PUNJAB STATE ROAD SECTOR PROJECT LOAN # 4843-IN

Consultancy Services and Project Preparatory Studies for Package II (Phase II)

Task A7: Industry Consultation Workshops: Summary of OPRC Consultation Workshop #1



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Task A7: Industry Consultation Workshops: Summary of OPRC Consultation Workshop #1

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1 Introduction

1.1 Context of the Summary

The Terms of Reference for this Task are summarised below:

Task A7: Industry Consultation Workshops

30. The Consultant shall support the GOP to conduct 2 workshops with representatives from the industry (contractors) to outline the draft contract strategy and gain feedback from them before producing the final report and submitting it to the GOP

The Opus Technical submission under Task A7 of the Terms of Reference outlined our intention to hold a series of consultative workshops with the Contracting Industry, Consulting Engineers and the Government sector to raise awareness of the concept of performance based road maintenance contracts. The details of this proposal are outlined below:

Task A7: Industry Consultation Workshops

As acknowledged in Task A4, attention to awareness-raising is pivotal to the successful introduction of an OPRC regime. Key PRBDB personnel will have undergone awareness-raising before and during the study tour (Task A5), and these workshops are further opportunity to extend this to the contracting sector and receive feedback on the proposals in the Task A6 reports prior to finalisation.

Critical objectives to be achieved through the organising and running of a series of three workshops are:

- firstly, raising awareness
- · secondly outlining the draft contract format
- thirdly, just prior to short listing, to discuss, in detail the OPRC requirements.

We would also hold a post seminar discussion with the PRBDB, other Government departments and road user groups directly after the first industry workshop to discuss issues relating to asset ownership and any implications relating to the implementation of the OPRC concept.

All workshops will be held in Chandigarh and specific focus will be given to the following aspects:

- Attendees: early attention to be given to developing an invitation list (with PRBDB, referring also to the contractors consulted under Task A4)
- Suggested workshop format developed for each phase as the concepts and the contract documentation become more refined (question times and group inputs to be added-in):



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- Opening address (PRBDB)
- The status of the current project (to let participants understand where they fit in, how feedback may influence decisions etc.) (PRBDB)
- Introduction/Update on progress with OPRC development (including its evolution, the framework, lessons from overseas, etc)
- Approaches to road maintenance planning (including life-cycle costing, predictive modelling, etc)
- OPRC case studies/applications to the Punjab network
- Key issues with introducing OPRC (e.g. data, criteria, payment, etc)
- OPRC from a contractors viewpoint
- Proposed OPRC framework for this Project (including updates on the options considered)
- Workshop discussion on issues raised and feedback from the Contractors.
- Next steps
- Closing summary
- Presentation approaches (noting the need to target the content at the appropriate level and avoid undue technical complexity):
 - PowerPoint presentations, with copies available in both hardcopy and electronic format which will include relevant contact numbers for follow-up or feedback.
 - Identification of suitable reference material
 - Links to existing websites
 - Available videos

1.2 Negotiated Amendments

There were no negotiated changes made to the initial Opus Technical Submission under this Task.



2 Workshop Agenda

DEPARTMENT OF PUBLIC WORKS (BUILDING & ROADS) & PUNJAB ROADS AND BRIDGES DEVELOPMENT BOARD

WORLD BANK FUNDED PUNJAB STATE ROAD SECTOR PROJECT

OUTPUT AND PERFORMANCE BASED ROAD CONTRACTS (OPRC) OPRC CONSULTANTION WORKSHOP #1

CII Convention Centre, Sector 31-A Chandigarh 23 September 2008

AGENDA

09:45 am	Registration
10:00 am	Opening and Welcome
10:30 am	Project Team
10:40 am	Workshop Overview
10:50 am	Project Overview
11:00 am	Getting better Outcome From Our Highway Assets
11:30 am	Tea break
11:45 am	Principles of OPRC
12:30 am	Implementation Issues
01:00 pm	Lunch break
02:00 pm	Group Exercise
03:15 pm	Tea break
03:30 pm	Report to Plenary Session by Each Breakout Group
04:30 pm	Closing Remarks



In addition to this agenda there was a brief 10 minute presentation undertaken after lunch by Mr Rajesh Rohatgi a Transport Specialist from the Works Bank, who summarised the successful outcomes achieved to date from another performance based contract on 180km (approx) section of National Highway. The slides of this presentation have not been included in this summary.

3 List of Workshop Registrants

The workshop was well attended by Contractors, Agency Officials and Consultants.

A complete list of the workshop registrants is included under Appendix 1

4 Workshop Presentation Slides

Printouts of the presentation slides presented have been included under Appendix 2.

A printout of the set of PowerPoint presentations were also provided to the workshop participants, including a copy translated in Punjabi.

All presentations were recorded during the workshop and a copy of this has been placed onto a CD for future reference.

