

Minutes of Discussion

3rd JCC for "Project on Improvement of Service and Safety of Railways in Myanmar"

- 1. Date and time** 29 May 2014 9:30~12:30
- 2. Place** Meeting Room of Myanmar Railways Headquarters

3. Attendants

3.1 Myanmar side

Myanma Railway

U Thurein Win	(Managing Director)
U Saw Valentine	(General Manager –Technical & Admin Support)
U Myint Wai	(General Manager –Operation)
U Tin Soe	(General Manager –Civil)
U Aung Win	(General Manager –Mechanical & Electrical)
U Ba Myint	(General Manager –Inspection)
U Aung Myint Hlaing	(Deputy General Manager –Passenger)
U Htaung Sian Kan	(Deputy General Manager –Planning)
U Than Htay	(Deputy General Manager –Civil)
Daw Thi Thi Nwe	(Deputy General Manager –Finance)

3.2 Japanese Side

JICA Myanmar Office	Mr. Win KoKo (Program Assistant)
JICA Expert Team	Dr. S. Kuroda (Leader: Track Maintenance) Mr. N. Matsuo (Deputy Leader: Maintenance Planning)
Observer	Mr. M. Yamato (General Manager: Nay Pyi Taw Office Sumitomo Corporation)
Interpreter	Mr. Kyaw Soe Thu

4. Subject: Explanation and Discussion of Progress Report

5. Handouts

- (1) Progress Report (PR) (JICA Expert Team)
- (2) Power Point Document of PR for explanation (JICA Expert Team)
- (3) Report for Technical Transfer Training in Yangon –Bago Line Pilot Project by JICA (Civil Engineering Dept. Myanmar Railways)

6. Opening Speech by U Thurein Win, Managing Director, Chairman of JCC

The Pilot Section was selected in the last September, and since then the track maintenance training

has been implemented under the cooperation of JICA.

The 1st and the 2nd JCC were held in August 2013 and in February 2014 respectively, and now we are going to hold the 3rd JCC.

It is our pleasure that two groups of eleven members each are going to visit Japan for track maintenance training.

We would like to express our gratitude to JICA and JICA Expert Team for their assistance in recommendation on technical standards and drawing up railway facilities improvement plan based on cause analysis of accidents/low service level, and in technology transfer of track maintenance.

7. Greeting by Dr. Kuroda, Leader of JICA Expert Team

I must report with regret that Mr. A. Sanjo, senior representative of JICA Myanmar Office cannot attend the Meeting due to some inevitable reason, although he was scheduled to attend the Meeting.

If MR has some specific requests to JICA, they will be recorded in the minutes of the Meeting and will be reported to JICA.

On this opportunity, we, JICA Expert Team would like to express their appreciation to U Thurein Win, Managing Director and the officials concerned for their assistance extended to the Team.

8. Presentation of Progress Report

Progress Report was presented by Dr. S. Kuroda, Leader of JICA Expert Team and Mr. N.Matsuo, Deputy Leader of JICA Expert Team.

9. Presentation of Report for Technical Transfer Training In Yangon —Bago Rail Line Pilot Project by JICA

The Report was presented by U Tin Soe, General Manager (Civil). In the presentation, U Tin Soe made the following requests to JICA.

*Kindly continue the train vibration measurement by the measurement device on Yangon —Mandalay line (the up line of Yangon —Pyinmana section has already been measured).

*Kindly arrange so that Dr. Osanai visits Myanmar more often to give training of track maintenance to MR staff concerned.

10. Major Points of Discussion

- (1)MR:**
- ①Measurement of track irregularities by inspection device is very significant. Supplying track with ballast of specified volume is also important. We are now supplying the track between Yangon and Pyinmana with the ballast of 280000 m³/ year in these two years.
 - ②We would like to request JICA to provide us with training of maintenance of long welded rail track.
 - ③Kindly explain the meaning of unification of level crossings.

④ What is the opinion of JICA Expert Team about the size of ballast of MR?

JICA Expert:

***With respect to ② above.**

It will be reported to JICA.

***With respect to ③ above.**

It means that several small size level crossings locating close to each other are unified to one level crossing which will be equipped with sufficient protection devices.

***With respect to ④ above**

The maximum ballast size specified by MR standards is larger than that by JR standards. It can be observed that stones larger than the maximum size specified by MR standards are used in the track. Generally the excessively large stones are difficult to be filled under the sleeper.

Further it can be observed that grain size distribution of ballast is not well controlled by MR. If the various sizes of stones are appropriately mixed, the settlement characteristics of the track will be improved. We will later submit the size distribution standards of JR Group together with the comparison with that of MR.

(2). MR: ① JICA has already provided us with one train vibration measuring device.

Kindly provide MR with one more train vibration measurement device

② By the presentation of JICA expert, it can be well understood that there are many issues regarding braking system and spring coil system. Kindly provide us with training of rolling stock maintenance.

③ How should MR improve vibration system of the truck, in order to improve riding comfort?

④ Continuous braking system is designed for vehicles, accordingly the sentence on the 5th line from the bottom on page 13 of PPT should be replaced by the following sentence.

“The vehicle should be fully equipped so that.....”

Should MR replace vacuum braking system with compressed air braking system?

⑤ Thermit welding can be executed while it is raining?

⑥ Kindly provide us with training on cause analysis of accidents and low service level and establishment of countermeasures for MR officials in the various fields including civil, track, rolling stock, operation, signal/telecom.

JICA Expert:

***With respect to ①&② above.**

They will be reported to JICA.

***With respect to ③ above.**

Damper system should be improved. More details will be explained later after consultation with the rolling stock expert of our Team.

***With respect to ④ above.**

Continuous braking system is arranged for vehicles in design. However, continuous brake is actually not working in the vehicles. In case continuous brake is not working, brake distance of the train will become long, and train speed cannot be raised so much.

In case of vacuum braking system, the maximum braking force is only one atmospheric pressure, accordingly the brake distance of the train equipped with vacuum braking system becomes longer than that of the train equipped with compressed air pressure braking system. Compressed air braking system should be adopted for increasing train speed.

***With respect to ⑤ above.**

Thermit welding should not be executed while it is raining.

***With respect to ⑥ above.**

It will be reported to JICA.

(3).MR:① Please explain the JR rule about train speed slow down during the track maintenance work.

② There occur many accidents on illegal level crossings. What should we do?

We would like to know more about level crossing accidents prevention. We will ask the questions by e-mail. Kindly answer the questions.

JICA Expert:

***With respect to ① above.**

In JR, the time during which trains are operated and the time during which track maintenance works are carried out are separated from each other. The kinds of track maintenance works which will be carried out while trains run, but accompanied by train speed slow down are limited to specific preparatory works specified by the regulation.

***With respect to ② above.**

In case some illegal level crossing are necessitated by the neighborhood residents, they should be leveled up to the legal ones, and should be equipped with appropriate protection devices. In case the ones are not so much necessitated by the neighborhood residents, they should be abolished.

