Ministerial Ordinance to Provide the Technical Standard on Railway

Chapter 1 General Rule

(Objective)

Article 1. This Ministerial Ordinance is set forth to secure the safe and stable transport and thereby to contribute to the promotion of public welfare, by establishing the necessary technical standards for facilities to be used for rail transportation (hereinafter referred to as “facilities”), and rolling stock structure and handling.

(Definitions)

Article 2. Meaning of the terms used in the Ministerial Ordinance used in each of the following is defined as follows:

(1) Shinkansen: Means Shinkansen (the new trunk line railway) that is stipulated in the Article 2 of the Nationwide Shinkansen Railway Development Law (Act No.71 of 1970);
(2) Main Operating Body: Means a corporation that carries out the Shinkansen business;
(3) Main Construction Body: Means a corporation that carries out the Shinkansen

construction;
(4) Gauge: Means the minimum distance between railheads in a tangent section where center of the track is straight;
(5) Main Track: Means a guide way on which trains are operated for service on scheduled basis;
(6) Side Track : Means a guide way other than a main track;
(7) Station: Means a place to be used for passengers to board or alight, or for freight to be loaded or unloaded;
(8) Signal Station: Means a place to be used mainly for trains to pass each other or wait for each other;
(9) Marshaling Yard: Means a place to be used for shunting cars or making up a train;
(10) Station and Halt: Means a station, signal station and marshalling yard;
(11) Railway Shed (or Train depot): Means a place to be used primarily to house cars ;
(12) Cars: Means locomotive, passenger car, freight car, or special car (snowplow, track inspection car, electric inspection car, accident rescue car, and/or those cars that have special structures or facilities) to be primarily used for railway business;
(13) Train : Means a set of coupled cars, referred to as consist to be run on the guide way outside of station and halt;
(14) Motive Power Unit: Means cars equipped with some form of motive power;
(15) Block: Means a section or a length of track to be exclusively occupied by one train;
(16) Rail Signal: Means signal, sign and indicator;
(17) Signal: Means a device to indicate the operating conditions for the crew in operation of a train or a car (hereinafter referred to as “train/car ”);
(18) Sign: Means a method of indicating the intent of a crew between each other;
(19) Indicator: Means the device to indicate the location, direction or
condition of an item to a relevant person;
(20) Dangerous Items: Means the items that are determined dangerous by the notification from the Minister of the Ministry of Land, Infrastructure, Transport and Tourism, but are not subject to the paragraph 2 of Article 20 of the Explosives Control Law (Act No.149 of 1950).

(Implementation Standard)

Article 3. A railway operator (In case of Shinkansen, it applies equally to the main operating or the main construction , hereinafter the same definition shall apply in this Article) shall set a standard (hereinafter referred to as “implementation standard”)

to implement this Ministerial ordinance and abide by that standard.

2. If the main construction body (excluding the main construction body that is also a main operating body) wants to set or alter the implementation standard, it shall consult with the main operating body in advance.

3. In case the Minister of Land, Infrastructure, Transport and Tourism has set the details of the Ministerial Ordinance by way of public notice, the implementation standard shall be set in accordance with those details.

4. When a railway enterprise wants to set or alter the implementation standard, it shall submit a notification of change in advance to a Director of the relevant District Transport Bureau (In regards to Shinkansen, to the Minister of Land, Infrastructure, Transport and Tourism. hereinafter the same shall apply in this Article).

5. A Director of the relevant District Transport Bureau may instruct or order to modify the implementation standard in case he recognizes that the standard does not comply with the stipulation of this Ministerial Ordinance.

(Submission of Documents)

Article 4. According to the stipulation of the paragraph 4 of the previous Article, a notification to District Transport Bureau, shall be submitted to the Director of the relevant District Transport Bureau who has the jurisdiction over the land of that particular case. (In case the particular case overlaps the jurisdictions of more than two Directors, the notification shall be submitted to the relevant Director who has the major jurisdiction of the particular case. Hereinafter referred to as the "relevant Director of the District Transport Bureau")

2. As stipulated in the paragraph 4 of the previous Article, a notification to the Minister of Land, Infrastructure, Transport and Tourism shall be submitted via a relevant Director of the District Transport Bureau.

(Prevention of Danger)

Article 5. Construction work shall be carried out carefully so as not to threaten

lives by in the carrying out of grading, earth cutting, excavation, embankment and drilling piles.

(Prevention of Extreme Noise)

Article 6. A railway enterprise shall strive to prevent extreme noise to be generated with the movement of a train.

(Measures To Be Provided for Smooth Transport of the Elderly and the Handicapped)

Article 7. The measures provided by a railway operator for the improvement of the user-friendliness and safety for the transport of the elderly and the handicapped (Act No.68 of 2000).

(Emergency restoration setup)

Article 8. (Deleted)

Chapter 2 Staff

(Safety Assurance of Train Operation)

Article 9. Safety shall be assured in train operation by comprehensively utilizing the knowledge and skill of staff members, and with all relevant facilities of train operation.

(Education and Training of Staff)

Article 10. A railway operator shall provide adequate education and training to those who are directly engaged in train/car operation and do maintenance relevant works for rail facilities and rolling stock, in order for them to be well versed in necessary knowledge and skills.

2. A railway operator shall not put its staff or crew who are directly engaged in train/car operation to work until after confirming that they possess the appropriate aptitude, skill and knowledge needed to perform their duties.

3. A railway enterprise shall not let its staff or crew who are directly engaged in train/car operation performs their duties if they are recognized to be unable to adequately exercise their skill.

(Duties of Crew to Operate a Motive Power Unit)

Article 11. A train shall have a crew on board to drive a motive power unit. However, that this provision does not apply in those cases when safe train operations would not be impaired even without a crew, due to the type of facilities and car design and structure.

2. A crew that drives a motive power unit shall be the one that has obtained the driving license specified in the Item 1 through Item8 and also Item 12 of the paragraph 1 of the Article 4 of the Ministerial Ordinance (Minister of Transport Ordinance No. 43 of 1956). Note, however, that this does not apply to the following cases.

(1) When a crew apprentice is riding with a licensed person to get a direct guidance on board a motive power unit.
(2) When a motive power unit is moving on the side track which would not interfere with a main track.

3. A crew who drives a motive power unit shall not be on duty, when under the influence of alcohol or drug.

Chapter 3 Guide Way

Section 1. Gauge

(Gauge)

Article 12. Gauge shall be able to maintain the safe and stable car operation, given the structure of rolling stock, the maximum design speed and other relevant factors into consideration.

Section 2. Guide Way Alignment

(Guide way Alignment)

Article 13. Radius of curve and gradient of the main track shall be able to ensure the high-speed and large capacity performance of the rail transport, taking the maximum design speed and tractive effort into consideration. This does not apply, however, to those prohibitive cases from the standpoint of topography.

（Radius of curvature）

Article 14. Radius of curvature shall be set in order not to impair safe car operations, taking the performance capability of negotiating a curve, the operation speed, and other relevant factors into consideration.

2. Radius of curvature along a platform on the main track shall be set as large as possible.

(Cant)

Article 15. To prevent overturning of rolling stock, cant shall be provided according to the gauge, curve radius, operation speed, etc. to resist the centrifugal force and wind power imposed to them. This rule does not apply, however, to such areas as switches, curves incidental to switch and side tracks that do not allow cant to be provided but are protected by some preventive measures including speed restriction, so that there in no danger of car overturn.

2. Cant shall be gradually decreased over a considerable distance, taking the amount of cant and the speed and structure of the rolling stock into consideration, so that there in no chance of interfering with the safe car operation.

(Gauge widening)

Article 16. Gauge widening shall be provided at circular curve sections to prevent excessive lateral force to the track, taking the curve radius and bogie wheelbase of rolling stock into consideration. This rule does not apply, however, to those cases where the radius of curve is large, the wheelbase of rolling stock is short and/or there is no

chance for the excessive lateral force to be generated.

2. Gauge widening shall be gradually decreased over the considerable distance in order not to interfere with safe car operations, taking the bogie wheelbase of rolling stock into consideration.

(Transition Curve)

Article 17. Transition curve shall be provided between tangent track and circular curve track to secure the safe car operation, taking the structure of the rolling stock, the amount of cant and operation speed into consideration. This rule does not apply, however, to curves incidental to switch, circular curves with a small cant and other cases where it is difficult to provide transition curve, and also other preventive measures are taken. Preventive measures include speed restriction, installation of derailment prevention device and others that will not impair the safe car operation.

(Gradient)

Article 18. Gradient shall be set in the manner that a car can be started, operated continuously at a designated speed and brought to a stop within a designated braking distance, taking situations into consideration such as the car performance of motive device and braking device and operation speed.

