

LCQ19: Spectrum for provision of fifth generation mobile services

Following is a question by the Hon Charles Mok and a written reply by the Acting Secretary for Commerce and Economic Development, Dr Bernard Chan, in the Legislative Council today (June 20):

Question:

To tie in with the launch of the fifth generation (i.e. 5G) mobile service in the market in 2020, the Communications Authority (CA) has decided to re-allocate the radio spectrum in the 3.4 – 3.7 GHz band from fixed satellite service (FSS) to mobile service with effect from April 1, 2020. Moreover, in order to avoid radio interference with the existing earth stations for telemetry, tracking and control of satellites in orbit (TT&C Stations), CA has decided to set up restriction zones in Tai Po (which will cover areas including the entire Tai Po District, Shatin, Ma On Shan, Fanling, Sai Kung, and the core areas of scientific research activities in the Hong Kong Science Park and The Chinese University of Hong Kong) and Stanley, in which the installation of mobile base stations of public mobile services operating in the 3.4 – 3.6 GHz band (3.5 GHz band) is forbidden. Some members of the information and technology sector have relayed to me that the setting up of such restriction zones will render members of the public residing and working in the restriction zones unable to use 5G mobile service in future, directly affecting scientific research activities and smart city development. In this connection, will the Government inform this Council:

(1) of the respective populations of the two aforesaid restriction zones, and the respective numbers of households, courts/estates, industrial buildings, office buildings, shopping centres, schools, universities, companies and scientific research institutions (if any) covered by them (set out in a table);

(2) whether CA has assessed (i) the impact on the daily lives of the residents in the zones, (ii) the impact on the scientific research and economic activities in the zones and (iii) the losses to be sustained by the entire local economy (including the loss caused by the failure to provide 5G mobile service in the zones), to be brought about by the setting up of the two restriction zones; whether CA will remove the two restriction zones, or reduce their coverage; if CA will, of the details and the implementation timetable;

(3) whether CA had, before deciding to re-allocate the aforesaid spectrum, studied (i) the identification of alternative sites for relocating the existing TT&C Stations and (ii) the minimum area to be covered by the restriction zones; if CA had, of the details; if not, the reasons for that;

(4) apart from the two restriction zones, whether CA has studied forbidding the installation of mobile base stations of public mobile services operating

in the 3.5 GHz band in other areas or locations; if CA has, of the areas or locations involved and the reasons for that; and

(5) whether CA has plans to relocate the FSS-related facilities to avoid the impact of the setting up of the restriction zones on the use of 5G mobile service and scientific research activities; if CA does, of the details of the plans and the implementation table?

Reply:

President,

Consolidated reply to the five parts of the question is as follows.

Hong Kong and the Asia-Pacific region have been allocating the 3.4 – 4.2 GHz band for use by satellite services for years. Currently, there are two satellite companies in Hong Kong which operate a total of 12 satellites. These satellites are important external telecommunications facilities for Hong Kong as a telecommunications hub in the region. At present, the two satellite companies have set up earth stations for telemetry, tracking and control (TT&C Stations) in Tai Po and Stanley for the operation of the satellites in space orbit. In view of the development of mobile communications in recent years, upon frequency coordination with the Mainland authorities and completion of the relevant public consultation exercise, the Communications Authority (CA) decided in March 2018 to re-allocate the 3.4 – 3.7 GHz band from satellite services to mobile services, and to assign the 3.4 – 3.6 GHz band (3.5 GHz band) for public mobile services with effect from April 1, 2020. This arrangement provides an advance notice of about two years to the affected licensees so that they can make necessary changes and adjustment. Since the TT&C Stations will still need to make use of the 3.4 – 3.7 GHz band to operate the satellites already launched, and the base stations for mobile services may cause interference to the TT&C Stations, in making its decision on the re-allocation, the CA has to impose restriction zones around these TT&C Stations whereby future deployment of base stations for mobile services (including the fifth generation (5G) mobile services) operating in the 3.5 GHz band inside the restriction zones will not be allowed.

According to the "Projections of Population Distribution 2015-2024" published by the Planning Department, the population in these two restriction zones is roughly estimated to be around 740 000. However, we must point out that coverage of 5G services will be available in these restriction zones in future (as explained below). We do not have other breakdowns as requested in part (1) of the question.

