service contracts (paras. 4.4 to 4.18); and
- (b) procurement of services through term contracts and consultancy service contracts (paras. 4.19 to 4.37).

Background

4.2 PolyU carries out repair and maintenance work for its campus through various means:

- (a) procurement of repair and maintenance services (e.g. for specialist routine maintenance of building services systems) through service contracts with contractors;
- (b) procurement of repair and maintenance services (e.g. for corrective and cyclic replacement maintenance of building services systems) through term contracts with contractors;
- (c) procurement of consultancy services (e.g. quantity surveying services and assessments of structural integrity of building fabrics) through consultancy service contracts with consultants; and
- (d) provision of other repair and maintenance services by in-house staff.

As at 31 March 2024, there were 161 contracts in effect, comprising 157 service contracts, 2 term contracts and 2 consultancy service contracts (see Table 2 in para. 1.17).

Procurement of services

4.3 PolyU issues two manuals setting out, among others, procedures that govern the procurement of services for repair and maintenance work:

- (a) ***Manual of Purchasing Procedures.*** The manual is issued by the Finance Office (FO). The manual sets out the purchasing procedures that apply to the procurement of service contracts (see para. 4.2(a)); and
- (b) ***Operation Manual.*** The manual is issued by CFSO. The manual sets out the respective procedures and guidelines that apply to the procurement of term contracts and consultancy service contracts (see para. 4.2(b) and (c)).

Procurement of services through service contracts

4.4 PolyU awards repair and maintenance service contracts through various means. Service contracts with contract value over \$0.2 million are awarded through open tendering. The relevant tendering procedures are stipulated in the Manual of Purchasing Procedures (see para. 4.3(a)). Key steps of the tendering procedures are:

- (a) ***Preparation of tender specifications and purchase request.*** CFSO prepares tender specifications and raises a purchase request. CFSO seeks approval of the purchase request from the relevant approving authorities;
- (b) ***Invitation of tender.*** FO sends the invitations to tender to tenderers (Note 19). An open tender notice is also posted on FO's website and PolyU's e-Tendering system for open access by the general public. Registered suppliers may directly respond to the open tender notice via the e-Tendering system to download the tender documents;
- (c) ***Receipt of tender.*** Tenderers submit their tenders in electronic format via the e-Tendering system. FO opens the tenders at the specified time on the tender closing date;

Note 19: *Tenderers invited to submit tenders normally come from PolyU's supplier list. In addition to the suppliers recommended by CFSO, FO also selects a number of suppliers randomly from the relevant categories of the supplier list for sending the invitations to tender.*

- (d) *Evaluation of tender.* Tender evaluation team of CFSO evaluates the tenders and makes recommendations to the relevant approving authorities;
- (e) *Approval of tender.* The relevant approving authorities approve the recommended tender; and
- (f) *Issuance of purchase order.* FO issues a purchase order to the successful tenderer. FO also notifies the unsuccessful tenderers with reasons why their offers have not been accepted.

Need to enhance competition of tendering exercises

4.5 Audit reviewed 60 open tendering exercises for repair and maintenance service contracts conducted in the period from 2019-20 to 2023-24, involving awards of contracts with a total contract value of \$80.8 million. In each of the 60 tendering exercises, 4 to 12 contractors (averaging 6 contractors) were invited to submit tenders, and open tender notice was posted on FO's website and PolyU's e-Tendering system. Audit noted that in each of 35 (59%) of the 60 exercises, 3 to 8 tenders were received. In the remaining 25 (41%) exercises, the competition was limited and the responses from contractors were lukewarm (see Table 9):

- (a) in each of 8 (13%) exercises, only 1 tender was received; and
- (b) in each of 17 (28%) exercises, 2 tenders were received.

Table 9

Number of tenders received in 60 tendering exercises
(2019-20 to 2023-24)

Number of tenders received	Number of tendering exercises
1	8 (13%)
2	17 (28%)
3	11 (19%)
4	9 (15%)
5 to 8	15 (25%)
Total	60 (100%)

Source: Audit analysis of PolyU records

4.6 Audit considers that PolyU needs to explore measures to further enhance competition of tendering exercises for service contracts.

Need to improve issuing of notifications to unsuccessful tenderers

4.7 According to the Manual of Purchasing Procedures, unsuccessful tenderers will be notified as soon as practicable with reasons explaining why their offers have not been accepted (see para. 4.4(f)). However, the guidelines did not specify the required timeframe for issuing notifications to unsuccessful tenderers.

4.8 Audit reviewed 60 tendering exercises for repair and maintenance service contracts conducted in the period from 2019-20 to 2023-24 (see para. 4.5). In each of 52 (87%) of the 60 tendering exercises, more than 1 tender was received (Note 20)

Note 20: *In each of the remaining 8 (13%) tendering exercises, only 1 tender was received. The tender was accepted by PolyU and therefore no notification to unsuccessful tenderer was issued.*

and hence the unsuccessful tenderers should be notified. Audit noted that, of the 52 tendering exercises:

- (a) *Notifications to unsuccessful tenderers were not issued in a timely manner.* In all of the 52 tendering exercises, notifications were issued to the unsuccessful tenderers. In 44 (85%) of the 52 tendering exercises, notifications to the unsuccessful tenderers were not issued in a timely manner. Notifications to the unsuccessful tenderers were issued more than 30 days (ranging from 31 to 816 days, averaging 257 days) after the acceptance of the successful tenders (see Table 10); and

Table 10

**Time taken to issue notifications to
unsuccessful tenderers in 52 tendering exercises
(2019-20 to 2023-24)**

Time taken to issue notifications to unsuccessful tenderers (Day)	Number of tendering exercises
30 or less	8 (15%)
Over 30 to 60	2 (4%)
Over 60 to 90	6 (12%)
Over 90 to 180	15 (29%)
Over 180 to 365	10 (19%)
Over 365 (Note)	11 (21%)
Total	52 (100%)

Source: Audit analysis of PolyU records

Note: The longest time taken was 816 days.

Procurement of services

- (b) ***Reasons for not accepting offers were not provided.*** In 35 (67%) of the 52 tendering exercises in which notifications were issued to the unsuccessful tenderers (see (a) above), the notifications did not provide reasons explaining why the tenderers' offers had not been accepted.

4.9 Audit considers that PolyU needs to:

- (a) enhance the guidelines to specify the required timeframe for issuing notifications to unsuccessful tenderers for service contracts; and
- (b) take measures to ensure that unsuccessful tenderers for service contracts are notified in accordance with the required timeframe with reasons explaining why their offers have not been accepted.

Need to ensure that service contracts for repair and maintenance of critical systems are arranged in a timely manner

4.10 According to PolyU, critical systems in the university premises requiring repair and maintenance include building management systems, mechanical ventilation and air-conditioning systems, chillers, closed circuit televisions, lifts and escalators, fire services systems, and plumbing and drainage systems.

4.11 Audit reviewed 25 service contracts for repair and maintenance of critical systems commenced in the period from 2019-20 to 2023-24. Audit noted that for 9 (36%) of the 25 service contracts, there were time gaps between the expiry of the preceding contracts and the commencement of the contracts, ranging from 29 to 91 days, averaging 51 days.