2. Gradient of the area where a train comes to a stop shall be set not to interfere with train departure and arrival, taking situations into consideration such as the car performance of motive device and braking device.

3. Gradient of the area where rolling stock are dwelled or coupled and decoupled shall be set to keep a car from rolling out. This rule does not apply, however, when an appropriate preventive measure is provided.

(Vertical Curve)

Article 19. Vertical curve shall be installed wherever a gradient changes so that it does not interfere with the safe car operation, taking operation speed and the structure of rolling stock into consideration. This rule does not apply, however, to those cases

where a gradient change is minimum, operation speed is low, or a safe car operation is not impaired.

Section 3. Construction Gauge

(Construction Gauge)

Article 20. Construction gauge at a tangent line shall be set to provide an adequate distance from the car clearance not to impair train operations and the safety of passengers and crew, taking the vibration caused be car operation in consideration.

2. Construction gauge at a tangent line where electric locomotive hauled or electric multiple units are operated, shall be determined in such a way as to provide a sufficient distance from the car clearance to prevent electric shock or fire.

3. Construction gauge at a curve shall be larger than those specified in the preceding two paragraphs depending upon the deviation of rolling stock, and shall be slanted according to the amount of the cant.

4. No building or structure shall be built within the construction gage.

5. Any object other than a train/car shall not be placed within the construction gage. This rule does not apply, however, to inevitable cases like carrying out necessary construction work, as long as appropriate precautions like speed restriction, for example, are taken to secure safety.

6. Nothing shall be placed even outside of the construction gauge that could fall into the construction gauge.

Section 4. Width of Formation Level and Distance between Track Centers

(Width of Formation Level)

Article 21. The width of formation level at a tangent track shall be appropriately set to maintain the function of the track appropriate to the track structure. Also it shall be able to provide enough space for crew to take shelter when a train is approaching.

2. The width of formation level at a curve shall be made larger than the one in the previous article, according to the deviation of rolling stock and the amount of cant.

(Distance between Track Centers)

Article 22. The distance between track centers at a tangent track shall be set to maintain the safe car operation by eliminating the possibility of pitching cars touching each other or hurting a passenger leaning out of a train window.

2. Distance between track centers at a curve shall be larger than the one described in the previous provision, according to the deviation of rolling stock.

Section 5. Structure of Guide Way

(Track)

Article 23. Railway track shall conform to the following standards:

(1) It shall conform to the structure of a rolling stock and shall be able to guide it to a specified direction.
(2) It shall withstand the anticipated load.
(3) It shall not deform to the extent to jeopardize the safe car operation.
(4) It shall not impede the maintenance of way.

2. Protective devices shall be installed to prevent derailment or to minimize the consequence of derailment, at those critical areas where derailment could be a possibility and/or the damage of derailment could be detrimental.

3. At the linear motor railway system, the above ground facilities together with its accessories and fastening devices shall be equipped with the necessary capabilities to operate the train/car, installed at the location that would not impair the safe car operation and have the safe structure to withstand the attractive or suction forces that accompanies the motive power generation.

(Structures)

Article 24. Structures such as earthwork, bridge, and tunnel shall be able to withstand the anticipated load. They shall also be free from any impediment for the safe car operation like the deviation of structures caused by the load and impact of the train.

(Facilities to Abate Extreme Noise)

Article 25. Shinkansen guide way shall be equipped with the devices to abate extreme noises generated from the high-speed operation, depending upon the situation or condition along the right of way.

Section 6. Buildings

(Buildings)

Article 26. Safety related buildings within the rail premise and overbridge, platform sheds and other relevant buildings within the rail facilities shall withstand the anticipated load and shall not impair the safe car operation and safe utilization by passengers.

Section 7. Safety Facilities

(Facilities to Prevent Disasters and Other Incidents)

Article 27. Facilities or devices to prevent or detect any fallen or falling objects shall be installed at the cut sections or entrance of tunnels.

2. At stations and tunnels, relevant facilities or devices shall be installed to prevent immersion and also drain appropriately if needed.

(Protection of Below Bridges)

Article 28. Bridges that span the busy road, guide way or rivers and could constitute a hazard to the traffic beneath them shall be equipped with the protective devices to prevent any danger to those that pass under these bridges.

2. If overhead bridges spanning the busy highway, or river are vulnerable from the impact of the automobiles and ships underneath, they shall be equipped with relevant protective devices to minimize the impact from them. Railway other than Shinkansen, however, may simply put the "Danger" sign on the relevant abutments.

(Facilities of Underground Stations)

Article 29. Underground railway stations that are built mainly with underground structure and tunnels leading to stations or long tunnels (hereinafter referred to as "underground stations, etc.") shall be equipped with ventilators of adequate ventilating capability. This does not apply, however, to those cases that are accessible to sufficient natural ventilation.

2. Underground stations, etc. shall be equipped with fire extinguishers, evacuation facilities and other necessary fire-prevention equipment, depending upon the structure and facility.

(Prevention of Rolling Stock Runaways)

Article 30. For those places susceptible for dangers from car runaways or over-speeding, appropriate protection devices shall be installed, taking train/car speed, track gradient and other factors into consideration.

(No Trespassing to Guide Way)

Article 31. To those areas where there is a possibility of trespassing, adequate preventive devices shall be installed or "danger" sign shall be displayed.

2. Notwithstanding the previous stipulation, adequate preventive devices shall be installed for Shinkansen, except those areas such as bridges, tunnels and other hard to trespass structures.

(Evacuation Facilities)

Article 32. Railway track shall be built to provide safe on foot evacuation for passengers in case of emergency. This rule, however, does not apply if adequate

evacuation facilities are provided depending upon the rail structure.

Section 8. Wayside Posts

(Wayside Posts)

Article 33. Pertinent wayside posts shall be installed alongside the main track to secure the guide way maintenance and the safety of train operation.

Chapter 4. Station and Halt

Section 1. Station and Halt

(Track Layout at Station and Halt)

Article 34. Track layout at station and halt shall conform to the train operation.

2. The effective length of a main track to be provided as passing track at station and halt shall be long enough to accommodate the longest train.

Section 2. Depot, etc.

(Station Facilities)

Article 35. Necessary facilities shall be provided at stations for passengers and freights, depending upon the number of passengers and the volume of freight to be loaded and unloaded.

2. Each station shall be provided with facilities to make useful and relevant information available to passengers who come to use the station.

(Platforms)

Article 36. Platforms shall conform to the following standards:

(1) The effective length of a platform shall be longer than the distance between the forefront passenger car and the rearmost passenger car of the train that departs from and arrives at the platform. (In case a conductor rides on a car other than passenger cars, that particular car is included in determining the distance. hereinafter the same shall apply in this article.) The effective length shall also be able to provide the safe and smooth getting off and on of passengers. This provision does not apply, however, to exceptional cases due to topographic conditions when necessary measures such as closure of passenger entrance and exit are taken.;

(2) The platform width and the distance between the edge of the platform and other structures such as columns, entrance to passenger overbridge, entrance to underpass and waiting rooms shall be adequately set not to interfere with the safe and smooth movement of passengers;

(3) Platforms shall be equipped with appropriate safety measures to secure passengers, depending upon the train speed, frequency and operational patterns.

(Access for Passengers)

Article 37. The width of passenger walkways and stairways shall be appropriately set not to impede the movement of passengers.

2. Passenger stairways shall be provided with appropriate measures to prevent passengers from falling down the stairs.

(Train depot, etc.

Article 38. Train depot shall have sufficient capacity to accommodate relevant rolling stock.

2. Rolling stock inspection facilities shall be equipped with sufficient and adequate capabilities to accommodate full inspection and repairs.

Chapter 5. Intersection with Road

(Intersection with Road)

Article 39. Railway shall not intersect with roads at grade (Roads here mean the roads used by the general public traffic. The same definition shall apply hereinafter.). This definition, however, does not apply to those conventional line that do not operate at high-speed like, Shinkansen, where traffic volume at rail crossing is small or where it is difficult to make a separate crossing from the topographical standpoint.

(Level Crossing Roads)

Article 40. Level crossing roads shall be provided with appropriate consideration for the safe and smooth passage of people and automobiles (hereinafter referred to as "level crossing road passengers, etc.") and with safety facilities prescribed under the Article 62.

Chapter 6. Electric Facilities

Section 1. Electric Line Facilities

(Contact Lines and Other Facilities)

Article 41. Catenary line , feeder line and their accessories including apparatus, wire and protection equipment shall be installed not to cause electric shock and fire, according to the location, installation method and standard.