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5 Summary of the Breakout Group Reports to the Plenary Session

5.1 A: Contracting Industry Capacity and Interest in OPRC (Due to numbers two groups were formed to consider this issue)

Group A:

- 1. What do you see as the minimum level of Contractor capability required to successfully manage an OPRC network?
- Experience (yrs): The Contractor should have had at least 10 years experience in all facets of road construction and maintenance. Individual staff dedicated to the project should also have extensive management skills and more than 10 years experience, with preferably at least 2 years working in the Punjab State.
- Financial Capability: The required financial capability should be at least Rs 15 crore.
- Labour: The Contractor should have sufficient resources to be sustainable over the duration of the Contract.
- Plant and Other Resources Contractor should have sufficient Hot Mix Asphalt production capability (60t/hr) and at least two paving machines.
- Management Skills: Management (MBA) with at least 10 years experience
- **Technical Skills:** Technical skills required would be 1 Engineer (B.Tech), 2 Engineers (Dip), Environmental Engineer, and Pavement Designers.
- 2. Identify those aspects of an OPRC that would encourage Contractors to tender:
 - Provision for interest to be accrued on delayed payments
 - 75% of payments to be released within 10 days.
 - Escalation from day 1 of the contract based upon actual price increases
 - Turnover should be taken as the total turnover of all relevant civil works completed during the financial year.
 - All aspects of administration to be transparent and in the public domain
 - Condition survey provided by the Client at the start of the contract
 - Design data provided
 - All payments to be made within 14 days of claim submission
 - Payment schedule to be finalised and submitted during the time of tender.
- 3. Identify those aspects of an OPRC that what would discourage Contractors from tendering:
 - Assessment of performance should not be discretionary
- 4. List the advantages and disadvantages of using smaller local Contractors verses larger national/international Contractors:

Advantages of the smaller local Contractor are:

- They reside in the State
- Are answerable to the local community



- Well versed with the issues of the local network and community
- More economical and cost efficient

Disadvantages of the local Contractor are:

- Lower Quality Standards
- Technical skills and understanding may be lower.

Advantages of the larger National Contractors are:

- Greater managerial skills
- Greater access to a large pool of resources and modern equipment
- Better understanding of Client and road user expectations
- Increased experience of Quality and Safety requirements.

Group A1:

- 1. What do you see as the minimum level of Contractor capability required to successfully manage an OPRC network?
- Experience (yrs): The Contractor should have had at least 10 years experience in all facets of road construction and maintenance. Project Management personnel should have at least 15 years experience, and 8 to 10 years for technical personnel.
- Financial Capability: The required financial capability was at least Rs 25-30 crore.
- Labour: The Contractor's staff should have sufficient resources to be sustainable over the duration of the Contract.
- Plant and Other Resources: Overall capacity should equate to approximately 20% to 25% of the contract value.
- Management Skills: Management should have at least 10 years experience
- Technical Skills: Technical skills required would be Engineers and Project Managers.
- 2. Identify those aspects of an OPRC that would encourage Contractors to tender:
 - Price adjustment should cover or reflect actual price changes
 - Condition survey or the road surface and subgrade to be provided by the Client at the start of the contract
 - Design data provided
 - All payments to be made within 14 days of claim submission
 - Payment schedule to be finalised and submitted during the time of tender.

3. Identify those aspects of an OPRC that what would discourage Contractors from tendering:

- Lack of transparency
- Delay in payments
- Obstructions
- Non payment of cost due to changes in legislation
- Lack of sufficient information at the time of tender.
- Contractor's independence diluted
- Innovation stifled



4. List the advantages and disadvantages of using smaller local Contractors verses larger national/international Contractors:

Advantages of the larger National Contractors are:

- Greater managerial skills
- Greater access to a large pool of resources and modern equipment
- Better understanding of Client and road user expectations
- Increased experience of Quality and Safety requirements.
- 5.2 B: Contract Size and Contract Duration (Due to numbers two groups were formed to consider this issue)

Group B:

1. What do you see as the maximum and minimum annual contract value that your group would consider desirable and why?

Overall annual contract value should be within the range of Rs 20 to 50 crore. This range of value would enable the local industry to meet any pre-qualification limits based upon contract value.

2. What size of network (km) does your group feel is manageable under one OPRC and why?

Minimum network length 100km, maximum 200km.

3. What do you see as the maximum and minimum contract duration (yrs) that is desirable and why?

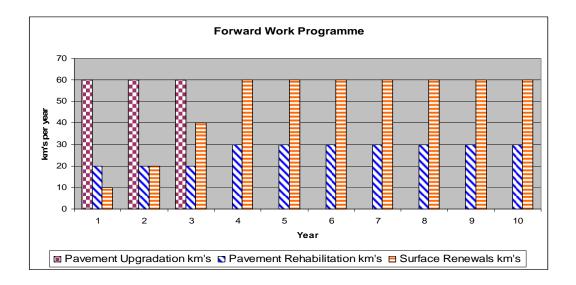
Minimum of 10 years and a maximum of 12 years.