If you have some questions about level crossing issues, please send us your questions by e-mail. We would like to try to answer your questions as much as possible.

11. A list of requests to JICA made by MR during the discussion are given as follows.

*Kindly continue the train vibration measurement by measurement devices on Yangon–Mandalay line.

(The up line of Yangon–Pinyinmana section has already been measured)

*Kindly arrange so that Dr. Osanai visits Myanmar more often to give training of track maintenance to MR staff concerned.

*Kindly provide MR staff concerned with training of maintenance of long welded rail track.

*Kindly provide MR with one more train vibration measurement device.

*Kindly provide MR staff concerned with training of rolling stock maintenance.

*Kindly provide training of cause analysis of accidents and low service level, and establishment of countermeasures to MR officials in the fields of civil ,track, rolling stock, signal/telecom and operation.

12. Closing speech by U Thurein Win, Managing Director, Chairman.

I appreciate the attendants on the 3rd JCC meeting for their earnest discussion. MR would like to do its best in cooperating with the Project.

In case JICA has some specific requests regarding implementation of the Project, kindly inform us of these, which MR would try to comply with as much as possible.

June 3, 2014

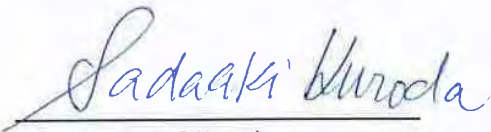
Nay Pyi Taw



UThurein Win

Managing Director

Myanma Railways



Dr.S.Kuroda

Leader of JICA Expert Team

Minutes of Discussion

4th JCC for "The Project on Improvement of Service and Safety of Railway in Myanmar"

1. DATE 29 Sept. 2014 13:30~15:30
 2. PLACE Meeting Room of Myanmar Railways Headquarters

3. ATTENDANTS

3.1 Myanmar side

Managing Director	U Thurein Win
General Manager(Technical&Admin.Support)	U Saw Valentine
General Manager(Civil)	U Tin Soe
General Manager(Mechanical&Electrical)	U Aung Win
General Manager(Finance)	U Maung Maung Lwin
Deputy General Manager(Planning)	U Sai Thaw Lin
Deputy General Manager(Operating)	U Htay Myint Aung
Deputy General Manager(Civil)	U Maung Maung Thwin
Deputy General Manager(Civil)	U Than Htay
Deputy General Manager(Signalling&Communication)	U Khin Maung Thein
Assistant General Manager(Planning)	U Thein Myint
Assistant General Manager(Civil)	U Maung Maung Than
Assistant General Manager(Operating)	U Zaw Pe Sein
Manager(Passenger)	U Arkar Min Thu
Assistant Engineer(Civil)	U Zaw Ye Myint
Assistant Engineer(Civil)	U Min Aung
Assistant Manager(Planning)	U Than Htun Aung

3.2 Japan side

JICA Head Office	Mr. K.Imai, Mr. K.Kuramoto
JICA Myanmar Office	Mr. M.Morikawa
JICA Expert Team	Dr. S.Kuroda(Leader:Track maintenance), Mr. N.Matsuo(Sub-leader:Maintenance planning), Mr. H.Komatsu(Operation maintenance), Mr. R. Mitani(Signal&telecom), Mr. M.Ishikawa(Rolling Stock) Mr. M. Takami(Coordinator)

Observer Sumitomo Corporation Asia & Oceania Pte, Ltd.
Mr.M.Yamato (General Manager Nay Pay Taw Office)
U Tun Tun Kyaw

Interpreter U Kyaw Soe Thu

4.SUBJECT Explanation and discussion of Progress Report

5.HANDOUTS (1)Project Progress Report(ppt digest)

(2) Project Progress Report(file)

(3)Appendix-1.Report of Proposals of Recommendation on Technical standards of MR and Short-,Medium-, and Long-Term Railway facilities Improvement Plan

2.Minutes of Meeting, August 11, 2014,at NayPyiTaw

3.Workshop Report (in Japan)

6.Agenda

6.1 Opening Speech by Chairman U.Thurein Win ,Managing Director

This project is the first technical support by JICA, and one year has passed since commence of the training in the pilot section between Yangon and Bago.

This JCC is the 4th one.

Workshops in Japan have already been implemented for 2 groups, and we are arranging to dispatch one more group in October.

We highly appreciate JICA for supporting safety and service level improvement of MR.

We will continue to cooperate with JICA Expert Team.

6.2 Speech by Mr. Imai, JICA Head Quarter

The progress of the Project up to now was explained by Managing Director of MR.

Today, we will explain the present circumstances of the Project.

I have been informed that technical level of MR staff is improving. Improvement of their ability is the basis of safety and management upgrading of MR.

Please listen to reporting of the Project by JICA Expert Team.

After the Project reporting, I would like to talk about another topic.

6.3 Presentation of Progress Report by JICA Expert Team (Leader S.Kuroda & Deputy Leader N.Matsuo)

6.4 Discussion by all JCC members

(1) MR

This Project will be completed in May 2015. In case the Project is continued further beyond May 2015, kindly include the training for rolling stock and signal. If some trainings can be added to this Project, please consider to add the trainings for rolling stock and signal.

JICA

Regarding the request for formulation of another technical cooperation project for rolling stock and signal similar to the present Project, we cannot answer it here at this moment. We will convey your request to Japanese government.

(2) MR

We would like to have a training of more detailed track maintenance. (Advanced training course)

JICA

We understand the significance of advanced training course. However, the training of fundamental track maintenance technologies is very important.

Besides the track maintenance technology under the ongoing training, technologies for soft ground improvement and level crossing track improvement are also considered to be the fundamental ones for track maintenance.

In this context, if we add the trainings for soft ground improvement and level crossing track improvement to the ongoing training for track maintenance, it can be considered that JICA's technology transfer of track maintenance to MR will be almost achieved.

In this regard, we would like to recommend that in addition to the current training for track maintenance, trainings for soft ground improvement and level crossing track improvement should be implemented, and for completing the trainings, a summarizing training should be implemented on a certain appropriate line. As for this line, we consider that Thilawa line is most suitable, because the line has not so many number of train operations allowing sufficient time for training and includes the suitable locations for recommended training.

This recommendation is based on the professional experiences of railway technical cooperation.

(3) MR

(a) The ongoing training of manual based track maintenance is very useful for MR. However, we would like to request JICA to extend the training for mechanized track maintenance and managing large sized track maintenance machines. Mechanized track maintenance is effective for executing the maintenance of the track stretched over a

long distance.

We have a plan to outsource the track maintenance work. In case of outsourcing the mechanized track maintenance work, MR itself must have the knowledge about details of mechanized track maintenance,

We are also wishing that the current trainees become the trainers for other MR staff.

(b) We would like to learn the bridge maintenance technology.

Kindly consider to provide us with a short (2~3 months) bridge maintenance training course for a selected small group.

