

Republic of the Union of Myanmar

Myanma Railways, Ministry of Rail Transportation

**PROJECT ON IMPROVEMENT OF
SERVICE AND SAFETY OF RAILWAY
IN MYANMAR**

**PROJECT PROGRESS REPORT
(7th Joint Coordination Committee)**

July 2015

JAPAN INTERNATIONAL COOPERATION AGENCY

JICA Expert Team

**JAPAN INTERNATIONAL CONSULTANTS FOR TRANSPORTATION CO., LTD.
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
SUMITOMO CORPORATION.**

**Project on Improvement of Service and Safety
of Railway in Myanmar
Progress Report, July 2015
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Project on Improvement of Service and Safety of Railway in Myanmar Progress Report, July 2015

1. Preface

Since we started the Project in June 2013, about 2 years have passed and the Project has been implemented effectively under the close cooperation between MR officials concerned and JICA Expert Team.

We, JICA Expert Team, would like to express our sincere appreciation to MR officials concerned for their kindness extended to us during the execution of the Project.

This Progress Report deals with the major activities of the Project implemented around between March and July of this year.

We should be grateful, if the members of the JCC would review the Report and provide us with the various advices.

2 Extension of the Project

2.1 Major progress of the Project

We have implemented 2 main project as below..

- Recommendation of technical standard relating to administrative and maintenance aspect and drawing up railway facilities improvement plan to improve service and safety level
- Technology Transfer of Track Maintenance Technology to improve the level of Service and Safety through Implementation of The Pilot Project

The Project is progressing as scheduled in Table 2.1.1 and Table 2.1.2
 Recommendation of technical standard finished last March. Technology Transfer of Track Maintenance Technology is currently in process

Table 2.1.1 Table of working plan schedule (Recommendation of technical standard)

Subject	F Year	2013												2014												2015					Note
	Month	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5					
	Past Month	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
3.1.1 Survey of the present status and Establishment of an organization to																															
3.1.2 Guidance and familiarzation of the analyzing technique of the causes																															
(1) Safety																															
1) Compilation of text books																															
2) Studying and learning with text books																															
3) Summarization of accident (Workshop)																															
(2) Services level																															
1) Compilation of text books																															
2) Studying and learning with text books																															
3) Summarization of cause analysis and countermeasures (Workshop)																															
3.1.3 Recommendation on technical standards for service level and safety																															
(1) Proposal																															
(2) Summarizing																															
3.1.4 Drawing up short-, medium- and long-term railway improvement																															
(1) Proposal																															
(2) Summarizing																															
Education/training in Japan																															
Discussion on the report/JCC																															
Submission of the report (JICA)																															

[Remark]
 IC/R Inception Report
 PR Progress Report
 PPR Project Progress Report
 DPPR Draft Project Progress Report

[Remark]
 IC/R Inception Report
 PR Progress Report
 PPR Project Progress Report
 DPPR Draft Project Progress Report
 DFR Draft Final Report
 FR Final Report

Table 2.1.2 The schedule of technology transfer of track maintenance

Subject	F Year	2013												2014												2015					Note
	Month	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5					
	Past Month	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
4.2.1 Drawing up a technical transfer plan (1) Collection of basic information (2) Plan of technical transfer					■	■																									
4.2.2 Selection/procurement of equipments/tools (1) Selection of equipments/tools (2) Acquisition of import license, tax exemption procedure (3) Import procedure (4) Freight control					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
4.2.3 Selection of Pilot Section (1) Site witnessing (2) Selection of a section (3) Base line survey					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	Change pilot section several times.		
4.2.4 Implementation of track maintenance work (inspection, planning, work, control) (1) Compilation of text books (2) Classroom education and practical training (seminar) (3) Prior measurement and survey at the Pilot Section Implementation of work					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	Parallel with Implementation of work		
4.2.5 Education/training (1) Seminars on the improvement of track maintenance technologies (2) Education/training in Japan																													Including workshop safety and service improvement.		
4.2.6 Summarization of the points of improvement and reflecting them in the track maintenance manuals/standards																															
4.2.7 Final summarization and seminars																													Under preparing		
Discussion on the report/JCC																													▲ IC/R JCC		
Submission of the report (JICA)																													▲ DPPR JCC ▲ PPR ▲ PR JCC ▲ PR JCC ▲ PR JCC ▲ PR JCC ▲ DFR JCC		

2.2 Contents of Extension of the Project

At first this project was planning to finish on May in 2015. But amendment of the Record of Discussion (hereinafter referred to as the “R/D”) were signed by JICA and Myanma Railways on 6th April in 2015. (refer to Appendix-1)

Contents of Extension of the Project are as bellow.

- To continue training for track maintenance of the Yangon-Mandalay line including Thilawa line.
- To conduct lecture(s) in Myanmar on the Japanese experience on the procedure of outsourcing the track maintenance work.
- To conduct lecture(s) in Myanmar on outline of maintenance of bridges.

For the implementation of the three items mentioned above, both sides agreed to extend the Project duration from 2 years (up to May 2015) to 2 years and 10 months (up to March 2016).

