

MINERAL LOADING- POTENTIAL AND PROBLEMS

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MINERAL TRANSPORTATION

- TRANSPORTATION OF MINERALS LINKED TO OVERALL ECONOMIC GROWTH OF THE COUNTRY.
- PRIMARY ENERGY REQUIREMENT OF INDIA EXPECTED TO GROW BY 3 TO 4 TIMES UP TO 2031-32.
- IR LARGE TRANSPORTER OF COAL, RM TO STEEL PLANTS.
- PRESENTATION ON THESE TWO SECTORS

MINERAL TRANSPORTATION

- INSTALLED CAPACITY FOR POWER PROJECTED AT 800,000 MW IN 2031-32 FROM APPX.165,000 MW TODAY.
- SIMILARLY, THE PRODUCTION STEEL IS LIKELY TO INCREASE TO 110 MT IN 2012-13.

MINERAL TRANSPORTATION

- TRANSPORTER HAS TO TAKE CARE OF QUANTITY AND QUALITY REQUIRED BY CUSTOMER.
- COAL AND IRON ORE ARE OF VARIOUS GRADES.
- INDIAN COAL TYPICALLY HAS HIGH ASH CONTENT. NEED TO IMPORT.

FACTOR ENDOWMENTS

- COAL AND RM FOR STEEL PLANTS LOCATED IN EASTERN AND CENTRAL PARTS OF THE COUNTRY.
- LOCATION OF PLANTS DETERMINES TRANSPORTATION REQUIREMENT.
- GOVERNMENT POLICY INFLUENCES LOCATIONS.

FREIGHT POLICIES OF IR

- HORSE POWER TO TRAILING LOAD RATIOS.
- TECHNOLOGY PROGRESSION ON WAGONS, LOCOS, TRACK AND SIGNALLING.
- EXECUTION OF PROJECTS.
- NEED FOR HOLDING YARDS AND FREIGHT TRAIN TIME TABLING

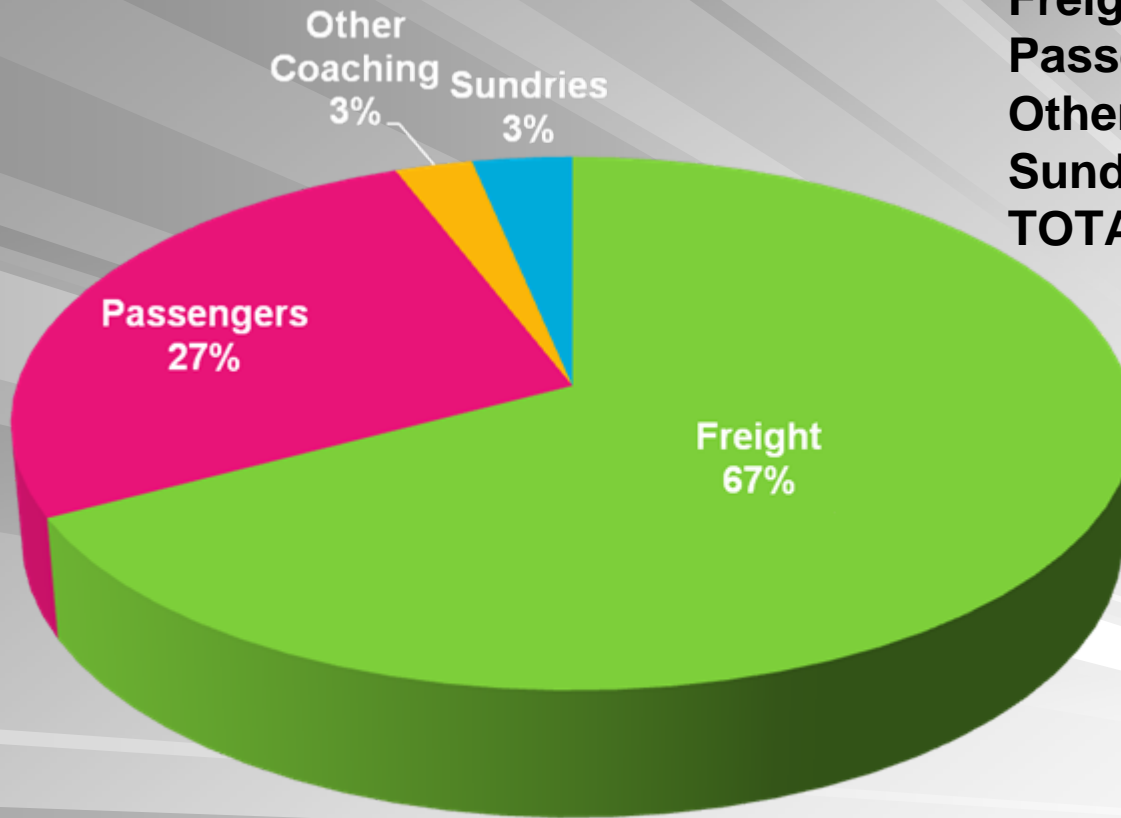
TRANSPARENCY

- OPERATION NEEDS TO BE TRANSPARENT AND INTELLIGIBLE TO THE CUSTOMER.
- USE OF INFORMATION TECHNOLOGY.
- DEVELOPMENT OF CAPACITY.
- KNOWLEDGE OF POLICIES AT FIELD LEVEL.

ACTION AT FIELD LEVEL

- NEED TO UNDERSTAND O-D FLOWS.
- SYNERGISE WITH GLOBAL GOALS.
- DO NOT VITIATE LONG TERM OBJECTIVES FOR SHORT TERM GAINS.
- REPORT DATA ACCURATELY.
- INTERACT WITH CUSTOMERS.
- FOSTER TEAM WORK.