(c) We are now going to have many LWR installation projects.

Kindly provide us with a training for LWR technology.

JICA

(a) We understand the various needs of MR. We also understand the significance of mechanized track maintenance. However, soft ground improvement and level crossing track improvement are the most fundamental track maintenance technologies.

With respect to the outsourcing of track maintenance work, it is considered that the most important thing is that MR staff can judge whether the contractor has completed the contracted work precisely as required by the contract.

(b) As for the training for bridge maintenance, we must examine whether the current JICA Expert Team can manage the training. We may need another group of JICA experts.

From tomorrow, we are going to have the workshops for manager level staff.

Upgrading the level of staff at site is also very important. As mentioned above, we would like to request MR to consider our recommendation that in addition to the ongoing training of track maintenance, trainings for soft ground improvement and level crossing track improvement should be implemented and a summarizing training should be implemented on Thilawa line.

Kindly give your response to our recommendation by Oct.15 to JICA Yangon Office.

(4) MR

We would like to request for a training of locomotive, rolling stock and DMU.

We have questions about 5 items of recommendation on technical standard which were explained in Progress Report.

JICA Expert Team

We will discuss them fully at the workshop starting from tomorrow.

(5) MR

The workshop of accident prevention held in February was very useful. We would like to have another one.

Signal equipments of MR are very old. We would like to request for workshop about new signal technique.

JICA

We are planning to hold signal workshop as a part of OCC Project.

7 Closing speech

U Thurein Win, Managing Director, MR

We appreciate various fruitful discussions in the JCC. Please consider the various requests of MR.


Mr. Imai, JICA Headquarters

We appreciate many significant discussions of JCC members.

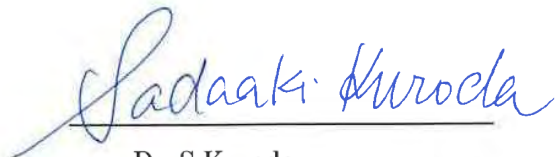
Please consider the recommendation made by JICA fully.

October 2nd, 2014

Nay Pyi Taw



U Thurein Win
Managing Director
Myanma Railways



Dr. S. Kuroda
Leader of JICA Expert Team

Minutes of Discussion

5th JCC for "The Project on Improvement of Service and Safety of Railway in Myanmar"

1. DATE 19 Dec. 2014 10:30~13:00
2. PLACE Meeting Room of Myanmar Railways Headquarters
3. ATTENDANTS

3.1 Myanmar side

U Saw Valentine	Advisor
U Maung Maung Lwin	G.M (Finance)
U Htaung Sian Khan	D.G.M(Planning)
U Than Htun Aung	D.G.M(Inspection)
U Maung Maung Thwin	D.G.M(Civil)
U Win Naing	D.G.M(Mechanical)
U Nyi Nyi Swe	D.G.M(Commercial)
U Aung Myint	D.G.M(Electrical)
U Han Nyunt	A.G.M(Signaling)
U Kyaw Soe Lin	Manager(Operating)
U Phyo Htet Kyaw	Manager(IR)
U Than Htun Aung	Assistance Manager
Mr. M.Higashi	Advisor

3.2 Japan side

JICA Myanmar Office	Mr. A.Sanjyo (Senior Representative)
JICA Expert Team	Dr. S.Kuroda(Leader:Track maintenance), Mr. N.Matsuo(Sub-leader:Maintenance planning), Mr. H.Komatsu(Operation maintenance) Mr. S.Morihara(Operation) Mr. R. Mitani(Signal&telecom), Mr. M.Ishikawa(Rolling Stock) Mr. M. Takami(Coordinator)

Observer	Sumitomo Corporation Asia & Oceania Pte, Ltd. Mr.Y.Taniguchi (Nay Pay Taw Office) U Tun Tun Kyaw Ms. M.Saito (JICA Trainee)
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Interpreter	Sonny
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- 4.SUBJECT Explanation and discussion of Progress Report for 5th JCC
- 5.HANDOUTS (1)Project Progress Report(ppt digest)
(2) Project Progress Report(file)
(3)Appendix-1 Revised Report of Proposals of Recommendation on
Technical Standards of MR and Short-,Medium-, and
Long-term Railway Facilities Improvement Plan
2 Summary of Discussion in the Workshop for
Recommendation on Technical Standards and for
Drawing up Short-, Medium-, and Long-term Railway
Facilities Improvement Plan.
3 Workshop Report of the Institutional Management
Improvement Course in Japan

6 Opening Speech by Chairman U Saw Valentine

The Project is the first technical corporation by JICA for MR, and about one year has passed since the technology transfer of track maintenance started in October, 2013 in the Pilot Section located between Yangon and Bago. Up to now, four JCCs have been held, and we are now holding 5th JCC.

JICA has provided MR with trainings in Japan 3 times. Technology transfer of track maintenance has been executed with the use of modern maintenance equipment/ tools, and it has contributed to improvement of track maintenance technology of MR.

MR appreciates very much for the cooperation of JICA and JICA experts for improving safety and service level of MR

MR would like to cooperate as much as possible for effective implementation of the Project.

7 Presentation of Progress Report by JICA Expert Team (Leader S.Kuroda & Deputy Leader N.Matsuo)

8 Discussion by all JCC members

(1) MR

- We would like to request for JICA Expert Team to make various advices to MR on what is necessary for MR based on the recognition of the current situation of MR.
- In the last JCC, we requested the training for track maintenance, bridge maintenance and rail welding. This time we would like to request JICA to consider the cooperation with respect to the following items.

- ① Training for rolling stock maintenance, how to install sanitation system in coaches, training for DMU and DEMU maintenance.
- ② Training of maintenance of signaling
- ③ Train protection system at level crossing
- ④ Training facilities of CITC and RTTC
- ⑤
 - a Training of track maintenance by use of large sized maintenance machines
 - b Advice on the procedure of outsourcing the track maintenance work
 - c Updating the track maintenance manual based on the current situation of MR
 - d Continued training for track maintenance of Yangon – Mandalay line and Yangon Circular line.
 - e Training of maintenance of bridge (upper structure and sub structure)
 - f Training for rail welding
- ⑥ Training for new systems (OCC, ATS etc), and training for modernized train protection system at level crossing
- ⑦ Advice for planning an appropriate railway network connecting Yangon ports, Thilawa Special Economic Zone, Dry Port

(2) JICA

We know that 6 items for cooperation were requested by the letter dated Oct, 16, 2014. These requests are now under examination by JICA. Today, further, there were many requests which belong to the category of technical cooperation and also to other categories.

Kindly provide JICA with a letter in which the requests should be described, and the requests should be limited to the ones belonging only to the category of technical cooperation, but excluding such requests as construction of buildings, provision of large sized machines/ equipment ; and then put the order of priority on the requests. Also please exclude such requests as could be implemented under the on-going Project.

Kindly provide us with the letter as soon as possible.

