

3.7.40 DF/R に対する MOR コメントの内容及び再提出にかかわる調整業務（10月10日-17日）

2007年10月10日に受領した MOR コメントは、コメント記載内容を額面どおり解釈すると、焦点となっている重要な点に関して JICA 調査の提案を十分斟酌していないものであった。西回廊の電化・非電化問題については IT/R2 以降の進展が全く無く、また環境社会配慮については JICA 調査で環境社会配慮調査を実施した目的・意義すら取り違えたコメントとなっていた。

この回答内容に対して日本側は、2007年10月中旬に予定されていた JBIC の詳細 F/F 協議が無期限に延期されるという事態になった。

統合マネジメントは、11日に Pillai 氏と緊急会議を持ち、内容に関して確認を行った。この会議において MOR 側はコメント作成にあたって十分な時間がなかったために、不適切な表現のコメントになった非を認め早々に修正コメントを作成し再提出ことになった。本件については重要な判断を要するので、Pillai 部長/調査団との主要なやり取りを記しておく。

i) 環境社会配慮 (R&R Policy)/No.11 に関して

調査団： 「JICA の環境社会配慮調査に対して"only for the purpose of information" とあるが、これは文字通りの意味か？」

Pillai 部長： 「これは完全な見落とし。修正したはずと思っていたが時間がなく見落とししていた。昨日はコメントが上がってきたのが朝 10 時で、その後とりまとめをしたが、国会の説明書作成もあったり、ドイツ使節団の対応があたりで……。環境社会配慮調査の重要性は重々承知している……。この一文は削除しなければならない。」(しどろもどろ状態)

調査団： 「このコメントを読んで日本側は MOR 側が環境社会配慮の重要性をまったく認識していなかったと理解し、非常に Upset している。」

Pillai 部長： 「日本側(の心象)にダメージを与えてしまった。どう対応すべきか？総裁にはくれぐれも日本側を Upset させるようなコメントは控えるように申し渡されている。」

調査団： 「第 6 回 SC の MM を Refer して”基本的に JICA 調査の提案に従う”との内容で修正コメント至急出す以外にない。」

Pillai 部長： 「了解した。」

上記のような経緯で環境社会配慮に関するコメントは全面的に修正されることになり、また修正コメントの内容については事前に調査団が目を通すことになった。

ii) Additional Cost・・・/No.12 に関して

調査団： 「このコメントの意図するところがわからない。電気機関車調達は DFC Project スcope外であり、DFC では機関車調達を行わないという意味か？ JICA 調査で提案している最新の信号やき電システムは採用しないという意味か？」

Pillai 氏： 「そのような意図はまったく無い。このコメントは単にインド側の事業費積算と JICA 調査での事業費積算の差異について解説しただけ。インド側で考慮されていなかった要素が JICA 調査の積算では加わっているので、それを特定するとともに、そうした付加的要素を除外すると、両者の事業費積算に大きな差は無い、ということを行っている」

上記説明とコメントから判断すると、今回の MOR コメント表は以前に MOR が省内説明用に独自作成した内部資料（JICA 調査と PETS との差異を解説したもの）をベースに作成したものであると推測された。ベースとなっているのは IT/R2 の段階において作成した内部資料と推測され、それに手を加えて今回のコメント表になった可能性があり（Pillai 氏は否定したが）、内部説明用の記述が十分に修正されずにコメントとして出てきたため、No.12 のコメントのように意図不明なコメントがいくつか含まれていた可能性が大きいことが判明した。

以下のコメントもこれと同じ背景が考えられた。

iii) 踏切の自動化による改良/No.6

iv) ROB のプロジェクトからの除外/No.13

上記コメントに対する Pillai 部長の説明は以下の通りであった。

Pillai 部長： 「DFC に整備に伴い踏切を全廃するのが MOR の方針であることを Remind しただけ。DFCCIL も踏切の全面的 ROB 化は不可能とっており、基本的に JICA 調査団とその点の認識は同じ。ROB 化されずに残存する踏み切りの改良方法については継続協議としたい。JICA 調査団の提案するシステムはインドのバンダリズムに対して適合するか疑問。踏み切りの ROB 化は JICA 調査の提案どおりインド側資金で実施することで問題ない」
「このようなことをコメントに十分反映する時間的余裕がなかった」

v) 西回廊の 2 段積みコンテナ（DSC）輸送 /No.2

調査団： 「Flat Type の安定性が技術的に十分立証できれば調査団もこの案を支持できる。RDSO の検討結果、試験結果がコメントと一緒に調査団側に提供されるはずであったが？」