3 Detailed Methods for the Project Implementation

3.1 Track Maintenance

(1) Track Record

At the beginning, technology transfer of track maintenance started for 30 trainees in the Pilot Section. At present, accumulated number of trainees amounts to 400, and the various situations relating to technology transfer had been changed. Further, in order to implement the training efficiently, trainings were sometimes repeated in the same place, and also on Dagon line. In this regard, we consulted with MR about various matters including the suitable change of the length of the Pilot Section.

Trainees of MR change every month. We show divisions of trainee and members till now (Table 3.1). We have educated about 400 trainees who are belonging to all divisions in Myanmar Railways.

Table 3.1 Divisions of trainee and members till now

	Date	Date	Division	Number	Remark
	From	To			
1	25.10.2013	12.5.2014	(7)Yangon (6)Bago	24 6	
2	12.5.2014	12.6.2014	(7) Yangon (5)Taunggu (7)Yangon (8)Mawlamying (9)Hinthada	10 6 5 4 5	To perform the chainging of trainees
3	12.6.2014	12.7.2014	(7) Yangon (2)Ywataung (3)Mandalay (10)Pakauku	10 8 8 7	To perform the chainging of trainees
4	12.7.2014	12.8.2014	(7) Yangon (1)Myitgyinar (4)Kalaw (11)Bagan	10 6 7 7	To perform the chainging of trainees
5	12.8.2014	12.9.2014	(7) Yangon (5) Taunggu (8) Mawlamying (9) Hinthada	10 6 6 8	To perform the chainging Of trainees
6	12.9.2014	13.10.2014	(7) Yangon (2) Ywataung (3) Mandalay (6) Bago	10 6 6 8	To perform the chainging Of trainees
7	13.10.2014	12.11.2014	(7) Yangon (9)Hinthada (8)Mawlamying (5)Taunggu	10 7 7 6	To perform the chainging Of trainees
8	12.11.2014	Until now	(5)Taunggu (2)Ywataung (3)Mandalay (10)Pakauku	10 8 9 7	To perform the chainging Of trainees

9	9.1.2015	6.2.2015	(7) Yangon (4)Kalaw (9) Hinthada (11)Bagan	10 7 7 7	To perform the chainging Of trainees
10	9.2.2015	4.3.2015	(7) Yangon (1)Myitgyinar (6)Insein (10)Pakauku	10 6 7 7	To perform the chainging Of trainees
11	9.3.2015	8.4.2015	(7) Yangon (4)Kalaw (5)Taungu (11)Bagan	10 6 7 7	To perform the chainging Of trainees
12	27.4.2015	22.5.2015	(7) Yangon (1)Myitgyinar (5)Taungu (8)Mawlamying	10 5 7 7	To perform the chainging Of trainees
13	25.5.2015	19.6.2015	(7) Yangon (2)Ywahtaung (3)Mandalay (10)Pakauku	10 6 7 7	To perform the chainging Of trainees
14	22.6.2015	17.7.2015	(7) Yangon (4)Kalaw (5)Taungu (11)Bagan	10 6 7 7	To perform the chainging Of trainees
Total				427	

We educated 1st group for half year and many kinds of program. From 2nd group, trainees change every month. So we are programing training schedule to master many things about track maintenance for short term.

We will continue this program till December.

We indicate track maintenance which we conducted from April to June by photo.



Carry out equipments from warehouse



Chord-to-rail measurement



Calculating survey data by inspectors



Changing sleepers



Installing fastening (First Clip)



Amending alignment



Tamping by hand tie tamper



After replacing sleepers



Cutting rail on the trunk line (Pre-Work)



Drilling rail on the trunk line (Pre-Work)



Removal of fastening (Pre-Work)



Lift up 50N Rail



Changing track pad



Installing fastening (First Clip)



Reverse direction operation under track



After changing from 75lb rail to 50N Rail

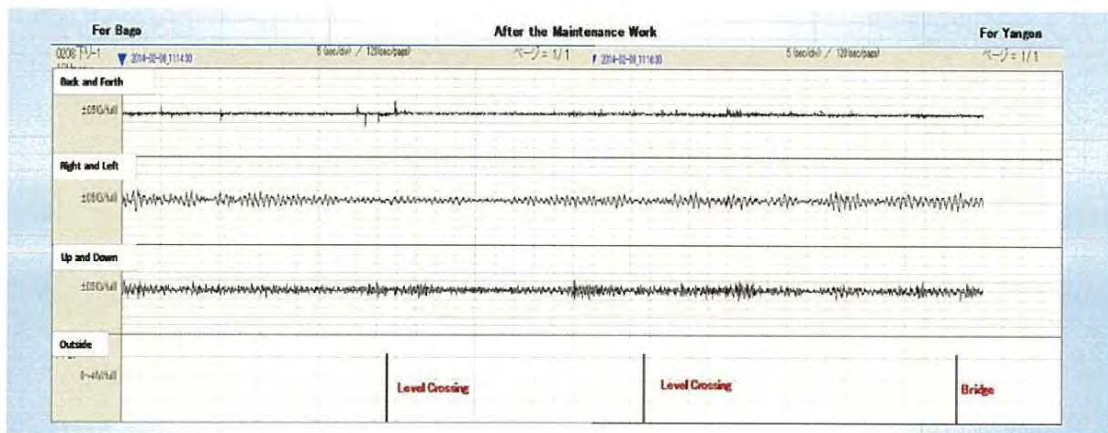
(2) Speed increasing test

We are going to conduct high speed at the place where we changed from 75lb rail to 50N rail. Outline of high speed test is as below.