4. What road assets should not be managed under the pilot OPRC contract and why?

Maintenance of the Right of Way should not be included due to the difficulties (of dealing with landowners and businesses) involved.

5. Discuss how the following attached Work Programme could be financed to improve the Contractor's cash flow?





The contractor will need to recover at least 25% of the total contract value in the year 1, 10% in years 2 and 3, 8% in years 4 to 9 and 7% in year 10.

Group B1:

1. What do you see as the maximum and minimum annual contract value that your group would consider desirable and why?

Overall annual contract value should range between Rs 40 to Rs 100 crore. This value would allow the Contractor to invest in sufficient plant, machinery and staff and to establish depots at various locations to produce quality work at competitive rates.

An annual contract value of Rs 100 crore would favour bigger national contractors and would increase the competition in the local market.

2. What size of network (km) does your group feel is manageable under one OPRC and why?

Minimum network length 200km, maximum 250km.

This range in network would enable the agency to undertaken the necessary construction and maintenance required to provide the road users adequate consistency in service and mobility.

3. What do you see as the maximum and minimum contract duration (yrs) that is desirable and why?

Minimum of 7 years and a maximum of 15 years.

The minimum value is based upon a maximum overlay life of 5 years and this time frame would allow the agency to plan and execute works beyond the expected design life as well.

A maximum of 15 years is seen as the maximum possible future horizon that can be planned for due to the changing economy, network demand changes and changes in technology.

4. What road assets should not be managed under the pilot OPRC contract and why?

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Everything in the RoW should be included in the OPRC.

5. Discuss how the following attached Work Programme could be financed to improve the Contractor's cash flow?

If additional financing is required by the Contractor in the early years then the cost of this will need to be recovered from the profit spread over the remaining years, which is seen as desirable. Possibly explore the option of the PWD initially purchasing the Contractor's plant and the Contractor purchasing this plant over time to smooth his level of expenditure.

5.3 Group C: Risk Allocation

Potential Risks

- Pavement and Surfacing Design Including Overload
- Residual Pavement Condition
- Location and Timing of Work
- Levels of Service Compliance
- Protection of Right of Way
- Emergency Works
- Maintenance of Structures
- Maintenance of Work by Others
- Environmental Compliance
- Inflation
- Traffic Growth
- Traffic Overloading
- Quantity of Initial Improvement Work
- Changes to Legislation
- Force Majeure
- Forestry Clearance
- Utilities
- Service Level Creep
- Over Reliance on Average Performance Values
- Changes in Land Use
- Legal Limitations
- Funding Uncertainty

1. From the attached list, identify those risks that would be best managed by the Contractor under OPRC and rank these from highest to lowest.

- Pavement and Surfacing Design including overloading to over come the design risk in the contract period. Design life should be 5 years more than the contract period.
- Maintenance of structures
- Changes in traffic growth but only up to the limits defined in the Contract
- · Residual pavement condition, and defined as Benkelman beam deflection limits
- Maintenance of work by others, but would require the costs of additional work to be recovered from the other contractor(s).
- Installation of other utility assets (pipelines, phone cables etc) for the utility service providers, but only after approval from the agency.



2. For each risk identify how these could be managed or reduced?

Outlined above.

- 3. From the attached list, identify those risks that would be best managed by the Client under OPRC and rank these from highest to lowest.
 - Service level compliance in case of poor service there should be penalty clauses in the contract and also a termination clause if the Contractor does not provide adequate service. Penalties should increase where non-compliance and poor service is repetitive.
 - RoW encroachment being reported by the Contractor to Client and then instructed to supply resources to intervene.
 - Inflation managed per agreed escalation clauses.
 - Changes in legislation
 - Forestry clearance undertaken by the Client
 - Management of Utilities undertaken by the Client
 - Legal limitations as per the arbitration act
 - Funding certainty projects should not commence until this has been agreed
 - Changes in land use
- **4.** For each risk identify how these could be managed or reduced? *Outlined above.*
- 5. How should the risk of unforeseen events (e.g. Emergency Works / Changing Traffic Volumes) be shared between the Contractor and the Client and why?
 - The Contractor should be permitted to quote for natural calamities, and carry the cost for other emergency events within the Lump Sum.
- 6. Discuss the measures that could be implemented to protect the Right of Way through urban zones more effectively.

Not recorded.

- 5.4 Group D: Social, Safety and Environmental Considerations
 - 1. From the attached list of potential social impacts, discuss and list how the OPRC Contractor can manage these during both upgradation works and where necessary routine maintenance activities.
 - Land purchase requires social impact assessments, entitlements, a Land Acquisition Plan (LAP), an acquisition process involving the LA Act and negotiations, N.o.C. Needs to be done before the contract starts to avoid delays.
 - Clearances will require screening, scoping, EIA and EMP to be prepared by the Contractor
 - Forestry clearances require joint verification, marking of trees, preparation of proposal by the Contractor.
 - Religious Historic and Cultural properties must be well identified during bidding so that any relocation can be included in the price.



