



# Works, ROLLING STOCK and M&P Program

Prof/RST

# Planning

- Planning is Process of
- Thinking about Activities
- Required to Achieve a Desired Goal
- Involves Creation and Maintenance of a plan
- One of the Executive Functions of Brain
- Consists of
  - Formulation
  - Evaluation
  - Selection
  - of Sequence of

# Planning in business

- Planning

- Basic Management Function

- Identification of Goal to be achieved

- Formulation of strategies to achieve

- Arrangement or Creation of Means

required

- Implementation Direction Monitoring

- of all Steps in Proper Sequence

# Planning in business

- Planning demands
  - High Level of Conceptual & Visionary Thinking
  - Not merely Expansion/Modernization of System
- But also
  - To take Stock of Current Status
  - To take Corrective Actions
- In world of
  - Changing Market
  - Changing Technology

# Planning in railways

- Objective

- Quality

  - Safety

  - Security

  - Punctuality

    - Comfort for Passengers

- Quantity

  - Expansion of Business

  - Better Utilization of Assets

- Cost

  - Reduction in Cost

    - Man

    - Machine

    - Material

    - Downtime of

Assets

# Planning in railways

- Planning Involves
- Integrated Approach for
- Creation of
- Infrastructure
- Assets
- Machinery & Plants
- Human Resource
-

# Planning in railways

- Planning has Three Levels
  - Corporate Planning at Railway Board
    - Based on Five Year Plan of Railways
    - Need for Infrastructure/Assets/M&P
    - Advise Zonal Railways for
      - Initiation of Proposals
  - Zonal Planning at Zonal Railways
    - To meet the Requirement of Zone
  - Unit Level
    - To replace Assets
    - To improve Quality

# Planning in railways

- Five Year Plan of Railways

Forecast the Growth of  
Passenger And Freight Traffic  
Area-wise

Identifying and Removing Bottlenecks

Anticipating Likely Bottlenecks

Working out Requirement of Rolling Stock

Replacement of Over-aged Assets

Adopting State-of-Art Technology



# Five year plan - railways

- Goals for Investment
  - Meeting Increased Traffic Needs
  - Improving Customer Focus
  - Improving Quality and Train Safety
  - To develop Capacity to deal with
    - Fluctuating Production Volumes
  - Human Resources
    - Employee Training
    - Workplace Safety
    - Improved Working Conditions
  - New Technology Adoption
  - Environmental Responsibility

# Planning in railways

- Five Year Plan of Railways

- Source of Funding

Internal Generation

Development Fund

DRF

Extra Budgetary Support

Borrowings

Gross Budgetary Support

# Planning in railways

- Annual Program
- Review and Follow up of
- Five Year Plan
- Broadly Categorized as
  - Works Program
  - Rolling Stock Program
  - Machinery & Plant Program

# Present five year plan railways

- In 2015-16 Railways Budget
- Beginning of a Rs 8560bn Five-Year Action Plan
  - To Transform Network
  - Four goals for IR
    - Sustainable and Measurable
  - Improvement
    - in Customer Experience
    - Improved Safety
    - Substantial Expansion of
      - Passenger and Freight Capacity
    - Becoming Financially Self-sustainable

# Present five year plan railways

## Objective Target

To increase Capacity from  
21 to 30 million Passengers/day  
1 to 1.5 billion tones/year

## Focus on

Gauge Conversion

Additional tracks

Electrification

on high-traffic routes

NITI AYOOG's India - Three Year Action Agenda

2017-18 to 2019-2020



# Works Program

# Works program

- Works Program

Primarily Meant for  
Creation  
Acquisition  
Replacement  
of Assets

# Works program

- On the Basis of Estimate of
- Plan Fund Requirement for Ensuing Year
- Railway Board lay down Financial  
Limit
- Under Various Plan Heads
- Railways are required to make out
- Program for Following Year
- Duly vetted by Finance



# Works program

- Examination of Program

By Railway Board

Discussion about

Necessity of Work to be

undertaken

Outlay of Fund

For Preliminary Works

Program

GM LAW Works

# Works program

- Stages of Final Works Program
- Formulation of Schemes as a part of
- Advance Planning
- Submission of Major Schemes for
- Advance Scrutiny and Clearance by
- Railway Board for
- Selection of Projects

# Works program

- Stages of Final Works Program
- Preparation of Preliminary Works Program within Financial Ceiling laid down by Railway Board
- Discussions with Railway Board
- Submission of Final Works Program

# Works program

- Advance Planning
  - Part of Continuous Exercise at Division Level
  - Intended to improve Efficiency of Operation
  - Removal of Bottleneck
- Major Railway Projects require
  - Co-ordination between Departments
  - Preparation of Estimate
-

# Works program

- Advance Planning (Contd...)