Pillai 部長： 「RDSO は最近試験場での実験も含めて Flat DSC の検証を行っており、そのレポートは現在 RDSO 内で決裁を受けている。いつ調査団側に提供できるかは来週月曜日までに返答する」

vi) No.3 西回廊の機関車牽引システム

調査団： 「電化＋DSC のシステム採用は実証試験の後で採用検討となっているが、実証試験を具体的に実施する計画はあるか？」

Pillai 部長： 「電化が経済的にも環境面でも有利であるのは MOR（総裁ともいっていました）も理解している。ただし Flat DSC を前提にすれば世界で前例の無い高さに電車線が張られることになるので、実証試験なしに意思決定はできないことを理解してほしい。試験実施はまだ具体的に決まっていなかったが、20－30km の試験線を設けて実施する予定」

統合マネジメント G は 2007 年 10 月 15 日に Verma 顧問と修正コメントの内容に関して協議を行い、問題となっているコメントについて修正案を提示し、MOR 側の基本的了解を得た。修正コメントも Railway Board の決裁（Member Traffic および総裁）が必要であり、修正コメントの最終化を MOR 側に託し、その提出を待った。

修正コメントは 2007 年 10 月 17 日の夜に調査団側に再提出された。

nIndo-Japan

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

No.2006/Infra/32/1

New Delhi, dated 17.10.07

To

Team Leader,
JICA Study Team,
Gurgaon.

Dear Sir,

Sub:- Ministry of Railways Remarks on the Draft Final Report.

Kindly refer this office letter of even number dated 10.10.2007 and JICA's letter No.PMU-OG-0098 dated 16.10.2007. The clarifications on items-2, 3, 6, 11, 12 & 13 are enclosed. These may be treated as the remarks for the concerned items.



(Girish Pillai)
Exec.Dir.(Perspective Planning),
Railway Board.
Tel/Fax: 23389101

**Clarifications of Ministry of Railways on Certain Items of JICA Draft
Final Report sought by JICA**

SN	Issue	Comments of Ministry of Railways
2.	Double stack container system for Western Corridor	Double stack container on Indian Railways is in operation on flat wagons at 75 kmph. Trials have been conducted for enhanced speed and axle load. The flat wagons on broad gauge system have inherent advantage of better stability as compared to standard gauge. Trials conducted recently by Indian Railways indicate that double stack container movement on flat wagons is stable even at higher speed. The preliminary findings have been made available to JST. The final results will be made available to the JST as soon as they are finalised. The movement on flat wagons has inherent advantage in terms of higher through put and reduced unit cost per TEU. MOR would further like to clarify that DSC with flat-type wagon or with well-type is not linked with choice of traction as in both cases OHE design will be new having OHE height more than the existing one today on IR.
3.	Electric traction for Western Corridor	Ministry of Railways has taken note of JST study results confirming the economic and environmental advantage of the electrification system. Ministry of Railways has taken a decision on Maximum Moving Dimension for DFC routes which will take care of OHE requirement at a later stage. Although it is technically feasible to provide OHE for DSC operation on flat wagons as advised by JICA, the design is not a tested one. Ministry of Railways is of the view that electrification of Western Corridor can be considered for implementation only at the stage when tested and technology is proven.
6.	Automatic train detection and alarming system for improving level crossings	Ministry of Railways is of the view that level crossings which justify replacement with ROBs/RUBs as per IR norms should be replaced by ROBs/RUBs. However, it is apparent the conversion of all level crossings into ROBs/RUBs is difficult and this would require further deliberation. The automatic level crossing system recommended in the draft final report is susceptible to vandalism. The existence of level crossings will also create problems of double controlling by gatekeepers for stations on the existing alignment and on the DFC and this would require further examination.
11.	Suggested Re-settlement and Re-habilitation policy (R&R)	Ministry of Railways takes note of the recommendations, mitigation measures, and actions to be taken in terms of environmental and social considerations including the land acquisition and resettlement issues in accordance with the