2. Overhead contact line and feeder line shall be installed at an appropriate height depending upon the location, installation method and standard voltage to make them free from of the risk of electric shock or other impediment to train traffic,

3. Contact line shall be able to withstand the predictable maximum wind pressure load, tension of electric wire, etc. and also shall be installed appropriately to collect electricity without any impediment according to the train speed and feeder system.

4. Contact line and feeder line shall be installed in such a manner as to prevent failures caused by an inadvertent contact or confusion with other contact line or feeder line that differs in standard voltage, frequency and so on.

5. The voltage of contact line shall be maintained at a sufficient level to guarantee adequate train operations.

(Proximity or Crossing of Overhead Electric Lines)

Article 42. In case the voltage applied part of the overhead contact line, or feeder line is in proximity of or crossing other contact lines, manmade works, or vegetation, it shall be installed with caution to be free from chance of damaging any of the above and causing electric mixture, shock or fire.

(Division of Insulation of Contact Lines)

Article 43. In order to avoid breakage or electric shock, a contact line shall not be sectionalized in the area where electric locomotives or electric trains usually make stops. This rule does not apply, however, when an appropriate measure is taken to either prevent any electric locomotive or train from approaching the sectionalized area, or install a proper measure to prevent any trouble from happening when an electric locomotive or a train has stopped at the sectionalized area.

(Prevention of Troubles at Overbridge etc.)

Article 44. For such cases when overhead contact, as well as feeder lines are to be installed underneath an overbridge, a building over platform, a bridge or any other similar facility, and are likely to cause some harm to people, etc., preventive measures or facilities shall be installed.

(Installation of Return Current Rail)

Article 45. Rail for return trace (current) shall be installed in such a manner as to configure the sufficient electric circuit for return current and also to minimize the leaky current from the rail to the ground.

2. Rail for return trace to be installed at a grade crossing or walkways, etc. shall be appropriately installed so that the difference of electric potential with the ground would not provide any danger to pedestrians, etc.

(Transmission and Distribution Line Routes)

Article 46. Transmission and distribution lines (except those installed outside the exclusive right of way. the same shall apply hereinafter.) shall be strong enough to withstand both the anticipated maximum wind load and the tensile load of electric wires, and at the same time, need to be installed in such a manner as to be free from current mixture, electric shock and fire, depending upon the location, installation method and voltage.

2. Overhead transmission line and overhead distribution line shall be installed at an appropriate height to eliminate the possibility of electrocution and other impediment to traffic.

3. Transmission line and distribution line that are located in the proximity of, or cross over other electric lines, structures or vegetation shall be installed in the manner not to damage those electric lines or structures and to be free from the danger of electrocution and fire.

(Measures to Prevent Lightening Damages, etc.)

Article 47. Protective measures and equipment against lightening damages shall be installed to those vulnerable locations deemed necessary from the security standpoint, such as at contact line and feeder line together with their accessories, as well as overhead transmission and distribution lines. This rule does not apply, however, to the area that are less susceptible of lightning damages.

2. Electric lines connected by transformers to accommodate different voltages shall be installed appropriately to protect themselves and their equipment from electric mixture and be free from electrocution and fire.

(Prevention of Induction Damage)

Article 48. When contact line, feeder line, transmission line and distribution line are installed, distance among each other shall be increased, or protective devices shall be installed in order to seclude the influence of inductive interference from them.

Section 2. Electric Power Substation and Other Facilities

(Equipment at Substations, etc.)

Article 49. Substation, distributing station and switching station (hereinafter referred to as "substation, etc.") shall be constructed in the manner to exclude unauthorized persons.

2. Substations, etc. shall be equipped with appropriate devices and fire extinguishers to protect equipment, contact lines and other facilities at a time of emergency. It is not necessary, however, to install any fire extinguisher at those substations, etc. where there is no risk for fire.

3. The capacity for transformers to be used for train operation shall be sufficient to withstand the anticipated load.

4. Monitored substations (meaning automated, remotely controlled and monitored substations, and portable substations without stationary operators) and switching stations shall be provided with a control post with the surveillance and control equipment, and shall be able to deal with any accident, disaster and failure.

Section 3. Electrical Equipment and Other Facilities

(Electrical Equipment, Power Distribution Board and Others)

Article 50. Electric equipment, power distribution board and other relevant equipment shall be installed to be free from the risk of electrocution and fire.

(Lead and Distribution Line, etc.)

Article 51. Lead line (excluding the line to be installed outside the exclusive right of way) and distributing line shall be installed in the manner to be free from electrocution and fire, impediment to other traffic and damage to other structures, depending upon the location and type of installation, and the voltage.

2. Appropriate devices shall be installed to the critical locations from the safety and

security need, to protect the electric line and equipment from grounding or short circuit faults.

3. Overhead ground wires to be installed to the contact line as lightening rod or for other purposes shall have the strength to withstand the anticipated maximum wind load and the tensile strength of the electric line.

Section 4. Miscellaneous Provision

(Insulation of Electric Route)

Article 52. Insulating performance of the electric line and equipment shall be able to withstand the danger from the insulation damage, taking the abnormal voltage at the time of accident into consideration.

(Grounding of Electric Facilities)

Article 53. At critical locations of electric facilities, effective grounding shall be provided to prevent electrocution and fire caused by the abnormal elevation of electric power and invasion of high voltage, etc.

Chapter 7. Operation Safety Facilities

Section 1. Railway Signalling Facilities

(Devices to Ensure Block, etc.)

Article 54. Devices to ensure a block shall be capable of providing the signal aspect that complies with the condition of the block sections on the route or assuring the block.

2. The devices to ensure the interval between trains shall be capable of retarding or stopping the speed of the relevant train, by continuously controlling it according to the intervals with other trains/cars and guide way conditions on the route.

3. If the aforementioned apparatus (in paragraph 1 or paragraph 2) is used on a single

line, it shall be able to prevent two opposite trains coming into the relevant section at the same time.

(Railway signal devices , etc.)

Article 55. Structure, providing method, and installation of railway signals shall be free from the chance of misrecognition.

2. Signal device shall be appropriately installed to let the train/car decelerate or stop according to the speed instructed by its aspect, before it comes to the front end of the section to be protected by the signal.

3. To secure safe train/car operation, signal indication devices shall be installed at intersections or junctions or other vulnerable locations that could cause collision or derailment

(Apparatus to Interlock Signals)

Article 56. At intersections or junctions or other vulnerable locations that are susceptible to collisions or derailment, interlocking apparatuses shall be installed to coordinate signals and turnouts on the route, in order to prevent collision and to secure safe train/car operation.

2. The remote control device to the aforementioned apparatus shall be able to display necessary information to secure safe train operations, including but not limited to where trains are located and whether the route is open or not.

(Apparatus to Automatically Decelerate or Stop Trains)

Article 57. In the case when trains are operated by the block system, apparatus to automatically decelerate or stop trains depending upon signal aspects and guide way conditions shall be installed. This does not apply, however, to those cases where safe train operation will not be jeopardized from the standpoint of operational and route conditions.

(Apparatus for Automatic Train Operation)

Article 58. Apparatus for automatic train operation to be installed for an unmanned train (without a driver) unit shall comply with the following standards.

(1) A train shall not be able to be departed until after confirming the safety of all passengers getting on and off the train.
(2) A target speed shall be set below the operating speed instructed by the control information from the apparatus that are ensuring train intervals and the train speed shall be controlled smoothly.

(Or)

Necessary functions shall be equipped for the operational safety, such as the target speed being set below the operation speed indicated by the control information from the apparatus that are ensuring train intervals.

(3) A train shall be stopped smoothly at the location which would not interfere with passengers getting off and on.

(Apparatus to Detect Trains, etc.)

Article 59. Apparatus to detect trains (limited to those needed from a safety standpoint) shall be able to detect trains without failure, by preventing an impediment caused by inductive interference that could lead to a false clear. .

2. If the boundary is set for the area to be detected by the aforementioned apparatus to detect, the boundary shall be drawn at the location where there is no danger for trains to collide.

Section 2. Safety Communication Facilities

(Safety Communication Facilities)

Article 60. In order to communicate or exchange information quickly to each other or among themselves, safety communication facilities shall be installed at station and halt, power substations, and traffic control centers , electric power dispatching

stations and other location deemed necessary from the safety and train operational standpoints.

(Installation of Overhead Communication Line)

Article 61. Overhead communication lines shall be installed with an appropriate height, so as not to impair with other transportation movement.

2. Overhead communication lines shall be installed properly not to pose a hazard to people and other equipment, and at the same time to prevent the damages caused by electric mixture and lightening hazard.