Utility relocation and clearance.

The Client will be required to assist the Contractor where possible with this work.

2. Discuss how improvements to network safety can be encouraged and achieved within an OPRC network. How could these improvements be measured?

[Note: A separate group with a dedicated safety focus convened to answer the safety related issues]

- OPRC provides an opportunity to achieve safety improvements through better maintenance and to raise the overall level of maintenance.
- The focus should not only be on black spots, but should also focus on the creation of pedestrian walkways and cycleways and over bridges.
- The Contractor should be permitted to charge for the removal of road obstructions and the money raised to go back into safety improvements.
- The Contractor should be empowered to enforce overload controls.
- The Contractor should record all observed but unreported accidents.
- There should be periodic safety audits of all of the roads managed under the OPRC.
- 3. From the attached list of potential environmental impacts discuss and list how the OPRC Contractor can manage these during both upgradation works and routine maintenance activities.
 - Soil Loss increased use of new technology
 - Balanced cut and fill, approved dumping sites as per the EMP.
 - Proper design / maintenance of drainage facilities
 - Oil collectors and dust suppression methods to be used
 - Green belt barriers to reduce noise
 - Minimum tree cutting and vegetation loss
- 4. Discuss what steps the Client can take to help the Contractor manage the social and environmental impacts?

Overall Client can act as a facilitator and work with the Contractor to achieve the required outcomes.



6 Summary Conclusions.

The following issues should be noted for consideration during the development of the Contract format under Task A6:

- Review pre-qualification requirements (if used) against the recommendations from Groups A and A1.
- Give consideration to the advantages and disadvantages of requiring the OPRC Contractor to nominate a sub-consultant in his bid. How important is this and what will be the situation with larger Contractor's who may have "in-house" design capability?
- Should the PWD be permitted to participate in the OPRC pilot and be allocated a
 network to manage under the same performance based specifications as the private
 industry? How should this be handled within a competitive bidding environment? What
 consistent measurers can be applied between the networks as a fair means of
 comparison?
- Review final pilot network length per contract against the recommendations from Groups B and B1.
- Ensure that contract award is conditional on security of long term funding.
- Give consideration to Incident Response functions to be supplied by the Contractor, e.g. crane to remove obstacles, ambulance to treat/transport the injured, dedicated vehicles to carry signs and clean-up equipment etc.
- Ensure final agreed Levels of Service do not create a serious disparity with those existing on networks in neighbouring states.
- Give consideration to enabling the OPRC Contractor to undertake the installation or relocation of services for other utility service providers via a direct commercial arrangement. Other than providing initial approval to do so, this financial arrangement would not involve the agency.
- Give consideration to requiring a minimum of 2 years prior work experience in the Punjab, and whether this may unnecessarily limit the number of potential Tenderers.
- Review the ability for the PWD or another agency to purchase some of the Contractor's
 plant and equipment and then either lease this to the Contractor or allow the Contractor
 to purchase this over time to smooth his expenditure profile. Such an arrangement
 would have to be made available to all Tenderers.
- Pre-qualification (if used) or the Tender evaluation should require Tenderers to confirm
 that they have sufficient plant to complete all facets of the work required, but should not
 be prescriptive in terms of the plant necessary. This approach would ensure that the
 Contractors are free to innovate.



 Careful consideration should be given to the way payment penalties are applied to ensure that frequent non-compliances by the Contractor attract increasing levels of payment deductions.

6.1 Transcript of an Address to the Workshop Attendee's by Mr H.R Goyal

The following transcript has been included in the workshop proceedings as Mr H.R Goyal comments related directly to the reasons for the implementation of the OPRC concept within the context of the historical maintenance practices undertaken by the PWD:

"Brother Engineers and Contractors I am here to say just few words which may not be relevant to this OPRC system of contracting but related with PWD, more related with PWD. I would say this OPRC can be implemented only if funds are made available regularly and dedicated road funds created for maintenance purposes only today what we have been told is just the definition outlines of the system, the adequacy of this system can be commented upon only after the bid document is ready. I not here to criticize this OPRC system but to say something about what the department can do if funds are made available regularly.

Why we are thinking of this system OPRC today, why not earlier, why not latter on, today we are discussing this system not because our engineers cannot maintain the roads, not because the good contracting agencies are not available in the state, not because of any bad quality of work. We don't say system PWD hasn't failed but because of non availability of funds for maintaining the roads well in time, as per the saying stitch in time saves nine.

We are provided funds for maintenance when the roads are already in a bad shape, but we are going to shall spend on OPRC, if made available to the PWD department regularly for maintenance purposes, I am sure that with the available expertise in the department we can maintain the roads more economically and in a better condition, the need at the present is dedicated road funds for maintenance which should be made available in time.