1. Date : Around October
2. Place : Up line from 14 k250m to 15k700m
3. Speed : 3 kinds of speed (60km/h, 70km/h, 80km/h)
4. Measurement :

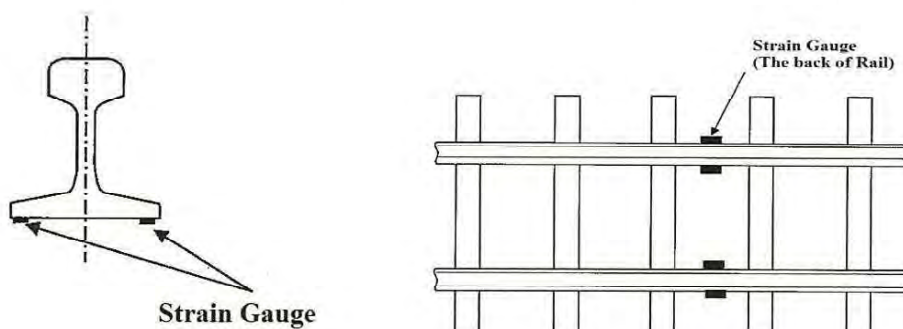
① Vibration test (up-and -down, right and left, back and forth)

We check riding comfort by measuring train vibration against 3 kinds of speed as we measured before.



② Rail Stress

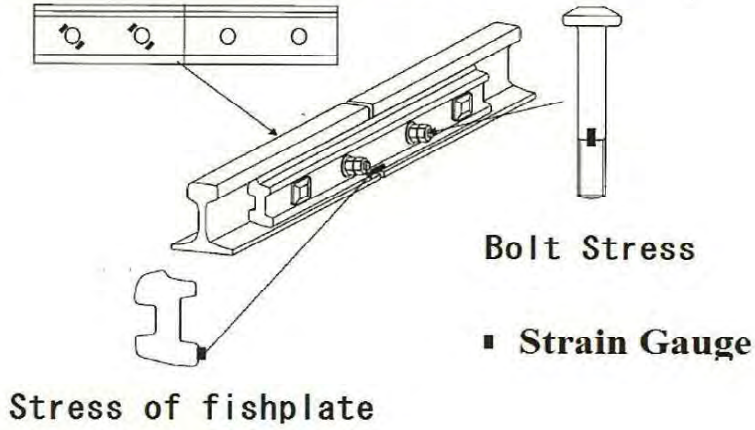
We attach strain gauge at the back of rail and check the value of rail stress by running train.



③ Stress of fishplate

We prepare 3 kinds of fishplate for 75lb, N37 and 50N. We measure 3 stress (Around hole of bolt, fishplate and bolt) against each fishplate and each train speed .

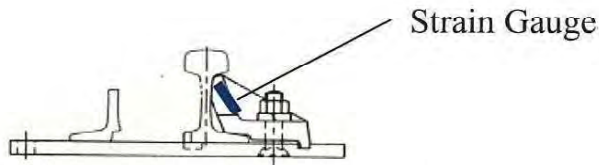
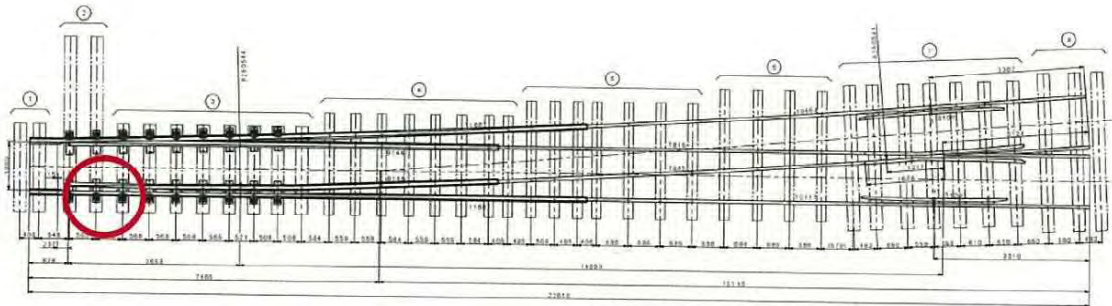
Stress around hole of bolt



We will prove the advantage of 50N rail compared to 75lb rail by measuring many kinds of stress and strain.

④ Stress of Turnout

We attach strain gauge at the rail of turnout. We are going to measure stress of turnout when train is running.



(3)Thilawa line

In R/D signed on 6th April, Thilawa line was added in track maintenance. So we surveyed Thilawa line from Togyauungale to Thilawa from cabin as first step. Thilawa line is improved little by little. Especially, ballasts are input at many places. We feel track condition is better than 3 years ago. But some places are not improved yet and should be improved more. For example, cutting section needs drain route. We would like to discuss which are MR want to advice and how to countermeasure.



Embankment near Aungthuhka Sta.(2012)



Embankment near Aungthuhka Sta.(2015)



Cutting section (2012)



Cutting section (2015)

3.2 Outsourcing of track maintenance work

This was added at R/D signed on 6th April. We are thinking that we hold meeting or discussion about outsourcing once a month

Contents are as below.