To ensure that the current spectrum management is in line with the 5G development, apart from re-allocating the 3.5 GHz band for public mobile services (including 5G services), the CA also plans to allocate the 26 GHz band (24.25 – 27.5 GHz band) and the 28 GHz band (27.5 – 28.35 GHz band) for public mobile services. Such spectrum, which is planned for assignment in 2019-2020, amounts to a total of 4 300 MHz, seven times more than the aggregate amount of spectrum currently deployed for the second, third and

fourth generation (2G, 3G and 4G) mobile services. Hence, 5G services will be provided through a number of frequency bands, instead of relying on the 200 MHz of spectrum in the 3.5 GHz band alone. Besides, in accordance with the technology neutral principle, operators may refarm their existing 2G/3G/4G spectrum for 5G services. The CA will continue to identify more spectrum for 5G services. All the spectrum can be used for provision of 5G services to cover areas within the restriction zones applicable to the 3.5 GHz band.

In late May 2018, mobile network operators (MNOs) proposed to the Office of the Communications Authority (OFCA) some measures for reducing the size of the restriction zones. Whether the measures proposed by MNOs are feasible will need to be examined by way of in-depth technical analysis and/or field tests. OFCA has already set up a working group comprising satellite operators and MNOs in order to identify options which are technically feasible and acceptable to all operators. The working group already convened its first meeting in early June and will continue to conduct regular discussions.

As for MNOs' proposal to relocate the existing TT&C Stations, there is no legal basis for the CA to unilaterally request satellite operators to relocate their existing TT&C Stations which are legally set up, invested and put to use. In fact, the TT&C Stations concerned have been in operation for more than 20 years. Satellite operators indicated that the relocation of TT&C Stations will not only involve substantial investment, but will also disrupt their operation. That said, if satellite operators have plans to relocate their stations or set up new backup stations to reduce the constraints on employing spectrum in the 3.5 GHz band for 5G services, OFCA will provide full assistance.

In sum, any concern on 5G development and coverage in individual areas being affected due to the need to protect satellite services when using spectrum in the 3.5 GHz band is one-sided, and reflects that those having such concern may not have a full picture of the 5G development. As advised by the Commerce and Economic Development Bureau and OFCA on various occasions, the first batch of new 5G spectrum is primarily in the 26 GHz and 28 GHz bands which the CA plans to assign in early 2019, ahead of the assignment of spectrum in the 3.5 GHz band. Various areas of Hong Kong, including the restriction zones applicable to the 3.5 GHz band, can have 5G coverage by using spectrum in the 26 GHz and 28 GHz bands at an earlier stage.

Managers of unlicensed guesthouses fined

Two women were fined \$8,000 and \$10,000 at Kowloon City Magistrates' Courts today (June 20) for contravening the Hotel and Guesthouse Accommodation Ordinance.

The courts heard that in November last year, officers of the Office of the Licensing Authority (OLA), the Home Affairs Department, inspected two suspected unlicensed guesthouses on Changsha Street and Shantung Street in Mong Kok. During the inspections, the OLA officers posed as lodgers and successfully rented rooms in these guesthouses on a daily basis.

According to the OLA's records, these guesthouses did not possess licences under the Ordinance on the days of inspection. The women responsible for managing the premises were charged with contravening section 5(1) of the Ordinance.

A department spokesman stressed that operating or managing an unlicensed guesthouse is a criminal offence and will lead to a criminal record. Upon conviction, the offender is liable to a maximum fine of \$200,000 and two years' imprisonment.

The spokesman appealed to anyone with information about suspected unlicensed guesthouses to report it to the OLA through the hotline (Tel: 2881 7498), by email (hadlaenq@had.gov.hk), by fax (2504 5805) using the report form downloaded from the OLA website (www.hadla.gov.hk), or through the mobile application "Hong Kong Licensed Hotels and Guesthouses".

[HAD to open temporary night heat shelters](#)

The Home Affairs Department will open 17 temporary night heat shelters tonight (June 20) for people in need of the service.

The shelters will be open from 10.30pm until 8am tomorrow.

For further information, please call the department's enquiry hotline before midnight on 2835 1473.