We should be more, Sir in this report which we are having at page-7 it has been written that the contractors consortium is free to decide what to do, when to do, how to do, where to do; to do the physical work himself or sub-contractor with certain restriction, as long as he meets the performance standards throughout the contract period in contrast we are tied with the specification, assume (suppose) to follow meticulously we cannot go away inch of the specification for example most of the specifications which are only applicable for throughout India, which are not state specific. In Punjab there is less variation of temperature, less rains and every type of, for example application of topcoat emulsion, emulsion can't be used for patch works or for roads; emulsion topcoats for 10 feet wide roads where we are doing strengthening and doing all that.

Departmental engineers should also be given free hand for deciding such matters; for example use of CRMD even for small works and quality of CRMD had always been questionable. Finally I would say international firms or national firms as consultancy firms for execution of work they can be good for major works for example expressways, river bridges, under bridges, fly overs, if there is any other in this state, I think in Punjab that is not required anywhere, input can be important but for small works like maintenance of registering roads and there up-gradation.



Departmental engineers can play important if funds are made available regularly or as and when required, we can all see oversize the Performance of various road projects are already executed by PIDB under the ages of PIDB by PWD, all the projects are doing well; their dedicated Engineers were employed and nobody was transferred before the completion of that project. Here I would to say PWD system is not a bad system, this is best available system, and the system needs to be modernized to make it more efficient.

This contract should be in a form that the PWD engineer should also be allowed to bid for this project on first right of refusal basis so that they can also show the results, how this if at all the system is implemented. I think I would request the consultants to include such provisions where PWD engineers can also bid on for first right refusal basis. By being in the department they can bid away their pays or salary but will be continuous in the department. Such systems should be advised in this part. Thank you."

6.2 Closing Workshop Address by Mr D.P Gupta.

Near the end of the workshop the audience was fortunate to be addressed by Mr D. P Gupta retired DGND who presented his thoughts and suggestions on how the performance based contract should be prepared. This presentation was based upon components of previously developed Term Maintenance contracts implemented within India. The significant points stressed by Mr Gupta were:

- If the PWD is to given first right of refusal they need to start thinking now about how they might similarly manage a network under these performance based standards.
- The quality of the bidding documents is important and the reasonableness of the bidding documents must be lost in the bidding process.
- The predictability and manageability of the risks are very important and several rounds of discussion on this will be required.
- Ensure that the Standards of Service (Levels of Service) and response times are not set too high and do not create too much disparity between the Punjab network and road networks in other states.
- For the Levels of Service that are established, ensure that measures for nonperformance are kept as simple as possible. Penalties should not be too high otherwise Contractors will not wish to tender.
- The process should support the local Contractors and not favour just the large Contractors.
- Use the requirement for long term funding as a lever to ensure a more consistent funding environment (dedicated or "ring fenced funding") is achieved in the future.
- Contract durations of 10 to 12 years should be considered. There should also be another pilot of 5 to 6 years implemented.



- Careful consideration needs to be given to the structure of the contract where it includes significant improvement works to prevent routine maintenance from becoming a casualty. Need to ensure the Contractor is incentivised to do routine maintenance.
- Small contractors may need to be given some assistance in adapting to a performance based environment and where a higher level of managerial and technical expertise will need to be implemented if they are to manage the networks adequately.
- PWD should be re-orientated towards the new maintenance models and prepare itself for operating in a performance based environment.
- Essential that the new model incorporates improvements in the way safety is managed on the road.
- Management of the overloading is also critical and will require careful deliberations to reach a consensus on how this can be better managed. Extra 100% charges apply to toll taxes for overloading, so it is possible to collect these charges, but it is still necessary to deal with those who persistently overload their vehicles.



7 Appendix 1: List of Workshop Participants

			ORGANIZATION/			E - MAIL
No.	NAME	POSITION	COMPANY	ADDRESS	TELEPHONE	ADDRESS
1			A. L. Sudershan & Co	7 - 3 - 719 Rashtra Pathi Road, Secunderabad, Hyderabad 500003	040 27802984	
2			A. S. Meridian,	# 25/5c, !st Floor, Outer Ring Road, Marathalli, Bangalore 560037, India		
3	Dr Deepak Talwar	President	Advantage India	Advantage India C - 17, 2nd Floor, Green Park Extension New Delhi - 110016		
4	Lt. Gen B.S. Dhaliwal	(Retd) BHSM, ABSM, BSM	Advisor Technical Govt of India	SCO, 61 - 62, Phase 2, Mohali		
5			Afcon Infrastructure Ltd	16, Shah Industrial Estate, Afcon House, Andheri (W), Mumbai 400053		
6	Mr. Harman S. Sidhu		Arrive Safe	M/s Arrive Safe # 268, Sector 21 - A, Chandigarh		
7			Ashoka Builcon Ltd	Ashoka House' Ashoka Marg, Vadala, Nashik - 422 011	(0253)3011705	corporate@ashoka buildcon.com
8			Atlanta Construction	Shirsoli Road, Jalgaon Maharashtra 425001 India	0257 2262246	
9			B. Seenaiah & Co Ltd	6 - 2 - 913/914, Progressive Tower 5th Floor, Khairatabad H.O. Hyderabad - 500004	91 40 23307831 23303662	
10	Mr J. C. Elis	(Resident Representative)	BCEOM Societe Francaise d' Ingenierie	12/6, Saffron square, Delhi Mathura Road, Faridabad 121 003		
11			Bhageeratha Engg. Ltd	B - 3/58, 3rd Floor, Safdarjung Enclave New Delhi - 29	26168741/44	beldelhi@satyamm ail.com