4.12 In response to Audit's enquiry, PolyU informed Audit in September 2024 that:

- (a) CFSO reviewed the upcoming expiry of existing service contracts during monthly senior management group meetings. All team heads would be reminded to arrange for renewal of the service contracts that would expire within the next six months;

- (b) in 5 of the 9 service contracts mentioned in paragraph 4.11, submission of tender documents for tender processing from the Project Managers was late due to special work arrangements during COVID-19 epidemic and additional workload arising from campus restoration and security enhancement work; and
- (c) in the remaining 4 of the 9 service contracts mentioned in paragraph 4.11, long processing times were required for tender analysis and price negotiation for item prices which were on the high side.

4.13 Audit considers that PolyU needs to take measures to ensure that service contracts for repair and maintenance of critical systems are arranged in a timely manner.

Need to ensure that the declaration and undertaking forms submitted by tender evaluation team members for service contracts are properly kept

4.14 According to the Manual of Purchasing Procedures, members of tender evaluation teams (see para. 4.4(d)) shall sign a declaration and undertaking form upon taking up the responsibility to:

- (a) declare conflict of interests; and
- (b) undertake to hold in strict confidence of all tender information.

4.15 Audit examined 60 tendering exercises for repair and maintenance service contracts conducted in the period from 2019-20 to 2023-24 (see para. 4.5), involving a total of 32 staff members taking up the responsibility as members of the tender evaluation teams. Audit noted that in 7 (12%) of the 60 tendering exercises, the declaration and undertaking forms for 1 member of each tender evaluation team (involving a total of 3 staff members) could not be located and were not available for Audit's inspection.

Procurement of services

4.16 Audit considers that PolyU needs to ensure that the declaration and undertaking forms submitted by tender evaluation team members for service contracts upon taking up the responsibility are properly kept.

Audit recommendations

4.17 **Audit has *recommended* that the President, The Hong Kong Polytechnic University should:**

- (a) **explore measures to further enhance competition of tendering exercises for service contracts;**
- (b) **enhance the guidelines to specify the required timeframe for issuing notifications to unsuccessful tenderers for service contracts;**
- (c) **take measures to ensure that unsuccessful tenderers for service contracts are notified in accordance with the required timeframe with reasons explaining why their offers have not been accepted;**
- (d) **take measures to ensure that service contracts for repair and maintenance of critical systems are arranged in a timely manner; and**
- (e) **ensure that the declaration and undertaking forms submitted by tender evaluation team members for service contracts upon taking up the responsibility are properly kept.**

Response from The Hong Kong Polytechnic University

4.18 The President, The Hong Kong Polytechnic University agrees with the audit recommendations. He has said that:

- (a) PolyU has been striving to reach out to more potential suppliers through open tendering procedures, posting tender notices on its publicly accessible website, and utilising its e-Tendering system. However, for certain specialised services where market supply is limited, PolyU anticipates

lower tender responses. PolyU will continue to explore additional suppliers for service contracts;

- (b) a computerised platform has been established to facilitate proper record-keeping, tracking and retrieval of undertakings and declarations made by tender evaluation team members for service contracts; and
- (c) additionally, the e-Tendering system will be enhanced to alert relevant parties to issue notifications to unsuccessful tenderers, including reasons for not accepting their proposals.

Procurement of services through term contracts and consultancy service contracts

4.19 PolyU awards repair and maintenance term contracts and consultancy service contracts through restricted tendering. The relevant tendering procedures are stipulated in the Operation Manual (see para. 4.3(b)). Key steps of the tendering procedures are:

- (a) ***Preparation of tender specifications and list of tenderers.*** CFSO prepares tender specifications. CFSO also prepares a shortlist of tenderers (for consultancy service contract), or recommends a tenderer list for approval by the relevant approving authorities (for term contract);
- (b) ***Invitation of tender.*** CFSO sends the invitations to tender to tenderers on the shortlist of tenderers (for consultancy service contract) or the tenderer list (for term contract). CFSO sends the tender documents to the tenderers who have expressed interest to submit tenders;
- (c) ***Receipt of tender.*** Tenderers submit their tenders in paper format to PolyU's tender box. The tender box is opened at the specified time by representatives of CFSO and FO;
- (d) ***Evaluation of tender.*** Tender evaluation team of CFSO evaluates the tenders and makes recommendations to the relevant approving authorities;

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- (e) *Approval of tender.* The relevant approving authorities approve the recommended tender; and
- (f) *Issuance of letter of acceptance and signing of contract.* CFSO issues a letter of acceptance to the successful tenderer. CFSO also notifies the unsuccessful tenderers. CFSO prepares contract documents for signing by the successful tenderer and PolyU.

Need to improve maintenance of tenderer lists for term contracts

4.20 According to the Operation Manual:

- (a) PolyU shall maintain approved lists of contractors (i.e. tenderer lists) for repair and maintenance term contracts (see para. 4.19(a)). Appropriate public notices shall be given to invite contractors to express interest in writing for the inclusion of their names in the tenderer lists; and
- (b) the inclusion of the contractors in the tenderer lists shall be made on the basis of the contractors' past performance, financial capability, management expertise and other appropriate records. The number of contractors to be included in each of the tenderer lists should normally be not less than 10.

4.21 ***Need to explore measures to ascertain the reasons why some invited contractors were not interested in inclusion in the tenderer lists.*** In addition to giving public notices (see para. 4.20(a)), PolyU also issues invitations to contractors on relevant lists of contractors approved by the Government to express interest for inclusion in the tenderer lists for repair and maintenance term contracts. Audit reviewed the responses from the invited contractors for expressing interest for inclusion in the tenderer lists in 4 tendering exercises for repair and maintenance term contracts conducted in the period from 2019-20 to 2023-24. Audit found that:

- (a) in each of the 4 tendering exercises, 65% to 84% (averaging 76%) of the invited contractors did not respond or expressed no interest for inclusion in the tenderer list; and

- (b) PolyU had not followed up with the invited contractors with no response or expressing no interest to ascertain why they were not interested in inclusion in the tenderer lists.

4.22 *Need to ensure that sufficient number of contractors are included in the tenderer lists.* Audit reviewed the numbers of contractors included in the tenderer lists in the 4 tendering exercises. Audit noted that in each of 2 (50%) of the 4 tendering exercises, the number of contractors included in the tenderer list was less than 10 (see para. 4.20(b)).

4.23 With a view to enhancing competition of tendering exercises for repair and maintenance term contracts, Audit considers that PolyU needs to:

- (a) explore measures to ascertain the reasons why the invited contractors with no response or expressing no interest are not interested in inclusion in the tenderer lists for term contracts and take appropriate follow-up actions; and
- (b) explore measures to ensure that sufficient number of contractors are included in the tenderer lists for term contracts as far as practicable.

Need to ensure that performance bonds are arranged for term contracts in a timely manner

4.24 According to the Operation Manual, after PolyU has approved the award of a repair and maintenance term contract, it will issue a letter of acceptance to the successful tenderer (see para. 4.19(f)). The letter of acceptance requires the tenderer to arrange for a bond or a sum of money as surety or security for the due performance of the contract (i.e. a performance bond) for approval by PolyU. However, PolyU did not set the required timeframe for the submission of the performance bond.

4.25 Audit examined the effective dates of the performance bonds submitted by the successful tenderers in 4 tendering exercises for repair and maintenance term contracts conducted in the period from 2019-20 to 2023-24 (see para. 4.21). Audit noted that:

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- (a) for 3 (75%) of the 4 contracts, the effective dates of the performance bonds were later than the commencement dates of the contracts by 8, 56 and 71 days respectively; and
- (b) for the remaining 1 (25%) contract, the commencement date of the contract was 28 June 2024. As at 31 August 2024, i.e. 64 days after the commencement date of the contract, the performance bond had not yet been submitted.