(1)Current Situation in Myanma Railways

Survey of outsourcing of track maintenance work in Myanma Railways

(2)Introduce of Japanese experience

In Japan, the outsourcing of track maintenance has changed. At the same time, organization changes, too. (Ref. next page)

(3)Discussing about outsourcing of track maintenance

Based on (1) and (2), MR and we share basic stance of outsourcing of track maintenance. .

(4)Mixing opinion of Myanmar and Japan

MR and we take good opinion for the future.

(5)Proposal of procedure of outsourcing track maintenance work by Myanmar style

Make proposal of procedure of outsourcing track maintenance work for MR.

(6)Seminar or presentation by Experts

We hold final seminar. or presentation.

Above flow is example and we are thinking that we can change procedure if there are more good ways.

Outsourcing is usually conducted with improvement of organization and mechanization.

So we may sometimes discuss improvement of organization and mechanization through outsourcing of track maintenance work.

3.3 Outline of maintenance of bridge

This was added at R/D signed on 6th April, too.

3.3.1 Expected output

Technical capability is improved through bridge maintenance to improve the level of service and safety.

3.3.2 Implementation plan for output

To draw up technology transfer plan of bridge maintenance through OJT at the Pilot Bridge
To conduct seminars, training for technical improvement of the bridge maintenance

3.3.3 Detailed methods for Project implementation

(1) Survey

Selecting (1) pilot bridge, present situation on bridge maintenance work in Myanmar Railways, Material available situation for painting and repairing, Mahlwagon Dept.

(2) Provision of bridge maintenance tool and safety equipment for each trainee

Necessary tools be selected after survey

(3) Seminars and Trainings by Japanese Experts

Bridge maintenance training on super structure of pilot bridge with Japanese Experts (inspection, judgement, countermeasure , repairing and painting)

Drawing training for bridge maintenance work

Bridge maintenance recording training, to be recorded check point for inspection on several bridges (such as their super structure are "Deck Girder, Through Girder, I beam, Through Truss, Reinforced Concrete, Pre-stress Concrete"

Manufacturing repairing material in Mahlwagon, and repairing bridge using them

Relevant seminars for those trainings

Other supplementary seminars and trainings

(4) Trainings by MR themselves

Bridge maintenance recording training

(5) Compiling text book

3.3.5. Outline of Schedule

	Event	Period
	Survey	3days:22 nd July – 24th July
1	Seminars and Trainings by Japanese Experts in Yangon and hard deteriorated bridge survey in around trip	2 and half weeks:27th July – 12 th August
2	Trainings by MR themselves	About 2 month:August -- September or October
3	Closing seminar in Nay Pyi Taw	1 week: September or October

4. Project implementation Organization

4.1 Structure of project implementation Organization

Based on R/D, we will organize a project implementation Organization in Fig. 4-1.