		<p>results of ESIMMS and series of stakeholder/public consultation meetings conducted in the JICA Study.</p> <p>The land acquisition and resettlement/rehabilitation measures would be as per extant government laws/regulations which cater to RRP's requirements of project affected persons (PAP's). The RRP to be prepared on the basis of the policy/framework given in the JICA report would need further detailing after discussion with relevant state governments to facilitate and ensure smooth implementation as well as to meet requirements of international donors including JBIC for the funded portion.</p> <p>Ministry of Railways notes the recommendation of the JICA report to conduct the Stakeholder/Public Consultation Meeting, at least one time, at district level or lower administrative level along the DFC Projects for the funded portions to explain about final project feature decided in accordance with result of the final location survey to the project affected persons.</p>
12.	Additional cost on electric locomotives, financial interest during construction, price escalation, physical contingency, electrical engineering, civil engineering and S&T cost	<p>Ministry of Railways notes that the total project cost as per JST report includes cost of items such as electric locomotives, advanced signalling systems (CTC etc.) electric engineering (2x25kV), ICD, price escalation, and financial interest during construction, which have not been taken as part of the project costs as per the DFC project formulation. Inclusion of such items in the cost estimate have given an additional financial impact of approximately Rs.20,000 crore to the project. Hence MoR considers that there is no significant difference in project cost estimates prepared by JST and RITES.</p>
13.	ROB not included in the project cost	<p>Ministry of Railways is of the view that those level crossings which justify replacement by ROB/RUB as per Indian Railway norms should be replaced by ROB/RUBs.</p>

統合マネジメントの判断としては、同コメント調査団側で受領したままで F/R の手交式を行うのはインド側に有利な状況を与える可能性があると考え、修正コメント受領した翌日 18 日（手交式の前日）に MOR 側コメントに対する調査団の見解書を MOR に公式に提出した（次頁）。

**The Feasibility Study on the Development of
Dedicated Multimodal High Axle-Load Freight Corridor with Computerized Control
For Delhi-Mumbai and Delhi-Howrah
JICA STUDY TEAM: NIPPON KOEI – JARTS - PCI**

Our Ref. No. PMU-OG-0099
Letter Fax

Your Ref No.

Date: 18th October, 2007
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To

Shri Girish Pillai,
Executive Director (Perspective Plg.),
Ministry of Railways
(Railway Board),
New Delhi.

Sub: Comments of the JICA Study Team on the remarks on Draft Final Report and subsequent clarifications on Item Nos. 2, 3, 6, 11, 12 & 13.


Ref: Ministry of Railways' letter No. 2006/Infra/32/1 dated 10th October'07 and 17th October'07.

Dear Sir,

The comments of the JICA Study Team on the remarks of MOR on Draft Final Report and subsequent clarifications on Item Nos. 2, 3, 6, 11, 12 & 13, given vide their letters referred to above, are enclosed for your kind information and necessary action.

Kindly acknowledge receipt.

Yours faithfully,


(Minoru Shibuya)
Team Leader,
JICA Study Team

Copy to:

JICA INDIA, New Delhi.

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Remarks from Ministry of Railways on JICA Draft Final Report and Response from JST