IR'S BUSINESS SEGMENTS (Earnings)



Freight	= 62844.67
Passengers	= 25792.61
Other coaching	= 2469.85
Sundries	= 3418.31
TOTAL=	94525.44

FREIGHT LOADING TRENDS

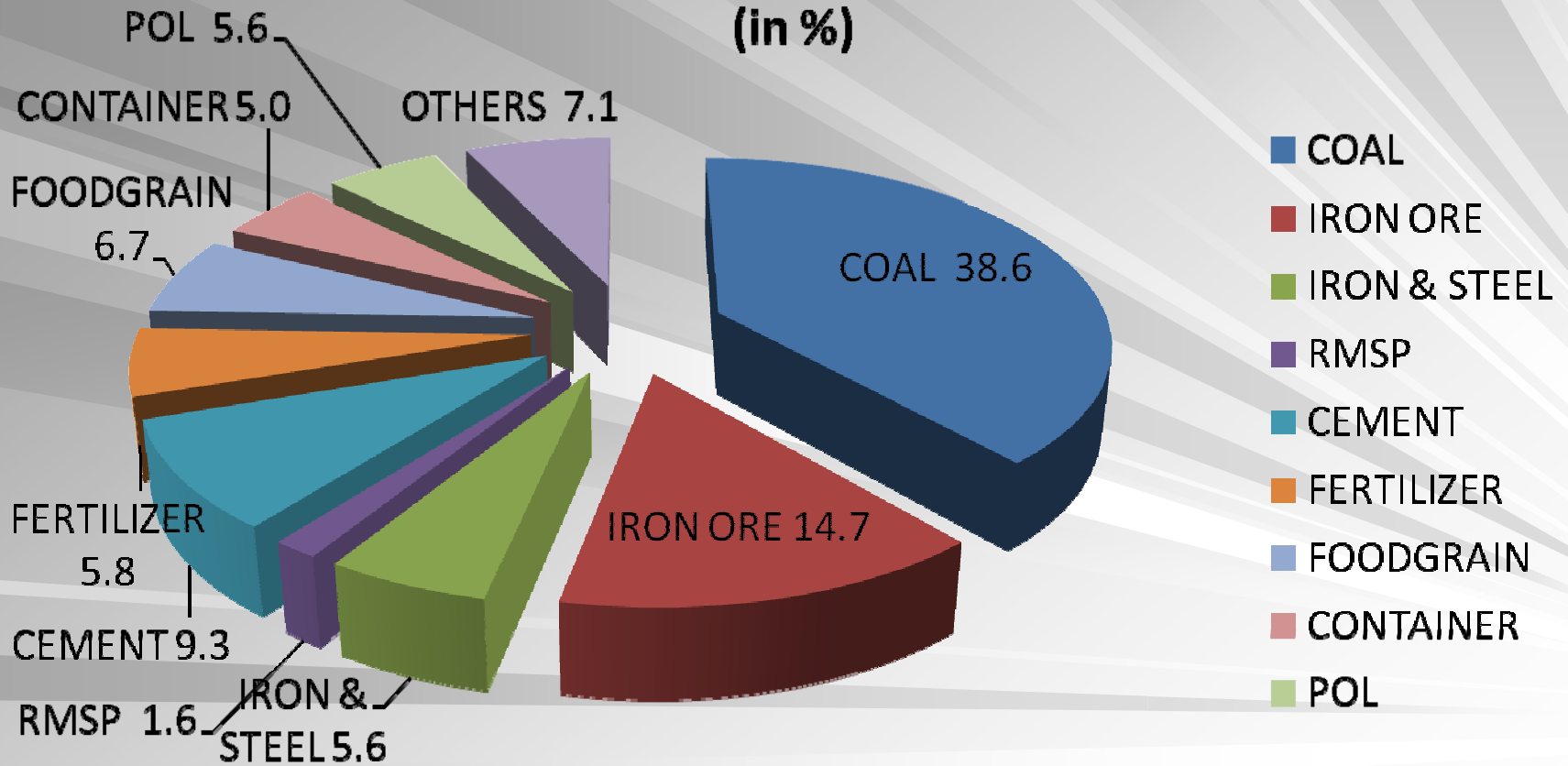
YEAR	FREIGHT LOADING	%AGE GROWTH	GDP GROWTH	NTKM GROWTH
2001-02	492.50	4.01	5.60	3.48
2002-03	518.74	5.33	4.30	5.99
2003-04	557.39	7.45	8.50	7.94
2004-05	602.78	8.14	7.50	6.86
2005-06	667.20	10.69	9.00	7.90
2006-07	728.77	9.23	9.60	8.11
2007-08	794.21	8.98	9.00	7.70
2008-09	833.31	4.92	6.70	5.16
2009-10	887.99	6.56	7.40	8.65
2010-11*	921.51	3.77	8.5/7.8	3.63

COMMODITY & EARNING SHARE 2010-11

COMMODITY	LDG 2010-11 IN MT	%AGE SHARE OF LDG	%AGE SHARE OF EARNING	Targ in 201 12 MT
COAL	420.21	45.6	38.6	458.0
IRON ORE	118.43	12.8	14.7	115.0
IRON & STEEL	32.30	3.5	5.6	34.5
RMSP	13.28	1.4	1.6	14.0
CEMENT	99.03	10.7	9.3	110.0
FERTILIZER	48.17	5.2	5.8	53.0
FOODGRAIN	42.02	4.6	6.7	47.2
CONTAINER	36.86	4.2	5.0	44.7
POL	40.25	4.4	5.6	40.5
OTHERS	70.96	7.6	7.1	76.0
TOTAL	921.51	100.0	100.0	993.0

COMMODITY Segments

Earnings in 2011-12
(in %)