The 17 temporary night heat shelters are located at:

Hong Kong Districts:

Central and Western –
Sai Ying Pun Community Complex Community Hall
3/F, Sai Ying Pun Community Complex,
2 High Street, Sai Ying Pun

Eastern/Wan Chai –
Causeway Bay Community Centre

7 Fook Yum Road, Causeway Bay

Southern –
Lei Tung Community Hall
Lei Tung Estate, Ap Lei Chau

Kowloon Districts:

Kowloon City –
Hung Hom Community Hall
1/F, Kowloon City Government Offices,
42 Bailey Street, Hung Hom

Kwun Tong –
Lam Tin (West) Estate Community Centre
71 Kai Tin Road, Lam Tin

Sham Shui Po –
Shek Kip Mei Community Hall
G/F, Block 42, Shek Kip Mei Estate, Sham Shui Po

Wong Tai Sin –
Tsz Wan Shan (South) Estate Community Centre
45 Wan Wah Street, Tsz Wan Shan

Yau Tsim Mong –
Henry G Leong Yaumatei Community Centre
60 Public Square Street, Yau Ma Tei

New Territories Districts:

Kwai Tsing –
Kwai Shing Community Hall
Podium, Block 6, Kwai Shing West Estate, Kwai Chung

North –
Cheung Wah Community Hall
Cheung Wah Estate, Fanling

Sai Kung –
Hang Hau Community Hall
G/F, Sai Kung Tseung Kwan O Government Complex,
38 Pui Shing Road, Hang Hau, Tseung Kwan O

Sha Tin –
Lung Hang Estate Community Centre
Lung Hang Estate, Sha Tin

Tai Po –

Tai Po Community Centre
2 Heung Sze Wui Street, Tai Po

Tsuen Wan –
Lei Muk Shue Community Hall
G/F, Hong Shue House, Lei Muk Shue Estate, Tsuen Wan

Tuen Mun –
Butterfly Bay Community Centre
Butterfly Estate (near Tip Sum House), Tuen Mun

Yuen Long –
Long Ping Community Hall
Long Ping Estate, Yuen Long

Yuen Long –
Tin Yiu Community Centre
Tin Yiu Estate, Tin Shui Wai

The temporary night heat shelters will resume their functions as either community centres or community halls in the daytime for hire by the local community and cannot continue to be open as heat shelters. People may choose to take refuge from the heat during the daytime in the common areas in any of the 21 designated community centres or community halls. Their opening hours are from 9am to 10pm. For addresses of the community centres or community halls, please browse the following webpage:

www.had.gov.hk/file_manager/en/documents/public_services/emergency_services/List_CH_CC_Day_E.pdf.

EPD convictions in May

Sixty-four convictions were recorded in May 2018 for breaches of legislation enforced by the Environmental Protection Department (EPD).

Five of the convictions were under the Air Pollution Control Ordinance, one was under the Environmental Impact Assessment Ordinance, 15 were under the Noise Control Ordinance, 39 were under the Waste Disposal Ordinance, and four were under the Water Pollution Control Ordinance.

The heaviest fine in May was \$40,000, assessed against a company which discharged waste or polluting matter into a water control zone.

LCQ20: Working arrangements for correctional staff

Following is a question by Dr Hon Elizabeth Quat and a written reply by the Acting Secretary for Security, Mr Sonny Au, in the Legislative Council today (June 20):

Question:

It is learnt that the wastage rates of correctional staff have remained persistently high in recent years. As at the end of February this year, a total of 316 rank and file correctional staff members retired, resigned or were transferred out in the 2017-2018 financial year, representing a wastage rate of 6.8 per cent, hitting a record high in five years. On improving the work arrangements and environment for correctional staff, will the Government inform this Council:

(1) given that the Correctional Services Department (CSD) has been providing rehabilitative services to persons in custody for more than 20 years, whether the authorities will provide special allowances to frontline staff who have completed a diploma in social work programme, certificate course in social work, certificate course in psychological approaches in working with offenders or other courses recognised by CSD and the Qualifications Framework; if so, of the details and timetable; if not, the reasons for that;