(3) MR

The request for provision of equipment necessary for improving RTTC and CITC should be kindly considered. MR would issue the letter.

(4) JICA

We are waiting for receiving the letter.

JCCs have already been held 5 times during this one year and half. There are no other projects such as this Project for which JCCs are held with such frequency. It means that MR officials are very earnest in implementing this Project. JICA would like to pay his respect to the earnestness of MR.

(5) MR

It is important to teach the public how to make use of railway facilities and trains safety and properly. Kindly provide MR with advices on how to educate the public on this matter based on the Japanese experience.

(6) JICA Expert Team

JICA's Grant AID Project Team gives the following aid for signaling & telecommunications in MR.

- ① Concentrated Electronic Interlocking device for Yangon and Pazundaung stations
- ② Centralized Train Monitoring System for Yangon – Pyuntaza sections
- ③ Automated level crossing alarm facilities for Kyan Sit Thar Level Crossing.

Related with this aid, we think we can meet needs of MR to some extent through work of soft component. However we cannot afford to revise the current technical standards.

(7) MR

Modernized signaling system is going to be introduced in the section between Yangon and Mandalay. Kindly give an advice to us about the maintenance organization chart.

(8) JICA Expert Team

Strengthening the organization to cope with electrifying and modernizing the signal and telecommunication facilities was experienced lastly more than 40 years ago in Japan. With respect to an appropriate organization for MR case, we would like to make suitable advices based on Japanese experiences after receiving the questionnaire.

(9) JICA Expert Team

At the beginning, technology transfer of track maintenance started for 30 trainees in the Pilot Section of 20km located in the section between Yangon and Bago. At present, accumulated number of trainees amounts to 300, and the various situations relating to

technology transfer have been changed. Further, in order to implement the training efficiently, trainings are sometimes repeated in the same place, and also on Dagon line.

In this regard, we would like to consult with MR about various matters including the suitable change of the length of the Pilot Section.

We are planning to give trainings of track maintenance on two railway steel bridges. The joints of rail are very bad. The current MR rail welding technology should be improved for producing long welded rail.

We would like to consider how to give training on rail welding while we are giving training of rail replacement. We are also considering to provide advice on improvement of rail fastening devices. Further we would like to plan to add the training for improvement of level crossing and rail grinding to the current trainings. Up to this March, the above trainings will be suitably considered. Also we would like to plan to give trainings including training for improvement of weak roadbed, with due consideration on selecting the training locations not only in the Pilot Section but also on the Circular line, Dagon line, Thilawa line etc.

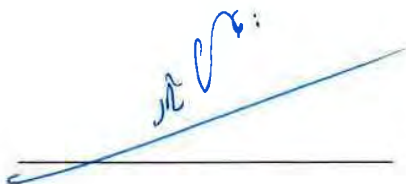
7 Closing Speech by Chairman

In this JCC, the progress of the Project has been reported, and various useful proposals and discussions have been presented aiming at the effective implementation of the Project. I appreciate all the JCC members for their earnest discussions.

MR would continue the cooperation with the effective implementation of the Project as much as possible. MR would like to express the appreciation for the effort of JICA and JICA Expert Team to improve the safety and service level of MR.

December 24th, 2014

Nay Pyi Taw



U Thurein Win
Managing Director
Myanma Railways



Dr. S.Kuroda
Leader of JICA Expert Team

Minutes of Discussion

6th JCC for "The Project on Improvement of Service and Safety of Railway in Myanmar"

1. DATE 13 March, 2015 14:00~16:00
 2. PLACE Meeting Room of Myanmar Railways Headquarters

3. ATTENDEES

3.1 Myanmar side

U Thurein Win	Managing Director
U Saw Valentine	Advisor
U Maung Maung Lwin	G.M (Finance)
U Tin Soe	G.M(Civil)
U Win Oo	G.M(Mechanical and Electrical)
U Maung Maung Thwin	D.G.M(Civil)
U Khin Maung Thein	D.G.M(Signal & Telecommunication)
U Nyi Nyi Swe	D.G.M(Passenger)
U Sai Thaw Lin	D.G.M(Inspection)
Daw Khin Mar Thi	Assistant Manager(Supply)
U Kyaw Soe Lin	Manager(Operating)
U Phyto Htet Kyaw	Manager(IR)

3.2 Japan side

JICA Expert Team	Dr. S.Kuroda(Leader:Track maintenance), Mr. N.Matsuo(Sub-leader:Maintenance planning), Mr. H.Komatsu(Operation maintenance) Mr. M. Takami(Coodinator)
Observer	Sumitomo Corporation Asia & Oceania Pte, Ltd. Mr.Y.Taniguchi (Nay Pay Taw Office) Mr. Tun Tun Kyaw
Interpreter	Mr. Soe Min

4. SUBJECT Explanation and discussion of Progress Report for 6th JCC

5. HANDOUTS (1)Project Progress Report(ppt digest)

(2) Project Progress Report(file)

(3)Appendix

1. PDM
2. Flow chart of project implementation
3. Detailed implementation plan

4. Records of JICA experts dispatching
5. Records of training in Japan
6. Records of procurement of the required equipment/ tools
7. Minutes of Discussion of JCC (1st, 2nd, 3rd, 4th, and 5th)
8. Other activities
- 8.1 Additional Questions by MR and Answers by JICA Experts relating to the Workshop for Recommendation on Technical Standards and for Drawing up Short-, Medium-, and Long-term Railway Facilities Improvement Plan
- 8.2 Summary of Discussions Made during the Summarizing Workshop for Recommendation on Technical Standards and for Drawing up Short-, Medium-, and Long-term Railway Facilities Improvement Plan
- 8.3 Existing situations of RTTC
- 8.4 Existing situations of CITC

6. Opening Speech

6.1 Chairman, Managing Director, U Thurein Win

This project is the first technical cooperation for MR by JICA. Technology transfer of track maintenance in the Pilot Section started in October 2013. In order to execute the Project smoothly, JCCs were held as shown below.

1st JCC: August 28, 2013

2nd JCC: January 27, 2014

3rd JCC: May 28, 2014

4th JCC: September 29, 2014

5th JCC: December 19, 2014

Today we are going to hold 6th JCC. All the members of JCC are kindly requested to discuss about the progress and the various plans of the Project.

3 teams consisting of 11 trainees each, 33 trainees in total, participated in the training programs in Japan. At Nay Pyi Taw, 19 trainees participated in the training program for analysis of cause of accidents/ low service level, and establishment of countermeasures. Further in the Pilot Section, 345 trainees in total participated in the track maintenance training. Track maintenance training with use of modern maintenance equipment/ tools has been very useful for MR. We, MR, would like to express appreciation to JICA and JICA Expert Team for their earnest cooperation.

6.2 JICA Expert Team, Leader, Dr.S.Kuroda

Today, Mr. Sanjo, senior representative of JICA Myanmar Office, was supposed to attend the JCC, but due to unavoidable reasons, he cannot attend the JCC. Instead, I will make a speech on behalf of JICA Expert Team.