4.26 In Audit's view, timely arrangement of performance bonds by the successful tenderers is important to ensure that the interests of PolyU are protected. Audit considers that PolyU needs to take measures to ensure that performance bonds are arranged by the successful tenderers for term contracts in a timely manner, for example, by setting the required timeframe for the submission of performance bonds.

Need to ensure timely completion of tendering exercises for term contracts and consultancy service contracts

4.27 According to the Manual of Purchasing Procedures governing the procurement of services through service contracts:

- (a) to ensure a fair competition in the purchase of goods and services with delivery by the expected delivery date, the procedure of tender evaluation, purchase recommendation and order placement should be conducted in a timely manner within tender validity period;
- (b) a reasonable tender validity period should be set in the tender documents in order to be commensurate with the specific circumstances, purchase value and complexity of the tendering exercise;
- (c) all staff members involved in the purchasing process should observe the key milestones throughout the process in order to award the tender before expiry of the validity period; and
- (d) if an extension of the tender validity is required after tender closing date, a written request should be sent to all tenderers. If the tenderers do not agree to extend the tender validity unconditionally and the recommended purchase

cannot be awarded before the expiry of the tender, the tendering exercise should be cancelled and a re-tendering exercise should be considered.

However, contrary to the procurement of services through service contracts, there were no guidelines in the Operation Manual on the timeliness of completion of tendering exercises for the procurement of services through term contracts and consultancy service contracts.

4.28 Audit reviewed 9 tendering exercises for term contracts and consultancy service contracts conducted in the period from 2019-20 to 2023-24. Of the 9 tendering exercises, the original tender validity periods were set as 120 days for 2 tendering exercises and 90 days for 7 tendering exercises. Audit noted that for 3 (33%) tendering exercises (with original tender validity periods set as 90 days), the tender validity periods had to be extended:

- (a) in 2 (22%) tendering exercises, PolyU had to request the tenderers to extend the tender validity periods by 60 days before the completion of the exercises; and
- (b) in 1 (11%) tendering exercise, PolyU had to request the tenderers to extend the tender validity periods by 120 days before the completion of the exercise.

4.29 To ensure fair competition in the tendering exercises for term contracts and consultancy service contracts, Audit considers that PolyU needs to:

- (a) enhance guidelines on the timeliness of completion of tendering exercises for the procurement of services through term contracts and consultancy service contracts in the Operation Manual;
- (b) take measures to ensure that a reasonable tender validity period is set for the procurement of services through term contracts and consultancy service contracts in order to be commensurate with the specific circumstances, purchase value and complexity of the tendering exercise; and

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- (c) take measures to ensure that tendering exercises for term contracts and consultancy service contracts are completed within the prescribed tender validity period.

Need to ensure that repair and maintenance term contracts and consultancy service contracts are arranged in a timely manner

4.30 Audit reviewed 8 repair and maintenance term contracts and consultancy service contracts commenced in the period from 2019-20 to 2023-24. Audit noted that for all the 8 contracts, there were time gaps between the expiry of the preceding contracts and the commencement of the contracts, ranging from 6 to 104 days, averaging 51 days. Audit also noted that there were no guidelines in the Operation Manual governing the provision of repair and maintenance services during the time gaps between contracts.

4.31 Audit considers that PolyU needs to take measures to ensure that repair and maintenance term contracts and consultancy service contracts are arranged in a timely manner and promulgate guidelines on the provision of repair and maintenance services during the time gaps between contracts.

Need to improve declaration of interests

4.32 According to the Manual of Purchasing Procedures governing the procurement of services through service contracts, it is the responsibility of staff members to declare immediately to his/her immediate supervisor, Head of Unit and chairman of tender evaluation team if there is any actual, potential or perceived conflict of interests. Upon receipt of a staff member's declaration, the approving authority shall assess the extent of conflict and decide either to:

- (a) allow the staff member to continue handling the work;
- (b) restrict the staff member from handling the part of the work with conflict;
- (c) assign on top of the staff member, an independent staff member to oversee or review the work; or

- (d) assign another staff member to take up the work.

All such declarations and actions taken must be recorded and filed properly.

4.33 According to the Operation Manual governing the procurement of services through term contracts and consultancy service contracts, all staff members involved in shortlisting of tenderers, preparation of tender documents and tender assessment shall declare any actual, potential or perceived conflict of interests. However, contrary to the procurement of services through service contracts, there were no guidelines in the Operation Manual on the handling of declarations of interests made by staff members for the procurement of services through term contracts and consultancy service contracts.

4.34 Audit reviewed the declaration of interests by staff members involved in shortlisting of tenderers, preparation of tender documents and tender assessment in 9 tendering exercises for term contracts and consultancy service contracts conducted in the period from 2019-20 to 2023-24 (see para. 4.28). Audit noted that in 2 (22%) of the 9 tendering exercises, 2 staff members (involving 1 staff member in each of the 2 tendering exercises) had declared interests. However, no documentary evidence was available to show the assessments on the extent of conflicts, the decisions made by the relevant approving authorities and the follow-up actions taken in relation to the declarations made by the staff members concerned.

4.35 Audit considers that PolyU needs to:

- (a) enhance guidelines on the handling of declarations of interests made by staff members for the procurement of services through term contracts and consultancy service contracts in the Operation Manual; and
- (b) take measures to ensure that the assessments on the extent of conflicts, the decisions made by the relevant approving authorities and the follow-up actions taken in relation to the declarations made by staff members are recorded.

Audit recommendations

4.36 **Audit has *recommended* that the President, The Hong Kong Polytechnic University should:**

- (a) **explore measures to ascertain the reasons why the invited contractors with no response or expressing no interest are not interested in inclusion in the tenderer lists for term contracts and take appropriate follow-up actions;**
- (b) **explore measures to ensure that sufficient number of contractors are included in the tenderer lists for term contracts as far as practicable;**
- (c) **take measures to ensure that performance bonds are arranged by the successful tenderers for term contracts in a timely manner, for example, by setting the required timeframe for the submission of performance bonds;**
- (d) **enhance guidelines on the timeliness of completion of tendering exercises for the procurement of services through term contracts and consultancy service contracts in the Operation Manual;**
- (e) **take measures to ensure that a reasonable tender validity period is set for the procurement of services through term contracts and consultancy service contracts in order to be commensurate with the specific circumstances, purchase value and complexity of the tendering exercise;**
- (f) **take measures to ensure that tendering exercises for term contracts and consultancy service contracts are completed within the prescribed tender validity period;**
- (g) **take measures to ensure that repair and maintenance term contracts and consultancy service contracts are arranged in a timely manner and promulgate guidelines on the provision of repair and maintenance services during the time gaps between contracts;**

- (h) **enhance guidelines on the handling of declarations of interests made by staff members for the procurement of services through term contracts and consultancy service contracts in the Operation Manual; and**
- (i) **take measures to ensure that the assessments on the extent of conflicts, the decisions made by the relevant approving authorities and the follow-up actions taken in relation to the declarations made by staff members are recorded.**

Response from The Hong Kong Polytechnic University

4.37 The President, The Hong Kong Polytechnic University agrees with the audit recommendations. He has said that:

- (a) PolyU has actively sought to engage more potential suppliers through various sources and channels, such as public notices in local newspapers, the Government's List of Approved Contractors for Public Works, and approved lists from similar past tenders. PolyU will continue to explore additional sources for seeking out contractors, where practicable; and
- (b) PolyU has in place established procedures in its Manual of Purchasing Procedures for procuring services through service contracts and managing staff members' declarations of interests, including required follow-up actions. Although staff have been following these procedures in practice, relevant procedures will be incorporated in the Operation Manual for added clarity.