(2) whether the authorities will, on the premise that the number of weekly working hours remains unchanged, extend the five-day work week arrangement to all correctional staff to enable them to have more rest time, and use this work mode as the basis for calculating the number of leave days to be deducted when they take vacation leave; if so, of the details and timetable; if not, the reasons for that;

(3) whether the authorities will provide transport for correctional staff working in remote correctional institutions to commute to and from work so as to reduce their commuting time; if so, of the details and timetable; if not, the reasons for that;

(4) given that while the authorities will, under extremely adverse weather conditions, arrange means of transport to pick up correctional staff to accommodation facilities to perform sleep-in standby duty, some means of public transport still maintain limited services under such conditions at present, whether the authorities will cancel the sleep-in standby duty arrangement and instead arrange means of transport to pick up staff at designated places to commute to and from work; if so, of the details and timetable; if not, the reasons for that;

(5) whether the authorities will, in view of the fact that the social environment and service demand have changed, consider reviewing, enhancing

and shortening the recruit training programmes for correctional staff, so that those staff members may perform frontline duties as early as possible; if so, of the details; if not, the reasons for that;

(6) whether the authorities will consider reducing the weekly working hours of correctional staff from the current 48 hours to 44 hours in order to enhance their quality of life; if so, of the details; if not, the reasons for that;

(7) whether the authorities will deploy resources and manpower for building "smart prisons", including the introduction of smart wristbands which can monitor the pulse rates of persons in custody and a closed circuit television system with facial recognition features in order to provide a safer custodial environment, thereby reducing the workload of frontline staff; if so, of the details; if not, the reasons for that;

(8) as some correctional staff members have relayed that the foot protection capability of the leather shoes they wear will be undermined with the wear and tear of the shoes, causing strain injuries to them, whether the authorities will proactively consider improving the design of these shoes in accordance with ergonomics and by adopting advanced materials; if so, of the details; if not, the reasons for that;

(9) given that as the gates in correctional institutions are mainly installed with mechanical locks at present, it is time-consuming to lock and unlock them and extensive and complicated procedures are involved in the safe keeping and transfer of keys, of the progress of the authorities' work to replace the locks of the gates in individual correctional facilities with electric locks; whether various correctional institutions will completely switch to using electric locks; if so, of the details and timetable; if not, the reasons for that; and

(10) as some correctional staff members have recently relayed to me that the staff common rooms in correctional institutions are small with insufficient number of beds and facilities, of the authorities' specific improvement measures?

Reply:

President,

Correctional staff have all along been dedicated and diligent in performing their duties, ensuring a safe and secure custodial environment and helping persons in custody rehabilitate. They have made significant contributions to the law and order and public safety of the society over the years. The Correctional Services Department (CSD) has always attached great importance to staff welfare and treatment. Various measures have been adopted to attract and retain talent to meet the continuous demand for manpower resources.

My reply to the various parts of the question raised by Dr Hon Elizabeth

Quat is as follows:

(1) CSD is committed to providing appropriate rehabilitation programmes for persons in custody to help them rehabilitate and reintegrate into society after serving their sentences. With a view to enhancing the professionalism of correctional staff and the quality of rehabilitation services, CSD encourages its staff to pursue further studies. CSD has been co-organising the Advanced Diploma in Applied Social Sciences (Corrections) programme with the School of Professional and Continuing Education of the University of Hong Kong for its staff and 405 staff have been sponsored to enrol in the programme. In addition, CSD sponsors frontline staff to enrol in the Certificate in Social Work for Correctional Services Officers programme and 592 staff have been sponsored.

(2) CSD has, where practicable, changed the shift arrangements in some correctional institutions, including implementing trials on the five-day work week, to enable colleagues to have more rest days, thereby promoting better work-life balance and reducing overall commute time, under the principle of no reduction in the conditioned hours of service. The trials are still in progress and CSD will review their effectiveness when appropriate. CSD is also studying the feasibility of other shift arrangements and will try out such arrangements in other suitable institutions. In the process, correctional staff will be fully consulted.