- Requirement of Efficient Investment Planning
- Realistic Estimate
- Working out of Work in Details
- Detailed Plan and Estimate
- Co-ordinated among all

Department

- Financial Justification of Expenditure on
- New Assets and Replacement
- Indian Railways Finance Code Chapter-II
-

# Works program

- Scrutiny of Major Project by Railway Board
- Schemes above Specific Amount
- Require Scrutiny prior to Preparation of PWP
- Consists of
  - Purpose/Objective      Technical Features
  - Cost Break-up      Sketch of Map
  - Benefit Expected to Accrue
  - Financial Implications
- Communication of Scrutiny by Board to Railways
- With or without Modification

# Works program

- Preparation
- Chief Engineer – Co-Ordinator
- Communication of Total Outlay by
- Railway Board Plan Head wise
- Railways to Frame Works Program
- Within Outlay
- Detailed Plan with Scheduling
- In accordance with Financial Outlay
- Prioritizing of Work
- Vetting and Comment of Finance

# Works program

- Working out of Outlay
- Realistic Assessment of Work in Progress
- Amount required for New Work
  
- Submission
- To be submitted to Railway Board
- Prior to 1<sup>st</sup> September



# works program

- Sanction of Works Program

## General Manager

Work upto Rs. 2.5 Cr

Work upto Rs. 1 Cr (PH-52)

## PHOD and DRM/CWM

Work upto Rs. 2.5 Cr

(PH-16, 31, 32, 29, 30, 53)

Work upto Rs. 1 Cr

(PH-33, 36, 37, 42, 64)

## DRM/CWM

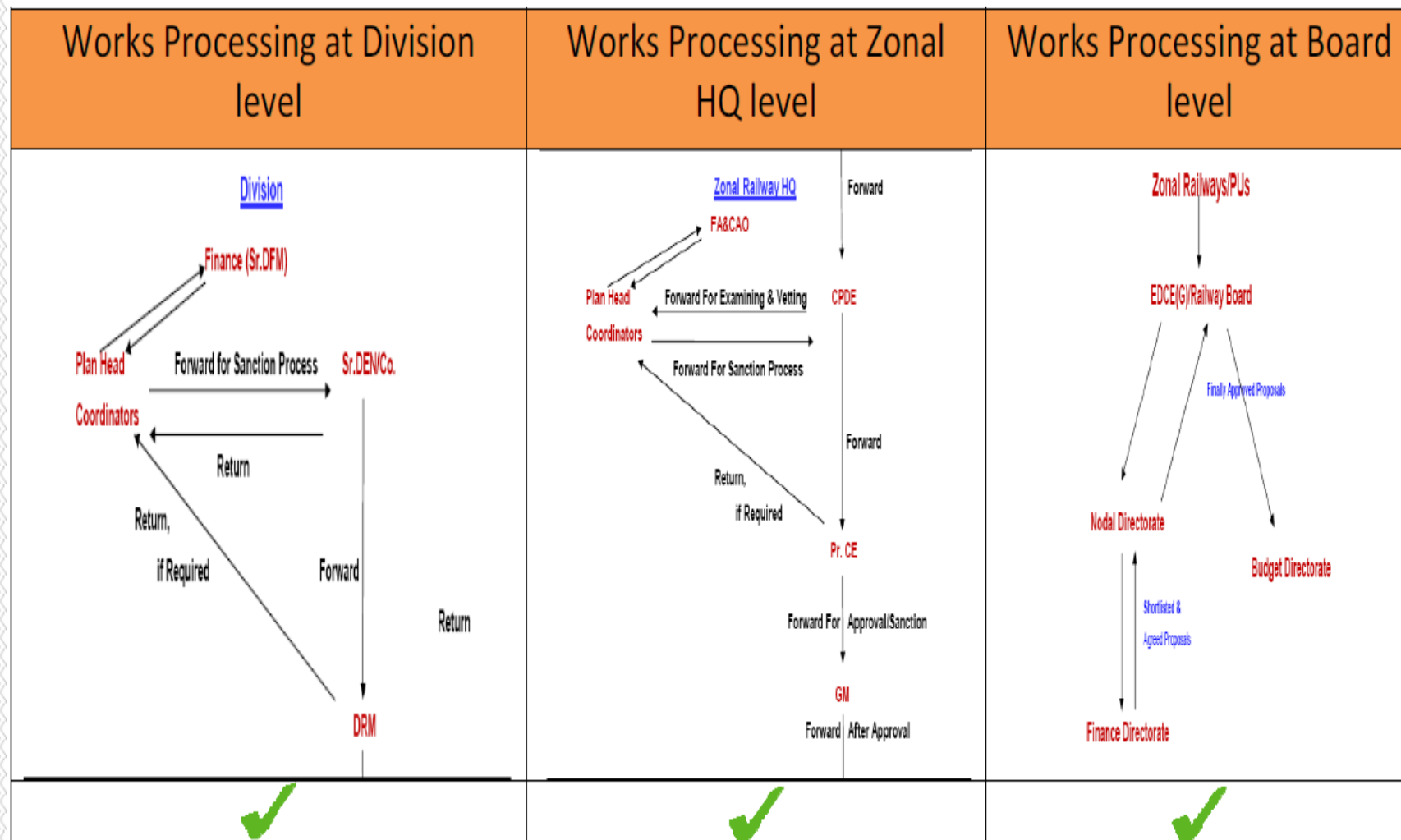
Work upto Rs. 20 Lakh (PH-52)

# IRPSM portal

- <https://ircep.gov.in/IRPSM>
- Indian Railways Project Sanction & Management
- Creation of Proposal
- Vetting of Proposal by Finance Counterpart
- Submission to HQ and Board
- From Lower Level to Higher Level
- Tracking for Sanction
- Progress of Work