PART 5: CAMPUS RESTORATION AND SECURITY ENHANCEMENT WORK AND OTHER ISSUES

5.1 This PART examines campus restoration and security enhancement work and other issues related to the repair and maintenance of university premises of PolyU, focusing on the following areas:

- (a) campus restoration and security enhancement work (paras. 5.2 to 5.19);
- (b) health and safety matters of repair and maintenance work (paras. 5.20 to 5.39); and
- (c) digitalisation (paras. 5.40 to 5.45).

Campus restoration and security enhancement work

5.2 In late November 2019, to restore the campus environment from the damages resulted from the black-clad violence in 2019 and to enhance the protection of PolyU's campus, PolyU commenced the planning and implementation of campus restoration and security enhancement work. The campus restoration and security enhancement work comprised:

- (a) ***Recovery and reinstatement works.*** The recovery and reinstatement works comprised:
 - (i) ***Temporary recovery works and services.*** These were works and services necessary to ensure campus security, building structural safety, environmental safety and hygiene, and functionality of the building services systems that were critical to the resumption of PolyU's normal operation. The work included temporary security measures, cleaning of debris, temporary repair to buildings, checking and repair of the building services systems, and environmental sampling and analyses; and

Campus restoration and security enhancement work and other issues

- (ii) ***Permanent reinstatement works.*** These were permanent reinstatement works to rectify the damages incurred to the campus. The scope of works included restoration works, repair and replacement, and landscaping; and

- (b) ***Security and safety enhancement measures.*** The security and safety enhancement measures included the installation of perimeter fencing, the enhancement of access controls, the enhancement of closed circuit television system, and improvements in security and safety provisions for high risk laboratories and dangerous goods stores.

5.3 ***Planning of campus restoration and security enhancement work.*** In late November 2019, PolyU commenced the planning of campus restoration and security enhancement work. The plans for campus restoration and security enhancement work were deliberated in the meeting of the Executive Committee under PolyU's Council in January 2020, and were submitted to the Council for approval. An Executive Task Force on Security and Safety, chaired by the Executive Vice President, was set up in December 2019 to comprehensively review PolyU's security and safety policies and measures. A security consultant was also engaged by PolyU to provide independent security consultancy services on the review and enhancements of campus safety and security.

5.4 ***Implementation of campus restoration and security enhancement work.*** The campus restoration and security enhancement work was carried out by contractors and in-house staff in accordance with the plans approved by the Council. The implementation progress was reported in the Council's meetings and the Executive Committee's meetings. The campus restoration and security enhancement work was carried out by phases and was completed in June 2022.

5.5 ***Expenditure and sources of funding.*** As at 30 June 2023, the total expenditure incurred on the campus restoration and security enhancement work was \$235.8 million, comprising expenditure on recovery and reinstatement works of

Campus restoration and security enhancement work and other issues

\$106.2 million (Note 21) and expenditure on security and safety enhancement measures of \$129.6 million. The expenditure was funded by:

- (a) ***Block grant from UGC.*** The expenditure on campus restoration and security enhancement work was partially funded by the block grant from UGC, comprising \$66.2 million for recovery and reinstatement works and \$79.6 million for security and safety enhancement measures, totalling \$145.8 million;
- (b) ***Special grants from UGC and the Education Bureau (EDB).*** In June 2020, UGC provided a special one-off grant of \$10 million to each of the UGC-funded universities for campus security enhancement. In late June 2020, EDB provided an additional funding of \$40 million to PolyU for enhancing campus security. The special grants from UGC and EDB (both earmarked for enhancing campus security) totalling \$50 million were used to fund the security and safety enhancement measures; and
- (c) ***Insurance compensation.*** An insurance compensation of \$40 million received in 2020-21 was used to fund the expenditure on recovery and reinstatement works.

The expenditure incurred as at 30 June 2023 and the sources of funding for the campus restoration and security enhancement work are shown in Table 11.

Note 21: *The expenditure on recovery and reinstatement works of \$106.2 million comprised repair and maintenance expenditure of \$102 million (see Note 1 to Table 1 in para. 1.12) and other expenses (e.g. cleaning services) of \$4.2 million.*

**Campus restoration and security enhancement work
and other issues**

Table 11

**Expenditure incurred and sources of funding for
campus restoration and security enhancement work
(30 June 2023)**

	Expenditure (a) = (b) + (c) + (d) (\$ million)	Source of funding		
		Block grant from UGC (b) (\$ million)	Special grants from UGC and EDB (c) (\$ million)	Insurance compensation (d) (\$ million)
Recovery and reinstatement works	106.2	66.2	—	40.0
Security and safety enhancement measures	129.6	79.6	50.0	—
Total	235.8	145.8	50.0	40.0

Source: Audit analysis of PolyU records

Variations between the original and revised cost estimates

5.6 In preparing the preliminary cost estimates on campus restoration and security enhancement work for the Council's consideration in January 2020, PolyU had taken into account the availability of funding from the following sources:

- (a) ***PolyU's General and Development Reserve Fund.*** The General and Development Reserve Fund of PolyU represents the unspent balance of UGC's block grants which a UGC-funded university was allowed to carry over from the previous funding period (usually a triennium) to the next in accordance with UGC's guidelines. PolyU estimated that an amount of \$140 million would be utilised from PolyU's General and Development Reserve Fund to settle the expenses on campus restoration and security enhancement work;

Campus restoration and security enhancement work and other issues

- (b) *Special grants from UGC/EDB.* On 29 November 2019, UGC invited the eight UGC-funded universities to submit a funding proposal on a one-off basis for a special grant to cover part of the additional expenses arising from new measures for campus security and safety. In December 2019, PolyU submitted a funding proposal at the amount of \$528 million to UGC. At the time of preparing the cost estimates to the Council in January 2020, the availability and the amount of UGC/EDB special grants was not yet known; and
- (c) *Insurance compensation.* At the time of preparing the cost estimates, PolyU estimated that an amount of \$50 million would be received from the insurance companies.

As at 30 June 2024, no funding from the General and Development Reserve Fund had been utilised as the block grant from UGC (Note 22), the special grants from UGC and EDB, and the insurance compensation received (see para. 5.5) were sufficient to cover the lower than estimated cost of the campus restoration and security enhancement work.