About 21 months have elapsed since the Project started in June 2013. We, JICA Expert Team, would like to express their sincere appreciation to Managing Director and all other officials of MR for their kind cooperation.

Today we, JICA Expert Team, present the Progress Report of the Project. We should be grateful, if all the members of JCC could kindly discuss the Progress Report and could present advices on the effective implementation of the Project.

7. Presentation of Progress Report by JICA Expert Team (Leader, Dr. S.Kuroda & Deputy Leader, Mr. N.Matsuo)

8. Discussion by all the JCC members

(1) MR

- JICA Expert Team is now revising the track maintenance manuals of MR. We would like to request that the revised manuals should be fully discussed between MR staff and JICA experts. Through discussion, misunderstanding of MR trainees, if any, about the track maintenance technology for which they were trained, could be suitably corrected.
- JICA Expert Team is now translating the revised track maintenance manuals into Myanmar language. Kindly show us the draft one before completing the translation. MR can contribute to correction of wrong translation, if any, of technical terms into Myanmar language.
- On the 21st page of the presentation PPT, JICA Expert Team presented the advice that the lecture should be provided not only for bridge maintenance, but also for tunnels, earth structures etc. We appreciate that advice. Instructors giving such lectures are only a few in MR. Kindly consider to give such lectures of about two weeks, making use of the training rooms contributed by Sumitomo Corporation.
- GM(Civil) visited RTRI of JR group. It is an integrated research institute. MR would like to establish a research institute. We would like to get the financial support from Japan for establishing a research institute.

JICA Expert Team

- Track maintenance manuals translated into Myanmar language have already been handed over to MR side. They have been submitted to Headquarters of MR. They have been also provided to the training rooms contributed by Sumitomo Corporation.
- MR track maintenance trainees who completed the training in the Pilot Section have returned back to their own gangs, and are doing track maintenance by themselves. Referring to the train derailment accident on Thilawa line in the last January, MR is advised to try to level up track maintenance technology further.
- As a next step of technology transfer of track maintenance following the two years training, which JICA is now under examination, training on track and track maintenance suitable for 100km/h train running speed would be one of the appropriate subjects.

JICA Expert Team

- Instead of planning to establish a research institute like JR's RTRI at a single step, it is advisable to start with a small research unit as recommended in the Progress Report.

(2) MR

- As requested by the Managing Director's letter submitted to JICA in January 2015, we would like to have a training for rolling stock maintenance. Training of locomotive drivers is also necessary.
- We appreciate various advices by JICA experts on upgrading of educational institutes of MR. We would like to upgrade the following four trainings sufficiently.
 - Training of managers or supervisors of rolling stock maintenance
 - Levelling up of working skill of maintenance staff
 - Training of instructors
 - Training of locomotive driversIn upgrading the above trainings, training rooms contributed by Sumitomo Corporation could be effectively made use of.
- New locomotive depot at Nay Pyi Taw was completed, and a space for training was secured in the depot. MR would like to get Japanese support in installing sufficient training facilities there.
- MR does not have sufficient training facilities/ equipment for modernized signaling system. We would like to get Japanese support for this matter.

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(3) MR

- This Project does not provide sufficient training of operation and commercial staff such as station master or station staff for levelling up safety and service of MR. If the commercial staff loads too much cargo on the wagons, it may cause dangerous situations. We would like to have trainings for commercial staff for levelling up safety and service of MR.

JICA Expert Team

- We explained to MR's trainees how commercial staff of JR East are tackling with train operation safety in "Institutional Management Improvement Course" held in Japan. Further the interview survey of customer's satisfaction level about MR's passenger transport was executed in the last February on the express and local trains between Yangon and Nay Pyi Taw, and the results are presented in the Progress Report, May 2014. These may be usefully referred to with respect to how the commercial staff should be trained for improving safety and service level of MR.

(4) MR

- We appreciate various advices by JICA experts on how to upgrade RTTC and CITC. RTTC was established about 30 years ago, and CITC was founded in 1972 at Yangon and shifted to Meiktila about 35 years ago. We want to upgrade these institutes. Deputy Minister of Railway Transportation is planning to upgrade CITC. The president of CITC is a very senior person, at the same level as Managing Director of MR or the rector of an university. With respect to RTTC, Germany's GIZ (the former GTZ) is scheduled to visit RTTC this March for examining upgrading of RTTC in Ywataung Locomotive Workshop.
- We are planning to establish training facilities in Insein Workshop. These training facilities would be used not only for training of rolling stock maintenance, but also for training of handling/ maintenance of various kinds of machinery and electric equipment.
- There are many kinds of track maintenance machines. We would like to be advised on which machines are most suitable for MR.
- We submitted the letter signed by Managing Director to JICA, in which various requests are listed with priority, such as maintenance of rolling stock, how to install sanitary system in coaches, advice for planning an appropriate railway network connecting Yangon Port, Thilawa Special Economic Zone, Dry Port, and mechanization for track maintenance, etc. We should be grateful, if JICA could kindly explain the future possible cooperation with respect to these requests.

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9. Closing Speech

9.1 Chairman, Managing Director, U.Thurein Win

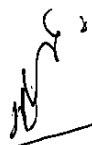
In this JCC, the members discussed the progress of the Project and also the future possible cooperation relating to the Project. We, MR, would like to express appreciation to all the members concerned of JICA and MR for their earnest cooperation for implementing this Project. MR would like to continue improving safety and service level of MR under close cooperation with JICA and JICA experts.

9.2 JICA Expert Team, Leader, Dr.S.Kuroda

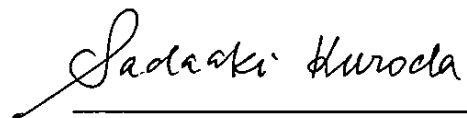
It is expected that cooperation between MR and Japanese railway experts would be continued for 10-20 years from now on, through execution of the modernization projects of Yangon-Mandalay line and Yangon Circular line. In this regard, we, Japanese railway experts would like to continue close cooperation with MR experts hereafter. In this JCC, various requests to JICA have been presented. These requests will be recorded in the Minutes of Discussion, and will be conveyed to JICA. Lastly we would like to express appreciation to all the members of JCC for their useful discussion.