# IRPSM portal

## Central Application



# works program

## • Illustration in Pink Book

कारखाने - उत्पादन इकाइयों सहित / WORKSHOPS INCLUDING PRODUCTION UNITS							
अ - चालू कार्य / A - Works in Progress							
566	नरकेलडांगा कार शेड - 12-यान रेक की निर्माण हेतु लाईन सं.4 पर अतिरिक्त गर्त और लाईन सं.3 व 4 पर शेड	विनि (3)	DF(3)	5,28,00	1,94,84	63,61	18,69
	Narkeldanga Car Shed - Addl. pit on line No.4 & shed on line No.3 & 4 for 12-coach rakes formation	ररेसंको	RRSK	2,00,00	..	1,15,00	2,00,00
567	लिलुआ - कारखाने का आधुनिकीकरण	पूंजी	Cap.	26,68,52	12,07,49	6,68,10	1,09,71
	Liluah - Modernisation of workshop	मूआनि	DRF	51,75,58	5,27,25	39,35	7,00,00
		विनि (3)	DF(3)	43,63,45	10,09,39	1,63,40	75,00
568	जमालपुर - कारखाने का आधुनिकीकरण	पूंजी	Cap.	80,15,94	41,43,14	3,00,00	5,37,00
	Jamalpur - Modernisation of workshop	मूआनि	DRF	37,29,78	42,61,54	1	1
569	काचरापाड़ा कारखाना - 40 मोटर व 80 ट्रेलर सवारीडिब्बा प्रतिमाह की आवधिक ओवरहालिंग हेतु क्षमता का संवर्धन	पूंजी	Cap.	80,85,74	30,04,53	5,58,24	10,00,00
	Kanchrapara Workshop - Augmentation of capacity for periodical overhauling of 40 motor & 80 trailer coaches per month						
570	हावड़ा - डीजल शेड के ढांचे में परिवर्तन	मूआनि	DRF	26,51	9,75	1	2,85
	Howrah - Remodelling of diesel shed	विनि (3)	DF(3)	1,81,00	93,74	31,50	60,76
		ररेसंको	RRSK	75,00	..	50,00	10,76
594	2.5 करोड़ रुपए से कम लागत के प्रत्येक कार्य	पूंजी	Cap.	..	..	..	81,78
	Works costing below Rs.2.5 crore each	मूआनि	DRF	..	..	..	2,17,27
		विनि (3)	DF(3)	..	..	..	62,39
		ररेसंको	RRSK	..	..	..	2,93,97

# works program

## • Illustration in Pink Book

ब - नये कार्य / B - New Works							
595	टिकियापाड़ा - सवारीगाड़ी यार्ड के हांचे में परिवर्तन (चरण-3) Tikiapara - Remodelling of coaching yard (Phase-3)	विनि (3)	DF(3)	21,02,73	..	..	5,00
596	अंडाल - मालगाड़ी परीक्षण हेतु अप यार्ड में बी-श्रेणी अवसंरचनात्मक सुविधाओं का ए-श्रेणी में उन्नयन Andal - Upgradation of B-category infrastructural facilities of up yard to A-category for freight train examination	विनि (3)	DF(3)	9,54,54	..	..	5,00
597	राणाघाट (ईएमयू कार शेड) - 15 डिब्बों की अनुरक्षण सुविधाओं हेतु परीक्षण-बे Ranaghat (EMU Car Shed) - Inspection bay for 15 coach maintenance facilities	पूंजी	Cap.	39,12,78	..	..	10,00
598	सियालदह - सवारीगाड़ी रुग्ण लाइन का विस्तार (100 मी) और सियालदह छोर पर आच्छादित शेड Sealdah - Extension of coaching sick line (100 m) with covered shed at Sealdah end	विनि (3)	DF(3)	20,08,00	..	..	10,00
599	झील साइडिंग सवारीगाड़ी डिपो - अवसंरचनाओं का विकास Jheel Siding Coaching Depot - Infrastructure development	विनि (3)	DF(3)	63,76,74	..	..	5,00
600	2.5 करोड़ रुपए से कम लागत के प्रत्येक कार्य Works costing below Rs.2.5 crore each	पूंजी	Cap.	..	..	..	1,00
		मूआनि	DRF	..	..	..	1,00
		विनि (3)	DF(3)	..	..	..	1,00
		ररेसंको	RRSK	..	..	..	3,00,00



# ROLLING STOCK

## Program

# Rolling stock program

- Annual Rolling Stock Program

Primarily Meant for

New Acquisition

Locomotive

Coaches

Wagons

Tower Cars

Track Machines

BD Cranes

Midlife Rehabilitation & Modernization

Also for

Major Modification

High Value Capital Unit Exchange Spares

# Rolling stock program

- Advance Planning of Rolling Stock Program

New Locomotive

Three Years in Advance

Coaches & Wagons

Two Years in Advance

To Match the Requirement

In Each Year of Plan Period

To Provide Lead Time

For Supply/Manufacturing



# Rolling stock program

- Advance Planning of Rolling Stock Program

In Order to Facilitate  
Uninterrupted Production Planning  
PUs Workshops Permitted to  
Plan for 80% of Previous Years  
Facilitates in Advance Preparation of  
Materials Tooling Machining  
for 80% of Next Year Requirement  
without Waiting for  
Specific Program from Board