Section 3. Level Crossing Protection Facilities

Article 62. Level crossing safety facilities shall be able to warn the danger of approaching train to people going across level crossings, and to block the street traffic into the crossing to secure the safety for both train and people. However, for those exceptional cases where the traffic volumes at the crossing is minimal or where it is extremely difficult from the technological standpoint to install the device to shut the street traffic, warning device of an approaching train suffices as protection.

2. Level crossing safety facilities shall take into consideration the train speed, traffic volume of both rail and road, the type of vehicles that go across the crossing and so on. If necessary, safety facilities shall include the device to let relevant trains/cars be informed of any automobile interfering with the crossing.

Section 4. Miscellaneous Provision

(Securing Safety When in Troubles)

Article 63. Those facilities to secure safe train/car operation shall be equipped with the function, according the performance characteristics of its electric equipment and circuit, not to interfere with safe train operations even at the time of failure.

Chapter 8. Rolling Stock

Section 1. Rolling Stock Gauge

(Rolling Stock Gauge)

Article 64. Roiling stock shall not exceed car clearance. However, as far as safe car operations can be secured it is exempted from the rule when it is equipped with some devices that cannot be used without violating the clearance. These devices include obstacle guard, crane and the equivalent.

Section2. Weight of Rolling Stock

(Limitation of Impact of Rolling Stock Imposed to Track and Structure)

Article 65. Rolling stock shall not impose the impact that exceeds the capacity of track and structure.

(Stability)

Article 66. Rolling stock shall be able to maintain a safe and reliable operation under any conceivable operational conditions including the track stability.

2. Rolling stock shall be of the stable structure that will not cause overturn when stopped or stalled at curved track.

Section 3. Running Gear of Rolling Stock

(Running Gear, etc.)

Article 67. Running gear shall comply with the following standards:

(1) The wheels of a running car shall not damage the track;
(2) The axles shall be arranged appropriately without imposing any problem for a train to negotiate the curve of the minimum radius on the line it is supposed to run;
(3) The suspension system shall have sufficient capacity to withstand the shock from the track;
(4) The front part of the first car of a train shall be equipped with the device to remove

any obstacle left on the top of the rails;
(5) In addition to the paragraphs prescribed above, the running gear shall be made robust with sufficient strength and shall be able to secure safe and stable car operations.

(Power Generation and Related Equipment)

Article 68. Power generators and other relevant equipment shall be adequate to the facilities and shall be able to withstand the train operation.

2. The electric equipment of the electric circuit of the rolling stock shall comply with the following standards:

(1) Shall not pose any risk for insulation breakdown, electrocution caused by electric mixture and fire;
(2) Shall not pose the impact of the failure caused by induction effect to other electrical equipment of other electric circuits used for railway operation;
(3) Shall have the power collection equipment with the capability of following the contact line;
(4) Shall be able to lower pantographs altogether from the crew cabin. Can be exempted from this rule, however, for such exceptional cases like trains being hauled by multiple locomotives;
(5) Shall be free from fire hazard caused by the arcs from pantographs being lowered;
(6) Shall be free from the overheated combustion loss caused by the eddy current;
(7) Shall be able to maintain the safety of the circuit against the invasion of abnormally high voltage;
(8) Shall be able to forcibly override the power supply to the contact line of the rolling stock running in the high voltage section, in case of abnormality.

3. Rolling stock engines with internal combustion and steam shall comply with the following standards:

(1) Shall be protected from the abnormal overheating by appropriate protective measures;
(2) In steam combustion, shall be able to prevent fire caused by sparks and ashes exhausted from engines;

(3) Shall have walls and floors installed to protect ignition caused by the heat of engine;
(4) Shall be equipped with fuel device capable of preventing fuel leak and ignition;
(5) Shall be equipped with exhaust pipes that has the structure capable of preventing risk to passengers and other equipment caused by the of exhaust gas and heat.

(Braking Devices)

Article 69. Rolling stock shall be equipped with the braking devices that comply with the following standards:

(1) Shall be able to decelerate or stop the rolling stock without failure;
(2) Shall be applied to the car consist in conjunction with the control from the crew's cabin; (This does not apply to the car used exclusively for shunting and other special cars. The same applies to the item 5.)
(3) Shall be free from failure caused by vibration, impact and other factors;
(4) Shall be able to apply braking force continuously;
(5) Shall be applied automatically at the time when combined cars are separated ;
(6) Shall be able to bring a train to a sudden stop. This would not apply, however, to special cars;
(7) Shall be able to keep the car from departing in case the braking effort would be adversely affected without securing the braking power supply source. This would not apply, however, to a steam locomotive with a warning device installed.

2. In addition to the aforementioned, rolling stock shall also be equipped with the braking devices that comply with the following standards:

(1) Shall be capable of preventing rolling of the parked cars from moving and complying with the previous item (3). This would not apply, however, for those cases when a rolling stock is prevented from rolling by being rigidly coupled to other rolling stock;
(2) Shall be equipped with independent braking capability that can be utilized in case the braking devices mentioned in the previous paragraph would fail and can also satisfy the standards of the item (1), (3) and (4) of the previous paragraph. However, locomotives, passenger car (limited to passenger coaches), freight car (limited to freight cars and baggage cars) and special cars are exempted from this rule.

Section 4. Structure of Car Body and Rolling Stock Devices

(Structure of Car Body)

Article 70. Rolling stock car body shall be made sturdy with enough strength and be capable of withstanding train operation.

(Structure to Abate Extreme Noise)

Article 71. Rolling stock to be used by Shinkansen shall be of the structure to abate the extreme noise generated from high-speed run. However, rolling stock used for accident recovery, testing of facilities, and inspection or maintenance is exempted from this standard.

(Structure of Driver's Cabin)

Article 72. Driver's cabin shall be separated from passengers in order for the driver not to be disturbed, and shall be provided with exclusive entrance and exit as the train operation is not interfered with. This does not apply, however, to a driver's cabin of the special car.

2. Window of a driver's cabin shall be able to provide the view necessary for driving. The front window shall also have sufficient strength to protect a driver from gravel, wind pressure and other objects. This does not apply, however, to a driver's cabin of special car.

(Structure of Passenger Car or Compartment)

Article 73. Passenger car or compartment shall comply with the following:

(1) Window of passenger car shall have sufficient strength, and when open, shall be free from the chance of contacting other facilities or endangering passenger to fall out;
(2) Passenger car shall be capable of required ventilation;
(3) Lightening facilities shall be installed for operation at night or in tunnels to keep passenger car or compartment properly illuminated even at the time of emergency;
(4) Isles shall provide safe and smooth passage of passengers;
(5) Seats or standing space for passengers shall secure safety, taking oscillation of train

into consideration.
(6) Toilet shall be provided as needed.
(7) In addition to the aforementioned, passenger car shall be able to provide safe utility for passengers.

(Structure of Passenger Entrance and Exit)

Article 74. Passenger entrance and exit shall provide safe and smooth boarding or alighting of passengers, and the doors shall be equipped with automatic opening and closing devices that comply with the following standards.

(1) Shall be able to open or closed simultaneously.
(2) Shall make it possible for crew to check and confirm the open or closed condition.
(3) Shall prevent the train from departing when open. (Train shall not be able to depart until after all the doors are confirmed closed.) This standard would not apply, however, to a passenger car when a crew can manually confirm the doors to be closed.
(4) Shall be able to be open manually for emergency. This will not apply, however, to the rolling stock that run over the electrified section by the third rail.

(Structure of Gangway Entrance and Gangways)

Article 75. Passenger cars shall be equipped with gangways for passengers to pass through to the next cars. This will not apply, however, to a single car operation.

2. A train that runs through the section that does not allow an emergency evacuation from the side of the train because of the facilities, shall be able to provide sure evacuation from the front of the first car and the rear of the last car (in case of a locomotive haul train, the rear end of the train).

(Structure of Emergency Exit)

Article 76. Rolling stock that does not provide easy evacuation for passengers in case of an emergency shall be equipped with an emergency exit to accommodate an easy and secure evacuation of passengers. It shall also accommodate a crew to confirm whether it is open or not.

(Coupling Devices)

Article 77. Coupling devices (excluding articulated bogie or the equivalent structure) shall be made sturdy with sufficient strength to be able to withstand vibration, shock, etc. and capability of coupling cars each other completely.

(Structure of Rolling Stock to Transport Special Freight)

Article 78. Freight cars that transport flammable liquid, automobiles and other special freight shall have the structure and devices to be able to prevent disasters caused by them.

(Equipment of a Driver's Cabin)

Article 79. A driver's cabin or crew's cabin to be used for car operation shall be provided with the facilities for power running, braking and other necessary controls for car operations.

