

Building and Construction Authority (BCA)

Mechanised Car Parking Systems (MCPS) - New Regulation and Technical Sharing Session

18 August 2025 (Monday) 9:30 AM – 12:30 PM

S/N	Issue Raised	Response
1) Building Control (Fixed Installations) Regulations 2025 BCA presented the new Building Control (Fixed Installations) Regulations 2025 which will take effect on 1 October 2025. It covers the duties of the Owner, contractor and SPE and reportable matters.		
1	Does Fixed Installation (FI) plan submission fall under the main QP's Mechanical & Electrical scope? Under the current single QP system, is the main QP also the plan submission QP (also referred to as QP(Plan))? Can they also serve as the supervisor QP (also referred to as QP(Sup))?	<p>Under the Building Control (Fixed Installations) Regulations 2025, the QP refers to a Specialist Professional Engineer in the branch of Lift and Escalator Engineering. i.e. SPE(L&E).</p> <p>The role of the QP(Plan) is to certify that the Fixed Installation (FI) works are designed in accordance with the Regulations and to submit the relevant FI plans for approval on behalf of the developer.</p> <p>The role of the QP(Sup) is to certify that the FI works are carried out in accordance with the approved plans and that examination, inspection and testing and commissioning (EITC) have been conducted in compliance with requirements before applying for the Permit-to-Operate (PTO) for the FI.</p> <p>The Developer for the FI works may appoint the same SPE(L&E) as both the QP(Plan) and QP(Sup), subject to the other requirements in the Building Control Act (henceforth referred to as "BC Act") and the FI Regs.</p>
2	Are MCPSs regulated by BCA or the Ministry of Manpower (MOM)?	BCA regulates the man-machine interface of the MCPS and a PTO will be required to operate the MCPS.
3	Will stacker-type MCPS that is installed in private housing (e.g. bungalows) be regulated? What are the requirements in the regulation and standards?	Yes, it will be regulated as an MCPS. All relevant MCPS must comply with EN14010 – Safety of machinery equipment for power driven parking of motor vehicles — Safety and EMC requirements for design, manufacturing, erection and commissioning stages or Code of practice for design, construction, installation, testing and inspection of the man-machine interface of Mechanised Car Parking Systems (MCPS)
4	For car lifts designed to transport both vehicles and passengers, how is it different from an MCPS?	Car lift is designed to transport the car and the driver from one floor to another floor and is required to comply with the standards for passenger lifts such as SS550. MCPS only transports the vehicle for parking or for retrieval.

5	What is the scope for structural submissions?	A circular was issued on 20 June 2016 regarding structural submissions for MCPS (Link to circular). The circular outlines requirements for load-bearing components.
6	Where can I find the list of qualified QPs for FI plan submissions?	The list of QPs can be found on the Professional Engineers Board website under the specialisation “Lift and Escalator”.
7	From 1 October 2025, will PTO be required before Temporary Occupation Permit (TOP) issuance?	Yes, a PTO must be obtained before the issuance of TOP.
8	Is the PTO application requirement similar to lift and escalator in term of requirement for no-load testing and full-load testing?	For the purpose of PTO application, for new MCPS or after a MCPS undergoes a major A and R, full load testing is required during the testing and commissioning phase. Subsequently, only no-load testing is required.
9	Must the QP(Sup) be present full-time on-site during the examination, inspection, testing and commissioning (EITC) of the MCPS?	<p>There is no need for the QP(Sup) to be on-site full-time during the carrying out of the FI works. However, the QP(Sup) must be physically present to supervise examining, inspecting, testing or commissioning (EITC) of the MCPS, after the completion of the installation and major alterations or replacements (A/R) works.</p> <p>The inspection report of the EITC published by BCA (Link to document) must be completed and submitted as part of the Permit to Operate (PTO) application.</p>
10	What are the costs involved to apply for a PTO? Will there be any guidelines or benchmarks on the inspection fees for MCPS?	No PTO application fee is required for MCPS, until further notice. QP inspection fees will be determined by market forces, similar to Lift & Escalator (L&E) practices.
11	For existing MCPS, if the owner applies for a PTO after the effective date, which is 1 October 2025, does the owner need to renew the PTO annually even if it is within the 3-year grace period?	Yes, the owner must renew the PTO every 12 months.
12	What is the required frequency for periodic servicing? Annually, every six months, or another timeframe?	<p>An MCPS service contractor must maintain the man machine interface of a mechanised car parking system —</p> <ul style="list-style-type: none"> (i) at the frequency recommended in the manufacturer’s recommendation for periodic maintenance; or (ii) if the frequency mentioned in paragraph (i) is not available — once every 3 months.
13	For existing systems, if the owner cannot meet the requirements in the regulations or standards, will there be any exemptions given?	If you encounter challenges in complying with new requirements, please consult BCA for guidance and advice.