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No. 12	NAME	POSITION	Border Road	ADDRESS Head Quarters,	TELEPHONE	ADDRESS
12			Organization	DGBRSeema		
			Organization	Sadak Bhawan		
				Ring Road		
				Naraina Delhi		
				Cantt 110010		
13			Bridge & Roof	5th Floor,		
				Kankaria Centre		
				2/1 Russel Street		
				Kolkata - 700071		
14			British Council	British High		
			Division	Commission 17		
				Kasturba Gandhi		
				Marg New Delhi -	044 40400000	delhi.enquiry@in.br
4.5			0.0	110 001	011 42199000	<u>itishcouncil.org</u>
15			C & C Construction Ltd	Plot No. 70, Sector 32		
			Construction Ltd	Gurgaon -		candc@candcinfras
				122001 (Haryana)	91 124 4536666	tructure.com
16			Centrodorstroy	(Subsidiary of	31 124 4330000	tructure.com
10			India Pvt Ltd	JSC		
			maia i vi Lia	Centrodorstroy		
				Moscow, Russia)		
				B - 94, Okhla - II,		
				New Delhi - 20	91 11 26389595/9	96
17	Prof.	Professor	CES (Consulting	57, Nehru Place	91 11 2642	
	Chakraborty		Engineering	(5th Floor), New	3033	
			Services India Pvt	Delhi - 110 019		
			Ltd)			
18	P.K. Datta		CES (Consulting	57, Nehru Place	91 11 2642	
			Engineering	(5th Floor), New	3033	
			Services India Pvt	Delhi - 110 019		
19	Sh. S.C.	(Retd) Chief	Ltd) CPWD	H. No B - 2/2171,		
19		Engineer	CPVD	Vacant Kunj, New		
	Gupta	Liigiiieei		Delhi		
20			East Coast	No 4, Bukharia		
			Construction &	Building, Moores		
			Industries	Road, Greams		
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				National Highway		
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				110037 India	6137933	
22			Era construction	#371, shop		
			India Ltd	#370/371 2 Shahi		
				Hospital Road,		
				Bhogal Market		
				Jangpura Delhi - 110014	011 24279020	
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No.	NAME	POSITION	ORGANIZATION/ COMPANY	ADDRESS	TELEPHONE	E - MAIL ADDRESS
23	IVAIVIL	FOSITION	Essar	11 K K Marg	TEEEFIIONE	ADDICESS
			Construction Ltd	Mahalaxmi		
				Mumbai - 400011	91 22	contractconstructio
	14) "		<u> </u>	Maharashtra	249950606	ns@essar.com
24	Mr Vinayak Ch	atterjee	Feedback	Feedback House, 7 LSC, Panscheel		
			Turnkey Engineer Pvt Ltd	Park, New Delhi -	011-42009100,	
			1 VI LIG	110 017	42007100	
25	Sh. Kuldeep	Addl. Principal	Forestry	17 Bays Building,		
	Singh	Chief	Department	Sector 17,		
		Conservator of		Chandigarh		
26		Forest	Gammon India	Gammon House		
20			Ltd - Indian	Veer Savarkar		
			Ltd Indian	Marg,		
				Prabhadevi,		gammon@gammon
				Mumbai - 400025	91 22 67444000	india.com
27			Gayatri	6 - 3 - 1090,		
				T.S.R. Towers, B1, Rajbhavan		
				Road,		
				Somajiguda,		
				Hyderabad - 500		
				082. Andhra		
			CMD	Pradesh, India	040 23310330	
28			GMR Infrastructure Ltd	GMR Group Skip House, 25/1,		
			iiiiasiiaciale Lia	Museum Road,		
				Bangalore - 560		
				025, Karnataka		
				India		
29			Hindustan Construction	Hincon House Lal Bahadur Shastri		
			Company Ltd	Marg Vikhroli		
			Company Ltd	(West) Mumbai -		
				400 083		
			<u> </u>	Maharashtra		
30			Ideal road	Indian Lane No 1,		
			Builders Pvt Ltd	Dadar (E) Mumbai - 400014		
				Maharashtra		
31	Mr P. Kapila	Managing	Intercontinental	A - 8, green Park,		
	(M.D.)	Director	Consultants &	New Delhi -		
			Technocrats Pvt	110016		
32			Ltd Ircon International	Palika Bhawan,		
32			Ltd	Sector - XIII, New		
				Delhi - 110066		
33			Itd Cementation	Plot # 14, 301 &		•
			India Ltd	302, Sagar		
				Towers, District		
				Centre, Janakpuri, New		
				Delhi 110 058	91 11 25590541/4	13
	I.	-I				