As of October 18th 2007

SN	Issue	Remarks from Ministry of Railways *1)	JST Response to MOR's Remarks
1.	Phasing of Project	Phasing is a part of any project implementation. However, it is clarified that the basic purpose of the project is connecting ports on the west-coast to the northern hinterland through Western Corridor and connecting production centres in the East to the consumption centres in the North through Eastern Corridor. Any phasing is acceptable so far as it does not compromise this basic principle. Phase1(a) does not include Khurja-Dadri rail link. The link will be required for moving north bound coal traffic from eastern region. At Khurja, the junction arrangement will be needed in Phase-1(a) between the existing Dadri-Khurja section and DFC. Expenditure on this junction arrangement will be avoided if Khurja-Dadri is made part of phase-1(a).	The implementation of Khurja-Dadri section in Phase-1a cannot be justified due to the following reasons: - DFC terminating at Dadri and stopping coal transport trains there can not be justified from the view point of actual freight movement. - The comment contradicts to the basic concept of DFC that coal transport from Khurja detouring NCR via Kalanaur. - The track tripling works of the existing section is ongoing between Ghaziabad and Khurja, which would result in the increase of line capacity of that section to accommodate additional traffic in near future. - Even if DFC is terminated at Khurja, the accessibility to existing lines and junction arrangement is envisaged to be not difficult. (Guideline Design of JST addresses this issue.)
2.	Double Stack container system for Western Corridor	Double Stack container on Indian Railways is in operation on flat wagons at 75 kmph. Trials have been conducted for enhanced speed and axle load. The flat wagon on broad gauge system has inherent advantage of better stability as compared to standard gauge. Trials conducted recently by Indian Railways indicate that double stack container	1) JST could agree technical feasibility of the Flat Wagon DSC operation if its stability can be confirmed sufficiently. The preliminary findings with technical documents done by RDSO were provided from MOR to JST. According to JST's quick review of it, we regret to say that the document does not sufficiently prove

SN	Issue	Remarks from Ministry of Railways *1)	JST Response to MOR's Remarks
		movement on flat wagons are stable even at higher speed. The preliminary findings have been made available to JST. The final results will be made available to the JST as soon as they are finalised. The movement on flat wagons has inherent advantage in terms of higher through put and reduced unit cost per TEU. MOR would further like to clarify that DFC with flat-type wagon or with well-type is not linked with choice of traction as in both cases OHE design will be new having OHE height more than the existing one today on IR.	stability of DSC on flat wagon. There are many factors which affect the stability such as track including maintenance criteria, bogie design, loading conditions, crossing wind, running speed, etc. In general, each factor should be examined through technical analysis, bench tests, wind tunnel tests, running tests under various conditions. The received materials do not show such methodology. And inadequate examples may conduct wrong conclusion. Therefore, JST wish to receive, as soon as possible, more elaborated material from MOR that proves the stability and safety of DSC on flat wagon operation. It shall be noted that; i) Flat-type DSC experience of USA referred to in the document is the one which loads very low height (H=1,943mm) non-ISO containers, and can not be applied as proven technology for DSC system with ISO containers. ii) The Flat-type DSC experience of Australia referred to in the document is the one with condition that the maximum allowable centre of gravity ARL is only 2.5 m which can not be used as proven technology for DSC system with ISO containers. MOR is requested to provide JST with the final result as soon as possible

SN	Issue	Remarks from Ministry of Railways *1)	JST Response to MOR's Remarks
			2) JST fully appreciates the MOR's clarification that DSC with flat-type wagon or with well-type is not linked with choice of traction.
3.	Electric traction for Western Corridor	The Ministry of Railways has taken note of JST study results confirming the economic and environmental advantage of the electrification system. Ministry of Railways has taken a decision on Maximum Moving Dimension for DFC routes which will take care of OHE requirements at a later stage. Although, it is technically feasible to provide OHE for DSC operation on flat wagons as advised by JICA, the design is not a tested one. Ministry of Railways is of the view that electrification of Western Corridor can be considered for implementation only at the stage when tested and technology is proven.	1) JST and MOR have the same consideration that electrification with Well type DSC operation, which is proposed in PETS II for eastern DFC, needs no experimental test for introduction in Western DFC, since the Well type DSC operation is well proven in the world. 2) JST acknowledges the intention of MOR to carry out trial test for electrification with Flat type DSC operation. The trial test is required to be implemented as early as possible. Provision of concrete plan for tests operation is requested, if any. 3) The testing is considered to be simple enough for its immediate execution. The test tracks can be provided by installing OHE over non-electrified lines that are planned for electrification.
4.	Container transportation system for Eastern route	Ministry of Railways agrees to the JICA recommendations.	JST acknowledges the remarks from MOR.
5.	Loop Length	Ministry of Railways is of the view that 1500 m loop length will be required for moving longer trains. Ministry of Railways is however open to the idea of initial implementation with 750 m loop with provision in the plan for extension to 1500 m.	JST acknowledges the remarks from MOR.
6.	Automatic train detection and alarming	Ministry of Railways is of the view that level crossings which justify replacement with	JST understood that the following points were confirmed through clarification meetings with MOR