# Rolling stock program

- Preparation of Rolling Stock Program

Draft Program

Prepared by COM

Addition and Renewal of Rolling Stocks

Forwarded to CME

Inclusion of

Major Modification

Capital Unit Exchange Spares

# Rolling stock program

- Preparation of Rolling Stock Program

Workshops Shed Depots

Requirement of Spares to CME for  
Major Modification

Capital Unit Exchange Spares

Consolidation of RSP at CME

Addition and Renewal of Rolling Stocks

Inclusion of

Major Modification

Capital Unit Exchange Spares

# Rolling stock program

- Preparation of Rolling Stock Program

Forwarded to FA&CAO

Finance Concurrence

Against Each Item

Forwarded to General Manager

For Approval

Forwarded to Railway Board as

Itemized Rolling Stock Program

For Inclusion in Pink Book

# Rolling stock program

- Preparation of Rolling Stock Program

Time Frame

To reach Railway Board

Prior to 15<sup>th</sup> September of Preceding Year

Communication of Sanction of Railway Board

May of Current Year

# Rolling stock program

- **Work Proposed in**
- **Itemised Rolling Stock Program**
- **In Two Format**

Work Already Sanctioned by Railway Board  
Called Programmed Delivery

New Work Proposed by PU/Zonal Railways  
Pertains to Specific Requirement

# Rolling stock program

- Annual Rolling Stock Program

Procedure Calculation New Acquisition

Additional Reqmt for Increase In Traffic = B

Reduction for Change In Traffic Pattern = C

Condemned in Previous Year = E

Accident Damage = F

Provisions Required In The RSP =  $B - C + E + F$

# Rolling stock program

- Calculation of New Acquisition

## Renewal

Depends on Codal Life  
Of Rolling Stock

Suitability of Existing Stock to  
Meet Modern Requirement

Expenditure will Incur  
To Maintain the Stock



# CODAL LIFE - ILLUSTRATION

## (iii) ELECTRICAL ASSETS

S.No.	Class of assets	Average life in years
1.	Electric Locomotives	35
2.	EMU/Metro Motor Coaches	25
3.	EMU/Metro Tractor Coaches	25
4.	Over Head Power Lines	40
29	<b>Electric Locomotive Equipments</b>	
(i)	All Electric rotating machines up to 25 HP used on Electric Locomotives, EMU's Coaches and for stationary items	12
(ii)	All Electric rotating machines above 25 HP and upto 750 HP used on Electric Locomotives, EMU's Coaches and for stationary items	12
(iii)	Traction Motor	18
(iv)	Traction Converters	18
(v)	Auxiliary Converters	18
(vi)	Control Electronics	18
(vii)	Tap-Changer	35
(viii)	Rectifier Block	18
(ix)	Traction Gears	12

# CODAI IFF - ILLUSTRATION

<b>ROLLING STOCK</b>		
29	Diesel Electric/ Hydraulic Locomotives	36
30	Diesel Engine	18
31	Shunting Locomotives	36
32	Steam Locomotives	40
37	Full Stainless Steel Body Coaches including DMUs/EMUs, Restaurant Cars etc.	30
38	Light utilisation categories of coaches (steel body) like inspection carriages etc.	40
39	IRS Coaches	30
40	Open Bogie wagons with air brakes and Casnub bogies	30

# Rolling stock program

- **Calculation of New Acquisition**

Additional Requirement

Expected Increase in Traffic

On Existing Lines

Additional Traffic

On New Lines to be Commissioned

Spares for Mechanical Repairs etc

Scope for Peak Demand

# • Unit Exchange Spares Norm ALCO

S. No	Description	Requirement of items		
		<100	≥100 & <175	≥175 & ≤250
1.	Diesel engine power pack complete with generator and turbo super charger.	3	4	6
2.	Truck assembly complete with wheels bearing springs, traction motors etc.	6	8	10
3.	Turbo supercharger	5	8	12
4.	Compressor	4	6	8
5.	Radiator set	4	6	8
6.	Lube oil cooler	4	6	8
7.	Radiator fan drive with eddy current clutch with complete gear box	4	6	8
8.	Engine Crank shaft	2	4	6
9.	Camshafts (FE) in loco set	6	8	10
10.	Camshafts (SUCS) in loco set	8	12	16
11.	Fuel injection pumps (loco set)	4	6	8
12.	Fuel injector nozzle with holder complete (loco set)	4	6	8
13.	Fuel pump supports (loco set)	4	6	8
14.	Cylinder heads (loco set)	5	7	9
15.	After cooler	5	7	9
16.	Water pump	5	7	9
17.	Lube oil pump	5	7	9
18.	RTTM blower	5	7	9
19.	Air filter cyclonic	1	4	6
20.	Pistons with connecting Rods and caps (loco set)	5	7	9
21.	Traction Alternator/ Generator ( apart from those with the power pack)	4	6	8

# • Unit Exchange Spares Norm ALCO

22.	Air brake valves (loco set)	4	6	8
23.	Traction motors (apart from those with the trucks)	24	36	48
24.	Aux. generator	4	6	8
25.	Exciter alternator	4	6	8
26.	Dynamic brake blower motor	4	6	8
27.	Fuel pump motor	4	6	8
28.	Crank case exhauster motors	4	6	8
29.	BKT 1 & 2	4	6	8
30.	Reverser 1 & 2	4	6	8
31.	Power contractors	4	6	8
32.	FS contractors	4	6	8
33.	Exciter panel	1	2	3
34.	Voltage regulator	2	4	5
35.	FS resistance	4	6	8
36.	Dynamic brake gird resistance	4	6	8
37.	Governor Wood word/MCBG	4	6	8
38.	Tacho Generator	4	6	8
39.	Axle alternators	4	6	8
40.	All safety relays	4	6	8
41.	Batteries	4	6	8
42.	Fuel pump	4	6	8
43.	Governor oil pump	4	6	8