2. The aforementioned equipment shall be easily operated and confirmed by the train crew.

3. A driver's cabin to be used for car operation shall be equipped with the devices that are capable of stopping the train automatically when a train operator becomes incapable of driving. This does not apply, however, when a safe train operation would not be impaired depending upon the facilities and rolling stock structure.

4. When the devices described under the paragraph 2 of Article 54 or Article 57 get installed, the opening switch of the relevant device shall not be able to be easily open by the crew (driver).

(Internal Pressure Vessels and Other Pressure Supply Sources and Other Accessories)

Article 80. Internal pressure vessels and other pressure supply sources together with their accessories shall comply with the following standards.

(1) Shall be capable of preventing any abnormal pressure buildup.

(2) Shall be capable of preventing any decline of function due to moisture, etc.
(3) Shall be capable of withstanding any vibration or impact that could lead to damages.

(Rolling Stock Accessory Devices)

Article 81. Rolling stock shall be equipped with the following accessory devices that comply with the relevant standard described below. However, those rolling stock will be exempted from this rule, that are capable of securing safe and smooth operation as well as boarding and alighting of passengers:

(1) Sign Device: Shall be capable of signing among crew completely;
(2) Communication device: Shall be capable of assuring smooth communication between crew;
(3) Whistle Device: Shall have sufficient volume to be capable of warning danger;
(4) On-board Announcing (Broadcasting) Device: Shall be capable of reaching every single passenger car (room);
(5) Emergency Communication Device: Shall be easily available for passengers to notify crew if an emergency arises;
(6) Emergency Stop Device: Shall be easily available for passengers to stop the train if an emergency arises;
(7) Signage Light: Shall be recognized from the ahead and from the behind of the train to confirm the direction the train is heading to.

2. The accessory device prescribed above under the item (6) shall not be installed in the case that it could pose a danger like electrocution, to passengers who evacuated the train.

(Rolling Stock Identification)

Article 82. Rolling stock shall have identification necessary to be properly identified.

Section 5. Fire Prevention Measures for Rolling Stock

(Rolling Stock Fire Prevention)

Article 83. Electric wires and cables used in rolling stock shall be capable of preventing fire caused by electric confusion, overheating of equipment and other reasons.

2. Devices that are likely to generate arc or heat shall be provided with the pertinent protective measures.

3. The body of passenger cars shall be built with the appropriate structure and materials so that they can prevent prospective fire from starting and spreading.

4. Locomotive (excluding steam locomotive), passenger cars and freight cars with crew cabin, shall be provided with fire extinguishing devices to contain fire at an early stage.

(Fire Alarm)

Article 84. Sleeping cars shall be equipped with fire alarms that are automatically triggered in case of fire.

(Function of Devices at Power Failure)

Article 85. The devices or equipment needed to secure the safety of both train operation and passengers shall be able to function for a certain period of time even after the main power supplies source is interrupted.

Section 6. Rolling Stock Facilities for One Man Operation

(Rolling Stock Facilities for One Man Operation)

Article 86. The one man operation train shall not only abide by the rules stipulated in the previous Article 64 through the 85, but also comply with the following standards.

(1) A passenger car that runs in the underground structure or other sections that make a quick evacuation of passengers difficult at the time of emergency shall be equipped with appropriate measures to maintain passenger safety for emergency, including the installation of automatic notification system to stations or control centers to inform that

the device under paragraph 3 of Article 79 has been triggered.
(2) A crew that operates a motive power unit shall be able to communicate without difficulty with station or operation control center at the regular operating position when needed for safety.
(3) As for a passenger car, a crew that operates a motive power unit shall be able to manipulate the passenger doors and make necessary announcement easily from the regular operating position.

2. A train without a crew to operate the motive unit shall abide by the rules or standards covered from the Article 64 through the previous Article. Further, safety device that enables passengers in a passenger car to communicate with operation control centers and other security measures to maintain passenger safety shall be installed. This rule does not apply, however, to the case when crew onboard can secure the safety in case of emergency.

(Device to Record the Train Operation)

Article 86-2. For trains, operation control centers and other necessary places, event recorders to record train operation shall be installed. However, this rule does not apply to such exceptional cases as the maximum train speed is low, or installation is made difficult by the structural reasons.

Chapter 9. Maintenance of Facilities and Rolling Stock

(Maintenance of Facilities and Rolling Stock)

Article 87. Rail track and electric facilities to operate trains/cars (hereinafter referred to as “electric facilities”) shall be maintained in an appropriate condition to provide a safe car operation at the designated speed.

2. In case the main track and the electric overhead lines installed over the main track are not in the condition described in the previous paragraph temporarily, necessary measures including speed restriction shall be taken to maintain a safe train operation. Those areas that need special attention shall be carefully monitored

3. Operation safety device shall be maintained to operate accurately.

4. Rolling stock shall not be operated unless they are maintained to function accurately.

(Inspection and Field Test of Newly Installed Facilities and Newly Manufactured Rolling Stock)

Article 88. Newly installed, reconstructed, renovated or repaired tracks and electric facilities shall not be used unless inspection and test run are completed. Test run may be omitted, however, for track and electric facilities that have been slightly reconstructed or repaired and also for side tracks that do not seem to impair the main track.

2. When the track and electric facilities suspected of malfunction because disaster and other operational accidents took place, and also the track and the electric facilities that have not been used for a while are to be used for train/car operation, the relevant track and electric facilities shall be inspected in advance and test run shall be conducted wherever and whenever necessary.

3. Operation safety devices that have been newly installed, reconstructed or repaired shall not be used until after inspection and confirmation of its function are completed. This rule also applies to the operation safety devices that could have been failed due to disasters and other operational accidents and have not been used for a while.

4. Newly made or purchased and remodeled or repaired rolling stock shall not be used until after inspection and test run have been conducted. Test run may be omitted, however, when only a minor remodeling or repair was done.

5. Rolling stock that is suspected of failure because of derailment and other operational accidents and has not been used for a while shall be inspected in advance, or shall be put for test run if needed before it is put to operation.

(Inspection and Monitoring of Main Track and Overhead Electric (Catenary) Line over the Main Track and Inspection of Train)

Article 89. An inspection tour shall be conducted for the main track and overhead electric line installed over the main track, according to the situation of territory and

train operation.

2. When a possibility of disasters that can interfere with the safe train operation on the main track is found, the relevant track shall be carefully watched.

3. Main component of a rolling stock shall be inspected according to the type and operational condition of the train.

(Regular Inspection of Facilities and Rolling Stock)

Article 90. A pertinent cycle, item and method of regular inspection for facilities and rolling stock shall be determined according to their type, structure and usage, in advance.

2. When Minister of Land, Infrastructure, Transport and Tourism issues a public notice to stipulate the items for the regular inspection mentioned above, regular inspection shall be carried out accordingly.

(Record)

Article 91. Records shall be made and kept for all of the inspections, rebuilding, remodeling or repair carried out for facilities and rolling stock, according to the Article 88 and 90.

Chapter 10. Train Operation

Section 1. Loading Limitation, etc.

(Loading Limitation of Car, etc.)

Article 92. Car shall not be overloaded beyond its specified loading limitation.

2. In loading goods on car, effort shall be made to balance the burden of the weight and to prevent goods from falling and rolling due to oscillation during operation.

3. Goods shall not be loaded onto a car beyond its rolling stock clearance. In case of

transporting extra large cargo, however, this rule does not apply if it is confirmed that loaded condition would not impair the car operation.

(Display of Dangerous Cargo)

Article 93. A car that is loaded with dangerous cargo shall have danger signs on conspicuous spots of both sides of the car.

Section 2. Train Operation

(The maximum Number of Coupled Cars, etc.)

Article 94. The maximum number of cars to be coupled to make a train consist shall comply with the performance, structure and strength of the rolling stock and the situation of facilities.

2. When car (excluding one with hermetically sealed structure) loaded with nothing but dangerous goods is coupled to a train, pertinent preventive measures shall be taken so as not to endanger passengers and crew.

(Brake for Train)

Article 95. A train that is consisted with more than or equal to two cars shall adopt the braking system that will work in conjunction with all of the cars and apply automatically when the consisted cars are separated. However, if any measures would be adopted not to interrupt the safe train operation, this rule would not apply.

2. When a train is made up or the train consist is altered, brakes shall be tested to confirm their functions.

(Brake Power of Train)

Article 96. Brake power of a train shall have sufficient capability to accommodate the gradient of track and the train speed

(Boundary of Station and Halt)

Article 97. In case the operation handling inside of the station and halt boundary differs from that of outside, the boundary shall be clearly indicated in a manner that is easily recognizable.

(Operation on Main Track Outside of Station and Halt)

Article 98. Any car shall not be operated on the main track outside of the station and halt unless it is made up into a train. This rule does not apply, however, to a car to be shunted.