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		DOCUTION	ORGANIZATION/	4555500	TEL EDUANE	E - MAIL
No.	NAME	POSITION	COMPANY	ADDRESS	TELEPHONE	ADDRESS
34			IVRCL	M - 22/3RT,		
			Infrastructure and	Vijaynagar, Hyderbad		
			Projects Ltd	500057. Andhra		
				Pradesh	91 40 23343678	
35			J.S.R.	3415, 2nd Cross,	31 40 23343070	
			Constructions Pvt	2nd Stage, Indira		
			Ltd	Nagar, Bangalore		
				- 560038,		
				Karnataka	080 25215177	
36			Jaiprakash	JA House 63,		
			Associates	Basant Lok,		
				Vasant Vihar New		
				Delhi	91 11 26141540	
37			JMC Projects	A - 104, Shapath -		
				4 Opp. Arnavati		
				Club, S. G. Road,		
				Ahmedabad -	070 00044500	
- 00			IZ-1	380051 India	079 30011500	
38			Ketan	Plot No. 405A,		
			Construction Ltd	Road No . 22A,		
				Jubilee Hills, Hyderabad - 5000		
				333		
39			KNR	12th Square		
55			IXIVIX	Building, 3rd		
				Floor, Road No :		
				12, Banjarahills,		
				Hyderabad -	040	
				500034	23323435/36/37	info@knrcl,com
40			Lanco	141, Avenue No		
			Construction Ltd	8, L.V. Prasad		
				Marg,		
				Banjarahills,		
				Hyderabad		
				500034, Andhra	00540005	
11			I : DD A	Pradesh	23540695	
41			Li PBA Infrastructure Ltd	611/3 V. N. Purav Marg, Chembur,		
			minastructure Ltd	Mumbai -		
				4000711		
42			Madhucon	Madhucon House		
			Projects Ltd	Road No 36,		
			,	Jubilee Hills		
				Hyderabad - 500		
				033 Andhra		
				Pradesh, India	040 23556001	
43			Maheshwari	23 - A, Netaji		
			Brothers Ltd	Subhas Road, 3rd		
				Floor, Room No.		
				14, Kolkata -		
				700001	033 22209517/23	53
44			Maytas	III Floor, Amogh	04 40 00 400 465	
			Infrastructure Ltd	Plaza, Begumpet,	91 40 23408100	
				Hyderabad - 500	40037800	



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			ORGANIZATION/			E - MAIL
No.	NAME	POSITION	COMPANY	ADDRESS	TELEPHONE	ADDRESS
				016 (AP)		
45	Mr Rajbir	Deputy	Ministry of	Bays No 24 - 25,		
.0	Singh	Conservator of	Environment &	Dakshin Marg,		
	J. J	Forests	Forest Northern	Sector 31 - A,		
			Regional Office	Chandigarh		
46	Mr S. K.	Conservator of	Ministry of	Bays No 24 - 25,		
	Sehrawat	Forests (Central)	Environment &	Dakshin Marg,		
			Forest Northern	Sector 31 - A,		
			Regional Office	Chandigarh		
47	Sh. S. C.	MoRT & H	MoRT & H	175 Vigyapan		
	Sharma	(Retd)Director	(Retd)Director	Lok, Mayur Vihar,		
		General	General	Phase - 1 Delhi		
40	Sh. D.P.	(Dotd) Director	MoRT & H	110091 D - 21, Greater		
48	Gupta	(Retd)Director General MoRT &	(Retd)Director	Kailash - 1		
	Gupia	H	General	Enclave New		
		' '	General	Delhi - 110048		
49			Navabharat -	6 - 3 - 1109/1 2nd		
.0			Ferro Alloys Ltd	Floor Raj Bhavan		
			(Malaxmi	Rd, Somajiguda,		
			Highways Pvt Ltd	Hyderabad	040 66639453	
50	Mr. D.	President	Operation	Beetal House,		
	Banerjee	Research Group	Ground Floor, 99			
			Pvt Ltd	Madangir, Behind		
				Local Shopping		
				Centre New Delhi		
				- 110062		
51			Oriental Structural	21, Commercial		
			Engineers Pvt Ltd	Complex,		
				Malchac Marg, Diplomatic		
				Enclave New		info@orientalindia.c
				Delhi - 110 021	91 11 46044604	om
52	Swapan K.	(Associate Prof)	Pati	JNCASR,		
	Pati	,		Bangalore		
53	Sh. R.S.	Technical Advisor	PIDB	SCO,. 89 - 90,		
	Sandhu			Sector 34,		
				Chandigarh		
54	Sh S.S.	Managing	PIDB	SCO,. 89 - 90,		
	Sandhu	Director		(First Floor)		
				Sector 34,		
			DNIC Competencetion	Chandigarh		
55			PNC Construction Ltd	D - 51, Kamla nagar Agra - u.p.		
			Liu	India 282005		
56			Progressive	Sector 17, Vashi		
			Construction Ltd	Navi Mumbai -		
				400703		
	5 5 6 6	0		Maharashtra		
57	Er. R.S. Gill	Chief Engineer	Punjab Mandi	Sector 17,		
	Ob Hammer	Dinastan (O1)	Board	Chandigarh		
58	Sh. Harpreet	Director (Quality	Punjab Mandi	Sector 17,		
	Singh Brar	Control)	Board	Chandigarh		