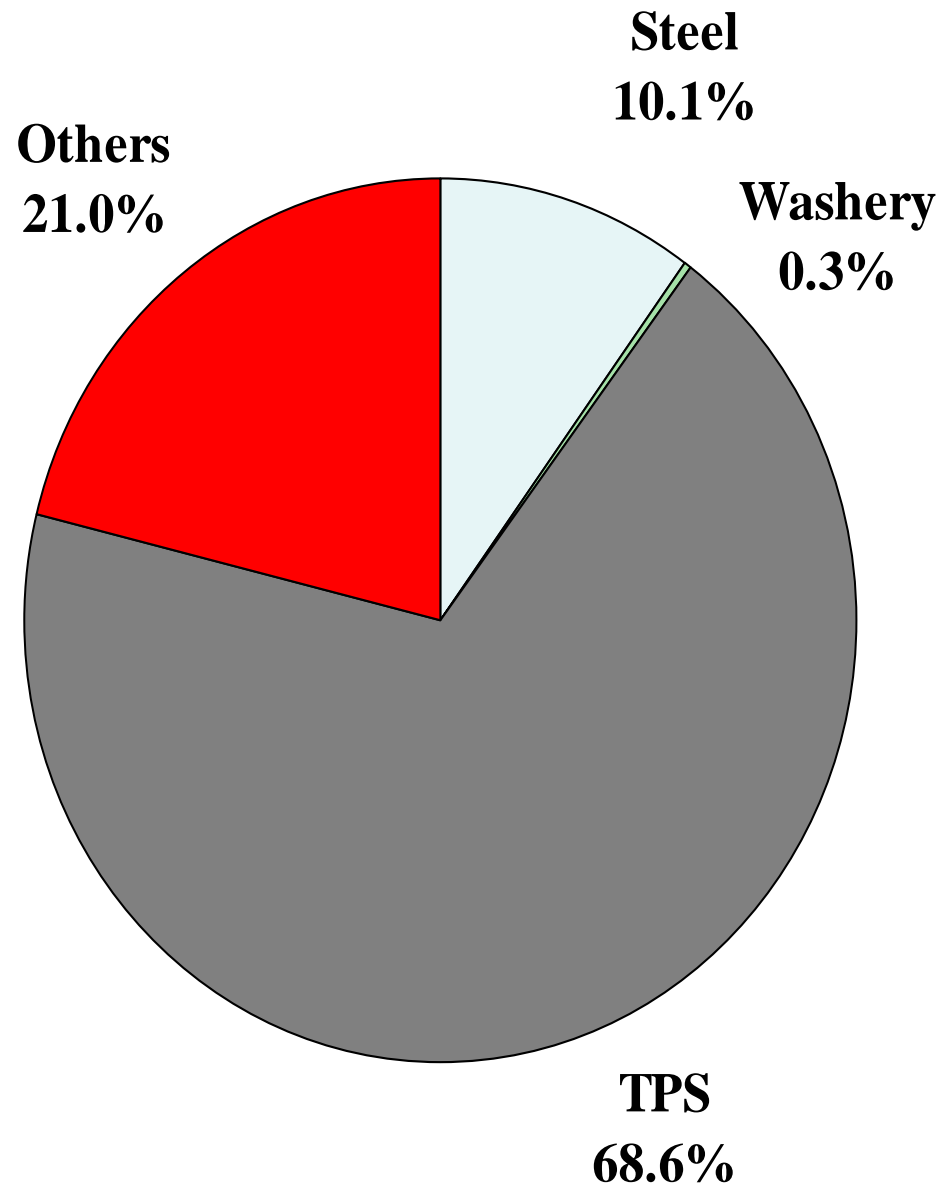
COAL-

A SECTORAL VIEW

WHY COAL IS IMPORTANT

- APPROX 46% OF LOADING
- EARNINGS FROM COAL=RS 24029.8 cr
- EARNING PER TONNE AAPX. = RS. 57 crores
- TOTAL FREIGHT EARNING=RS 62844 cr
38%
- MOVEMENT IMPT FOR TPS AND INDUSTRY

Break up of coal loading



SYSTEMS

Earlier guided by linkage committee

NCDP of 2008

Linkage regime replaced with FSA regime

End product FSTA

SLC/ST replaced with FSA monitoring
committee

SLC/LT continues

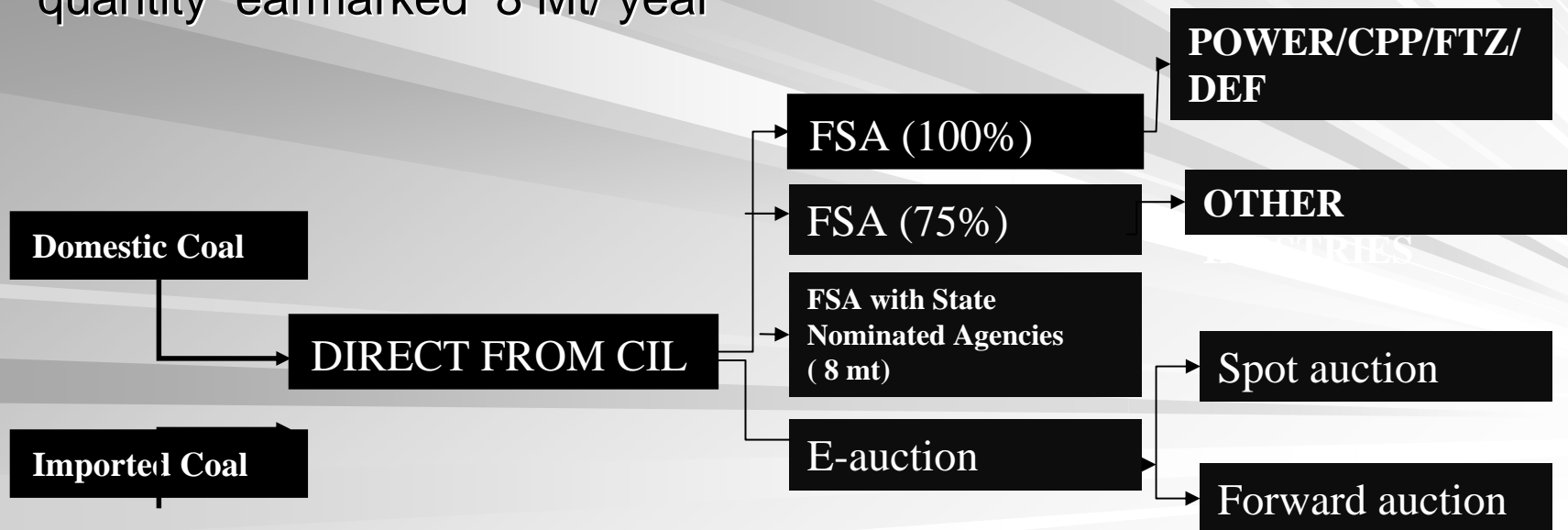
Large increase in volumes of imported coal