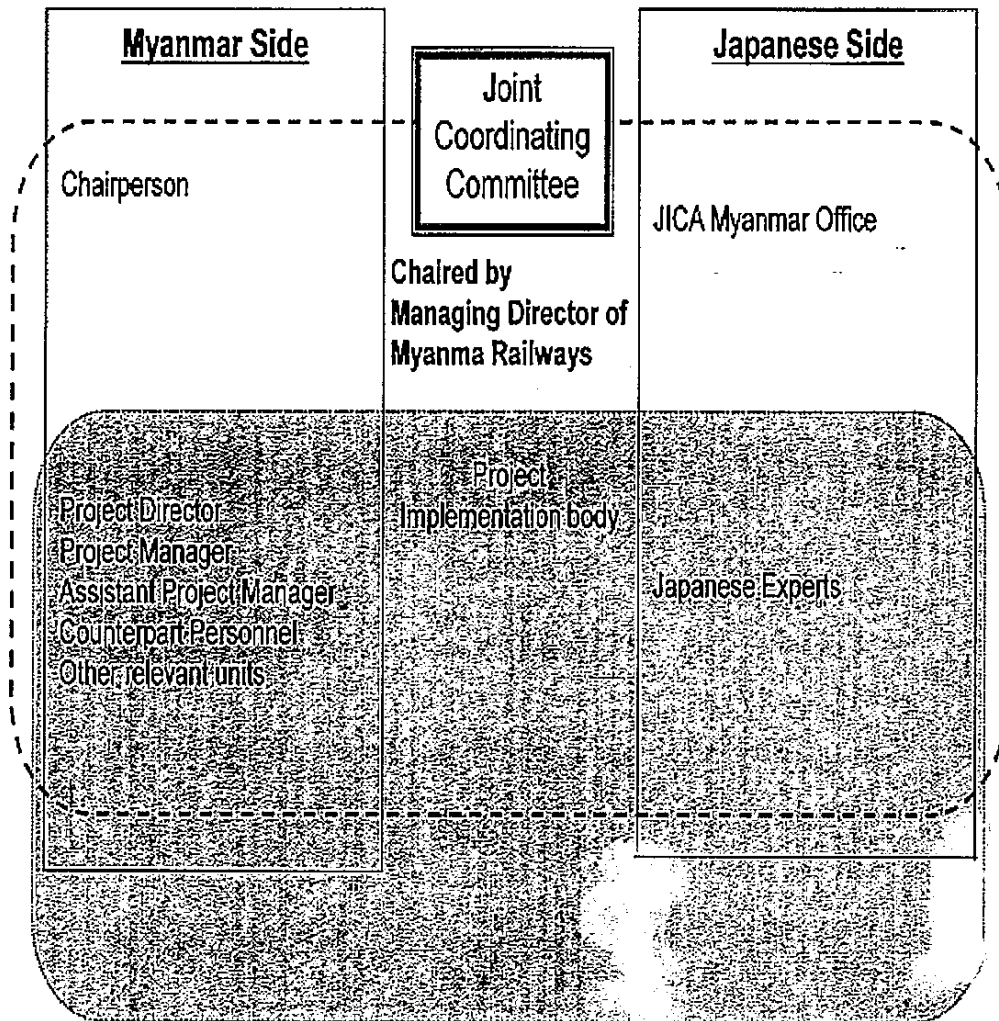


Fig. 4-1: Structure of project implementation Organization

4.2 Implementation body on the Myanmar side

MR will play a central role on the Myanmar side. To correspond to Japanese experts, a Counterpart Team is organized for this project. See Table 4-1. Project Director commands the general affairs and implementation of the project, while Project Manager manages the projects and directs technical affairs.

In On the Job Training (OJT) of track maintenance and bridge maintenance, project is the mainstream of the field work, which will be led by (1) the leaders for civil engineering structures of Division 7 (Yangon) and (2) those supporting the field of Lower Mayamar section and (3) the staff at the Head Office. Regarding procedure of outsourcing the track maintenance work Head Office located at Naypyidaw has the initiative to the implementation of the project.

4.3 Implementation body on the Japan side

The JICA experts selected from Japan International Consultants for Transportation Co., Ltd.(JIC), Oriental Consultants Global Co., Ltd.(OCG) and Sumitomo Corporation will guide/advise the personnel on the Myanmar side and offer recommendations where necessary for the project. See Appendix-2 for the list of JICA Expert Team members.

Japan International Consultants for Transportation, a leader of the consortium, which was instituted in November 2011 by JR Companies, private railways and other enterprises as a comprehensive consultant for overseas railways, is privileged to enjoy whole hearted cooperation for this project from JR Companies and Japan Railway Track Consultants, an expert consultant on track technologies.

5. Schedule (PLAN)

Year/Month	2015/7	2015/8	2015/9	2015/10	2015/11	2015/12	2016/1	2016/2	2016/3
Common	▽7th JCC				▽8th JCC		▽New equipments will arrive	▽Final JCC	▽Activity Report (at Yangon, NPT and Japan)
Track Maintenance	▽Replace to 50N Rail				▽Speed increasing test	▽Finish OJT of track Maintenance		Summary	
Bridge Maintenance	▽Bridge Maintenance Training		▽Bridge Maintenance Seminar				Summary		
Outsourcing of track maintenance work	▽Meeting	▽Meeting	▽Meeting	▽Meeting	▽Meeting	▽Meeting	Summary	▽Presentation	
Others			▽Sanitary System for rolling stock						

The Project on Improvement of Service and Safety of Railway in Myanmar



Progress Report
July 17th, 2015 at Nay Pyi Taw

JICA EXPERT TEAM



Japan International Cooperation Agency

1

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 - 2.2 Contents of Extension of the Project
- 3 Detailed Methods for the Project Implementation
 - 3.1 Track Maintenance
 - 3.2 Procedure of outsourcing the track maintenance work (New Item)
 - 3.3 Outline of maintenance of bridge (New Item)
- 4 Project implementation Organization
 - 4.1 Structure of project implementation Organization
 - 4.2 Implementation body on Myanmar side
 - 4.3 Implementation body on Japan side
- 5 Schedule

2

Appendix-1 Minutes of meetings for the amendment to the record of discussions on the project on improvement of service and safety of railway in Myanmar in the Republic of the union of Myanmar between Myanmar Railways Ministry of Rail Transport and Japan International Cooperation Agency.

Appendix-2 Member List of JICA Expert Team

3

1. Preface

This Progress Report deals with the major activities of the Project implemented around between March and July of this year.

We should be grateful, if MR senior officials concerned review the Report and provide us with the various advices so that the Project will be implemented more fruitfully in the coming period.

2.Extension of the Project

2.1 Major progress of the project

We have implemented 2 main project as below..

- Recommendation of technical standard relating to administrative and maintenance aspect and drawing up railway facilities improvement plan to improve service and safety level.
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4

Table 2.1.1 Table of working plan schedule (Recommendation of technical standard)