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No.	NAME	POSITION	ORGANIZATION/ COMPANY	ADDRESS	TELEPHONE	E - MAIL ADDRESS
59	Mr K.S. Bhinder	President Sr Engineers Forum Superintending Engineer	Punjab PWD	Construction Circle, Chandigarh.		
60	M.S. Guram	(Retd) Chief Engineer	Punjab PWD (B&R)	# 1, Arjun Enclave, SirHind Road, Bye Pass Patiala		
61	Er. Amrit Inder Singh	Chief Engineer (NH)	Punjab PWD (B&R)	Mohali		
62	Er. N.S. Brar	Chief Engineer (HQ/PR)	Punjab PWD (B&R)	Patiala		
63	Er.V. K. Gupta	Chief Engineer (LR)	Punjab PWD (B&R)	Patiala		
64	Er. R.P. Singh	Chief Engineer (PMGSY)	Punjab PWD (B&R)	Patiala		
65	Er. Daljit Singh	Chief Engineer (IP)	Punjab PWD (B&R)	Chandigarh		
66	Er. Jasbir Singh Shahi	Chief Engineer CVO cum Director, QCC,PWD (B&R)	Punjab PWD (B&R)	Chandigarh		
67	Er. G.R. Bains	Superintending Engineer	Punjab PWD Construction Circle	Ludhiana		
68	Er. S.P.S. Samra	Superintending Engineer	Punjab PWD Construction Circle	Sangrur		
69			Rajdeep Buildcon Pvt Ltd	4, Liberty Society, North Main Road, Koregaon Park, Pune - Maharashtra, India 411001	91 020 02601538	40
70			Ramky Infrastructure Ltd	Raj Bhavan Road, Gulmohar Avenue Hyderabad 40008 Andhra Pradesh	040- 23310091/2330 8996	info@ramky.com
71			Rohan Builders Pvt Ltd	Bhandarkar Road The Reverie, First Floor 805, Bhandarkar Institute Road Pune - 411004 Maharashtra, India	022 26795531	
72			Sadhbhav	Sadbhav House, Oppsite Law Garden Police Chowki, Ellisbridge, Ahmedabad 380 006 Gujarat State (India)		



			ORGANIZATION/			E - MAIL
No.	NAME	POSITION	COMPANY	ADDRESS	TELEPHONE	ADDRESS
73			Sapoorji Pallonji Delhi	Deendayal Upadhyay Research Institute, 5th Floor, 7E, Jhandelwala Extension, New Delhi 110 035		
74	Brig. C.D. Puri	(Retd.), CEO	Scott Wilson Kirkpatrick India Pvt Ltd	A - 26/4, Mohan Cooperative Industrial Estate, New Delhi	011 41679340/49	
75			Shaktikumar M. Sancheti Ltd	Engg & Contractors Behind Post office., Katra Dist. Udhampur, J&K - 182301		
76			Simplex Infrastructure Ltd	12/1, Nellie Sengup Kolkata - 700 087	ota Sarani,	
77			Som Dutt Builders Ltd	#56 - 58, Community Centre Sriniwaspuri	011 26431607	
78			UP State Bridge Corporation Ltd (UPSBC)	Setu Bhawan' 16, Madan Mohan Malviya Marg Lucknow (UP) India		
79			Valecha Engineering Ltd	Valecha Chambers 7th floor, Plot no. B - 6, Andheri New Link Road, Anderi-W Mumbai - 400053	91 22 26733625 26733238	
80			Villayati Ram Mittal	Sec 8 Vashi Navi Mumbai - 400703 Maharashtra		
81	Mr Ravi Parthasarath y	Executive Chairman		IL & FS, UG Floor, Mahindra Towers, 2A Bhikaji Cama Place, New Delhi - 110 066		



8 Appendix 2: Printout of Slide Presentations