5.7 *Original preliminary cost estimates.* For the campus restoration and security enhancement work plan in January 2020, PolyU had set priorities on the works and enhancement measures to be carried out. For “Priority 1”, the restoration work and enhancement measures were crucial for security and safety, statutory compliance and the core functions of teaching and research. For “Priority 2”, the restoration work and enhancement measures were of lower priority and would be deferred subject to funding availability. According to the preliminary cost estimates in January 2020, the estimated costs for the campus restoration and security enhancement work were as follows:

- (a) *Temporary recovery works and services.* The estimated cost was \$60 million, comprising “Priority 1” work only;

Note 22: *According to PolyU, due to COVID-19 epidemic, and the social distancing and travelling restrictions, there had been deferrals or cancellations of a number of programmes and activities, resulting in reduced spending by PolyU. The expenses for campus restoration and security enhancement work were partially absorbed by UGC’s block grant during the period concerned, and it was not necessary to utilise the General and Development Reserve Fund.*

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- (b) ***Permanent reinstatement works.*** The estimated cost was \$160 million, comprising \$80 million for “Priority 1” work and another \$80 million for “Priority 2” work; and
- (c) ***Security and safety enhancement measures.*** The ballpark cost estimate was \$498 million while the baseline cost estimate was \$352 million. The baseline cost estimate comprised \$106 million for “Priority 1” work and \$246 million for “Priority 2” work.

Taking into account the baseline cost estimate for security and safety enhancement measures, the total estimated cost for campus restoration and security enhancement work was \$572 million.

5.8 ***Revised cost estimates.*** In the Council meeting in December 2021, PolyU’s management submitted revised cost estimates on campus restoration and security enhancement work. The revised total estimated cost for the campus restoration and security enhancement work was \$274 million, comprising:

- (a) ***Temporary recovery works and services.*** The revised estimated cost was \$57 million;
- (b) ***Permanent reinstatement works.*** The revised estimated cost was \$56 million; and
- (c) ***Security and safety enhancement measures.*** The revised estimated baseline cost was \$161 million.

5.9 Audit compared the original cost estimates in January 2020 (see para. 5.7) and the revised cost estimates in December 2021 (see para. 5.8). Audit found that there were variations between the original estimates and the revised estimates:

- (a) the revised total estimated cost for the campus restoration and security enhancement work was \$274 million, which was \$298 million (52%) less than the original total estimated cost of \$572 million;

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- (b) the revised estimated cost for temporary recovery works and services was \$57 million, which was \$3 million (5%) less than the original estimated cost of \$60 million;
- (c) the revised estimated cost for permanent reinstatement works was \$56 million, which was \$104 million (65%) less than the original estimated cost of \$160 million; and
- (d) the revised estimated baseline cost estimate for security and safety enhancement measures was \$161 million, which was \$191 million (54%) less than the original estimated cost of \$352 million.

5.10 In response to Audit's enquiry, PolyU informed Audit in September 2024 that:

- (a) in the wake of the unprecedented incident in 2019 and the extraordinary circumstances that followed, PolyU's foremost priority was to swiftly restore normal operation at PolyU and reopen the campus to students and staff in a safe and secure environment through required repair, reinstatement and enhancement works;
- (b) due to the pressing timeframe and the need to submit to UGC a preliminary proposal on the security enhancement measures and budget by 30 December 2019, there was not enough time for PolyU to secure comprehensive assessments from the professional consultants via established procedures. Having considered the extensive damages across the campus and advice of a security consultant on the scope of the enhancement measures, PolyU took an appropriately cautious approach under the extraordinary condition of uncertainty in developing the preliminary cost estimates of reinstatement and enhancement works, through in-house on-site inspection and assessments. These estimates were thus derived from PolyU's best judgement under the great uncertainty of the extraordinary circumstances. PolyU also critically evaluated the scope and prioritised works based on several key considerations, including safety and security concerns, core teaching and research functions, and availability of funding under different scenarios;

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- (c) following the Council's initial discussions in January 2020, PolyU continued to adopt a prudent approach and strive to reduce the costs for campus restoration and security enhancement work by making more informed assessments and exploring innovative cost-saving alternatives. In particular, there was more time to conduct detailed inspections, laboratory testing and assessments during the implementation stage to review and refine the detailed scope of works, consider cost optimisation measures, and update the cost estimates and budgets, with the support of professional consultants. For example, upon detailed inspections and a thorough process of assessments, it was concluded that there were no major structural defects at certain areas in the campus. These technical assessments enabled PolyU to limit the necessary works to basic repairs, cleaning, and repainting, rather than extensive reconstruction. The ongoing assessment of the scope of works, updated cost estimates and budgets, and implementation progress were regularly reported and discussed at the Council, seeking their input and guidance; and

- (d) the lower revised cost estimates and actual expenditures for the campus restoration and security enhancement work were resulted from the conscientious efforts by PolyU, as guided by the Council, to continuously refine and re-scope the targeted works, evaluate and implement more economical alternatives once time and inputs from professional consultants became available. The achievement of cost reduction through continuous optimisation was made possible by the robust system of scrutiny and cost estimates for major works projects under the principle of responsible and judicious use of public funds, leadership of the Council and the meticulous efforts of PolyU's team under such extraordinary circumstances.

Need to continue to keep under review security measures

5.11 PolyU is subject to the compliance of the public area requirements stipulated in the land leases. The land leases specify that all members of the public are permitted to freely enter the designated space/area on main campus between the specified time, for all lawful purposes. According to PolyU:

- (a) PolyU has been complying with the public area requirements stipulated in the land leases; and

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- (b) while PolyU is not obligated to open the entire campus area to all members of the public according to the land leases, PolyU allows members of the public to enter the campus through the Visitor Registration System.

5.12 As part of the security enhancement measures to ensure the safety and security of people and property, and to cater for the need to comply with the land lease requirements, PolyU has implemented various access control policies. As at September 2024, the following policies were in place:

- (a) access to the campus is restricted to students, staff and authorised persons;
- (b) campus users shall authenticate their identities using their access cards or access codes at the turnstiles at major campus access points; and
- (c) for areas that allow public access pursuant to the land lease requirements, access control is achieved by clear demarcation of public open space, enhanced access control and setting up of security point at designated location.

5.13 Audit noted that, from time to time, members of the community raised concern about the open campus policy in PolyU. In its report to UGC on the enhancement of campus security in September 2022, PolyU indicated that it would continue to monitor the situation and adjust the access control and security measures, including mitigation of the measures when the situation justifies.

5.14 Audit considers that PolyU needs to continue to keep under review the latest situation and adjust the security measures as appropriate.

Need to continue to conduct thorough risk assessments and enhance risk management plans

5.15 According to UGC's letter on the special grant issued to PolyU in June 2020 (see para. 5.5(b)):

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- (a) PolyU is entrusted to duly take into account the financial implications and sustainability of the security enhancement initiatives in the long run;
- (b) UGC considered that the special grant also served the purpose of prompting universities to develop more robust risk assessment systems and effective control mechanisms; and
- (c) as a condition of funding, PolyU shall conduct thorough risk assessments and formulate/enhance risk management plans as necessary.

5.16 In response to Audit's enquiry, PolyU informed Audit in September 2024 that:

- (a) PolyU had observed the conditions required by UGC in the one-off special grant to PolyU in June 2020 (see para. 5.15) when implementing the security enhancement measures and had submitted a report to UGC upon the completion of the enhancement measures in September 2022; and
- (b) for risk management, since 2020, PolyU has an Enterprise Risk Management Framework in place with risk assessments conducted annually. The key potential risks identified are set out in the Key Risks Register, with plans of risk management actions being drawn. The implementation of the Enterprise Risk Management Framework and the Key Risks Register is reported to the Audit Committee of the Council annually.

5.17 Audit considers that PolyU should continue to conduct thorough risk assessments and enhance its risk management plans.