# • Unit Exchange Spares Norm HHP

Sl. No.	Description	Requirement of items		
		<100	≥100 & <175	≥175 & ≤250
1.	Power pack complete (with Generator and Turbo-supercharger)	2	3	4
2.	Power Assembly (Fork Rod )	16	32	32
3.	Power Assembly (Blade Rod )	16	32	32
4.	Turbo supercharger	5	8	10
5.	Turbo clutch assembly	4	5	6
6.	Turbo soak back pump and motor assembly	2	4	4
7.	Piston cooling and pressure pump	2	4	4
8.	Air filter cyclonic	1	1	2
9.	After cooler Assembly	5	6	6
10.	Unit fuel injectors	192	192	192
11.	Fuel pump motor	4	8	10
12.	Lube oil cooler	4	7	9
13.	Lube oil scavenging pump	2	4	4
14.	Engine Crank shaft	1	2	3
15.	Camshaft in loco set	6	8	10
16.	Cylinder heads	16	32	48
17.	Water pump	4	8	12
18.	Radiator fan with Motor	6	10	12
19.	Radiator set	4	8	10
20.	Starter motor	4	8	8
21.	Governor assembly	3	3	3
22.	Air dryer	5	8	8
23.	Air brake pneumatic valves and CRU Cards	1	3	3
24.	Air Compressor	4	5	5
25.	Truck assembly complete with wheels bearing springs, traction motors etc. P4	2	4	5

# • Unit Exchange Spares Norm HHP

26.	Truck assembly complete with wheels bearing springs, traction motors etc. G4	2	4	5
27.	Wheel set Assembly without traction motor G4 & P4	12	24	30
28.	Traction Alternator assembly (apart from those with the power pack)	3	4	5
29.	Auxiliary Alternator	3	4	5
30.	Traction motors P4 (apart from those with the trucks)	18	36	42
31.	Traction motors G4 (apart from those with the trucks)	18	36	42
32.	Dynamic brake grid with motor	3	5	5
33.	EM 2000 with Modules Chassis assembly etc	1	3	3
34.	DC Link Switch gear	1	3	3
35.	TCC Electronic Blower with motor	1	3	3
36.	Dust bin Blower with Motor	1	3	3
37.	Traction Motor Blower with Motor	2	3	3
38.	DB Hatch assembly	1	1	2
39.	Detector assembly EPD	4	8	8
40.	Radar assembly	2	4	6
41.	Dynamic brake controller	5	8	8
42.	GP relay- 2 NO, 2 NC	8	12	12
43.	GP relay- 3 NO, 3 NC	20	40	40
44.	GP relay – 4 NO, 4 NC	10	20	20
45.	Ground relay	5	8	8
46.	Generator field contactor	3	6	6
47.	Starting contactor	3	6	6
48.	Starting auxiliary contactor	3	6	6
49.	GFD contactor	3	6	6
50.	DB contactor	8	12	12
51.	Module motor	3	6	6

# • Unit Exchange Spares Norm AC

Equipment	Existing New Norms %	Proposed New Norms %
<b>Conventional Loco:</b>		
<b>TM Armature:</b>		
TAO-659	7.5%	5%
HS15250	5%	4%
<b>TM Stator:</b>		
TAO-659	7.5%	5%
HS15250	5%	4%
<b>Transformer</b>		
3900 KVA	2.5%	1.5%
5400 KVA	2.5%	2%
Tap changer	2.5%	1.5%
RSI block Set	1.5%	1%
VCB	5%	3%



# • Unit Exchange Spares Norm AC

Air Blast DJ	5%	--
<b>Bogie frame:</b>		
Tri-mount	7.5%	5%
Flexi coil	7.0%	6%
Fabricated.	5.0%	4%
<b>3-Phase Loco:</b>		
<b>TM Rotor:</b>		
6FXA7059	12.5%	10%
6FRA6068	8.3%	7%
<b>TM Stator:</b>		
6FXA7059	12.5%	10%
6FRA6068	8.3%	7%
<b>Transformer</b>		
WAP5	2%	2%
WAP7	2%	2%
WAG9	2%	2%
Traction Converter	1%	1%
Aux. Converter loco set	2%	2%
Control Electronics set	2%	2%
OCB complete	15%	15%
Main CP with motor set	4%	3%
E-70 brake panels	2%	2%
<b>Bogie frame:</b>		
Bo-Bo (WAP5)	3%	3%
Co-Co (WAP7, WAG9)	3%	3%

# Rolling stock program

- Information to be Furnished

Programmed Delivery

PB LB No. and Year of Sanction

Particulars

Allocation

Latest Anticipated Cost

Expected Expenditure in Current Year

Expected Expenditure in Next Year

# Rolling stock program

- Information to be Furnished (Contd..)