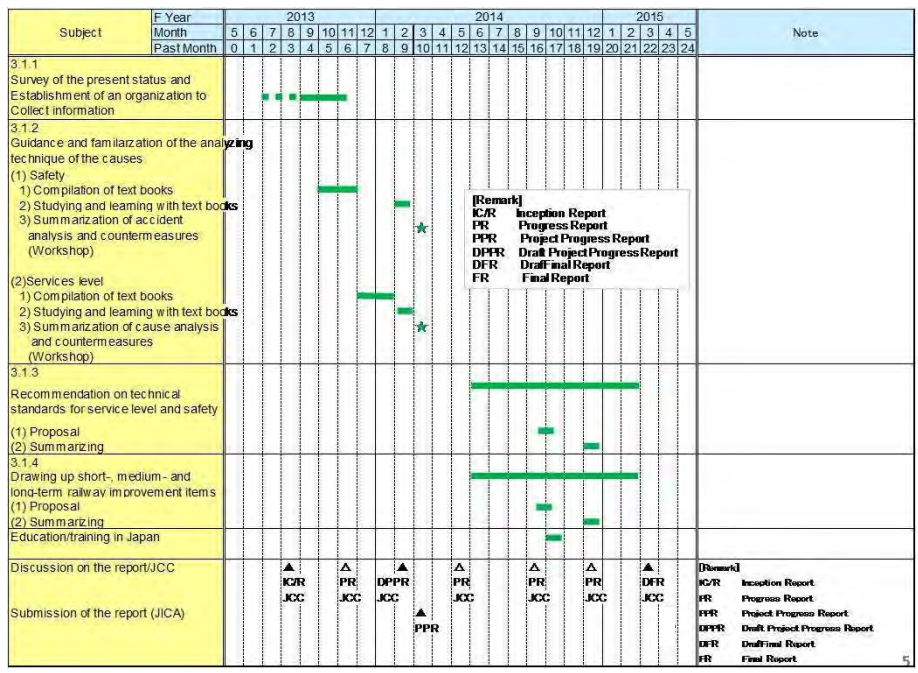
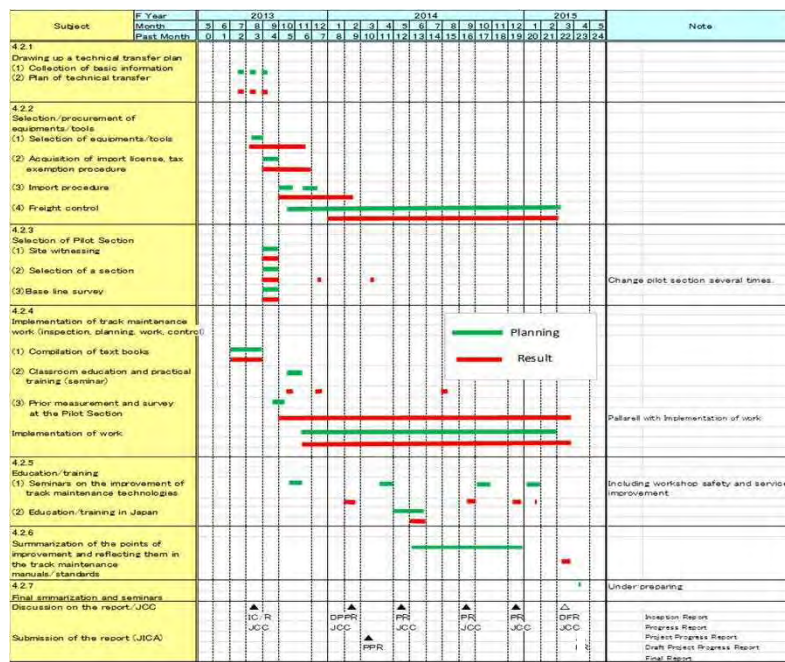


Table 2.1.2 Table of working plan schedule (Technical transfer of track maintenance)



2.2 Contents of Extension of the Project

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7

3 Detailed Methods for the Project Implementation

3.1 Track Maintenance

(1)Track Record

At the beginning, technology transfer of track maintenance started for 30 trainees in the Pilot Section. At present, accumulated number of trainees amounts to 400, and the various situations relating to technology transfer had been changed. Further, in order to implement the training efficiently, trainings were sometimes repeated in the same place, and also on Dagon University line.

In this regard, we consulted with MR about various matters including the suitable change of the length of the Pilot Section.

We are planning in this way till coming December.

We show activity of track maintenance work for 3 months from next page.

8



Carry out equipments from warehouse



Chord-to-rail measurement



Calculating survey data by inspectors



Changing sleepers

9



Installing fastening (First Clip)



Amending alignment



Tamping by hand tie tamper



After replacing sleepers

10



Cutting rail on the trunk line (Pre-Work)



Drilling rail on the trunk line (Pre-Work)



Removal of fastening (Pre-Work)



Lift up 50N Rail

11



Changing track pad



Installing fastening (First Clip)



Reverse direction operation under track closing



After changing from 75lb rail to 50N Rail

12

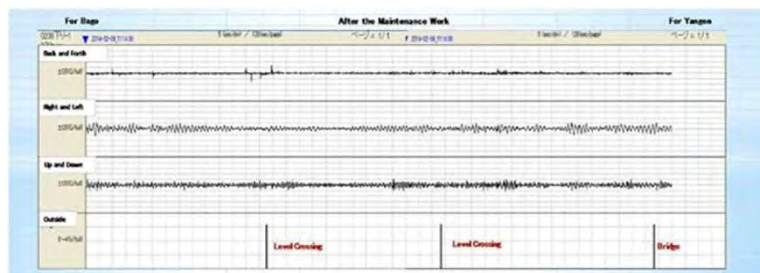
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1. Date : Around October
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3. Speed : 3 kinds of speed (60km/h, 70km/h, 80km/h)
4. Measurement :

① Vibration test (up-and -down, right and left, back and forth)

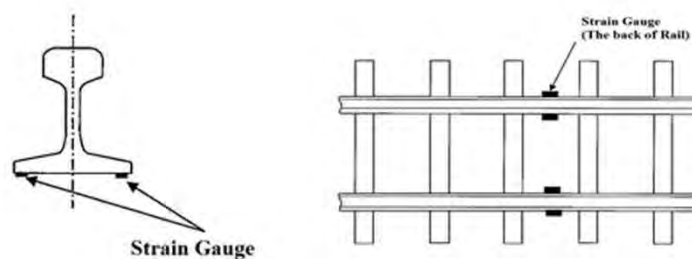
We check riding comfort by measuring train vibration against 3 kinds of speed as we measured before.