Genesis

- Pricing and distribution of coal was deregulated in the year 2000
- A Policy for distribution of coal was devised by MOC in 2003
- Internet based e-auction of coal was introduced by CIL in 2004.
- E-auction was subsequently challenged in the Court of Law
- A direction was given by the Hon'ble Supreme Court to devise a Coal Distribution Policy for all coal consumers
- A committee under the Chairmanship of Secy(Coal) deliberated the issues and recommended a policy which was introduced by Govt on 18-Oct-2007 as New Coal Distribution Policy(NCDP)

Salient Features (NCDP)

- Core-Non Core classification done away with
- New Classification - keeping in view the regulatory provision
- Defence & Railway to get full requirement at notified price.
- Power & FTZ Sector to get 100% of normative requirement through FSA at notified price.
- All other to get 75% of normative requirement through FSA.
- Small & Medium Enterprise Sector having requirement up to 4200MT per year to get coal from Agencies to be nominated by States/UTs – quantity earmarked 8 Mt/ year



Salient Features (NCDP)(cont)

- All existing linkage holders including SMEs required to execute FSA for continuation of coal supply.
- For new consumers
 - Power , Cement and Sponge Iron sectors LOAs to be issued on the recommendation of SLC(LT)
 - For other sectors CIL to be responsible for clearance of applications for issuance of LOA by supplying coal companies
 - LoA to have validity of 24/12 months for Power/other consumers for conversion into FSAs.

Salient Features (NCDP)

.....(Cont)

- CIL, to meet full domestic requirement of coal under FSA, even by resorting to import, if feasible
- Coal being scarce commodity- discipline in its economic use suggested
- Around 10% of production earmarked for e-auction as an additional option for sourcing coal.
- Forward e-auction scheme for actual consumer to be introduced for ensuring long term requirement

Implementation

- NCDP mandated CIL to meet the entire demand under the FSA even by import of coal if feasible.
- FSA, a legally enforceable document, contains provisions for penalty and incentives for failure in meeting the commitment
- CIL on one hand has to accept all consumers approaching for FSA and on the other to protect its interest against the contractual failure in supply commitments.
- CIL had to build, provisions in the FSA for regulating the committed supply level with penalty for supply failure as per trigger.
- Different trigger level is set for different models of FSAs applicable to different category of consumers considering the sectoral importance and the status as to whether new or existing units

Coal Balance Position IN MT

As on 1-4-11

Particular	2011-- 12	2012-- 13	2013-- 14	2014-- 15	2015-- 16	2016-- 17	2020- 21
Production Projection #	452	467	486	509	531	557	681
Committed Demand a/c on-going supplies ,excluding E-Auction	418	418	418	418	418	418	418
E-auction	45	47	49	51	53	56	68
Availability	-11	2	19	40	60	83	195
Commitments unde pipeline							
A) Commitment through LOA a/c thermal Power Plants	112	414*	414	414	414	414	414
B)Commitement through LOA for Others	35	35	35	35	35	35	35
Total of (A) &(B)	147	449	449	449	449	449	449
NET COAL BALANCE	-157	-447	-430	-409	-389	-366	-254

* Based on LOAs issued. However, actual requirement may differ on year to year basis ultimately to reach at 449 Mt at the TY of XII Plan

Subject to getting all clearances in time

Challenging Issues

- The negative coal balance position around 400 Mt to continue till the end of XII Plan based on LOAs issued so far
- Further recommendations by SLC (LT) is withheld for the widening gap between commitment vis-à-vis availability – more than **1500 applications for about 3000Mt** of coal are reported to be in pipeline (as per MOC website)
- Implementing policy for issuance of LOA to new consumers in the Non SLC/LT segment is also pending
- Supply-mix for new consumers under FSA limited up to 50% of indigenous coal

Performance trends of CIL in XI Plan

	06-07	07-08	08-09	09-10	10-11	% CAGR
Production (Mt)	360.92	379.46	403.73	431.27	431.32	4.56
Off-take (Mt)	351.14	375.33	401.46	415.88	424.30	4.85
Power Despatch (Mt)	261.81	280.04	295.81	298.03	304.28	3.83
Wagon loading (Rakes/day)	148.70	152.00	155.20	156.70	161.90	2.15
Closing pithead stock (Mt)	43.05	45.60	47.73	63.54	70.56	13.15

The mismatch in growth of production and transportation led to accumulation of coal stock at pithead from a level of 43Mt in the TY of X Plan to 71Mt in 2011-12. TY XI Plan is earmarked as the YEAR OF OFF-TAKE by CIL. To help in evacuation more coal needs to move to railhead. New sidings need to be developed.

Trend of Growth in IR Coal Traffic during XI Plan

Rakes/day

Category	2006-07	2007-08	2008-09	2009-10	2010-11	CAGR (%)
CIL	148.7	152.0	155.2	156.7	161.9	2.2
SCCL	16.0	18.5	18.6	21.8	22.0	8.3
Others	40.1	45.1	52.5	54.2	65.3	13.0
Indigenous	204.8	215.6	226.2	232.7	249.2	5.0
Imported	24.2	24.5	30.3	37.8	46.4	17.7
Total	228.9	253.5	272.3	270.4	295.6	6.6

Growth in wagon loading for CIL continues to be far less than the national average. This is due to inadequate growth of loading capacity of CIL in growing fields like SECL, MCL and CCL. Planned sidings have not come up.