(Train Operation Time Table)

Article 99. Train shall be operated to meet the scheduled departure time, passing time and arrival time at stations, according to the need.

2. When a train operation is disturbed, effort shall be made to bring it back to the schedule.

(Prevention of Accident at Train Departure)

Article 100. A crew shall not depart a train when passengers are recognized to be in dangerous situations such as being caught by a closing train door.

(Safety Assurance between Trains)

Article 101. A train shall be operated by one of the following methods in order to secure safety between trains. This rule will not apply, however, to the train to be operated within the station and halt premise according to the signal aspect or display, or the direction of the person who is in charge of managing the station and halt (including the case that a person is designated by a manager ahead of time):

(1) Method via block system;
(2) Method via device to secure the distance between trains;
(3) Manual method by a motive car crew (driver) who takes necessary conditions into consideration, such as the view ahead of him.

2. In case safety measures are provided separately for such trains as a rescue train or a facility construction train in the section where another service train is already working, the aforementioned rule may be exempted.

(Driving Location of Train)

Article 102. A crew who drives a motive unit shall drive a train at the front end of the foremost car. However, this rule will not apply when the safe train operation would not be impaired.

(Operation Speed of Train)

Article 103. Train shall be operated at the safe speed, depending upon the track and overhead contact line conditions, rolling stock performance, operational method, signal condition, train protection method and so on.

(Regressive Train Operation)

Article 104. Trains shall not make reverse moves. However, whenever safety measures are taken, including prevention of trains that follow from coming in, this rule may be exempted.

(Simultaneous Entry and Departure of Trains)

Article 105. In such a case as more than or equal to two trains enter or leave the station and halt, and when there is a possibility of interfering with the route of one or the other due to overrun, those trains shall not be operated at the same time.

(Train Protection)

Article 106. In the event that train operation shall be halted due to some problems, stop signal shall be displayed or other measures to stop the proceeding train shall be taken as quickly as possible, considering the train's emergency braking distance.

(Track Blocking)

Article 107. When a section of the track needs to be blocked for construction or maintenance work, preventive measures shall be taken to stop other trains/cars (excluding cars to be used for construction or maintenance work) coming into the section.

(Prevention of Danger to Train Operation)

Article 108. When there is a likelihood of typhoon, earthquake or another natural disaster posing a threat to a train operation, appropriate measures including shutting down the train operation, shall be taken to prevent dangers.

Section 3. Operation of Rolling Stock

(Shunting)

Article 109. Shunting of cars (including shunting of trains. the same shall apply in the following paragraph.) shall be conducted with safety precautions such as using signs.

2. Shunting of cars shall be conducted in the manner not to impair a train operation.

(Storage of Rolling Stock)

Article 110. When a car is stored, necessary measures shall be taken to prevent it from rolling out.

(Prevention of Danger for Car Loaded with Hazardous Materials)

Article 111. When a car loaded with hazardous materials is to be stored, a relevant preventive measure shall be taken according to the ambient situations, including a relocation of such a car to another track.

Section 4. Railway Signal

(Relationship between Railway Signal and Train Operation)

Article 112. When trains/cars, are operated according to the railway signal aspect or indication, they shall comply with the signal aspect or indication.

(Indicated stop aspect by signal)

Article 113. Trains/cars, shall not stop beyond the location indicated stop aspect by signal. However, whenever it is not possible to obey the signal due to the timing and the location of the signal indication, a train shall stop as quickly as possible.

2. The train/car that stopped according to the aforementioned rule, shall not start until after the signal displays the aspect to proceed or instruction to proceed is issued. However, this rule does not apply to such a case as an operational method is altered to the one stipulated under item (3) of paragraph 1 of the Article 101.

(Inaccuracy of Signal Display)

Article 114. When there is no signal aspect at the designated location, or when its signal aspect is not clear, it shall be assumed that the signal is displaying the most restrictive aspect.

(Prohibition of Dual Use of Signal)

Article 115. Signal shall not be used to serve more than or equal to two tracks or two kinds of purposes. However, this rule does not apply to such a case when a safe operation of trains/cars would not be impaired.

(Conditions of Signal Aspect to Indicate to Proceed)

Article 116. The signal aspect to proceed may be displayed only when there is no impediment on the route for trains/cars to proceed.

(Other Items Concerning Signal Display)

Article 117. In addition to the rules set forth under the Article 113 through the previous article, signals shall abide by other relevant rules according to the type, display method and other conditions and handling rules, in order for the crew to make

an accurate and pertinent judgment while driving a rolling stock according to the signal aspect, and also in order to secure the safe train/car operation.

(Action To Be Taken for Indication to Proceed)

Article 118. When the signal is indicated to proceed for trains, etc. the route shall not be impaired.

(Sign and Display)

Article 119. Type and display method of signs and signage shall be determined before they are put to use in order to secure the safe train/car operation.

Chapter 11. Special Railway

(Special Railway)

Article 120. In addition to the rules established in this Ministerial Ordinance, rail facilities and structure and handling of rolling stock of suspended railway, straddled railway, guided rail type railway, trolleybuses, funicular railway, magnetically levitated railway and other railway with special structure may be exempted from some parts of the stipulations of the Ministerial Ordinance and be ruled by other necessary exemptions, according to the Public Notice established by Minister of Land, Infrastructure, Transport and Tourism.

Supplementary Provisions

This Ministerial Ordinance shall come into force as from March 31, 2002.

Supplementary Provisions (Ministerial Ordinance No. 96 of February 2, 2004)

(Effective Date)

Article 1. This Ministerial Ordinance shall come into force as from the day of promulgation.

Supplementary Provisions (Ministerial Ordinance No.13 of March 24, 2006)

(Effective Date)

Article 1. This Ministerial Ordinance shall come into force as from July 1, 2006.

(Transitional Measure)

Article 2. The facilities or rolling stock to be completed prior to June 30, 2008 and also do not meet the Article 57, paragraph 3 of the Article 79 or the Article 86-2 of the Ordinance to determine the technical standard on railway after the rule change stipulated under the Article 1 (hereinafter referred to as "New Ordinance") may abide by the prior and existing examples until after the first remodeling or reconstruction work is completed after the enforcement of this Ordinance.

2. Notwithstanding the provision of the previous article, the facilities and rolling stock to be completed prior to June 30, 2008 and do not meet the Article 57, paragraph 3 of the Article 79 or the Article 86-2 of the New Ordinance and pertinent to any one of the following, may abide by the prior and existing examples until the earlier prior date of either the first remodeling or reconstruction work is completed or the June 30, 2016.

(1) The facilities of the railway division with the maximum number of passenger trains per hour is larger than the 10 round trips, or the rolling stock that operate in that division.

(2) The rolling stock that runs faster than 100 kilometers an hour or the facilities of the railway division where those trains are operated.

Supplementary Provisions (Ministerial Ordinance No. 78 of July 14, 2006)

(Effective Date)

Article 1. This Ministerial Ordinance shall come into force as from the day when the law to revise the part of railway business law for the improvement of the safety of transport will be executed

Supplementary Provisions (Ministerial Ordinance No. 110 of December 15, 2006)

(Effective Date)

Article 1. This Ministerial Ordinance shall come into force as from the day of executed (December 20, 2006).

Public Notice to Stipulate Dangerous Items Under the Item 20 of Article 2 of the Ministerial Ordinance to Provide the Technical Standard on Railway.

Dangerous items that are stipulated as dangerous under the Item 20 of Article 2 of the Ministerial Order (Ministerial Ordinance No. 151 of 2001 Promulgated by Ministry of Land, Infrastructure, Transport and Tourism) are defined as follows.