New Item

Particulars

Allocation

Anticipated Cost

Expected Expenditure in Next Year

Justification in Detail

Concurrence by FA&CAO

# Rolling stock program

- Budget Provision

Fund Allocation

Capital

DRF

Fund for Bulk Order Item

Controlled by Railway Board

Fund for Non-Bulk Item

Allotted to Zonal Railways

# Rolling stock program

- Budget Review

Budget Estimate for Next Year

Budget Grant

August Review

Revised Estimate

Final Modification Estimate

Appropriation

Comparison

Budget Grant vis a vis Final Grant

Final Grant vis a vis Actual Expenditure

# Rolling stock program

## Illustration in Pink Book

मद सं. / Item No.	विवरण / Particulars	आवंटन / Allocation	स्वीकृत लागत / Sanctioned Cost	मार्च 2016 के अंत तक व्यय / Exp. at the end of March 2016	2016-17 के लिए संशोधित परिच्यय / Revised Outlay for 2016-17	2017-18 के लिए प्रस्तावित परिच्यय / Outlay proposed for 2017-18
<b>अ - निर्धारित समय पर मिलने वाले सामान</b>		<b>A - PROGRAMMED DELIVERIES</b>				
रेल इंजन / Locomotives						
CLW						
1	मीएलडब्लू से 110 अदद डब्लूएपी/डब्लूएजी 6000अ.श. विद्युत लोको (820/8-9,200/10-11,145/11-12 121/12-13 102/13-14)	पूंजी	Cap.	52,12,02	52,12,02	..
	110 Nos. WAP/WAG 6000 HP elect.locos ex. CLW Rs.1420 lacs ( 820/8-9, 200/10-11, 102/13-14, 102/14-15, 99/15-16, 5/16-17)	मूआनि	DRF	63,20,00	52,12,02	..
		ईबीआर(बॉण्ड)	EBR(IRFC)	1446,67,98	1128,69,12	1
2	1000 अदद उच्च अक्षशक्ति विजली रेल इंजन 18 करोड़ रुपये प्रत्येक (858/8-9,238/10-11,183/11-12,159/12-13 140/13-14)	पूंजी	Cap.	17964,00,00	60,17,58	..
	1000 Nos. High Horse Power elect.locos Rs. 18 Cr. each ( 858/8-9, 238/10-11, 140/13-14, 140/14-15, 133/15-16, 6/16-17)	ईबीआर(बॉण्ड)	EBR(IRFC)	36,00,00	..	1
95	चिरेका से 70 अदद पहिया सेट रु. 9 लाख की दर से/प्रति यूनिट(706/7-8,196/8-9,176/10-11,121/11-12 85/13-14)	मूआनि	DRF	6,30,00	2,86,40	..
	70 Nos. wheelsets Rs.9 lacs/unit ex.CLW ( 706/7-8, 196/8-9, 85/13-14, 85/14-15, 82/15-16, 95/16-17)	ईबीआर(बॉण्ड)	EBR(IRFC)	10,00	..	1
96	चिरेका से 14 अदद कर्षण कंवर्टर बस स्टेशन दर 45 लाख रु. (711/7-8,201/8-9,181/10-11,126/11-12)	मूआनि	DRF	1,30,00	90,06	..
	14 Nos. Traction convertor Bus station @ Rs.45 lacs/CLW ( 711/7-8, 201/8-9, 88/13-14, 88/14-15, 85/15-16, 96/16-17)	ईबीआर(बॉण्ड)	EBR(IRFC)	5,00,00	..	1

# Rolling stock program

## Illustration in Pink Book

2017-18 के लिए चल स्टाक कार्यक्रम / Rolling Stock Programme for 2017-18

मद सं. / Item No.	विवरण / Particulars	आवंटन / Allocation		स्वीकृत लागत / Sanctioned Cost	(आंकड़े हजार रु. में) (Figures in thousand of Rupees)		
					मार्च 2016 के अंत तक व्यय / Exp. at the end of March 2016	2016-17 के लिए संशोधित परिचय / Revised Outlay for 2016-17	2017-18 के लिए प्रस्तावित परिचय / Outlay proposed for 2017-18
	<b>ब - नई खरीद</b>	<b>B - NEW ACQUISITION</b>					
1189	सीएलडब्ल्यू से 6000 एचपी से 9000 एचपी के लिए डब्ल्यूएजी7 इंजनों का उन्नयन, 16.2 करोड़ रु., 10 - अदद Upgradation of WAP7 locomotives from 6000 HP to 9000 HP ex. CLW -10 nos. Rs.16.2 cr.	पूंजी	Cap.	32,00,00	..	..	1
		मूआनि	DRF	30,00,00	..	..	..
		ईबीआर(बॉण्ड)	EBR(IRFC)	100,00,00	..	..	..
1190	सीएलडब्ल्यू/डीएलडब्ल्यू/दानकुनी से एचएचपी 3-चरण लोको , 15 करोड़ रु. 737 अदद 737 Nos. HHP 3-ph. elect. loco ex.CLW/DLW/Dankuni Rs.15 cr.	पूंजी	Cap.	555,00,00	..	..	1
		मूआनि	DRF	500,00,00	..	..	..
		ईबीआर(बॉण्ड)	EBR(IRFC)	10000,00,00	..	..	..
	<b>जोड़ -रेल इंजन / TOTAL-Locomotives-CLW</b>	पूंजी	Cap.				3
		मूआनि	DRF				..
		ईबीआर(बॉण्ड)	EBR(IRFC)				..
1194	जीटीओ से आईजीबीटी तक कनवर्सन - 10 लोको, 250 लाख रु. GTO to IGBT conversion-10 locos Rs.250 lakhs	पूंजी	Cap.	15,00,00	..	..	..
		ईबीआर(बॉण्ड)	EBR(IRFC)	10,00,00	..	..	7,50,00
1195	1000 लोकोमोटिव में लोको गार्ड 80000 रु. Loco guard in 1000 locomotives Rs.80000/-	पूंजी	Cap.	8,00,00	..	..	1
1196	20एचएचपी लोको के लिए एमटीए, 1.71 करोड़ रु. MTA for 20 HHP locos Rs.1.71 cr.	पूंजी	Cap.	34,20,00	..	..	1