Share of IR in CIL despatch system in 2010-11

Figs. in Mt

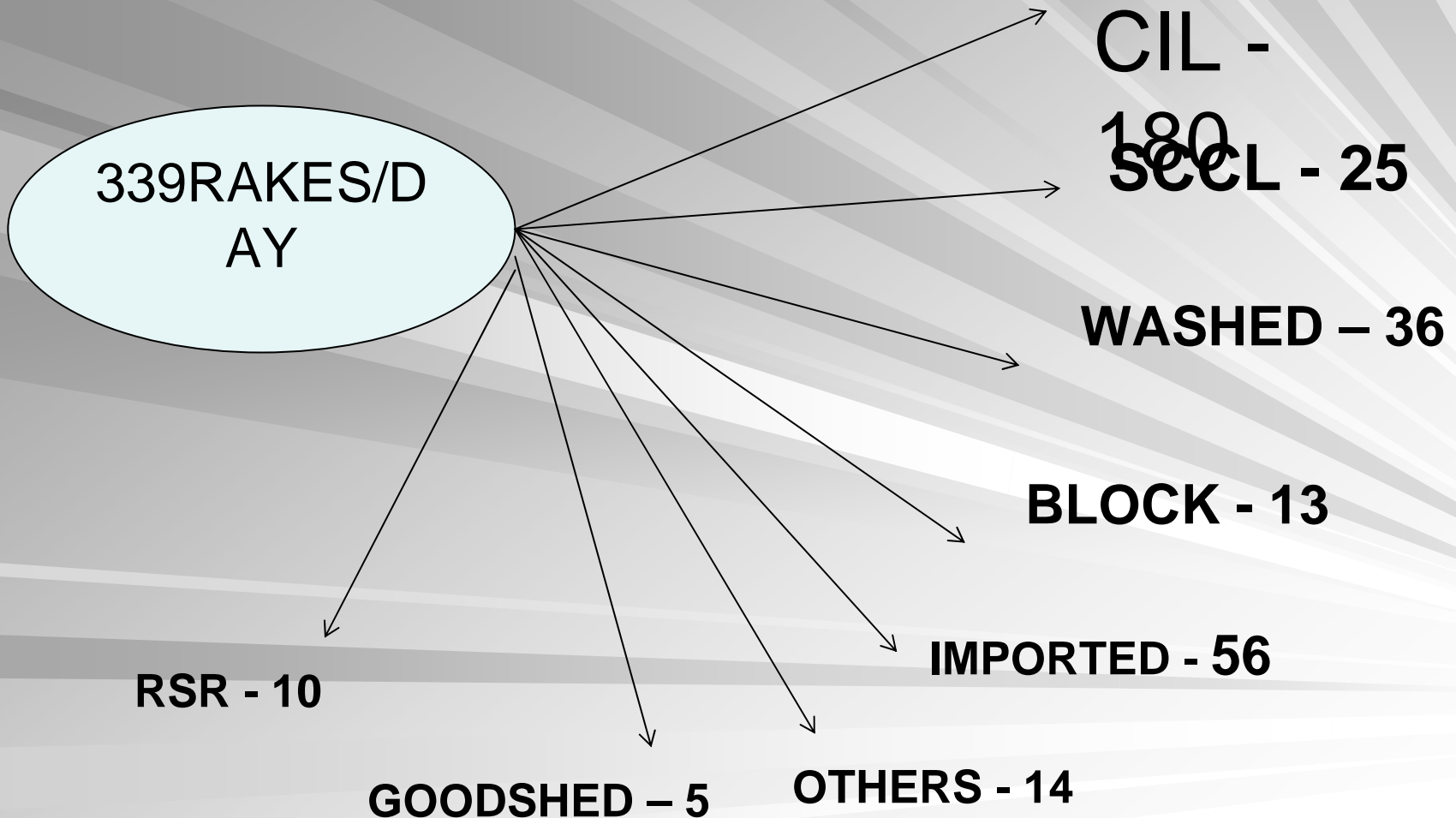
Co	Production (Raw Coal)	External Despatch (Raw Coal+Products)			
		Total Despatch	Rail Despatch	% Share	Rail Co- efficient (%)
ECL	30.81	29.34	17.73	60.4	57.6
BCCL	29.00	29.56	23.14	78.3	79.8
CCL*	47.52	44.54	34.82	78.2	73.3
NCL	66.25	64.05	23.78	37.1	35.9
WCL*	43.65	42.54	25.87	60.8	59.3
SECL*	112.71	109.06	63.54	58.3	56.4
MCL*	100.28	102.08	62.81	61.5	62.6
NEC	1.10	1.11	0.86	77.8	78.3
CIL*	431.32	422.28	252.54	59.8	58.6
Net CIL (excluding Pvt. Washeries)	431.32	422.28	215.99	51.1	50.1

*Note: Despatch of 36.56 Mt account private washeries (2.07 Mt, 7.90Mt, 23.01Mt & 3.58Mt respectively in CCL, WCL, SECL & MCL) included in rail despatch shown above

Coal Company-wise Rail loading performance in 2010-11 (rakes/day)

	Target	Indent	Actual	%Mat	Last Yr	% Growth
ECL	12.7	13.0	13.6	107.1	12.8	6.2
BCCL	18.7	23.6	18.8	100.5	15.8	18.9
CCL	30.2	26.6	24.1	79.9	23.3	3.6
NCL	17.4	20.6	17.2	98.4	16.6	3.3
WCL	15.5	13.9	13.9	89.5	16.5	(-) 15.9
SECL	34.2	33.6	30.4	89.0	30.3	0.5
MCL	55.7	57.3	43.1	77.4	40.7	5.8
NEC	0.6	0.9	0.8	135.1	0.8	6.4
CIL	185.0	189.5	161.9	87.5	156.8	3.2

