MACEDONIAN RAILWAYS - SKOPJE

STUDY
ON
PROTECTION OF THE ENVIRONMENT

Skopje, March, 2004
Introduction

Starting from the principle on preserving clean environment, Macedonian Railways put special stress to the activities related to track maintenance such as:

- extermination of the vegetation along the lines
- Building in of new and discarding of the old, worn out impregnated sleepers.

Below follows brief presentation of the former procedures implemented with the above stated activities and the planned, future ones.

1. FORMER PROCEDURE

1.1. Procedure on Extermination of the Vegetation Along the Lines

Up to 1995, the vegetation exterminating along the lines was performed by spraying with herbicides. If it is taken into account that significant percentage of the lines pass by agricultural fields and in the valleys of surface waters (brooks and rivers), the used chemical substances contaminated the earth and the water in the surrounding area.

Due to financial constrains, the application of these substances was terminated. Further extermination of the vegetation was performed mechanically by the following tools: hatchets, pruning knifes and mowers. This caused no pollution of the environment.

1.2 Procedure on Building in of New and Discarding of the Worn out Impregnated Wooden Sleepers

Up to date, on MZ’s lines were used wooden sleepers impregnated by creosote oil produced in accordance with technological procedure prescribed by JUS standards G.3.015.

When working with the sleepers, the workers used protective cloth and gloves. In the up to present practice, the sleepers were sold to individuals which than used the sleepers for fencing (in the rural settlements) and construction of small bridges (in rural areas).

2. FUTURE PROCEDURE

2.1 Procedure on Extermination of the Vegetation Along the Lines

Final commitment of the Macedonian Railways, for the future, is to exterminate the vegetation along the lines free of herbicides.

In the next two to three years, the extermination will be performed mechanically by hatchets, pruning knifes and mowers.
From the third year onward, it is planned that the extermination will be provided by means of steam.

2.2 Procedure of Building in of New and Discarding of the Worn out Impregnated Wooden Sleepers

The problem caused by the usage of the impregnated wooden sleepers will be solved in the future in two ways:

- The first one: In 2000 started the realization of the Macedonian Railway’s decision to replace the existing wooden sleepers by reinforced concrete sleepers on the main line Tabanovci-Gevgelija. Reinforced concrete sleepers have already been installed on the section Smokvica-Gevgelija to a length of 8.2 kms.

- The second one: Replacement of individual sleepers, procurement of wooden sleepers impregnated by ecological substance for impregnation, prescribed by the EU standards.

Taking into account the current understanding related to the harmful influence of the creosote oil to the environment, for the future, we plan the old impregnated sleepers to be stored and destroyed in the following manner:

- to consult the industry on the possibility the sleepers to be burnt in stoves where the combustion is beyond 1000 Celsius degrees (example: Iron Plant, Cement Plant, Jugohrom etc.).
- to locate deposit sites for safe storage of the sleepers or to conclude Contract with entity registered to be official deposit site for hazardous materials.
- To carry out analyses on the harmfulness of the old wooden sleepers which will be stored. The analyses are to be made by authorized labs.
- To deposit the old wooden sleepers on places officially approved by environmental authorities with accompanying documents and a person – Boro Erkecov, graduate civil engineer working in the MR- Track Maintenance Branch - put in charge of their inspection.

During the process of extraction, loading, disloading and if required cutting of the worn out impregnated, by creosote oil wooden sleepers, the workers must comply to the hygiene-technical protective measures:

- wearing protective clothing which do not allow direct contact of the wooden impregnated sleeper with the bare skin,
- use of chemicalproof protective gloves;
- use of goggles to protect the eyes from flying particles when cutting the sleepers,
- washing of the protective cloth separately from the other household clothing;
- ban for their burning in open fire (on the line) or in stoves.
3. MONITORING PLAN

3.1 Weed Killing Along the Lines

Considering our final commitment that in the future period will not be used herbicides for extermination of the weed along the lines and respectively there will be no pollution of the environment, as well as the plan that in future the weed will be exterminated by mean of steam, comes out that there is no need of monitoring plan.

The person responsible for due implementation of the decision that herbicides are not to be used for weed killing is the Assistant Director General on Infrastructure.

3.2 Building in of New and Discarding of the Worn out Impregnated Wooden Sleepers

The Manufacturers of the newly procured wooden sleepers will be required to submit a Certificate which would guarantee that those sleepers were impregnated by environmentally friendly impregnation substance.

Also, an additional inspection will be provided at the technical acceptance of the sleepers, in manufacturer’s lab or in a case of suspicion or dispute in some other independent lab. The sleepers which would fail to comply to the required conditions will be returned to the manufacturer.