SN	Issue	Remarks from Ministry of Railways *1)	JST Response to MOR's Remarks
	system for improving level crossings	ROBs/RUBs as per IR norms should be replaced by ROBs/RUBs. However, it is apparent the conversion of all level crossings into ROBs/RUBs is difficult and this would require further deliberation. The automatic level crossing system recommended in the Draft Final Report is susceptible to vandalism. The existence of level crossings will also create problems of double controlling by gate keepers for stations on the existing alignment and on the DFC and this would require further examination.	1) In line with the understanding of JST, MOR is not considering the conversion of all level crossings into ROBs. 2) Implementation of the construction of the ROBs using finance from international lending agencies will need basic design and environmental impact assessment for respective ROBs. 3) JST explained that replacement of existing level crossings with ROBs is not such a project to be implemented incidentally with DFC but a remarkably huge project to be implemented independently. 4) The method for improving the level crossings that will remain will be decided after further deliberation in the next stage, also taking into consideration recommendations made by JST as one of possible option
7.	New railway line for connecting TKD ICD	JICA report has indicated substantial volume of container traffic required to be moved to/from TKD. Connectivity to ICDs from DFC will be market driven and on projected traffic. As and when plans for new ICDs in NCR region are finalized by private container operators, the decision to connect TKD ICD can be suitably reviewed.	JST acknowledges the remarks from MOR.

SN	Issue	Remarks from Ministry of Railways *1)	JST Response to MOR's Remarks
8.	Price Escalation	Although price escalation has been taken in the JICA estimate, it is not clear whether the revenue stream based on the available traffic rate and the working expenses have also been escalated for calculation of FIRR.	The calculation for FIRR usually does not consider price escalation nor changes in the value of money. Thus JST did not consider in the calculation of FIRR.
9.	Freight fares for commodities	The freight fare of commodities as listed in the JICA Report does not match with the present Indian Railway Freight Tariff Table. The same may kindly be cross checked.	The source of information of the freight fare applied in the DFR is information contained in the web page of the Indian Railways. (Source of information is mentioned in the DFR.)
10.	Cost Per TEU km for well type wagon is same that of flat type wagons	The tare weight of well type wagon has been taken as 18.6 tonne although it is 21.8 tonne in China on standard gauge. Factoring the proper tare weight for well wagons, cost components on account of energy cost and O&M cost will go up by 10.7%. Also, 34 wagons have been taken in one rake of well type wagons whereas only 32 can be accommodated in existing lop line. The locomotive requirements for clearing the same volume of traffic with well type wagons will also be much more. In view of this, the cost per TEU km for well and flat type cannot be the same and may be reconciled.	A 34 wagon rake should be one of possible option since measures such as reducing the diameter of the wheel can be taken. The reasonable number of wagons are considered to be 32 to 34, thus an additional analysis for a 32 wagon train will be added in the final report. However, it was resulted almost same unit cost per TEU for each case, 32 wagons and 34 wagons after cost calculation.
11.	Suggested Resettlement and Rehabilitation policy (R&R)	Ministry of Railways takes note of the recommendations, mitigation measures, and actions to be taken in terms of environmental and social considerations including the land acquisition and resettlement issues in accordance with the results of ESIMMS and series of stakeholder/public consultation meetings conducted in the JICA Study. The land acquisition and resettlement/rehabilitation	1) Strong ownership of MOR/DFCCIL and firm implementation of the actions by MOR/DFCCIL as suggested in the DFR is absolutely required for the success of the Project. 2) It is strongly required that SHM should be held on an as-needed basis in addition to the Stakeholder/Public Consultation Meeting for the explanation of the final project feature. 3) It should be noted that the government