13

② Rail Stress

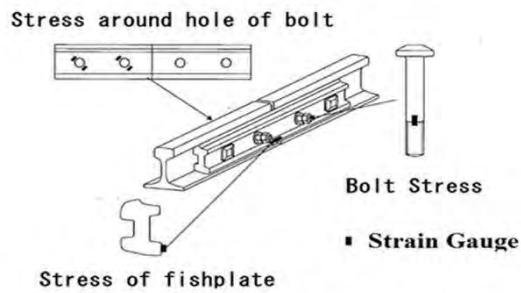
We attach strain gauge at the back of rail and check the value of rail stress by running train.



14

③ Stress of fishplate

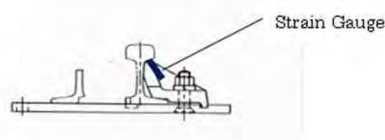
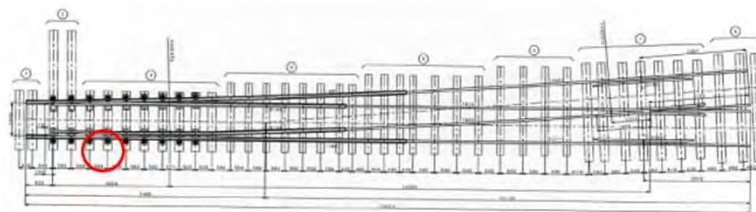
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We will prove the advantage of 50N rail compared to 75lb rail by measuring many kinds of stress and strain.

④ Stress of Turnout

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Embankment near Aungthuhka Sta.(2012)



Embankment near Aungthuhka Sta.(2015)

17

3.2 Outsourcing of track maintenance work

We are thinking that we hold meeting or discussion about outsourcing once a month .

(1)Current Situation in Myanma Railways

Survey of outsourcing of track maintenance work in Myanma Railways

(2)Introduce of Japanese experience

In Japan, the outsourcing of track maintenance has changed. At the same time, organization changes, too. (Ref. next page)

(3)Discussing about outsourcing of track maintenance

Based on (1) and (2), MR and we share basic stance of outsourcing of track maintenance. .

(4)Mixing opinion of Myanmar and Japan

MR and we take good opinion for the future.

(5)Proposal of procedure of outsourcing track maintenance work by Myanmar style

Make proposal of procedure of outsourcing track maintenance work for MR.

(6)Seminar or presentation by Experts

We hold final seminar. or presentation.

Above flow is example and we are thinking that we can change procedure if there are more good ways. Outsourcing is usually conducted with improvement of organization and mechanization. So we may sometimes discuss improvement of organization and mechanization through outsourcing of track maintenance work.

18

History of Track Maintenance Organization in Japan

Classification Type	Organization		Feature
Track Maintenance Before Modernization	Track Maintenance Section	Subdistrict	<ol style="list-style-type: none"> 1. Dispersed work of small unit 2. Repairing at any time 3. Unification of inspection and working (survey and maintenance by ourselves) 4. Human-wave tactics of hand working mainly
		<ul style="list-style-type: none"> — Gang (Track) — Gang (Track) — Gang (Track) (Length of Line) 5~10km	
Modernization of Track Maintenance	Track Maintenance Section	Subdistrict	<ol style="list-style-type: none"> 1. Concentrated work in large unit 2. Planning and repairing 3. Separate inspection and work 4. Introduction of machine (Length 10~50 km)
		(40~60km) <ul style="list-style-type: none"> — Gang (Track) — Gang (Inspection) — Gang (Inspection) (10~15km)	
New Track Maintenance Organization	Track Maintenance Section	Subdistrict	<ol style="list-style-type: none"> 1. Specialization of Operator 2. Mechanization deeply 3. Outsourcing of simple task (Ex. Replacement of sleepers)
		(40~60km) <ul style="list-style-type: none"> — Gang (Working) — Gang (Inspection) — Gang (Inspection) Machine Working G Working G (10~15km)	
Improvement of Track Maintenance	Track Maintenance Section	Subdistrict	<ol style="list-style-type: none"> 1. Change to technical group 2. Abolish working G (Outsourcing of simple work and fluctuated work) 3. Leave track its maintenance G 4. Efficiency by diversity of job content
		(40~60km) <ul style="list-style-type: none"> — Track Machine G — Track Supervision G (10~15km) (Track Residence Track Supervision G) [Installation in case of charging of large yard]	
Improvement of work (Track Maintenance and Civil Engineering)	Track Maintenance Section	Subdistrict	<ol style="list-style-type: none"> 1. Simplification and efficiency by review of working content 2. Diversity of job content and efficiency by fusion 3. Efficiency by simplification of organization
		(50~80km) <ul style="list-style-type: none"> — Track Machine G — Track Supervision G (10~15km) (Track Residence Track Supervision G) [Installation as necessary]	
Improvement of Track Facility	Track Maintenance Section	Subdistrict	<ol style="list-style-type: none"> 1. Detailed supervision according to characteristics of line 2. Trv efficiencv and diversity of work 3. Secure safety and stable transportation 4. Concrete contents
		(50~80km) <ul style="list-style-type: none"> — Track Machine G — Track Supervision G (15~30km) (Track Residence Track Supervision G) [Installation as necessary] Supervision Section Installation in lower line	

