

## Annex 2: MoT Approved PTO Process

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### Milestones for Ministry of Transport (MOT) Approval

The following tables list milestones along the PTO process which requires MOT approval. These lists of milestones can be changed following the project needs, MOT requirements or other updated circumstances.

This is a general chronologic along the PTO process, which can be changed and updated as the Red Line project progresses ; some milestones can be in parallel to each other and/or the chronologic order is changed.

The general principal is that the SISA issues a formal report prior to each MOT approval. Parallel to the SISA assesement, MOT can check and analyze similar issues as MOT decided to.

Milestone	General description	MOT Approval
System Safety Plan (system level and subsystem level)	Definition of Hazard identification and close out methodology	
	Specification of Safety Management organization, responsibilities and activities	
	Safety plans for Sub--systems and interfaces:	
	a) Specification of sub-systems safety methods and activities	
	b) Definition of sub- systems safety acceptance criteria	
	c) Definition of sub-systems hazard identification and close out method	
	d) Specification of safety management organization, responsibilities and activities includes quality management as an indispensable part.	
Management of the interfaces between the different safety demonstration activities (safety cases)		
System Safety Plan	Following SISA assessment	✓

Milestone	General description	MOT Approval
Preliminary Safety Cases for end of Detailed Design	Implement safety plan addressing: Hazard log Hazard analysis, risk assessment and mitigation measures Justify safety related design decisions	
Preliminary Safety Cases for end of Detailed Design	Following SISA assessment	 For relevant contractors
Application for two (2) Operation Managers	Preparation of all required documents to prove threshold conditions for the candidates to operation managers	
	Testing the candidates (MOT responsible to choose the testers)	
Operating Procedures and Plans	Safety Management plan for the Red Line	
	Service, O&M plan of the Red Line	
	Plan of operating systems like: control, signalling, braking, ventilation, escape routes, internal system of safety investigation	
	Supervise mechanism on the operation procedures	
	Plan of emergency situations and periodic drills	
Operating Procedures and Plans	Following SISA assessment	
Driving license	Driver training & test plan	

Milestone	General description	MOT Approval
	Driver training & testing	
	Application for driving license	
Establish Testing & Commissioning plan	The SDAG contractor should prepare the overall testing and commissioning plan with the inputs from all the other contractors	
	Following SISA assessment	✓
Testing and Commissioning	Prepare safety demonstration integration test for each Red Line tested section	
	Preparing necessary requirements and restrictions (e.g fencing, limited speed) for testing the Red Line with running trains	
	Following SISA assessment	<b>First vehicle out of the Depot</b> ✓
	Approve sub-milestones according to the T&C Plan	✓
	Finalize integration tests	
	Testing the entire Red Line under normal operating conditions and emergency scenarios.	
Safety Case for the Red Line	Prepare application for Overall Safety Case	
	Fulfilment all previous phases	
	SISA assessment	✓
Trial Running	Demonstration of performance and reliability while trains are running in regular service but without passengers.	PTO
Commercial Service		