SN	Issue	Remarks from Ministry of Railways *1)	JST Response to MOR's Remarks
		measures would be as per extant government laws/regulations which cater to RRP's requirements of project affected persons (PAP's). The RRP to be prepared on the basis of the policy/framework given in the JICA report would need further detailing after discussion with relevant state governments and district administration to facilitate and ensure smooth implementation as well as to meet requirements of international donors including JBIC for the funded portion. Ministry of Railways notes the recommendation of the JICA report to conduct the Stakeholder/Public Consultation Meeting, at least one time, at district level or lower administrative level along the DFC Projects for the funded portions to explain about final project feature decided in accordance with result of the final location survey to the project affected persons.	laws/regulations are the minimum requirements and measures should not be limited to this extent.
12.	Additional cost on electric Locomotives, financial interest during construction, price escalation, physical contingency, electrical engineering, civil engineering and S&T cost	Ministry of Railways notes that the total project cost as per JST report includes cost of items such as electric locomotives, advanced signalling systems (CTC etc.) electric engineering (2x25kV), ICD, price escalation, and financial interest during construction, which have not been taken as part of the project costs as per the DFC project formulation. Inclusion of such items in the cost estimate have given an additional financial impact of approximately Rs.20,000 crore to the project. Hence MoR considers that there is no significant difference in project cost estimate prepared by JST	JST acknowledges the MOR's appreciation regarding cost estimate.

SN	Issue	Remarks from Ministry of Railways *1)	JST Response to MOR's Remarks
		and RITES.	
13.	ROB not included in the project cost	Ministry of Railways is of the view that those level crossings which justify replacement by ROB/RUB as per Indian Railway norms should be replaced by ROB/RUBs.	It should be noted that implementation of the construction of the ROB's using finance from international lending agencies will need basic design and environmental impact assessment for respective ROB's.
14.	Traffic Projection	JICA team despite additional traffic coming from Delhi-Mumbai Industrial Corridor has assumed the growth rate of container traffic as 10.1% from 2003-21 and 6.9% from 2021-31 for the Western Corridor. These growth rates are variance with the figures suggested by RITES. Also, for Eastern Corridor even though the Executive Summary of JICA report assumes the same traffic as that of RITES, in the main report there is substantial variance from RITES projections in certain time frames.	JST comments are as follows: 1) The understanding of the JST is that the transport demand of the industrial corridor is included in the overall demand, thus the incorporation of comments from MOR will be a double count. Also, since no information regarding the transport demand is available, the projection of the demand cannot be made. 2) The transport volume of coal bases on the same information used by RITES. However, the resulting number of trains will not match with what RITES estimated due to difference in thinking for conversion into number of trains, and allocation method of trains on routes. Particularly, trains merging from feeder lines are not assumed as being heavy axle type, thus the result differs from what RITES had concluded.
15.	Financial Rate of return	The rates of earnings per NTKM applied for revenue calculation appears to be on the lower side. It has been mentioned that IR's freights rates are very high compared with international standards. There is no evident justification to work out the financials at a lower earning per NTKM. Cross	It's a matter of course that the assumption in the value of cost and revenue has a certain range. That is why a sensitive analysis has been conducted and presented in the report to make way for necessary judgements.

SN	Issue	Remarks from Ministry of Railways *1)	JST Response to MOR's Remarks
		subsidization of passenger traffic will continue for some time to come and burden of debt servicing for DFC project will make it difficult to reduce freight tariff for the present. Price escalation on one hand and reduction in tariff projected for calculating project revenues do not provide judicious balance in project appraisal. Indian Railways does not follow inflation accounting.	
16.	New Dedicated Freight Corridor Railway	The suggestion for making New Dedicated Freight Corridor Railway in the Ministry of Railways is not acceptable. The objective of providing single marketing window for DFC customer can be achieved without adding another tier. DFCCIL is already an incorporated company under the Indian Company Act, 1956 having its separate accounting system and balance sheet.	The result of the JICA Study are only recommendations and suggestions to MOR/DFCCIL, and its introduction is up to the discretion of MOR/DFCCIL. In order for the DFC Project to succeed, it is essential that MOR/DFCCIL mutually cooperates and provide expertise according to the role taken by each party. The recommendation made by JST to establish a dedicated unit in MOR is to realise the above. The JST wishes that MOR considers this point in making their decision.
17.	Track Access Charges	Indian Railway will work out Track Access Charges in consultation with DFCCIL. The consultancy on establishing the principle of TAC is under finalization.	JST acknowledges the remarks from MOR.

Note: *1) Remarks from MOR conveyed via letter no. 2006/Infra/32/1, dated 10th October 2007; and letter no. 2006/Infra/32/1, dated 17th October 2007