March 19th, 2015

Nay Pyi Taw



U Thurein Win
Managing Director
Myanma Railways



Dr. S.Kuroda
Leader of JICA Expert Team

Minutes of Discussion
7th JCC for “The Project on Improvement
of Service and Safety of Railway in Myanmar”

1. DATE 17 July, 2015 10:00am~12:20am

2. PLACE Meeting Room of Myanma Railway Headquarters

3. ATTENDANTS
 - 3.1 Myanmar side

Myanma Railways

Managing Director	U Thurein Win
GM (Technical & Admin)	U Aung Win
GM (Civil)	U Tin Soe
GM (Mechanical & Electrical)	U Win Oo
GM (Commercial)	U Aung Myint Hlaing
Deputy GM (Admin & Planning)	U Htaung Sian Kan
Deputy GM (Civil)	U Than Htay
Deputy GM (Civil)	U Maung Maung Thwin
Deputy GM (Operating)	U Htay Myint Aung
Deputy GM (Signal & Telecommunication)	U Khin Maung Thein
Deputy GM (Finance)	Daw Thi Thi New
Assistant GM (Planning)	U Thein Myint
Assistant GM (Operation/Division-7)	U Tint Wai
Assistant GM (Civil/Division-7)	U Tin Myint
Assistant GM (Mechanical/Division-7)	U Aung Kyaw Naing
Manager (International Relationship)	U Phyo Htet Kyaw
Railway Policy Advisor Mr. M.Higashi	

 - 3.2 Japan side

JICA Headquarters	Ms. S.Tanaka(Director)
	Mr. K.Kuramoto
JICA Myanmar Office	Ms.Ayumi KIKO
JICA Expert Team	Mr. N.Matsuo(Leader)
	Mr. M.Takami(Deputy leader, Bridge maintenance)
	Mr. H.Komatsu(Track maintenance),
Interpreter	U Than Daing Soe

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4. SUBJECT Explanation and Discussion of Progress Report

5. HANDOUTS Progress Report
Power Point for explanation

6. Opening Speech by Chairman U Thurein Win

This project is the first technical support by JICA, and two years have passed since commence of the training in the pilot section between Yangon and Bago. We have hold JCC 6 times till now. This JCC is the 7th.

Workshops in Japan have already been implemented for 3 groups, 33 persons, and in Myanmar have already trained over 500 persons.

We appreciate JICA for supporting safety and service level improvement of MR.

We will continue to cooperate with JICA Expert Team.

7. Speech by Tanaka

Yesterday I went to see track maintenance site. This project is highly regarded in JICA and extended to March in 2016. Continuation of track maintenance, outsourcing of track maintenance work and bridge maintenance are added as new items. I hear the number of trainee of track maintenance will be 600.

I hope to be well by themselves in each division.

8. Presentation of progress report by JICA Expert Team (Leader N.Matsuo & Deputy Leader M.Takami)

9. Discussion by all JCC Members

MR : We are very useful for track maintenance and lectures and would like to support for trainees.

When can we get results of strain gauge at the speed increasing test ?

JICA : It takes two months to analyze speed increasing test. It is important to exam how much speed we can operate safely by 75lb Rail. We may show the result of outline at next JCC and we can show detailed results about the speed increasing at last JCC. Weak point of 75lb Rail is strength of fishplate. We are planning to prepare new fishplate. We would like to show proper speed in this test. And we would like to prove limited maximum speed at turnout.

MR : It is no problem to have a meeting once a month about outsourcing. Which is good

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place to have a meeting, Yangon or Nay Pyi Taw ?

JICA : Yangon is better. We would like to connect with counterpart in detail.

MR : Are Inwa, Sittaung and Gote Htate all pilot bridges ?

JICA : These are not pilot bridges. The express of power point is not good. Later, we will change new one. Pilot bridge is only one.

Regarding Inwa, Sittaung and Gote Htate, we only plan to survey and investigate for grasp of the soundness of the bridge and suggestion of maintenance method.

MR : There are 3 type of bridges, Truss, Plate Girder and PC. About Truss and Plate Girder, there are more than 100 bridges which were constructed over 100 years ago. We want you to choose No.13 bridge(Ngamoyeik).

JICA : No.13 bridge had already surveyed before at other project. The purpose of technical transfer is not construction but level up of bridge maintenance. So we think that pilot bridge is small one whose structure is typical in MR near Malwagon Bridge factory. We are planning that trainees will be able to judge how to maintain by themselves.

MR : We want to add DGM Maung Maung Than as a counterpart.

JICA : We agreed that counterpart on site is Tin Myint and counterpart of headquarters is Maung Maung Than.

MR : We think that there is no difference of 50N Rail and UIC54 (EN54) Rail. We are planning that we use the rail of UIC Standard, too. In using UIC54 (EN54) Rail, we would like to consult for advice. But Rehabilitation Project between Yangon and Mandalay cannot help using all 50N Rail because of Yen Loan. (At first, we adopted 37kg Rail between Bago and Tatkon.)

JICA : We shall discuss this matter.

MR : We hope to have a lecture not only sanitary system but also making rolling stock clean.

JICA : We would like discuss this matter another chance .

MR : We want to expand technique of safety and service to each division about track maintenance. Bridge maintenance has been mainly conducted by visual inspection and painting. We have more than 10,000 bridges and want to learn how to

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maintain. We want to improve the condition of discharge about sanitary system.

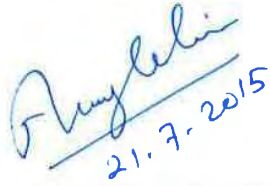
JICA : Budget and period are limited because this technical cooperation project is free of charge. There are many requests. But we think track maintenance is the first priority of this project. In addition to this project, there are OCC, rehabilitation of Y-M and Circular line. JICA project is proceeding in Myanmar. So we want to conduct step by step with deciding priority. First of all, we try to get maximum effects concerning this project about additional items. We want to exam what we can do about bridge and sanitary system on rolling stock. Please consult with JICA Expert Team.

10. Closing speech by chairman

MR would continue the cooperation with the effective implementation of the Project as much as possible MR would like to express the appreciation for the effort of JICA and JICA Expert Team to improve the safety and service level of MR.

July 17th , 2015

Nay Pyi Taw



Handwritten signature of U Aung Win in blue ink, with the date 21.7.2015 written below it.

For Managing Director
U Aung Win
General Manager
Myanma Railways



Handwritten signature of M. Takami in blue ink.

For Leader of JICA Expert Team
M.Takami
Deputy Leader of JICA Expert Team

Minutes of Discussion
8th JCC for "The Project on Improvement
of Service and Safety of Railway in Myanmar"

1. DATE 29th October , 2015 14:00~16:20

2. PLACE Meeting Room of Myanma Railway Headquarters

3. ATTENDANTS

3.1 Myanmar side

Myanma Railways

GM (Technical &Admin)	U Aung Win
GM(Inspection)	U Ba Myint
DGM (Civil)	U Than Htay
DGM (Civil)	U Mg Mg Thwin
DGM (Signal & Telecommunication)	U Khin Maung Thein
DGM (Coaches)	U Win Naing
DGM (Passenger)	U Kyaw Kyaw Myo
DGM (Finance)	Daw Thi Thi Nwe
AGM (Operating)	U Tint Wai
AGM-Division7 (Civil)	U Tin Myint
AGM-Division7 (Mechanical & Electrical)	U Aung Kyaw Naing
AGM(Division)	U Kyaw Htoo
ATM-Division7 (Operating)	U Nyi Nyi Lwin

3.2 Japan side

JICA Myanmar Office Mr. Akihito SANJYO

Ms. Ayumi KIKO

JICA Expert Team Mr. Nobuyuki MATSUO (Leader)
 Mr. Mitsuru TAKAMI (Sub-leader, Bridge maintenance)
 Mr. Hiroshi KOMATSU (Track maintenance)
 Mr. Tomohiro AIZUKI (Equipment)

Sumitomo Corp. Mr. Yuichi TANIGUCHI

Interpreter U Than Daing Soe

4. SUBJECT Explanation and Discussion of Progress Report

5. HANDOUTS Progress Report
Power Point for explanation
Appendix-1, 2, 3

6. JICA Expert Team (Explanation)

Matsuo, Takami and Komatsu explained activities with ppt.