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3.3 Outline of maintenance of bridge

3.3.1 Expected output

Technical capability is improved through bridge maintenance to improve the level of service and safety.

3.3.2 Implementation plan for output

To draw up technology transfer plan of bridge maintenance through OJT at the Pilot Bridge

To conduct seminars, training for technical improvement of the bridge maintenance

3.3.3 Detailed methods for Project implementation

(1) Survey

Selecting (1) pilot bridges, present situation on bridge maintenance work in Myanmar Railways, Material available situation for painting and repairing, Mahlwagon Dept.

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(2) Provision of bridge maintenance tool and safety equipment for each trainee

Necessary tools be selected after survey

(3) Seminars and Trainings by Japanese Experts

Bridge maintenance training on super structure of pilot bridge with Japanese Experts (inspection, judgement, countermeasure , repairing and painting)

Drawing training for bridge maintenance work

Bridge maintenance recording training, to be recorded check point for inspection on several bridges (such as their super structure are “Deck Girder, Through Girder, I beam, Through Truss, Reinforced Concrete, Pre-stress Concrete”

Manufacturing repairing material in Mahlwagon, and repairing bridge using them

Relevant seminars for those trainings

Other supplementary seminars and trainings

(4) Trainings by MR themselves

Bridge maintenance recording training

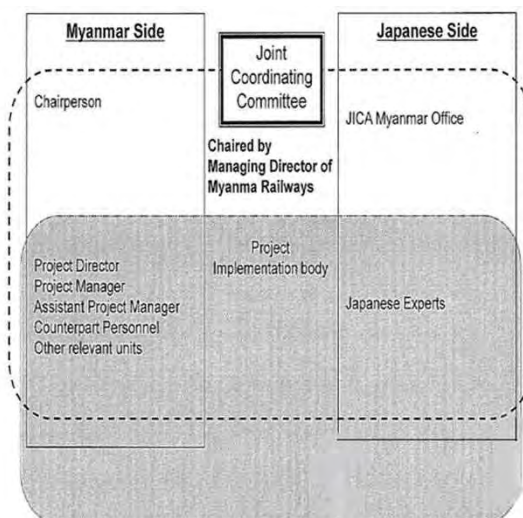
(5) Compiling text book

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4 Project implementation Organization

4.1 Structure of project implementation Organization

Based on R/D, we will organize a project implementation Organization



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4.2 Implementation body on the Myanmar side

4.3 Implementation body on the Japan side

Administrative and Counterpart Personnel for the Project (PLAN)

Fields	Myanma Railways	Japanese Side
Project Director	U Aung Win, General Manager (Technical & Admin Support)	Nobuyuki MATSUO (Leader)
Project Manager	U Tin Soe, General Manager (Civil) U Saw Valentine, Advisor	Mitsuru TAKAMI (Deputy Leader)
Track Maintenance	Tin Myint, Assistant General Manager(Civil)	Hiroshi KOMATSU Osamu HAGA
Outsourcing of track maintenance work	Maung Maung Than, Deputy General Manager(Civil)	Nobuyuki MATSUO
Bridge maintenance		Mitsuru TAKAMI
Procurement of Equipment and Materials	U Khin Maung Than, Deputy General Manager (Supply)	Tomohiro AIZUKI
Rolling Stock	U Win Oo, General Manager (Rolling Stock)	Makoto ISHIKAWA
Train Operation	U Hlay Myint Aung, Deputy General Manager (Train Operation)	Sunji MORIHARA
Signal & Telecommunication	U Khin Maung Thein, Deputy General Manager (Signal & Telecommunication)	Ryuhei MITANI
Policy Advisor	Mitsuo HIGASHI	

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5 Schedule (PLAN)

Year/Month	2015/7	2015/8	2015/9	2015/10	2015/11	2015/12	2016/1	2016/2	2016/3
Common	▽7th JCC				▽8th JCC		▽New equipments will arrive	▽Final JCC	▽Activity Report (at Yangon, NPT and Japan)
Track Maintenance	▽Replace to 50N Rail				▽Speed increasing test		▽Finish OJT of track Maintenance	Summary	
Bridge Maintenance	▽Bridge Maintenance Training			▽Bridge Maintenance Seminar			Summary		
Outsourcing of track maintenance work	▽Meeting	▽Meeting	▽Meeting	▽Meeting	▽Meeting	▽Meeting	▽Meeting	▽Presentation	Summary
Others				▽Sanitary System for rolling stock					

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Thank you for your attention.