Type	Items
High pressure gas	Acetylene gas, natural gas, liquid air, liquid nitrogen, liquid oxygen, liquid ammonia, liquid chlorine, liquid propane and other compressed or liquefied gases
Light Igniting Device	Matches, fuse, electric fuse, signal fuse, signal flare, fireworks, smoke and similar items
Oil paper, oilcloth, etc.	Oil paper, oilcloth and products made from them, synthetic wool fibers and products made from them, and animal, and vegetable fibers and products made from them, containing more than 5% of animal or vegetable oil, fat or wax
Flammable liquids	Mineral crude oil, gasoline, solvent naphtha, benzene, toluene, xylene, methanol, alcohol (including denatured alcohol), acetone, carbon disulfide, paint thinner, nitrobenzene, nitrotoluene, and other flammable liquid products that have a flash point of 25°C or less
Flammable solids	Metallic potassium, metallic sodium, potassium amalgam, sodium amalgam, magnesium (except sheet, rod or aggregated magnesium), aluminum powder, yellow phosphorus, phosphorus sulfide, nitrocellulose, saltpeter, ammonium nitrate, dinitro compounds, trinitro compounds (except those used for explosives), picric acid, and other flammable solid products that contain more than 10% of flammable solids
Hygroscopic heat generating substances	Hydrosulfite, calcium oxide, low-temperature sintered dolomite, phosphide calcium, and carbide
Acids	Nitric acid, sulfuric acid, hydrochloric acid, chlorosulfonic acid (including sulfuryl chloride), hydrofluoric acid, lead-acid battery (limited to those that contain chemical solution), and other strong acid solutions that contain more than 10% of acid

Oxidizing caustic	Potassium chlorate, Barium chlorate, sodium chlorate, ammonium perchlorate, phosphor chloride, sodium peroxide, barium peroxide, bleaching powder, bromine, and other oxidizing caustics and oxidizing caustic products that contain more than 30% of oxidizing caustics
Volatile toxic substances	Dimethyl sulfate, ferro-silicon, sulfur, Chloropicrin, tetraethyl lead and their products, ethyl parathion, methyl parathion and agricultural chemicals (products containing chloropicrin, ethyl parathion, methyl parathion, schradan, methyl demeton, monofluoroacetamide and tetraethylpyrophosphate)

Supplementary Provisions

1 This Public Notice shall come into force as from April 1, 1987.

2 For the time being, the term "Item 20 of Article 2 of the Ministerial Ordinance to Provide the Technical Standard on Railway (Ministerial Ordinance No. 151 of 2001 Promulgated by Ministry of Land, Infrastructure, Transport and Tourism)" in this Public Notice shall be deemed to be replace with "Item 20 of Article 2 of the Ministerial Ordinance to Provide the Technical Standard on Railway (Ministerial Ordinance No. 151 of 2001 Promulgated by Ministry of Land, Infrastructure, Transport and Tourism), and also Item 4 of paragraph 1 of Article 2 of the Railway Operation Rules". Railway Operation Rules were repealed by Item 4 of Article 1 of the Ministerial Ordinance pertaining to the implementation of the ministerial ordinance that related to the Ministerial Ordinance to Provide the Technical Standard on Railway.

Public Notice Concerning the Regular Inspection of Facilities and Rolling Stock

(Purpose)

Article 1. Periodic inspection of the facilities and rolling stock stipulated under the Paragraph 2 of Article 90 of the Ministerial Ordinance to Provide the Technical Standard on Railway, shall abide by this Public Notice.

(Periodic Track Inspection)

Article 2. Track shall be inspected periodically for each type of the railway according the kind of facilities within the period specified in the following chart.

Type of Railway	Types of Structures	Period
Railway other than Shinkansen	Track	One year
	Bridge, Tunnel and Other Structures	Two years
Shinkansen	Track (Limited to Gauge, Level, Longitudinal Level, Alignment, Change of cross Level of Main Track)	Two months
	Track	One year
	Bridge, Tunnel and Other Structures	Two years

2. In addition to the aforementioned inspections, detailed inspections shall be inspected periodically every 10 years for Shinkansen tunnels and every 20 years for the conventional rail tunnels.

(Periodic Inspection for Electric Facilities)

Article 3. Electric facilities shall be inspected periodically according to the installation location and the type of facilities within the period as specified in the following chart.

Location for Installation	Type of Equipment	Period
Railway Other than Shinkansen and Shinkansen(limited to Railway Shed)	Contact Line or Catenaries, Transformers for Train Operation, Devices and Other Important Electric Equipment and Facilities to Protect Equipment at Substations, Contact Line, etc. in Emergency	One year
	Other Electric Facilities Besides The Ones Mentioned in the Previous Facilities	Two years
Shinkansen(excluding Railway Shed)	Devices Capable of Protecting Equipment, Electric Wiring at Substations in Emergency (Limited to Feeding Side Breakers)	Three months
	Contact Line or Catenaries (Limited to Connecting Point, Sectionalizing Device, Cross Over Line Device, and Feeder Dividing)	Six months
	Other Electric Facilities Besides The Ones Mentioned in the Previous Two Facilities.	One year

2. Notwithstanding the provisions of the previous paragraph, the span for the periodic inspection for the following items may be extended.

(1) Electric facilities that are capable of automatically shutting down failed or suspected to have failed safety devices.
(2) The digitized or sealed equipment and the equipment that can maintain its function longer than the period specified above, by periodic replacement.
(3) Support structures of contact lines, feeder lines, etc.

(Periodic Inspection for operational safety devices)

Article 4. The operational safety devices shall be inspected periodically according to the installation location and the type of facilities within the period as specified in the following chart.

Location for Installation	Type of Equipment	Period
Railway Other than Shinkansen and Shinkansen(limited to Railway Shed)	Devices to ensure a block, devices to ensure the clearance between trains, rail signal indication devices, devices to coordinate signals, devices to automatically decelerate or stop trains, and other important operation safety facilities	One year
	Other Electric Facilities Besides The Ones Mentioned in the Previous Facilities	Two years
Shinkansen(excluding Railway Shed)	Devices to ensure the clearance between trains, main parts of turnouts	Three months
	Rail signal indication devices, devices to coordinate signals, and main parts of operation safety facilities (Limited to train operation)	Six months
	Other Electric Facilities Besides The Ones Mentioned in the Previous Two Facilities.	One year

2. Notwithstanding the provisions of the previous paragraph, the span for the periodic inspection for the following items may be extended.

(1) The operational safety devices that are capable of automatically shutting down failed or suspected to have failed safety devices.
(2) The digitized or sealed equipment and the equipment that can maintain its function longer than the period specified above, by periodic replacement.

(Periodic Inspection of Rolling Stock)

Article 5. Rolling stock shall be periodically inspected within the specified period described in the attached chart. However, the parts the performance of which can be assured longer than the period described below do not have to comply with this rule.

(Special Cases of Inspection)

Article 6. The inspection cycle for the rolling stock that have been out of use (rolling stock other than the trolleybuses are limited to the ones that are provided with protective measures towards corrosion, deformation and deterioration of electric insulation and abatement of strength and function) shall be calculated with out adding the out of service period. However, the period that will not be added shall not exceed the relevant period stipulated in the following.

(1) Two months (40 days for steam locomotives) for conditional/ performance inspection.
(2) Two years for inspection of major equipment inspection (1 year for steam locomotives)
(3) Four years for the general inspection

2. However, the out of service rolling stock and the facilities and other rolling stock that cannot be inspected due to legitimate reasons when they are supposed to be inspected in accordance with the aforementioned Article 2 through Article 5, may postpone their inspection until after the preventive incidents and reasons are solved and cleared.

Supplementary Provisions

This Public Notice shall come into force as from March 31, 2002.

Appended table (Re: Art 5)

Types of cars		Period		
		Inspection of condition and functions	Major equipment inspection	General inspection
Locomotives, passenger cars and freight cars	Trolleybuses	One month	One year	Three years
	Steam locomotives	40 days	One year	Four years
	Freight cars	Three months	Two years and six months	Five years
	Electric trains used for Suspended Type Railway, Straddled Type Railway and Guided Rail Type Railway	Three months	Three years (for the first inspection after newly manufactured vehicles have begun to be used, four years after the start of use)	Six years (for the first inspection after newly manufactured vehicles have begun to be used, seven years after the start of use)
	Internal combustion locomotives and internal combustion railcars	Three months	Four years or the period during which the vehicle in question has not traveled for more than 500,000 kilometers (250,000 kilometers for vehicles that have internal combustion engines with a preliminary combustion chamber or a dry-clutch transmission), whichever is shorter	Eight years
	Other vehicles other than Shinkansen trains	Three months	Four years or the period during which the vehicle in question has not traveled for more than 600,000 kilometers, whichever is shorter	Eight years
	Shinkansen trains	30 days or the period during which the vehicle in question has traveled for less than 30,000 kilometers, whichever is shorter	One year and six months (for the first inspection after newly manufactured vehicles have begun to be used, two years and six months after the start of use) or the period during which the vehicle in question has not traveled for more than 600,000 kilometers (450,000 kilometers for vehicles that use the tap switch system to control the main circuit), whichever is shorter	Three years (for the first inspection after newly manufactured vehicles have begun to be used, four years after the start of use) or the period during which the vehicle in question has not traveled for more than 1,200,000 kilometers (900,000 kilometers for vehicles that use the tap switch system to control the main circuit), whichever is shorter