# **Machinery & Plant Program**



# M&P program

- Annual M&P Program

Machinery & Plants

Expensive Assets

To acquire and to Maintain

Primarily Meant for

New Acquisition of Machinery and Plants

Rehabilitation of M&P

New Tools & Plants costing > Rs. 10 Lakh

# M&P program

- Definition of Machinery & Plants

Stationary and Immovable

Jobs come to Machine

Not Vice versa

Movable items

Staff Cars

Lorry

Utility Vehicles

Road Mobile Crane

JCB Loader

Forklift

# M&P program

Definition of Tools and Plant

Movable Machines

All Measuring Instruments

Small Tools

Office Equipment as

Furniture

Computer and Printers

# M&P program

## Category of Machinery for Procurement Purpose

### C – Special Machines

No domain Knowledge in COFMOW

Procured by User Railway

Dispensation from COFMOW

### D – Machines of Smaller Value

Not barred by Railway Board

Procured by User Railway

# M&P program

- Sanction of Annual M&P Program

General Manager

Machines upto Rs. 50 Lakh

Two Wheelers for RPF

PHOD

Machines upto Rs. 50 Lakh

Excl'd Road Vehicle

DRM/CWM

Machines upto Rs. 20 lakh

# M&P program

- Sanction of Annual M&P Program

JAG/SG Officers

Machines upto Rs. 10 lakh

Railway Board

Machines not covered above

All Motor Vehicles

# M&P program

- Preparation of M&P Program

New Acquisition of Machines

Renewal

Depends on

Code Life, Condition

Additional Requirement

Repair/Reconditioning

M&P Program can be initiated under

Capital      DF      DRF      RRSK

# M&P program

M&P Program under DF

Should be restricted and  
limited to

Equipment of ART/ARME



# M&P program

M&P Program under Capital (Additional)

Supported with Financial Justification

Rate of Return

In accordance with IRFC-I

Duly vetted by Associate Finance

Rate of Return

Benefit to be Quantified in terms of

Reduction in Cycle Time

Increase in Outturn

Improvement in Quality Reliability

# M&P program

## M&P Program under Replacement - DRF

Following Details required

Codal Life and Actual Years Worked

Intensity of Usage/Load Factor

Jobs Undertaken/Workload of Machine

Outcome if Considered

Reconditioning of Machine

Outsourcing of Job

Total No. of Similar Machine

Workload & Shortfall vs Target

# M&P program

M&P Program under Replacement - DRF

Following Details required (Contd...)

Comparison of Cost of Replacement  
with Original Machine

Reason for Increase

Replacement for Same Function

Difference if any to be explained

Indenting Specification

For Road Vehicle

Recommendation of

Survey Committee

# M&P program

M&P Program For Reconditioning of  
M&P under - DRF

Following Details required (Contd...)

Partial or Full

More Financially Viable Option

Comparison of

Condemnation/Replacement  
with Reconditioning

# CODAI L I F F –(RBA 25/2006)

S.No.	Class of assets	Average life in years
	<b>Machinery &amp; Plant</b>	
1	Machine Tools like Lathes, Planners, Drilling, Boring and Milling machines etc.	15
2	High Precision and special purpose machines like wheel Lathes etc.	15
3	Tool Room and Testing Laboratory equipment	15
4	Foundry and Forge Equipment	15
5	Heat Treatment Equipment	15
6	Cranes-EOT	25
7	Power Generation Machinery & Switches	15
8	General purpose light machinery e.g. band saws, floor grinder etc.	10
9	Air Compressors	15
10	Other miscellaneous machines e.g. light cleaning machines, test equipment in diesel sheds, workshops, depots & sick lines	15
11	(i). Construction Machinery	15
	(ii). Track Maintenance equipment	20
12	Station machinery e.g. weighing machines etc.	15

# CODAL LIFE – (RBA 25/2006)

13	Miscellaneous machinery and equipment for hospital, offices etc.	10
14	Mechanical Weigh Bridges	15
15	Electronic in motion Weigh Bridges	08
16	Diesel Pumps	10
17	Welding equipment including diesel welding sets	10
18	Diesel refrigeration equipment	15
19	Material handling equipment like FLT, Lister trucks etc.	10
20	Traversers	25
21	Fuel Station Dispensation Equipment	10
22	Bulldozers and other earth moving equipment	15
23	Motor Boats	10
24	Hydraulic re-railing equipment	15
	<b>ROAD VEHICLES</b>	
25	Staff Cars including Jeeps	07
26	Light Motor Vehicles	10
27	Heavy Motor Vehicles	10
28	Tractors	10

# M&P program

- Preparation of M&P Program

Time Frame

# M&P program

- **Proposed in Two Format**

Work Already Sanctioned by Railway Board  
Called Programmed Delivery

New Work Proposed by PU/Zonal Railways  
Pertains to Specific Requirement



# M&P program

- Information to be Furnished

Programmed Delivery

PB LB No. and Year of Sanction

Particulars

Allocation

Latest Anticipated Cost

Expected Expenditure in Current Year

Expected Expenditure in Next Year

# M&P program

- Information to be Furnished (Contd..)