Audit recommendations

5.18 **Audit has *recommended* that the President, The Hong Kong Polytechnic University should:**

- (a) **continue to keep under review the latest situation and adjust the security measures as appropriate; and**

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- (b) continue to conduct thorough risk assessments and enhance PolyU's risk management plans.

Response from The Hong Kong Polytechnic University

5.19 The President, The Hong Kong Polytechnic University agrees with the audit recommendations.

Health and safety matters of repair and maintenance work

5.20 PolyU has issued two manuals on health and safety matters:

- (a) *Health, Safety and Environment Management Manual.* The Health, Safety and Environment Management Manual of CFSO aims at serving as a reference guide to CFSO staff on health and safety matters. It sets out policies and guidelines on health and safety matters and contains most of the common requirements enabling CFSO staff to comply with various health and safety provisions (both statutory requirements and CFSO in-house rules); and
- (b) *Construction Health and Safety Management Manual.* The Construction Health and Safety Management Manual of the Health and Safety Office (HSO – Note 23) aims at serving as a reference guide to PolyU's units and their staff to abide by when they handle health and safety issues of construction projects under their purview. The manual is applicable to repair and maintenance work of PolyU.

5.21 PolyU monitors the health and safety matters of the repair and maintenance work carried out by its contractors through inspections conducted by different parties:

Note 23: *HSO is led by the Director of Health and Safety. Its responsibilities are to: (a) act as an advisor to departments/units on construction health and safety; (b) provide assistance to CFSO in handling construction health and safety issues; (c) monitor, assess and review the performance of contractors; (d) investigate incidents and accidents; and (e) liaise with government departments/institutions/organisations on construction health and safety.*

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- (a) **Inspections by CFSO.** The inspections by CFSO are conducted as follows:
- (i) **Health and Safety Unit.** The Health and Safety Unit of CFSO (Note 24) conducts regular safety inspections and spot checks on the work sites of the contractors under the purview of CFSO; and
 - (ii) **Project Managers.** Project Managers of CFSO conduct periodic inspections on the work sites of the contractors under their management to monitor the contractors' work progress and quality, including on-site health and safety conditions.

Dates and locations of the inspections conducted, details of the irregularities identified and dates of completing the follow-up actions are recorded in a register of site safety irregularities maintained by the Health and Safety Unit; and

- (b) **Inspections by HSO.** HSO conducts regular safety inspections and spot checks on the work sites under the purview of different units of PolyU, including the work sites of the contractors under the purview of CFSO. Dates and locations of the inspections conducted, and the numbers and the types of irregularities identified (e.g. irregularities concerning working at height and personal protective equipment) are recorded in a database maintained by HSO.

Irregularities identified during the inspections conducted by CFSO and HSO are communicated to the contractors, in the form of verbal warnings on the spot or text messages with photos through an instant messenger application (Note 25), for immediate rectifications by the contractors.

Note 24: *The Health and Safety Unit is headed by the Senior Facilities Officer (Health and Safety). The Unit's responsibilities are to: (a) provide support and advice to the management, Project Managers, staff and CFSO's Department Health, Safety and Environment Committee on all matters relating to health and safety; (b) assist CFSO in ensuring as far as reasonably practicable the health and safety of all CFSO staff; and (c) monitor contractors appointed by CFSO to ensure that they comply with all relevant statutory requirements and in-house safety rules.*

Note 25: *A group is set up in an instant messenger application for each contractor. The group comprises the Project Managers and representatives from HSO, the Health and Safety Unit and the contractor. Site safety irregularities identified by HSO, the Health and Safety Unit or the Project Managers are communicated in the group so that all parties are kept informed.*

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5.22 PolyU prepares two types of monthly reports on health and safety performance of the contractors:

- (a) ***CFSO's monthly health and safety reports.*** CFSO compiles monthly statistics on the numbers of site safety irregularities identified by types based on the register of site safety irregularities maintained by the Health and Safety Unit (see para. 5.21(a)). The monthly statistics and the register are included in CFSO's monthly health and safety reports for management information; and
- (b) ***HSO's monthly contractor site safety performance reports.*** HSO compiles monthly contractor site safety performance reports on individual contractors showing the numbers of site safety inspections conducted and the numbers of irregularities identified by HSO by types (see para. 5.21(b)). The performance reports are discussed in regular meetings with the contractors on the progress of repair and maintenance work for the purpose of monitoring the health and safety performance of the contractors.

Need to improve recording and reporting of site safety inspections and irregularities

5.23 Audit reviewed the records of site safety inspections conducted on the work sites of the contractors and the reports on health and safety performance of the contractors compiled by CFSO and HSO in the period from 2019-20 to 2023-24. Audit noted that:

- (a) ***Site safety inspections were not always recorded.*** Site safety inspections conducted by CFSO were not always recorded in the register of site safety irregularities (see para. 5.21(a)). Inspections in which no irregularities were identified were not recorded. Only the inspections with irregularities identified were recorded;
- (b) ***Information on site safety irregularities was not accurately recorded.*** Some information recorded in the register of site safety irregularities of CFSO was not accurate. For 13 (2%) of the 549 irregularities recorded in the register of site safety irregularities, the dates of completing the follow-up actions were earlier than the dates of identifying the irregularities; and

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- (c) *No consolidated report on site safety inspections and irregularities.* There was no consolidated system or database to capture information on all the site safety inspections conducted and the irregularities identified by CFSO and HSO on the work sites of the contractors to facilitate the generation of management reports for monitoring the health and safety performance of the contractors.

5.24 To facilitate effective monitoring of the health and safety performance of the contractors, Audit considers that PolyU needs to:

- (a) take measures to ensure that all site safety inspections conducted by CFSO are recorded;
- (b) take measures to ensure that the information recorded in the register of site safety irregularities of CFSO is accurate; and
- (c) consider regularly compiling a consolidated report capturing information on all the site safety inspections conducted and the irregularities identified by CFSO and HSO to facilitate performance monitoring.

Need to enhance guidelines on issuing of written warnings to contractors

5.25 According to the Construction Health and Safety Management Manual:

- (a) CFSO is accountable for the health and safety performance of its contractors and acts as the project in-charge on the health and safety issues of its contractors; and
- (b) the project in-charge should give verbal or written warnings to the contractors with unacceptable health and safety performance.

5.26 Audit noted that the guidelines did not set out the circumstances under which written warnings should be issued to contractors. Audit examined the written warnings issued to the contractors by PolyU and the register of site safety irregularities of CFSO (see para. 5.21(a)) in the period from 2019-20 to 2023-24.

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Audit noted that the written warnings were not issued in a consistent manner on some occasions. For example:

- (a) on 19 September 2023, PolyU issued a written warning to a term contractor because of unsafe acts of its workers while working on scaffolds. One worker was found not wearing safety harness on 15 August 2023, and another worker was found not attaching the safety harness to the independent lifeline on 28 August 2023. According to PolyU, due to the frequent recurrence (i.e. within 14 days) of irregularities concerning safety harness, the written warning was issued to draw the attention of the contractor's senior management to support the compliance with the on-site safety measures;
- (b) while there were frequent recurrences of similar irregularities concerning safety harness for working on scaffolds by the same term contractor on other occasions during the contract period (i.e. from 1 April 2021 to 31 March 2024), no written warnings were issued on such occasions:
 - (i) 3 irregularities were found within 10 days in June 2021; and
 - (ii) 4 irregularities were found within 9 days from late December 2022 to early January 2023; and
- (c) 2 similar irregularities concerning safety harness for working on scaffolds by another term contractor were found within 5 days in December 2020. However, written warning was also not issued on such occasion.