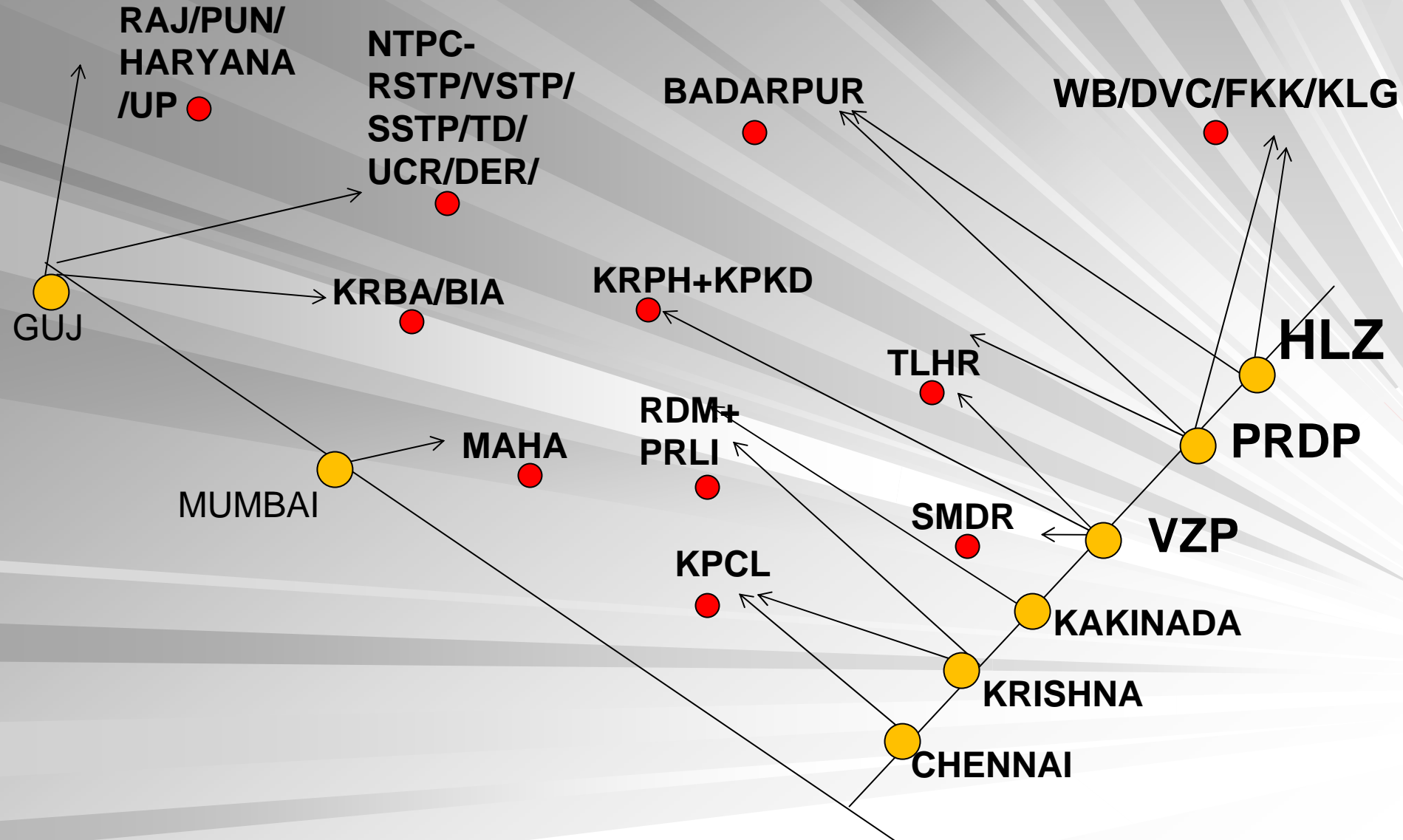
WHO LOADS THE COAL? MARCH 2011



COAL IMPORTS FOR TPS

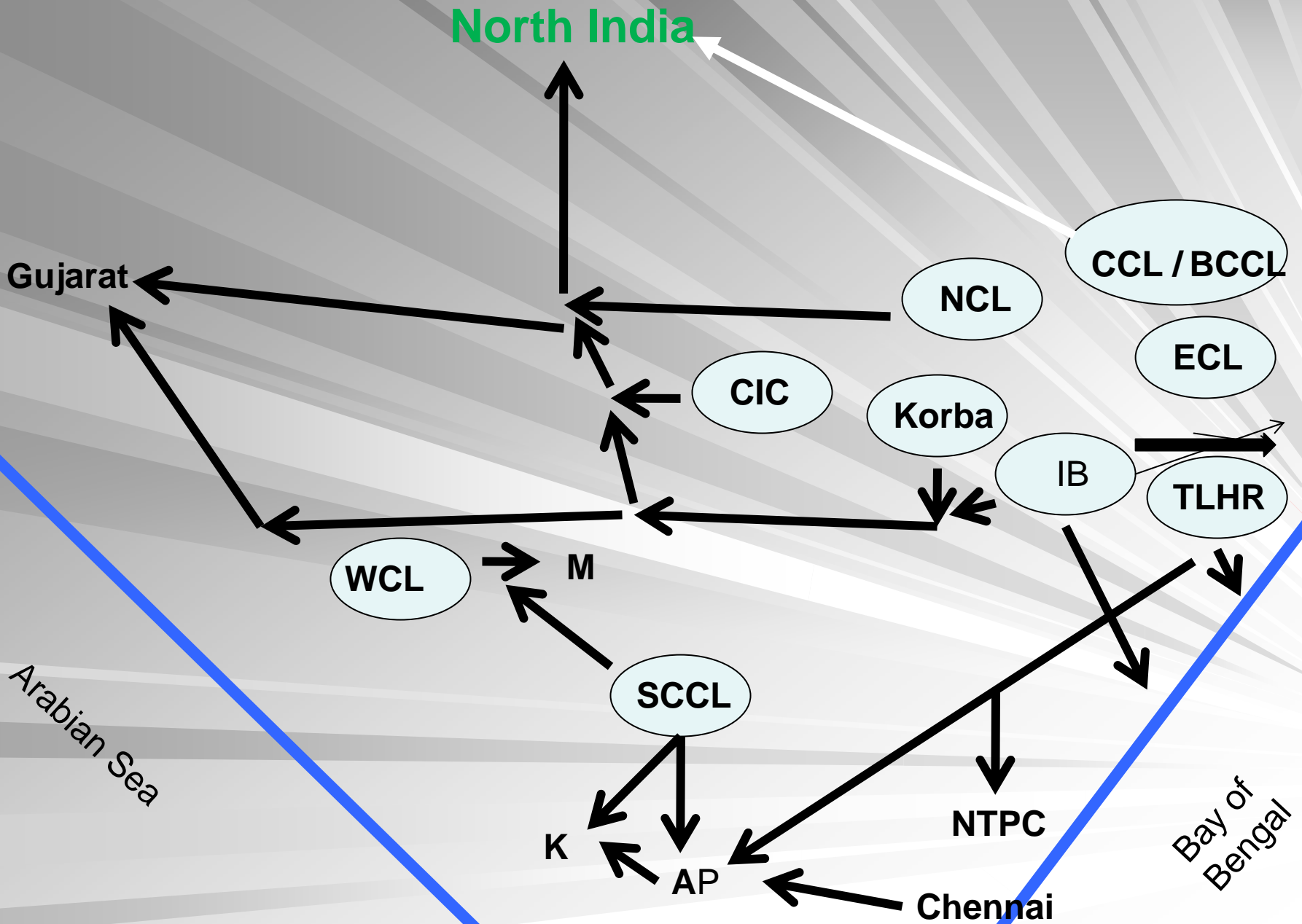
YEAR	TARGET	ACTUAL
2001-02	0	3.6
2002-03	0	3.1
2003-04	0	3.4
2004-05	10.0	4.5
2005-06	13.5	10.4
2006-07	20.0	9.7
2007-08	12.0	10.2
2008-09	20.0	16.1
2009-10	28.7	24.6
2010-11	35.0	21.8
2011-12	35.0	6.5(UPTO MAY)