(3) As some of the correctional institutions are located in remote areas where public transport services are inadequate, CSD provides transport for correctional staff between designated locations and the relevant correctional institutions, thereby reducing their commute time. For instance, CSD currently arranges transport for correctional staff of Cape Collinson Correctional Institution, Tai Lam Correctional Institution, Tai Lam Centre for Women, Siu Lam Psychiatric Centre, Lo Wu Correctional Institution, Shek Pik Prison, Sha Tsui Correctional Institution and Tong Fuk Correctional Institution for commuting between these institutions and designated locations at specific timeslots respectively. CSD will, having regard to the ancillary public transport services for the institutions, discuss with the departments concerned the feasibility of providing transport for correctional staff to and from correctional institutions as appropriate.

(4) At present, correctional staff are required to stand by in the accommodation facilities near the correctional institutions during a typhoon. To facilitate staff to return to the accommodation facilities under inclement weather conditions, CSD arranges transport to pick up staff from designated locations to the concerned accommodation facilities within two hours after the Hong Kong Observatory has made the Pre-No. 8 Special Announcement. This arrangement ensures smooth handover of duties among staff of different shifts and that the security and normal operation of correctional institutions can be maintained during a typhoon. Taking into account the fact that public transport is now more convenient than in the past, CSD set up a working group in January 2018 to fully review whether the existing arrangement of standby in accommodation facilities during a typhoon should be suitably adjusted.

(5) CSD is conducting a comprehensive review of its induction courses, which will be refined from time to time having regard to operational needs. For example, CSD has introduced virtual reality scenario training to enhance trainees' capabilities in dealing with contingencies in correctional institutions through different training scenarios and settings, with a view to providing newly recruited correctional staff with more appropriate training.

(6) The current conditioned hours of work for correctional staff is 48 hours per week. Under the existing Government policy, a proposal to reduce the conditioned hours of work would only be considered if it complies with the three prerequisites of cost neutrality, no additional manpower, and maintaining the same level of service to the public, as well as the "same grade (or rank), same conditioned hours of work" principle. Having regard to the above prerequisites, the management, operation, schedules and custodial arrangements of persons in custody at correctional institutions, CSD has no plan for the time being to adjust the conditioned hours of work for correctional staff. That said, CSD will continue to explore possible measures for improving the work environment of correctional staff, which include introducing new technologies and streamlining existing procedures, and pilot different shift arrangements such that frontline staff can have more rest time.

(7) CSD will introduce various appropriate technologies from time to time to enhance operational efficiency, having regard to operational needs. For example, a project of "Replacement of Core Information Technology Systems with the Integrated Custodial and Rehabilitation Management System" is being implemented. For this purpose, CSD engaged a contractor in May this year to carry out the related work. The project is expected to be completed by 2022. Moreover, CSD is exploring how the use of information technology can further improve its operations, with a view to providing a safer and more secure custodial environment. This includes exploring the feasibility of applying motion analysis surveillance technology, location surveillance system technology, etc. by conducting small-scale tests.

(8) The shoes correctional staff wear while on duty have several functional characteristics, e.g. water-proof, breathable, arch supporting, breathable and shock absorbing insoles, etc. The slip and wear resistance of the soles has been accredited to meet internationally recognised standards. The overall design and specifications have already balanced the needs for wearing comfort and occupational safety and health of colleagues. At present, the life cycle of the shoes is 15 months. CSD will make arrangements for colleagues who need to have their shoes replaced earlier than scheduled according to established procedures. Furthermore, the Monitoring Group on Implementation of Field Dress of CSD will also regularly review and enhance the staff's uniforms and accoutrement, with a view to meeting operational needs and enhancing the occupational safety and health of colleagues.

(9) CSD has all along enhanced and improved ageing correctional facilities having regard to practical needs. It has installed electric locks security

systems in newly built and redeveloped correctional institutions, including Lo Wu Correctional Institution and Tai Lam Centre for Women (redevelopment area). In addition, the projects of installing electric locks security systems in Tai Lam Centre for Women (non-redevelopment area) and Stanley Prison are now in progress and are expected to be completed by the end of 2020 and 2025 respectively. CSD will also continue to study the feasibility of installing electric locks security systems in other correctional institutions.

(10) CSD is now upgrading the overnight accommodation for correctional staff by phases. The relevant renovation works in individual institutions have been completed. Moreover, CSD has recently provided newly designed beds for trial use by colleagues and is collecting their views.