5.27 In response to Audit's enquiry, PolyU informed Audit in September 2024 that:

- (a) the general principles of issuing written warnings to contractors for unacceptable health and safety performance included severity, frequency and awareness, etc. In general, if site staff and contractors' workers performed cooperatively and quickly when irregularities were spotted, warnings in the mild form of phone calls, messages through an instant messenger application or emails would be delivered to the contractors at the time of or after the incidents;

- (b) for the case mentioned in paragraph 5.26(a), warnings in the mild form of phone calls or messages through the instant messenger application were delivered to the contractor at the time of or after the incidents, but the actions of rectification by the contractor were considered slow and inappropriate. Therefore, a formal warning letter was served to draw the attention of the contractor's senior management. For the cases mentioned in paragraph 5.26(b) and (c), site staff and workers of the contractors did perform in a cooperative attitude to action quickly after warnings were delivered on site or through the instant messenger application. Thus, PolyU considered that formal warning letter was not required at that moment;
- (c) construction sites were dynamic environments, and different sites could present different risks. It would not be practical to provide standard criteria, such as the number of irregularities noted in a certain period of time, for issuance of a written warning; and
- (d) PolyU would enhance its manuals by giving more details on the factors to be considered regarding the issuing of warning letters.

5.28 Audit considers that PolyU needs to enhance guidelines on the circumstances under which written warnings should be issued to the contractors with unacceptable health and safety performance, for example, by giving more details on the factors to be considered regarding the issuing of warning letters.

Need to meet annual training requirement on health and safety

5.29 CFSO encourages and supports staff members to attend relevant health, safety and environment related seminars, workshops and training courses so as to provide a team of well-trained members in carrying out relevant duties:

- (a) in December 2018, an annual training requirement on health and safety was set. Since then, each CFSO staff involved in repair and maintenance work is required to attend health and safety training for at least 6 hours every year; and

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- (b) an annual target completion rate of the training requirement (i.e. target percentage of staff completing the training requirement) was also set at CFSO level. The target completion rates were 60% for 2019-20 to 2021-22, and 80% for 2022-23 and 2023-24.

5.30 Audit examined the training records of CFSO staff involved in repair and maintenance work in the period from 2019-20 to 2023-24. Audit noted that:

- (a) ***Some staff did not meet the annual training requirement.*** The percentage of staff who did not meet the annual training requirement (Note 26) ranged from 43% (in 2020-21) to 96% (in 2019-20) each year:
 - (i) the percentage of staff who did not attend any training ranged from 10% (in 2022-23) to 18% (in 2023-24) each year; and
 - (ii) the percentage of staff who attended training for less than 6 hours ranged from 31% (in 2020-21) to 79% (in 2019-20) each year (see Table 12); and

Note 26: *The annual training requirement did not apply to staff not fully employed throughout a year (i.e. staff joined or left CFSO during the year).*

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Table 12

**Attainment of annual training requirement
by CFSO staff involved in repair and maintenance work
(2019-20 to 2023-24)**

Year	Number of staff				
	Not meeting annual training requirement			Meeting annual training requirement (d)	Total (e) = (c) + (d)
	Not attended any training (a)	Attended training for less than 6 hours (b)	Sub-total (c) = (a) + (b)		
2019-20	18 (17%)	87 (79%)	105 (96%)	4 (4%)	109 (100%)
2020-21	14 (12%)	36 (31%)	50 (43%)	66 (57%)	116 (100%)
2021-22	11 (12%)	31 (34%)	42 (46%)	50 (54%)	92 (100%)
2022-23	9 (10%)	34 (36%)	43 (46%)	51 (54%)	94 (100%)
2023-24	17 (18%)	37 (39%)	54 (57%)	41 (43%)	95 (100%)

Source: Audit analysis of PolyU records

Remarks: The annual training requirement did not apply to staff not fully employed throughout a year (i.e. staff joined or left CFSO during the year), and hence such staff were excluded from the analysis.

- (b) ***Annual target completion rates of the training requirement were not met.***
The actual completion rates of the training requirement fell short of the target completion rates by 3 percentage points (in 2020-21) to 56 percentage points (in 2019-20) each year.

5.31 Audit further analysed the training records of the 61 staff who were employed continuously throughout the 5-year period from 2019-20 to 2023-24. Audit noted that all of the 61 staff did not meet the annual training requirement in one or

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more years, of which 10 (16%) did not meet the annual training requirement in all years throughout the 5-year period.

5.32 Audit also noted that the annual training requirement on health and safety of 6 hours set in December 2018 (see para. 5.29(a)) had not been incorporated in the Health, Safety and Environment Management Manual.

5.33 Audit considers that PolyU needs to:

- (a) take measures to ensure that CFSO staff involved in repair and maintenance work attend adequate training on health and safety to meet the annual training requirement, and ensure that the annual target completion rate of the training requirement is met; and
- (b) update the Health, Safety and Environment Management Manual to incorporate the latest annual training requirement on health and safety.

Need to enhance guidelines on submission of accident report forms

5.34 According to the Health, Safety and Environment Management Manual, an accident occurred to campus users, contractors or CSFO staff should be reported by submission of an accident report form to HSO within 72 hours of the accident in accordance with the established procedures.

5.35 Audit examined the records of 14 accidents related to repair and maintenance of university premises occurred to 3 campus users, 7 contractors and 4 CFSO staff respectively in the period from 2019-20 to 2023-24. All of the 14 accidents involved minor injuries. Audit noted that in 10 (71%) of the 14 accidents, contrary to the Health, Safety and Environment Management Manual, the accident report forms were submitted to HSO more than 72 hours after the respective accidents, with delays ranging from 3 to 357 hours, averaging 144 hours.

5.36 In response to Audit's enquiry, PolyU informed Audit in October 2024 that:

- (a) all the cases examined by Audit involved minor injuries;

- (b) PolyU had implemented a more stringent internal deadline requiring the submission of a written report to HSO within 72 hours, which was shorter than the statutory requirement. Delays in submission of the written report would be acceptable if there were valid reasons; and
- (c) PolyU would review the relevant guidelines for reporting to HSO.

5.37 Audit considers that PolyU needs to enhance guidelines on submission of accident report forms and ensure timely submission of the forms.