New Item

Particulars

Allocation

Anticipated Cost

Expected Expenditure in Next Year

Justification in Detail

# M&P program

- Budget Provision

Fund Allocation

Capital

DRF

RRSK

# M&P program

- Budget Review

Budget Estimate for Next Year

Budget Grant

August Review

Revised Estimate

Final Modification Estimate

Appropriation

Comparison

Budget Grant vis a vis Final Grant

Final Grant vis a vis Actual Expenditure

# M&P program

## • Illustration in Pink Book

मद सं. / Item No.	विवरण / Particulars	आवंटन / Allocation	स्वीकृत लागत / Sanctioned Cost	(आंकड़े हजार रु. में) (Figures in thousand of Rupees)			
				मार्च 2017 के अंत तक व्यय / Exp. at the end of March 2017	2017-18 के लिए संशोधित परिव्यय / Revised Outlay for 2017-18	2018-19 के लिए प्रस्तावित परिव्यय / Outlay proposed for 2018-19	
अ - निर्धारित समय पर मिलने वाले सामान		A - PROGRAMMED DELIVERIES					
746	आसनघोल - सिमुलेटर (विद्युत - ईएमयू / एमईएमयू) Asansol - Simulator (electric - EMU / MEMU)	पूंजी ररेसंको	Cap. RRSK	1,39 8,73,61	1,39 ..	.. 1	.. 1
747	सियालदह - भूमिगत पहिया लेथ (बड़ी लाईन) Sealdah- Under-floor wheel lathes (broad gauge)	मूआनि ररेसंको	DRF RRSK	3,43,29 1,66,57	3,43,29 ..	.. 1	.. 3,20,00
748	सियालदह/तारसराय - भूमिगत पहिया लेथ (बड़ी व मीटर लाईन) Sealdah/Tarsarai - Underfloor wheel lathes (broad & metre gauge)	पूंजी ररेसंको	Cap. RRSK	3,26,76 1,94,44	2,89,86 ..	.. 1	.. 1
749	चल स्टॉक की ऑन लाईन निगरानी प्रणाली (ओएमआरएम) (2 अदद) System of Online Monitoring of Rolling Stock (OMRS) (2 nos)	ररेसंको	RRSK	7,70,00	..	1	1
750	आसनघोल - सीएनजी धूतल पहिया लेथ Asansol - CNC surface wheel lathe	मूआनि ररेसंको	DRF RRSK	5,39,54 2,70,23	5,42,13 ..	.. 2,64	.. 2,00
766	2.5 करोड़ रुपए से कम लागत के प्रत्येक कार्य Works costing below Rs.2.5 crore each	पूंजी मूआनि विनि (2) विनि (3) ररेसंको	Cap. DRF DF(2) DF(3) RRSK	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..	3,44,97 4,12,06 1,89,81 2,21,25 2,50,63

# M&P program

## • Illustration in Pink Book

ब - नई खरीद		B - NEW ACQUISITION					
767	कांचरापाड़ा कारखाना - सीएनसी वर्टिकल टर्निंग लेथ टेबल डाय्या 1500 Kanchrapada Workshop- CNC Vertical Turning Lathe Table dia 1500 mm	मूआनि	DRF	3,27,57	..	..	1
768	कांचरापाड़ा कारखाना - सीएनसी सर्फेस व्हील लेथ (बला) Kanchrapada Workshop- CNC Surface Wheel Lathe (BG)	रारेसंको	RRSK	7,38,51	..	..	1
769	लिलुआ कारखाना - कुंडल स्पिंग स्कैगिंग व लोड डिफ्लेक्शन टेस्टिंग मशीन - 25 टी Liluah Workshop- Coil Spring Scragging & Load Deflection Testing Machine - 25T	रारेसंको	RRSK	3,11,27	..	..	1
770	हावड़ा - सीएनसी शेड के साथ अंडरफ्लोर व्हील लेथ Hawrah- CNC Underfloor Wheel Lathe with Shed	रारेसंको	RRSK	7,40,71	..	..	1
771	2.5 करोड़ रुपए से कम लागत के प्रत्येक कार्य Works costing below Rs.2.5 crore each	पूंजी	Cap.	..	..	..	52,00
		मूआनि	DRF	..	..	..	35
		रारेसंको	RRSK	..	..	..	50,00
जोड़ - नई खरीद / Total-New Acquisition		पूंजी	Cap.	..	..	..	52,00
		मूआनि	DRF	..	..	..	36
		रारेसंको	RRSK	..	..	..	50,03
जोड़ - मशीनरी और संयंत्र / Total - Machinery & Plant		पूंजी	Cap.	..	..	..	6,20,49
		मूआनि	DRF	..	..	..	4,14,26
		विनि (2)	DF(2)	..	..	..	1,89,81
		विनि (3)	DF(3)	..	..	..	2,21,25
		रारेसंको	RRSK	..	..	..	8,96,69

# M&P portal

- [www.irmnp.com](http://www.irmnp.com)
- Creation of Proposal
- Vetting of Proposal by Finance Counterpart
- Submission to HQ and Board
- From Lower Level to Higher Level
- Tracking for Sanction
- Progress for Procurement
- Updation of M&P Assets

# reference

- Indian Railways Rolling Stock Code
- Indian Railways Engineering Code
- Indian Railways Code for
- Mechanical Department (Workshop)