Main Contents

- Sanitary system on Rolling Stock
- Track record (From July to Oct.)
- Measurement of rail stress and Train Running Test (Including prompt result)
- Outsourcing of track Maintenance (Contents of meeting)
- Bridge Maintenance (Lecture and survey on site, etc.)
- Additional equipment (Tie Tamper, Rail Jack, etc.)
- Schedule plan (We will conduct track training (Especially turnout) near Yangon Sta. till December.)

7. Main Q&A

(1) MR

- Toilets in Myanmar are discharging. There are problems about sanitation and bridge maintenance. So we would like to consider continuously.
- We inspect bridges regularly. We learned that priority rank of maintenance is needed.
- 2 years have passed since this project began. There are many problems yet. We want to consult how to proceed.
- Over 500 people have participated in track maintenance and effects have appeared. We are going to use machine. People with higher position in each division participate in track maintenance, too.
- We will contract about outsourcing.

About fishplate

JICA Ex : We will give the drawing and want MR to make fishplate in Myanmar.

MR : We understand that fishplate from Japan is stronger than existing one.

In case of production, data, drawing and spec of iron are needed.

JICA Ex : We will submit them with data of test running.

MR : Do you bring these fishplates for BS75 rail in Myanmar ?

JICA Ex : Yes, we do.

About turnout

MR : We are planning that passing speed of turnout will be 100km/h in the future.

JICA Ex : we thought that parts of sharpening rail in main line was weak points.

As a result of test, there were no differences by speed. We think that there are no problems of production of turnout. We will write a report that which turnout is better.

About vibration test

MR : As a result of 60km/h, vibration is big. Which is the reason, short length rail or less rail pad ?

JICA Ex : Influence of joint by short length rail is big. Except 50N Rail section, BS75 Rail are used and we think influence may appear in this section.

If you change from existing rail to new one, vibration will be little.

We didn't measure roadbed under the ballast. We felt roadbed was soft.

We made drain in some parts of soft ground. Roadbed must need to be inspected at the speed up.

MR : Size of ballast is inappropriate. There are less rail pad. There are many junctions. These are all weak points. We are thinking that rail joint will be welded.

About outsourcing

MR : We begin to outsource track maintenance between Bago and Mawlamyine. This case is Joint Venture of Myanmar and China. Machine is made of Europe. We are glad to get advice from Japan.

About equipment

MR : We deeply appreciate additional equipment and also requested for achieving Portable Track Recording Equipment for MR.

Others

JICA Ex : We would like to set up a meeting about technical matter another time.

We want many MR staff to use machine because new equipment will arrive in Myanmar.

We are going to proceed training of track maintenance till December..

We want MR to prepare ballast, clip, wooden sleeper and PC sleeper.

(Especially, ballast and wooden sleeper)

MR: We will prepare them.

MR : There are many accidents in Myanmar. So we hope to happen no accidents.
There was a machine which could measure track quality. Now there is
no one. So we want such a machine.

JICA : We are very glad to discuss every time. There are many requests from MR.
It is very important to hear opinion. We would like to hear requests
separately. We feel that it is important to train human resources through
technical cooperation.
We think that it is good way to make a presentation from MR next time.

29th Oct. 2015

Nay Pyi Taw

U Thurein Win
Managing Director
Myanma Railways

Nobuyuki MATSUO
Leader of JICA Expert Team

Minutes of Discussion
9th JCC (Final JCC) for “The Project on Improvement
of Service and Safety of Railway in Myanmar”

1. DATE 29th January , 2016 10:00~12:30
2. PLACE Meeting Room of Myanma Railway Headquarters
3. ATTENDANTS
- 3.1 Myanmar side
- Myanma Railways
- | | |
|------------------------|---------------------|
| Managing Director | U Thurein Win |
| GM (Technical & Admin) | U Aung Win |
| GM (Civil) | U Tin Soe |
| GM (Finance) | U Maung Maung Lwin |
| DGM (Civil) | U Maung Maung Thwin |
| DGM (Planning) | U Htaung Shian Khan |
| AGM (M & E) | U San Aung |
| AGM (Operation) | U Tint Wai |
| AE(S & T) | U Thet Naung Win |
| Manager (planning) | U Phyo Htat Kyaw |
- 3.2 Japan side
- | | |
|------------------|--|
| JICA Head Office | Ms. Satoko TANAKA |
| | Mr. Yusuke Taguchi |
| | Ms Maki TSUMAGARI (IMG) |
| JICA Expert Team | Mr. Nobuyuki .MATSUO (Leader) |
| | Mr. Mitsuru TAKAMI(Deputy Leader / Bridge Maintenance) |
| | Mr. Hiroshi KOMATSU |
| | (Railway Administration and Management) |
| | Mr. Tomohiro AIZUKI |
| | (Procurement of Equipment and Materials) |
| Sumitomo Corp. | Mr. Yuichi TANIGUCHI |
| Interpreter | Ko Sonny |
4. SUBJECT Explanation and Discussion of Draft Final Report
Sign of Evaluation Report

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5. HANDOUTS Draft Final Report

Power Point for explanation

6. Opening speech by U Aung Win

- Instead of Managing Director, I'll make an opening speech.
- This project is the 1st support for MR from Japanese Government.
- It has been 2 years and 4 months since training began at the pilot section.
- This is the 9th JCC, and we hold JCC to implement the project smoothly.
- We delegated 33 persons(11persons, 3times) to Japan to learn maintenance and management of railway.
- 45 persons of MR staffs received workshop and training of safety and service.
- 574 persons of MR staffs received on-the-job training for track maintenance.
- Three kinds of textbooks were made in both Japanese and Burmese and distributed to 60 staffs.
- Each staff finished OJT went back to his workplace and utilizes technique.
- We hope to discuss freely at this JCC.
- MR is going to tackle with rehabilitation of Yangon-Mandalay line and Yangon Circular line by making effective use of this project.
- We deeply appreciate technical support in this project.

