

PRECAUTIONS FOR JAKARTA-BANDUNG HIGH-SPEED RAIL INFRASTRUCTURE PROJECT COOPERATION: CONSTRUCTION AT NIGHT AND IN STORM

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Abstrak

The Jakarta-Bandung high-speed rail infrastructure project delays cause the financial burden in the form of interest during construction to swell. KCIC had to improve project performance by carrying out construction at night and must improve strategies for dealing with Indonesian extreme weather. Before construction at night, strict inspection shall also be focused on lighting lamps. Construction personnel shall prepare flashlights, searchlights, all parts and components shall be carefully inspected in strict accordance with relevant regulations to ensure the normal operation of the equipment. During the flood season, the construction personnel of large-scale railway maintenance machinery shall strictly implement the measures for safe driving in the flood season issued by the Ministry of railways. The construction staff shall report the disaster and dangerous situation to the attendant of the nearest station through the train dispatching station in time. When large-scale railway maintenance machinery encounters strong wind, rainstorm, Blizzard and other difficulties or unknown conditions during construction and operation, it shall immediately stop construction and slow down, and timely report the situation to the station.

Keyword: KCIC, Construction, Railway, Maintenance.



Figure 1. KCIC Girder Box Infrastructure Project

PENDAHULUAN

The Jakarta-Bandung high-speed rail infrastructure development cooperation project also encountered many obstacles. Not even two years since 2020, the project has experienced a cost overrun from IDR 86.67 trillion to IDR 114.24 trillion. one of the reason because of the cost of funding or financing costs. Project delays cause the financial burden in the form of interest during construction to swell. KCIC had to improve project performance by carrying out

construction at night. The high-speed rail project must improve strategies for dealing with Indonesian extreme weather. (Voi.id; 2022). Night time construction has been widely conducted in many construction scenarios, but it is also much riskier due to low lighting conditions and fatiguing environments (Xiao Bo, 2021). Scheduling efficiency measures phase, a mathematical programming approach for optimizing and scheduling maintenance may be a very useful tool for National Railway Administrations for the maintenance operations management. (Heinicke; 2013)

The construction of large-scale railway maintenance machinery involves relevant units and departments such as train service, civil engineering works, electric service, power supply, locomotive and rolling stock. Therefore, before construction, the railway bureau shall organize and hold a construction coordination meeting to uniformly arrange specific matters such as construction cooperation, traffic organization and logistics support. (Jica Report Chapter 4: 2012)

A good and stable construction environment is conducive to ensuring the safe and smooth construction and improving the operation quality and efficiency. Since the construction of large-scale railway maintenance machinery is carried out in the "works occupation time" time, that is, in the state of line blockade, it is inevitable that there is only train gap time in a certain section at night to block the line (Zhangli, 2021). The Problem Space Search (PSS) meta-heuristic can be used for large scale problems to create quality timetables in which both train movements and scheduled track maintenance are simultaneously considered (Albrecht, 2013). Therefore, the construction of large-scale railway maintenance machinery at night is inevitable. In addition, if severe weather such as storm and snow is encountered during the construction process, it will also increase the construction difficulty and bring certain difficulties to the construction and coordination personnel. In order to ensure that large-scale railway maintenance machinery can complete the operation with quality, quantity and safety, it is necessary to strengthen the construction management at night and in storms

RESEARCH METHODE

Qualitative research is a research method to explore and understand the meaning that some individuals or groups of people think come from social or human problems (Creswell, 2013). Location of this study: Kereta Cepat Indonesia Cina (KCIC). Data collection strategy use Qualitative observation, Qualitative interview and Quality documents.

According to Miles and Huberman, 3 phase data analysis 1) Data Reduction, 2) Data Presentation and 3) Conclusion Drawing.



Figure 2. KCIC maintenance machinery equipped with generator and lighting group

CONCLUSION DRAWING DATA ANALISYS

Before Construction At Night

A good and stable construction environment is conducive to ensuring the safe and smooth construction and improving the operation quality and efficiency. Since the construction of large-scale railway maintenance machinery is carried out in the "works occupation time" time, that is, in the state of line blockade, it is inevitable that there is only train gap time in a certain section at night to block the line. Therefore, the construction of large-scale railway maintenance machinery at night is inevitable. In addition, if severe weather such as storm and snow is encountered during the construction process, it will also increase the construction difficulty and bring certain difficulties to the construction and coordination personnel. In order to ensure that large-scale railway maintenance machinery can complete the operation with quality, quantity and safety, it is necessary to strengthen the construction management at night and in storms.