Audit recommendations

5.38 **Audit has *recommended* that the President, The Hong Kong Polytechnic University should:**

- (a) **take measures to ensure that all site safety inspections conducted by CFSO are recorded;**
- (b) **take measures to ensure that the information recorded in the register of site safety irregularities of CFSO is accurate;**
- (c) **consider regularly compiling a consolidated report capturing information on all the site safety inspections conducted and the irregularities identified by CFSO and HSO to facilitate performance monitoring;**
- (d) **enhance guidelines on the circumstances under which written warnings should be issued to the contractors with unacceptable health and safety performance, for example, by giving more details on the factors to be considered regarding the issuing of warning letters;**
- (e) **take measures to ensure that CFSO staff involved in repair and maintenance work attend adequate training on health and safety to meet the annual training requirement, and ensure that the annual target completion rate of the training requirement is met;**

- (f) **update the Health, Safety and Environment Management Manual to incorporate the latest annual training requirement on health and safety; and**
- (g) **enhance guidelines on submission of accident report forms and ensure timely submission of the forms.**

Response from The Hong Kong Polytechnic University

5.39 The President, The Hong Kong Polytechnic University agrees with the audit recommendations.

Digitalisation

Need to keep under review the scope for exploring innovation and technology solutions

5.40 PolyU adopted a number of innovation and technology solutions in the management of work related to repair and maintenance (e.g. CMMS for the management of maintenance services, and e-Tendering system for the procurement of repair and maintenance service contracts). However, Audit has noted that there is scope for further exploring innovation and technology solutions in improving PolyU's management of work related to repair and maintenance, for example:

- (a) ***Conducting of tendering exercises for repair and maintenance term contracts and consultancy service contracts.*** While the tendering exercises for repair and maintenance service contracts had been conducted via PolyU's e-Tendering system (see para. 4.4(b) and (c)) since April 2021, the tendering exercises for repair and maintenance term contracts and consultancy service contracts were still conducted manually in paper format (see para. 4.19(b) and (c)) as at August 2024; and
- (b) ***Monitoring of site safety inspections conducted and irregularities identified on work sites of contractors.*** CFSO and HSO maintained records of their respective site safety inspections conducted and irregularities identified on the work sites of the contractors. No consolidated system or database was available to capture all the site safety inspections conducted

and the irregularities identified by CFSO and HSO to facilitate the generation of management reports for monitoring the health and safety performance of the contractors (see para. 5.23(c)).

5.41 Audit considers that PolyU needs to keep under review the scope for exploring innovation and technology solutions in the management of work related to repair and maintenance as appropriate.

Need to enhance accuracy and completeness of records maintained in computer systems and databases

5.42 Audit has noted that there is room for enhancing the accuracy and completeness of records maintained in PolyU's computer systems and databases for the management of work related to repair and maintenance:

- (a) information on job type of some job orders was not available in CMMS for performance management (see para. 3.12); and
- (b) the dates of completing the follow-up actions were earlier than the dates of identifying the irregularities for some irregularities recorded in the register of site safety irregularities of CFSO (see para. 5.23(b)).

5.43 To facilitate effective management of work related to repair and maintenance, Audit considers that PolyU needs to enhance the accuracy and completeness of records maintained in the computer systems and databases for the management of work related to repair and maintenance, for example, by developing system functions to validate the accuracy and completeness of the data inputted by users before the relevant records are stored in the computer systems and databases.

Audit recommendations

5.44 **Audit has recommended that the President, The Hong Kong Polytechnic University should:**

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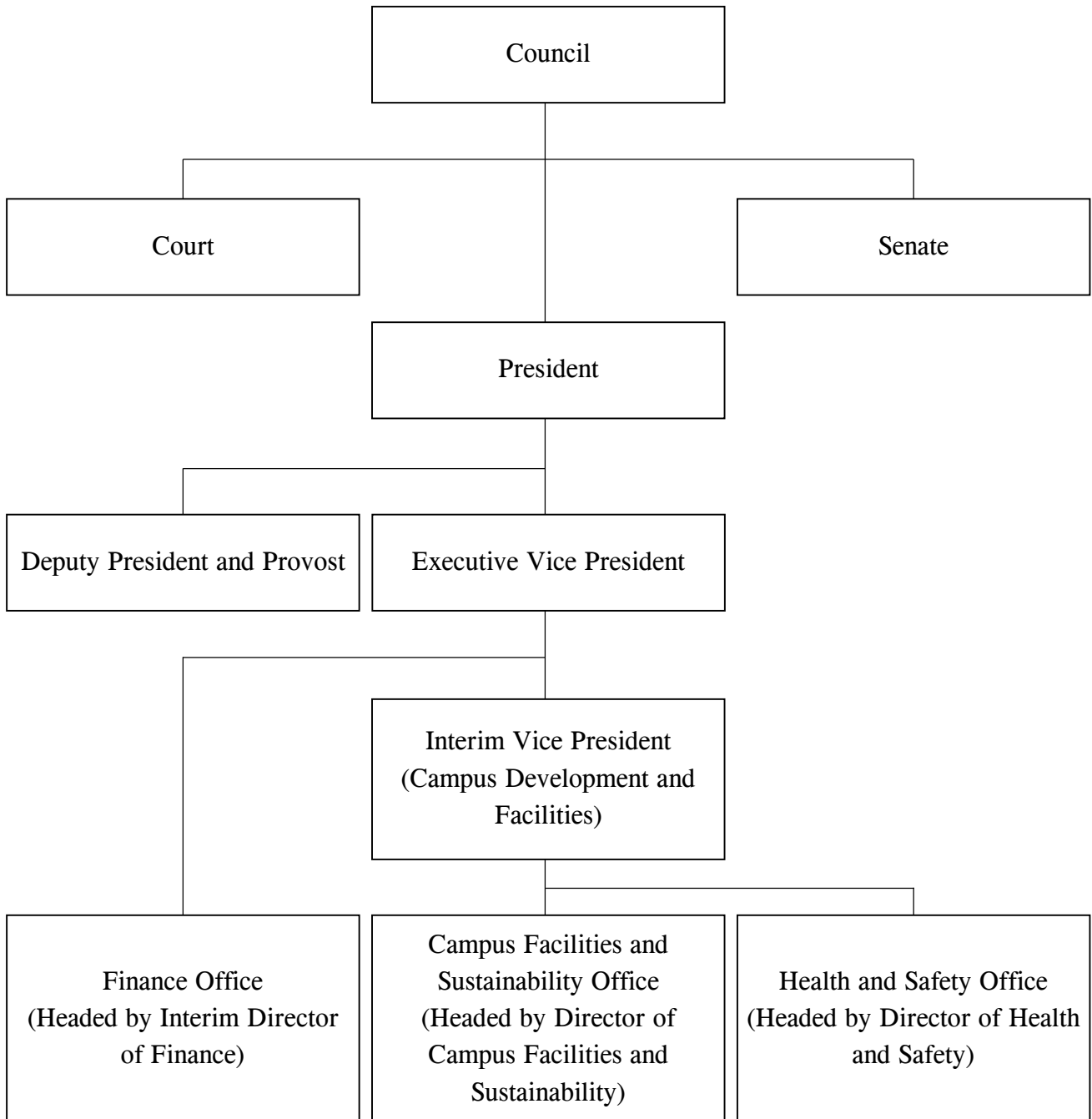
- (a) **keep under review the scope for exploring innovation and technology solutions in the management of work related to repair and maintenance as appropriate; and**

- (b) **enhance the accuracy and completeness of records maintained in the computer systems and databases for the management of work related to repair and maintenance, for example, by developing system functions to validate the accuracy and completeness of the data inputted by users before the relevant records are stored in the computer systems and databases.**

Response from The Hong Kong Polytechnic University

5.45 The President, The Hong Kong Polytechnic University agrees with the audit recommendations.

**The Hong Kong Polytechnic University:
Organisation chart (extract)
(31 March 2024)**



Source: *PolyU records*

Acronyms and abbreviations

Audit	Audit Commission
CFSO	Campus Facilities and Sustainability Office
CMMS	Computerised Maintenance Management System
EDB	Education Bureau
FO	Finance Office
HKSAR	Hong Kong Special Administrative Region
HSO	Health and Safety Office
PolyU	The Hong Kong Polytechnic University
UGC	University Grants Committee