7. Speech by Ms. Tanaka

- This project is very important for MR to improve safety and service.
- The period of this project was 2 years from May 2013 and then extended for 10 months.
- The other day, track maintenance on site finished by follow-up training.
- The purpose of this JCC is the explanation of Draft Final Report and Terminal Evaluation.
- At the time of Terminal Evaluation, JICA is supposed to evaluate whether or not the project purpose set up at the beginning can be accomplished at the end of the project.
- Therefore, JICA organized a Joint Evaluation Team, and Ms. Tsumagari came to Myanmar and interviewed with the MR staffs concerned.
- Members of the Joint Evaluation team are U Aung Win, U Tin Soe, U Maung Maung Thwin (on Myanmar side), Ms. Tanaka, Mr. Taguchi and Ms. Tsumagari (on Japanese side).
- The evaluation result is good and positive.
- JICA want to ask MR for the following 2 points.
 - ① We strongly request MR to distribute additional equipment to each division so that the trainees all over Myanmar can surely use them.

② We want MR to collect and arrange indexes of safety and service condition continuously to confirm the effect of this project.

- I want to sign Evaluation Report with Managing Director at the end of JCC.
- I express gratitude for MR and JICA Expert Team.
- We hope that the trainees who completed the training course are doing well in their fields, and the results of this project are utilized in rehabilitation and modernization of Yangon-Mandalay line and Yangon Circular line as U Aung Win said.

8. JICA Expert Team (Explanation)

Matsuo explained activities from May 2013 to now with ppt.

Main Contents

- Basic plan of Project Implementation
(We explained index of overall goal and want MR to confirm them continuously)
- Project Implementation Organization
- Final Reporting of the Project
 - Recommendation of technical standards 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
 - Bridge maintenance training
 - Others
- Major issues to be tackled with, good schemes for better implementation, lessons obtained through implementation

9. Discussion by all JCC members

U Tin Soe

- This project's Workshop and equipment about civil engineering are our treasures.
- These things had not be conducted for 30 years of my carrier in MR.
- Books, textbooks and equipment are useful for us.
- We want to keep equipment preciously.
- We want to teach the contents of this project to engineers from management-level to on-site workers all over Myanmar.
- The number of Bridge engineers is not sufficient for enough maintenance.
- There are more than 1,000 bridges which are more than 60 feet long.

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- These bridges are maintained by Malwagon Bridge Depot engineers.
- We couldn't inspect all bridges but some bridges per year.
- There are some inspection records for main bridges.
- Though inspection as Japan does can't be implemented, simple checks with eyes have been completed.
- Now, the number of engineers is not sufficient, so that bridges can't be maintained in good condition.
- If serious deterioration is found through inspection, we cannot help restricting train operation speed because of lack of budget.
- Budget of bridge above mentioned is 30-40 million Kyat. Not all the bridges can be repaired in one year. We are going to request more budget next year.
- In the above-mentioned situation, bridge maintenance trainees were glad to participate in the training, I gave staff instructions to keep continuing.
- The persons who have rich experience of civil engineering training (U Tin Soe, U Maung Maung Thwin, and U Myint Lin (former Vice President of CITC)) would try to educate other civil engineers.
- If problem arises, we would like to ask for Japan's support.
- We are going to try to level up bridge maintenance for civil engineers of 500 persons in MR.
- We want to make management level engineers receive workshop for training.
- There are no places to teach railway technology in Myanmar, so that new employees don't know railway technology at all. They learn it through their actual work.
- We want JICA to teach instructors in Meiktila and engineers from upper to lower if possible.
- I have 60 subordinates of engineer. But only 3 subordinates can teach technique.
- MR staffs who had been in Japan for 2 and a half months know very well.
- If we have enough money next year, we would like to buy equipment.
- We are very glad if there are supports from JICA before this.
- There are 70 track maintenance groups in the whole country. 4 pieces of Tie Tamper are 1 unit. So we would like to ask for 280 pieces of Tie Tamper to distribute all groups if possible.

U Aung Win

- Safety and Service are very important items.
- 139 years have passed since railway opened in Myanmar.
- Facilities and equipment in all fields are aged.

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- Length of commercial line was 3,100 km in 1988, but it is more than 6,000 km now.
- On the other hand, the number of employees has been decreasing. The number of staffs in every 4 miles changed from 10 to 4.
- We couldn't buy equipment.
- MR has been spending its budget on new line construction, so that maintenance for existing railways was weakened.
- We had been using wooden sleepers, but wooden sleepers were changed to PC sleepers recently. MR should buy new machines for PC sleepers.
- I feel relieved by the level of inspection, after more than 500 trainees received maintenance technology through the workshop of this project.
- We want to make efforts to use textbook in future projects.
- I would like to request workshops about machines such as hand tie tamper for management-level engineers as well.
- I thank Sumitomo Corporation and JICA Expert Team for their supports for 50N Rail.
- I think MR needs long-term support from JICA Expert for the future.

Mr. Komatsu

- Bridge conditions are not as bad as I thought.
- The reason of slowing down is that girder and wooden sleeper are not fixed by hook bolt.
- Hook bolt is often used for turnout, but not so much for bridge.
- We introduced 50N Rail and examined speed confirmation test in October.
- Test section such as this time, we think that PC sleepers can endure the axis load of 20t.
- In detail, we will explain about this at the workshop next week.
- We are thinking that speed-up can be accomplished by MR itself.

Mr. Takami

- The bridge conditions are not as bad as I expected, but some of them are in bad conditions.
- I appreciate MR trainees' earnest and positive attitudes, such as repairing bridges by themselves more than JICA Expert Team taught, and textbook translation into Myanmar language with adding some points JICA Expert Team orally taught.
- I hope MR uses the textbook that U Myat Lin compiled for bridge maintenance training because it is suitable for MR's current conditions.
- I hope this training helps MR to try its best for improving their bridge maintenance

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technology based on their original technology.

- I strongly recommend that MR should modernize equipment and tools in order to improve the bridge maintenance technology, with referring to the Draft Final Report I wrote.

Ms. Tanaka

- I am glad to receive the words “Treasure” from U Aung Win and U Tin Soe. MR is an important partner for JICA.
- We would like to discuss with MR about what kind of support we can do.
- I think MR staffs are earnest, highly conscious and exhibit a positive attitude. I hope MR can do more by itself as Mr. Komatsu said.
- It would be better not only implementing the technology which MR had acquired through this training in actual work, but increasing budget for maintenance.
- We want MR to formally request assistance which is highly prioritized, such as the training for managerial staffs, as MR mentioned.


10. Sign of Evaluation Report

11. Closing Speech by U Thurein Win


- Altogether, I am satisfied with JCC meeting.
- We are going to maintain equipment for a long time and distribute them to all the divisions for sure.
- It was very important to teach what MR staffs should do throughout the project (to collect information, look up problems, take countermeasures and implement, etc.)
- As a result, I think this project was very effective for MR.
- There are still insufficient fields in MR, and we hope that Japan supports us continuously.

29th Jan. 2016

Nay Pyi Taw



U Thurein Win
Managing Director
Myanma Railways



Nobuyuki MATSUO
Leader of JICA Expert Team


3/21/2016