	Freight cars for the Shinkansen	90 days	Two years and six months	Five years
	Other Shinkansen vehicles	90 days	Three years or the period during which the vehicle in question has not traveled for more than 250,000 kilometers, whichever is shorter	Six years
Special cars	Freight cars	Three months	Three years (for the first inspection after newly manufactured vehicles have begun to be used, three years and six months after the start of use)	Six years (for the first inspection after newly manufactured vehicles have begun to be used, six years and six months after the start of use)
	Internal combustion locomotives and internal combustion railcars	Three months	Three years and six months (for the first inspection after newly manufactured vehicles have begun to be used, four years after the start of use) or the period during which the vehicle in question has not traveled for more than 250,000 kilometers, whichever is shorter	Seven years (for the first inspection after newly manufactured vehicles have begun to be used, seven years and six months after the start of use)

	Other vehicles other than Shinkansen trains	Three months	Three years and six months (for the first inspection after newly manufactured vehicles have begun to be used, four years after the start of use) or the period during which the vehicle in question has not traveled for more than 400,000 kilometers, whichever is shorter	Seven years (for the first inspection after newly manufactured vehicles have begun to be used, seven years and six months after the start of use)
	Shinkansen trains	30 days or the period during which the vehicle in question has not traveled for more than 30,000 kilometers, whichever is shorter	One year and six months (for the first inspection after newly manufactured vehicles have begun to be used, two years and six months after the start of use)	Three years (for the first inspection after newly manufactured vehicles have begun to be used, four years after the start of use)
	Freight cars for the Shinkansen	90 days	Three years	Six years
	Other Shinkansen vehicles	90 days	Three years and six months	Seven years

Remarks

(1) In this table, “inspection of conditions and functions” refers to regular inspections of the condition and functions of vehicles.

(2) In this table, “inspection of important parts” refers to regular inspection of the important parts of power generation devices, running devices, braking devices and other importance devices of vehicles.

(3) In this table, “general inspection” refers to regular inspection of the general aspects of vehicles.

Public Notice on Setting Technical Standards for Special Railway

(Purpose)

Article 1. Structure and handling of the railway specified under the paragraph 1 of the Article 120 of the Ministerial Ordinance to Set the Technical Standard on Railway (hereinafter referred to as "Ministerial Ordinance") shall abide by this Public Notice, in addition to what is provided for in the Ministerial Ordinance.

(Suspended Type and Straddled Type Railway)

Article 2. The running surface of suspended type and straddled type railway shall be accommodated with appropriate measures to prevent wheels from skidding, wherever deemed necessary.

2. Stations for suspended railway shall be accommodated with the devices to control the oscillation of car bodies and also to smoothly guide the trains to stations.

3. Platforms and other susceptible places of suspended type and straddled railway that could pose danger for passengers to fall shall be accommodated with appropriate preventive measures like fences and also with protective devices such as safety nets (excluding impossible cases for boarding of passengers).

4. In case the rolling stock for suspended and stranded railway run on tires, they shall be able to keep operating even at the time of air leak.

5. The rolling stock of the suspended railway shall be capable of preventing severe oscillation of car bodies, and its running gear shall have a stable guiding performance.

6. The running gear of the rolling stock of straddled railway shall have a stable guiding performance.

7. When the rolling stock of the suspended and straddled railway are not grounded, they shall be capable of preventing passengers from being electrocuted.

(Guided Rail Type Railway)

Article 3. The guiding and steering devices for the guided track railway shall not only be made sufficiently sturdy but also be free from contacting other parts of the rolling stock.

2. The provisions under the paragraph 1, 4 and 7 of the Previous Article also apply correspondingly to the guided railway.

(Trolleybuses)

Article 4. The steering device for the trolleybuses shall have sufficient sturdiness and also shall not touch other parts of the car.

2. The power collection device of the trolleybuses driven by a single driver shall be visible from the driver's designated position for the confirmation of its condition.

3. The provisions of the paragraph 7 of the Article 2 also apply correspondingly to the trolleybuses.

4. The rules stipulated under the paragraph 2 of the Article 69 (limited to the portion under item 2) and the Article 74 (limited to the portion under item 1) of the Ministerial Ordinance do not apply to the trolleybuses.

(Funicular Railway)

Article 5. Structure of funicular rail facilities and handling of their equipment shall comply with the following standards:

(1) The difference between the maximum (steepest) and minimum grades shall be minimized when it could interfere with the train operation;
(2) Track shall be provided with pertinent measures according to the gradient, to prevent rails and ties from being relocated, including the installation of track fixation devices;
(3) Cables shall have sufficient strength to withstand the maximum anticipated weight to accommodate travel of cars and shall also be compatible with pulleys;
(4) Cables shall be installed properly not come in contact with any other object except

pulleys;
(5) Pulleys shall be sturdy enough to withstand the anticipated maximum weight and also shall not interfere with the performance of cables;
(6) Crossing path shall be capable of guiding trains automatically without interfering each other;
(7) Fire extinguishers shall be installed appropriate to the facilities at the cable winding location;
(8) The main motor shall be capable of starting normally, operating under the designated operational speed and running safely and smoothly at the time when the difference of the tensile strength between winging and loosening sides reaches the maximum;
(9) The main motor shall be made redundant with an auxiliary motor that can be activated normally under the maximum load condition and be able to transport onboard passengers to the station. This rule does not apply, however to such a case as facilities are provided for an emergency to evacuate passengers safely when a train is stopped;
(10) Funicular railway shall be equipped with the necessary safety features and functions including those that monitor the train operation, prevent train collisions and stop the train in case of an abnormality;
(11) Automatic train operation devices shall be capable of providing smooth train operation in accordance with the track conditions;
(12) A car shall not be loaded with passengers over the maximum capacity (The weight of luggage to be loaded is counted as passengers').

2. The stipulations under Article 15 through18, Article 58, paragraph 1 of Article 67 (limited to those that are relevant to Item 6 and 7) and Article 101, do not apply to the funicular railway.

(Magnetically Levitated Railway)

Article 6. Installation and structure of rails for braking and their accessories of the magnetically levitated railway (limited to the normal conductive attraction type magnetic levitation /linear induction motor propelled system. the same shall apply hereinafter) shall not impede the running of cars, regardless of the operational conditions of levitating and guiding devices.

2. In case the main braking effort is to be obtained from the regenerative braking, the

facilities and cars of the levitated railway shall have the function necessary to perform the stable regenerative braking.

3. The levitation and guiding devices of the levitated railway shall have the necessary capacity to levitate and guide a train and should not pose any problem or impediment to a stable train operation.

4. The levitating, guiding and other relevant devices for the levitated railway shall be free from any interference caused by induction effect and at the same time shall not cause any interference to other facilities and cars.

5. The stipulation under paragraph 3 and item 7 of the Article 2 apply correspondingly to the levitated railway.

(Magnetic Induction Type Railway)

Article 7. The magnetic induction device of the magnetically inducted railway shall comply with the following standards:

(1) Ground facilities and onboard equipment shall be able to guide a car to the designated direction;
(2) Ground facilities shall be able to sustain the anticipated load and also shall be free from posing any impedance to the safe car operation.

2. In the vicinity of the ground facilities of the magnetically inductive devices of the magnetic induction type railway, anything that could pose impediment to the guiding of a car shall not be built or installed.

3. Protective devices shall be installed at places vulnerable for trespassing or impeding the track of the magnetically levitated railway. However, this rule does not apply to the case that has already been protected with the preventive safety measure.

4. At each station of the magnetically guided railway, safety devices shall be installed to guide the train smoothly to the station.

5. The rolling stock of the magnetically guided railway shall comply with the following

standards:
(1) Shall have the function to transfer the necessary information, including the speed and location of the train consist among cars and also to keep the appropriate distance between each other car;
(2) Shall have the function to stop the train (car) quickly in such a case if the aforementioned functions fail or the train fails to run in the designated direction.
(3) If the facilities stipulated in the paragraph 2 of Article 23 of the Ministerial Ordinance are provided, they shall function to minimize damages from all contingencies.
(4) A train running in the section where the evacuation at the time of emergency is difficult from the side of the train due to the limitation of rail facilities shall be capable of providing secure evacuation both from the front and the rear end of the train.

6. The stipulation under the paragraph 1 and 4 of Article 2, and paragraph 1 of Article 4, will apply correspondingly to the magnetically guided railway.

7. paragraph 1 of Article 23 (limited to the part related to Item 1), the paragraph 1 of Article 31, the paragraph 1 of the Article 69 (limited to the part related to Item 2, 5, 7 of "single car operation using steering apparatus") and the paragraph 2 of the Article 69 (limited to the part related to Item 2 of "single car operation using steering apparatus"), Article 74 (limited to the part related to Item 1) and Article 75 and the paragraph 1 of Article 95 do not apply to the magnetically guided railway.

Supplementary Provisions

This Public Notice shall come into force as from March 31, 2002.