Responsible person for the above operation, extracting and handing over to the industry, deposit site respectively, will be the Chief of the Working Unit for track maintenance and the Purchase & Sales Department.

Responsible person for disposing of old sleepers will require that the recipient of the old sleepers to provide a written statement claiming that the “Instruction on Usage of Old Wooden Sleepers” has been received and will be followed.

4. TRAINING AND TEACHING OF THE WORKERS

For personal protection, all of the workers who might be included in any operation related to the wooden impregnated sleepers, once in a year will be taught (instructed) how to comply to the above stated hygiene-technical protective measures.

Teaching (instructing) will be provided by the chiefs of line sections for track maintenance in an evidenced manner (by sign for attendance and a report on performed teaching).

Responsible person for these activities will be the Chief of the Working Unit for Track maintenance.
5. **BRIEFING AND CONSULTATIONS WITH THE POPULATION**

Once in a year, by means of daily publications, the population will be informed on the day of holding the public tribune. The attendants to the tribune will be familiarized with the method of destroying the worn out impregnated wooden sleepers.

The discussions during the tribune will be stated in a Minutes including the opinions and agreements on the overall procedure on destroying the sleepers.

The Minutes will be certified by the Assistant Director General on Infrastructure and representatives of the population.

6. **NOTE:**

1. A *Book of Regulations for utilization and use of the wooden sleepers* is to be adopted and included in the Law on protection of the environment.
2. To carry out stronger and continuous campaign, with the user of rail services, regarding the culture of behavior in passenger trains.
Integral part of this Study is also the INSTRUCTION on usage of old wooden sleepers.

**INSTRUCTION**

**On Usage of Old Wooden Sleepers**

**1. USAGE OF OLD WOODEN SLEEPERS HARMUL FOR THE HEALTH AND THE ENVIRONMENT**

The usage of the old wooden sleepers represents danger for the health and environment due to the presence of creosote oil the sleepers were impregnated with.

Creosote penetrates deeply into and remains in the pressure-treated wood for a long time. Exposure to creosote may present certain hazards. Therefore, the following precautions should be taken both when handling the treated wood and in determining where to use the treated wood. It should be noted that such exposure usually only occurs when one comes into contact with railroad ties and/or utility poles.

**USE SITE PRECAUTIONS**

- Do not use where frequent or prolonged contact with bare skin occur.
- Do not use in residential settings, in interiors of industrial buildings, it should be used only for industrial building components which are ground contact and subject to decay or insect infestation and for wood block flooring in industrial settings.
- Do not use in the interiors of farm buildings where there may be direct contact with domestic animals or livestock which may bite or lick the wood.
- Do not use treated wood for cutting-boards or counter tops.
- Do not use where it may come into direct or indirect contact with public drinking water.

**HANDLING PRECAUTIONS**

- Dispose of treated wood by ordinary trash collection or burial.
- Do not burn wood in open fires or in stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes.
- Avoid frequent or prolonged inhalation of sawdust from treated wood.
- Avoid frequent or prolonged skin contact with creosote-treated wood.
- When handling the wood, wear long-sleeve shirts and long pants and use gloves impervious to the chemicals.
- When power-sawing and machining, wear goggles to protect eyes from flying particles.
- Wash work clothes separately from other household clothing.

Non-compliance to the above instruction endanger all of us.
CLARIFICATION

On 12.05.2004, in the PE “Macedonian Railways” premises was held a press-conference with the media. The Conference was held by the Assistant Director General on Infrastructure Ljubomir Tanelovski, the Assistant to the Head of the Electro-Technical Installations Branch Trpko Gugulovski, and an expert from the Track Maintenance Department Vlado Trajkovski.

To the Conference were invited the following media:
Written Media (Newspapers)

Electronic Media:
“MTV”, A1 TV; TELMA TV, SITEL TV; SKAJ NET; SUTEL; BTR.
Macedonian Radio, ROMA’s TV Houses.

The Conference organizers explained to the present reporters the negative influence of the usage of the creosote impregnated wooden sleepers over the environment stressing also the importance of proper handling of the sleepers at their processing, burning in closed premises and human presence. The media were also informed on the commitment of Macedonian Railways to stop using the pesticide for weed killing for the sake of healthy environment.

After completion of the Study on protection of the environment at line maintenance within the PE Macedonian Railways, in March 2004 it was presented to the Ministry of Environment and on 15.04.2004 the Study was delivered to 38 Environment associations within the R.of Macedonia (being Non-governmental organizations), for their information. On 09.06.2004 in Macedonian Railway’s premises, was held a public consultations meeting attended by several of the invited Environment Associations. Discussions related to the MZ’s Study held during the meeting were reflected in the Minutes from the meeting. The recommendations made during this meeting were incorporated in the text of the Study and marked with italic letters.