14	At the end of the 3-year grace period, if the owner of an existing MCPS does not have sufficient funds to retrofit the MCPS to comply with the requirements, what will be the consequences?	At the end of the 3-year grace period, if the MCPS does not meet the requirements and does not have a valid PTO, the MCPS will not be allowed to operate.
15	For existing MCPS, as an owner, if we plan to discontinue its operation, what is the proper procedure regarding barriers, decommissioning, or licence renewal? Do we still need to apply for the PTO?	If the owner of an existing MCPS chooses to decommission the MCPS, relevant approval must be sought from the relevant agencies, including the Land Transport Authority (LTA) and Urban Redevelopment Authority (URA). The MCPS must be fully isolated from any access by members of the public. If the owner of an existing MCPS chooses not to operate the MCPS but still uses the surface lots as parking spaces, a valid PTO must still be obtained.
16	If a sensor malfunctions in the transfer area and the MCPS automatically switches to fault mode, preventing user access, is this required to be reported?	Yes, it is reportable. This is considered as 'a device connected to the safety circuit of the mechanised car parking system fails.', under Part 3 of the Second Schedule of the Building Control (Reportable Matters) Regulations 2025.
17	For the reporting framework, how are "defects" and "accidents" defined? For example, would defects include paint deterioration, sensor malfunctions, or only safety-related functions?	Please refer to the Building Control (Reportable Matters) Regulations 2025 in the following website for the details. (Link to document).

2) Types of Mechanised Car Parking Systems

Jebsen and Jensen presented the types of MCPS available in the market: Fully Automatic, Semi-Automatic and Manually Operated systems.

18	Is there a minimum vehicle size requirement for MCPS?	Please refer to the "Code of Practice for vehicle parking provision in development proposals" published by LTA (Link to document).
19	Are there timing requirements for parking and retrieval processes in MCPS?	There are no specific requirements for retrieval timing. Please refer to the "Code of Practice for vehicle parking provision in development proposals" for the requirements of parking places and rules for the provision of parking places and spaces.
20	In cases where a vehicle is damaged due to usage of a MCPS, what is the liability framework?	Any person seeking to claim for damage/damages should seek advice from his legal counsel.
21	Is an MCPS subject to noise level requirements?	While there are no specific noise level set for MCPS, the overall building must comply with the noise control requirements set by the National Environment Agency (NEA). These requirements apply to the building's design and architecture as a whole, not solely the MCPS components.

22	Can an MCPS be used for electric and long-wheelbase vehicles? The kerb weight specifications may not be adequate for electric vehicles, and the 5.05m length is insufficient for long-wheelbase vehicles.	Please refer to the “Code of Practice for vehicle parking provision in development proposals” for the requirements of parking places and rules for the provision of parking places and spaces.
23	If an MCPS has two doors on the same side, must the doors be designated separately for entry and exit, or can they be shared based on system programming?	MCPS with two entrance/exit can be programmed with flexibility for entry and exit purposes. There are no regulatory requirements mandating specific doors for entry or exit - this can be configured based on operational needs.
24	Can control panel(s) of a MCPS be integrated with other services, such as electronic payment systems?	It is up to the designer of the equipment if the requirements in the Code of Practice are met.

3) Interpretation to the BCA's code of practice – acceptable solutions

BCA presented interpretations of the code and acceptable solutions outlined in BCA's Code of Practice for Mechanised Car Parking Systems.

25	Regarding barricade requirements for semi-automatic systems, are there specific height or gap specifications?	<p>Refer to the requirements in section H of the Approved Document published by BCA (Link to document). Example from the documents:</p> <p><u>H.3.2 Height of barrier</u></p> <p>H.3.2.1 The height of a barrier shall not be less than – (a) 1.0 metre</p> <p><u>H.3.4 Size of opening</u></p> <p>H.3.4.1 There must not be any gap, from the finished floor level to a height no less than 75 mm, at the lowest part of a barrier.</p>
26	Is a CCTV system mandatory for MCPS? If so, where should CCTV coverage be provided (e.g. transfer cabin or storage areas)?	CCTV shall be installed with coverage of the whole transfer area and the control panel outside of the transfer area.
27	Are electromagnetic (EM) locks sufficient for access doors, or is a mechanical locking device required in case of power failure?	Electromagnetic locks are not acceptable; a mechanical lock should be installed.
28	If remote controls cannot be used, must persons with disabilities exit and re-enter their vehicles to park?	The implementation can differ from site to site to cater to the accessibility requirements. Owners are advised to work with the QP on possible solutions.
29	Does a MCPS require a separate door for drivers to exit the transfer area, or can drivers use the same main entrance through which vehicles enter?	Side door is not mandatory; the driver can use the main entrance from which he drives his car into to exit the transfer area.

30	How many doors does a MCPS require? One for vehicles and one for pedestrians that functions as a fire escape, or is one main door sufficient?	The minimum requirement is one main door for the MCPS. While a side door is optional, the overall MCPS design must comply with all relevant building standards, including the Fire Code. If your design assessment indicates that a fire exit is required based on these standards, it must be incorporated into your MCPS design.
31	For MCPS load testing, is a full-load test required (e.g. all 13 pallets loaded to 3,000kg for a total capacity of 39,000kg), or is testing only required for individual load carrier portions?	The test can be done on each pallet at a time. Both the holding capacity of the brakes, the suspension elements and the anti-fall device shall be tested.