Before construction at night, in addition to inspecting all parts of large-scale railway maintenance machinery according to regulations, strict inspection shall also be focused on lighting lamps. Construction personnel shall prepare flashlights, searchlights, etc. Large railway maintenance machinery shall be equipped with generator and lighting group before construction at night, so as to provide emergency lighting in case of emergency

Before construction at night, the route investigators shall report the specific positions of bridges, tunnels, dangerous rocks, crossings, small radius curves and other special sections in the construction section to the construction director clearly, and indicate them on the construction operation order so that all personnel can have a clear idea.

Before the operation in flood season and at night, all parts and components shall be carefully inspected in strict accordance with relevant regulations to ensure the normal operation of the equipment. It is strictly prohibited to operate the equipment with defects.

During The Operation In Flood Season And At Night.

During construction at night, in addition to requiring the track division to set door closing protection at both ends, an inspector shall be arranged 100 m in front of each vehicle so as to inform the crew to take measures in time in case of obstacles such as magnetic heads, axle counters, infrared detectors or other emergencies

During the operation in flood season and at night, it is necessary to drive at the specified speed without interruption, keep an eye on the signal, and confirm the signal. If the signal display is incorrect or unclear, it will be regarded as a stop signal and stop immediately. At the same time, it is required to call and answer the station or the public works watch (Patrol) guard (call point) personnel according to the provisions of the joint control of vehicles, machines and workers. 8. During the flood season, the construction personnel of large-scale railway maintenance machinery shall strictly implement the measures for safe driving in the flood season issued by the Ministry of railways, and have a good idea of the "flood passing dangerous section", "flood control watch point", "crossing" and "key disease construction point" in the construction section.

During the construction and operation of large-scale railway maintenance machinery, the construction staff shall report the disaster and dangerous situation to the attendant of the nearest station through the train dispatching station in time.

Construction In Storm.

When large-scale railway maintenance machinery encounters strong wind, rainstorm, Blizzard and other difficulties or unknown conditions during construction and operation, it shall immediately stop construction and slow down, and timely report the situation to the station. For the line that does not follow the slope, the maintenance personnel shall be notified to deal with the line, and the train release conditions shall be negotiated with the

maintenance personnel. It is forbidden to put down the train blindly.



Figure 3. High-speed railway project steps up efforts to deal with extreme weather

Inter Bureau Construction of large railway maintenance machinery

The Equipment Management Bureau Security Management

The large-scale railway maintenance machinery entering the Equipment Management Bureau shall have the annual inspection certificate issued by the Transportation Bureau of the Ministry of railways. During construction, all safety regulations in railway technical management regulations, train operation organization rules, management rules for use of large-scale maintenance machinery and railway public work safety rules shall be strictly observed. The public works machinery section of the Construction Bureau, the construction cooperation unit of the Equipment Management Bureau shall refine the safety measures according to the specific construction projects, sections, times and seasons to ensure safety.

The arrangement of the construction blocking works occupation time and the opening speed of the line shall be in strict accordance with the relevant provisions of the regulations on construction safety management of railway business lines issued by the Ministry of railways. The public works machinery section of the construction bureau is responsible for the coupling and transportation of machinery, shunting, operation, construction, fire prevention, anti sliding, stay in the station, and the safety of the equipment and personnel of the unit. The equipment management bureau provides assistance for the security of the machinery station. The machinery section of the Construction Bureau shall be responsible for

safety accidents caused by mechanical failure or improper operation during construction

The safety protection of large railway maintenance machinery is set by the machinery section of the Construction Bureau, and the equipment management bureau is responsible for the protection of both ends of the site. The Equipment Management Bureau shall be responsible for various safety works and responsibilities of cooperating with the unit during construction.

CONCLUSION

(1) Before construction at night, strict inspection shall also be focused on lighting lamps. Construction personnel shall prepare flashlights, searchlights, all parts and components shall be carefully inspected in strict accordance with relevant regulations to ensure the normal operation of the equipment. (2) During the flood season, the construction personnel of large-scale railway maintenance machinery shall strictly implement the measures for safe driving in the flood season issued by the Ministry of railways. the construction staff shall report the disaster and dangerous situation to the attendant of the nearest station through the train dispatching station in time. (3) When large-scale railway maintenance machinery encounters strong wind, rainstorm, Blizzard and other difficulties or unknown conditions during construction and operation, it shall immediately stop construction and slow down, and timely report the situation to the station. (4) The safety protection of large railway maintenance machinery is set by the machinery section of the Construction Bureau, and the equipment management bureau is responsible for the protection of both ends of the site.

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