DETERMINING THE REASONS FOR THE DELAY OF TRAINS

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ABSTRACT

The purpose of the work is to analyze the direct impact of the relevant departments and divisions on the organization of the movement of trains that are delayed due to unexpected technical reasons and the causes of delays. The reasons and the names of the reasons for the delay of passenger trains in railway stations and stations were mentioned.

Keywords*: unexpected technical reason, caught train, ,direct effect, department and division, passenger train, name of reason.*

АННОТАЦИЯ

Цель работы - проанализировать непосредственное влияние соответствующих управлений и подразделений на организацию движения поездов, задерживающихся по непредвиденным техническим причинам, и причины задержек. Названы причины и названия причин задержки пассажирских поездов на вокзалах и вокзалах.

Ключевые слова: *непредвиденная техническая причина, задержанный поезд, прямое действие, отделение и отделение, пассажирский поезд, название причины.*

INTRODUCTION

The main goal of any transport industry is to ensure the effective organization of the transportation process, timely elimination of any factors that negatively affect it [1-7, 9, 13]. In particular, one of the most important tasks is to prevent excessive inefficient time losses caused by unexpected technical or technological causes of trains at railway stations and routes in the implementation of the main purpose of rail

transport, that is, the delivery of transported cargo and passengers to their destination [4-8, 10-12]. However, in practice there have been cases of trains being caught in railway stations or passages for unexpected reasons over the times specified in the technical standards [10-13].

Nowadays, the reasons for such a catch, that is, the delay of any trains, are reflected in the graph of the movement of trains that are performed, indicating the reasons that caused it[1, 6, 9, 12, 13].

When analyzing the motion graph of executive trains, the analyst engineers determine exactly which rail department or farm the reasons for each delay belong to.

DISCUSSION AND RESULTS

Based on the analysis of the conducted scientific [1-13] and practical work, the reasons for the train delay (interception)were determined at the by section of railway departments and farms, as well as the passenger transport enterprise, and the result was presented in the form of a table (Table 1 and 2).

Table 1

The reasons for the delay in trains at the by section of railway departments and farms.

Name of departments		The name of the reasons for the delay
	Department of transportation organization	Failure to prepare train documents and make trains on time by employees of railway stations;
		Train strikes on other vehicles, domestic livestock, foreign objects and materials at the border of railway stations;
		Train delays due to non-acceptance by railway stations if they occurred through the fault of railway station personnel;
		Mismanagement of train movement by train dispatcher;
		Failure to provide structured trains with locomotives and brigades in the presence of their shift work according to plan;
		Improper use of technical means in the management of the transportation process.
	Department of cargo and commercial	Delay of trains to eliminate commercial malfunctions in the train structure or to disconnect wagons from the composition due to violation of the technical conditions for increasing and fixing loads;
		Delays in trains at border railway stations in cases where the transport documents are incorrectly executed or the necessary documents for the implementation of border and customs control operations are not provided;
		Commercial inspection of trains due to the delay in trains due to the over-the-time execution provided for in the technological process of the station's work.
	oco	Locomotive damage along the road or at railway stations;

		Failure of passenger and freight trains to provide walking time in passage;
		Pressure drop in the brake trunk due to the fault of the locomotive crews on passenger and freight trains;
		To ensure the technology of implementation “free period” locomotives do not give in time;
		Absence of locomotive brigades by the departure time of the trains specified in the shift;
		Stop of trains due to malfunction of the locomotives of freight and passenger trains according to the indicators of PONAB, DISK, KTSM and other devices;
		Incompatibility of the automatic-couplings device between the locomotive and the wagon due to the malfunction of the locomotive.
	Wagon departments	Processing of train contents more than the time provided for in the train movement graph or technological process;
		Disconnection of freight wagons from train composition due to malfunction;
		Decrease in pressure in it due to brake trunk failure;
		Stop of trains due to malfunction of freight and passenger train wagons according to the indicators of PONAB, DISK, KTSM and other devices;
		Incompatibility of the automatic-couplings device between the wagon and the locomotive due to the malfunction of the wagon.
	Electricity supply department	Voltage failure in the contact network due to power off;
		Damage and repair of contact network devices and structures;
		Incorrect operation of SCB devices due to deviation (reduction) or non-availability of the rated power supply voltage in signaling centralization blocking (SCB) devices.
	Signalling and communications department	Damage, malfunction, repair of SCB devices;
		Replacing newly introduced automation devices and transferring SCB devices from one place to another;
		Violation of the regulatory functioning of SCB devices in the presence of a reserve of automatic and semi-automatic blocking power supply sources;
		Violation of regulatory work activities of rail electrical circuits at the station through the fault of employees of signaling and communication distance;
		Collision of trains with motor vehicles in unguarded crossings due to malfunction of alarm devices;
		Lack of the possibility of timely opening the movement of trains due to a malfunction of the built-in means of communication;
		Train delays due to control device indicators or obvious equipment failure after passing a single train.
	nf	Damage, malfunction, repair of communication devices;

		Damage and malfunction of devices or fiber-optic communication lines that cause failure of train radio communications and train dispatch communications;
		Information and calculation center delays the issuance of train documents for railway transport within the specified period;
		Replacement of newly introduced communication devices and their transfer from one place to another.
	Department of road management	Exceeding the norm of the time “free period” for the repair of roads;
		Delay in the movement of trains at the place of repair work in passage, not provided for by the train movement graph;
		Failure to clean roads and arrows from snow, flood consequences and various other (for example, occurred as a result of the collision of trains with car vehicles);
		Blocking the roads of sections and crossings;
		Violation of regulatory work activities of rail chains at peregons and railway stations through the fault of road department workers.

Table 2

Causes of train delays in the field of passenger transportation by rail

Name of departments		**The name of the reasons for the delay**
	Passenger transport department	***In suburban traffic***
		Damage to the structure of the automotive-wagon movement along the way and at railway stations;
		Failure of suburban trains to provide walking time in passage;
		Stop-crane break on suburban trains;
		Automotive-wagon not to give the composition of the action in time;
		Absence of locomotive brigades by the departure time of the trains specified in the shift;
		Violation of the schedule of suburban trains when issuing and unloading passengers due to the fact that trains from the depot are not provided in full composition, resulting in an increase in passengers by train from the plan;
		Burning of the contact network during the stop of suburban trains.
		For other types of traffic
		Disconnection from the train composition due to a malfunction of the wagons along the way;
		Stop-crane break on passenger trains;
		Delay of passenger trains due to an increase in the time of normative standing due to the lack of organization of unloading (release) of passengers;
		Delay of passenger trains due to exceeding the norm of the specified time for pumping water, increasing and unloading mail and luggage, providing food to restaurant wagons;
		Train delays as a result of stopping of passenger trains and repair of passenger wagons without interruption from the train composition due to a malfunction of wagons (locomotives) according to the indicators of PONAB, DISK, KTSM and other devices.

CONCLUSION

The fact that trains at railway stations and peregons stand according to unscheduled, unexpected lessons is directly influenced by the fact that several relevant enterprises and organizations, as well as technical aids, do not work in a normal state. In addition, the role of railway workers in the non-stop organization of the movement of trains and their carelessness in professional terms will always keep their relevance.

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