EVACUATION PLAN FOR TPS



Coal infrastructure— strengthening routes

COAL O-D FLOWS



Coal Routes

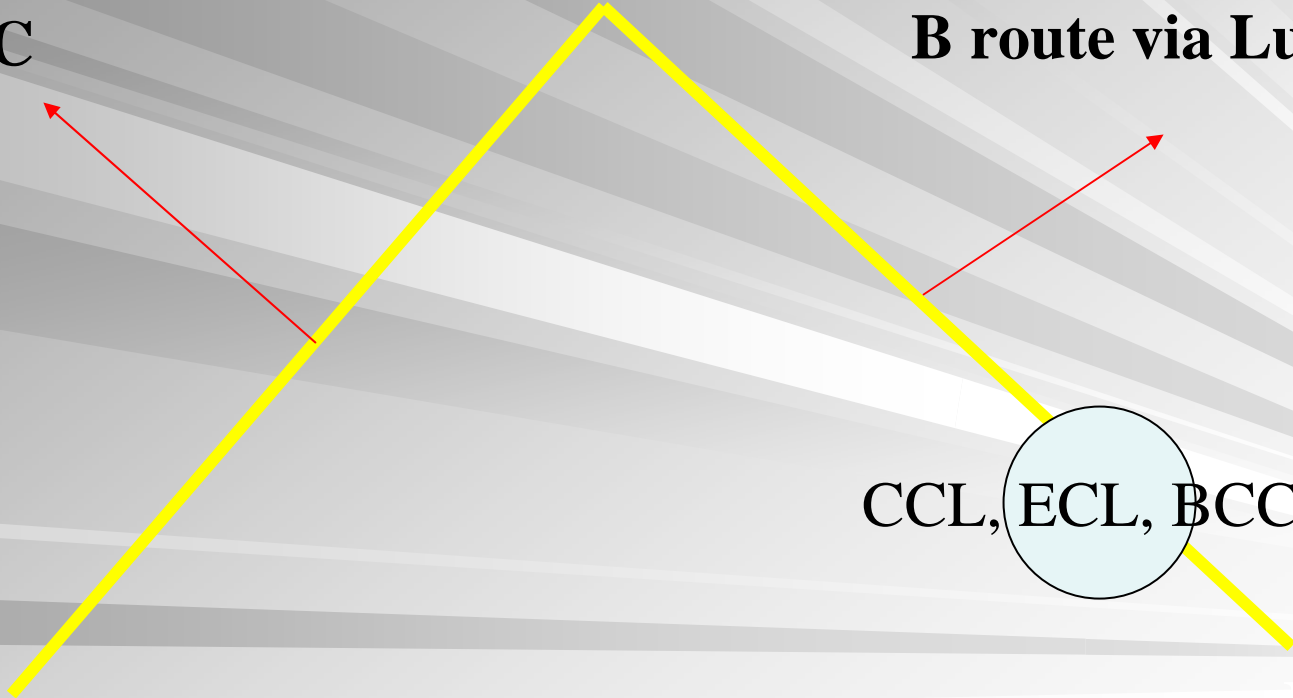
NDLS

DFC and doubling of
B route via Lucknow

DFC

CCL, ECL, BCCL

• MUMBAI



PORT CONNECTIVITY

- HALDIA- VISAKHAPATNAM
- MORMUGAO- GANGAVARAM
- MUMBAI- KRISHNAPATNAM
- ENNORE KAKINADA
- PARADEEP- COCHIN
- NEW MANGALORE- PIPAVAV,
- KANDLA- MUNDRA
- TUTICORIN- DIAMOND HARBOUR-

ISSUES FOR FUTURE

- Reliability of MGR systems for Pit Head plants?
 - Need for other linkages to Pit Head plants
- Integrated Planning- Plant, Mines, Rlys
 - Evacuation issues from new coal blocks
- Handling Infrastructure- Loading & Unloading

Future -FTA's

- Model agreement ready
- Signed with 3 IPP's
- Obligations & Rights
- Liquidated Damages
- Deemed Delivery
- Premium on freight for guaranteed delivery

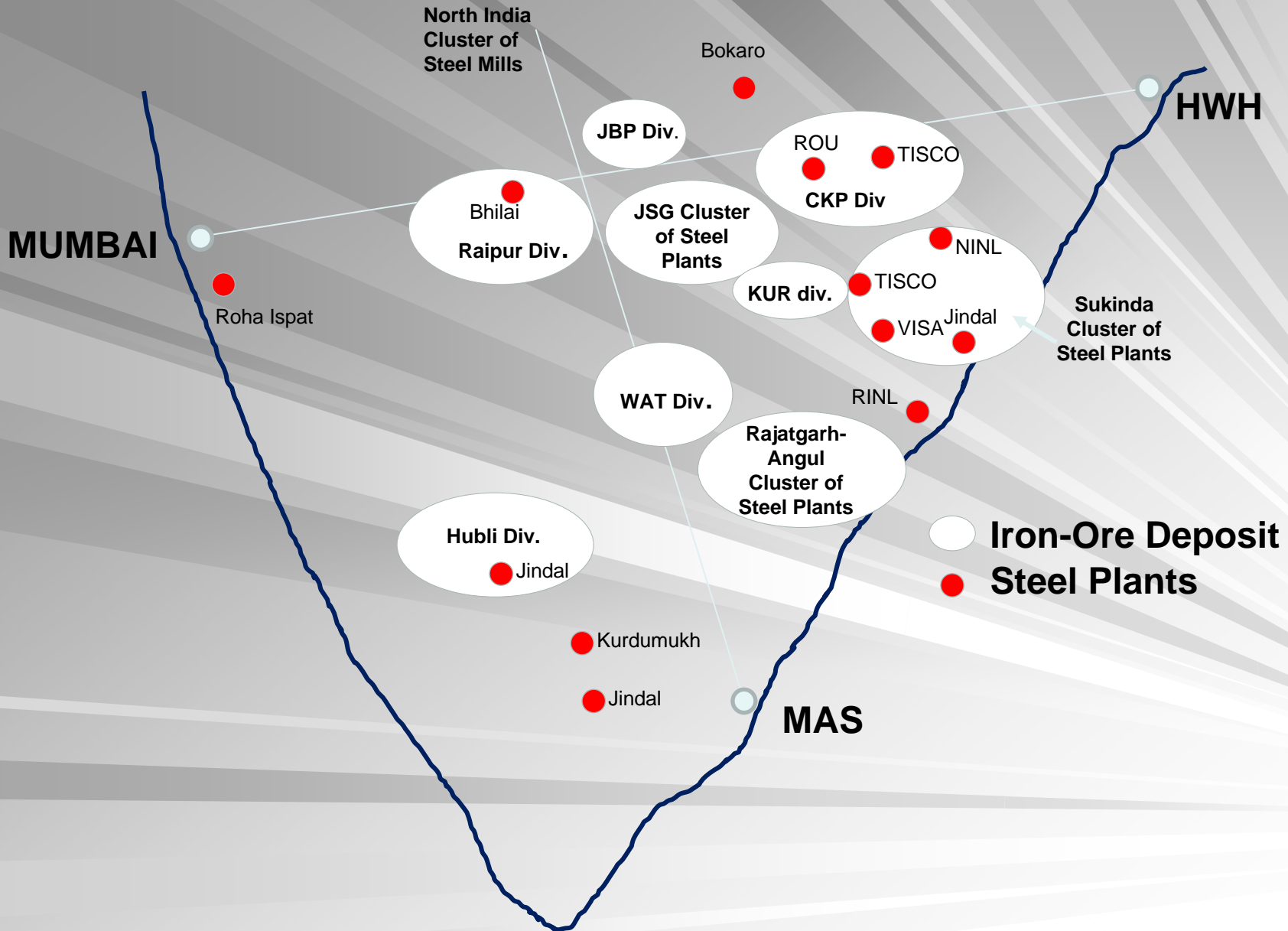
FUTURE - PORTS

- Seamless operation – no exchange yards
- Ports as mines
- Supplies to be continuous – no spurts
- Adequate space for stock piling
- Redundancy in handling infrastructure

IRON ORE AND STEEL

A SECTORAL VIEW

IRON-ORE & STEEL PLANTS



IR AND STEEL INDUSTRY

- CLOSE RELATIONSHIP, AS A CUSTOMER & SERVICE PROVIDER.
- ABOUT 15% OF ORIGINATING TRAFFIC OF IR ASSOCIATED WITH MAIN AND MAJOR STEEL PRODUCERS.
- INCREASE TO 20% OF TRAFFIC IF ALL PRODUCERS ARE CONSIDERED
- DURING 2003-10, AVERAGE GROWTH IN I&S LOADING -14%.
- RAIL COEFFICIENT – 35.2% IN 2004 TO 46.0% IN 2010.
- EPI- CENTRE OF THIS GROWTH WILL BE ORISSA-JHARKHAND –CHHATTISGARH.
- RAILWAYS TARGETS TO MOVE 200 MILLION TONNES OF TOTAL INWARD AND OUT WARD TRAFFIC FOR M & M STEEL PRODUCERS BY 2011-12.

CUSTOMER'S LOGISTIC REQUIREMENT

- PREDICTABILITY IN WAGON SUPPLY AND TRANSIT.
- SUPPLY- CHAIN VISIBILITY
- SINGLE AGENCY, SINGLE DOCUMENT, LAST LEG LOGISTICS - TOTAL SEAMLESS SOLUTION
- COST REDUCTION

CONSTRAINTS.....

— RAILWAY INFRASTRUCTURE

— TERMINAL INFRASTRUCTURE

⑩ AT PLANT END

⑩ AT PORT END

⑩ AT LOADING AND UNLOADING TERMINALS

— LAW AND ORDER RELATED ISSUES.

— FLUCTUATION IN DEMAND

INITIATIVE BY RAILWAYS

- CAPACITY AUGMENTATION ON IDENTIFIED ROUTE.
- UPGRADING OF IRON ORE ROUTES TO 25T, HIGHER AXLE LOAD TRAINS .
- INDUCTION OF IMPROVED DESIGN OF WAGONS.
- LONG HAUL TRAINS
- PRIVATE INVESTMENT IN SPECIAL PURPOSE WAGONS
- FOIS – SUPPLY LINE VISIBILITY

A ROADMAP AHEAD-----

RAILWAY WILL CONTINUE TO BE PREFERRED MODE FOR TRANSPORT

- **BULK ORDERS - RAILWAYS**
- **SMALL ORDERS – NON RAILHEAD– ROAD/
RAILWAYS WITH PROVISION OF END LOGISTICS**
- **HIGH END- RAILWAYS THROUGH SPECIAL
STOCK/ CONTAINERS**

WAY AHEAD-----

— IDENTIFICATION OF FUTURE O-D FLOWS

— AUGMENTATION OF INFRASTRUCTURE

- RAIL CAPACITY
- TERMINAL CAPACITY AT THE PLANT END
- ADDITIONAL UNLOADING TERMINALS
 - THIRD PARTY TERMINAL
- PORT CAPACITY

— DEVELOPMENT OF SPECIALIZED RAILWAY WAGONS

— THIRD PARTY LOGISTICS SERVICE PROVIDER

THANK YOU