

From
ICF Staff Club
AG129/18,VII Main Rd
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To

INTEGRAL NEWS

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Elect,CMT,IOW: M.Devaraj, SSE/85

36,54: M.Ganesan, SSE/54

Progress: D.Baskar, SSE/PCO

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TTC: J.Selvakumar, SSE/TTC

D&D: Sabapathinathan.M, SSE/D&D

Hospital: Raju Balaji, Ch.OS

Web: K.Chandran, Webmaster/IT

74,Tele,Union: D.N.Ramesh, SSE/Proj

Advisors:

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B.Chandrasekaran, SME/D-II

K.N.Mohan, WM/A/S

R.Srinivasan, APE/PR/F

In 2013-14, ICF has achieved the best ever production of 1622 coaches surpassing the target.



On 31st March, Shri Arunendra Kumar, CRB, inaugurated Robotic welding machine at shop 23, dedicated 5-axis turning centre at LHB shop to ICF, and flagged off DEMU coach at Fur. He gave an award of Rs1.5 lakh to ICF staff.



Shri Kul Bhushan, Member/ Electrical, visited ICF on 28th March. He also inaugurated the main receiving sub-station at LHB shop.



Shri Kul Bhushan, Member/ Electrical, inaugurated the main receiving sub-station at LHB shop, on 28th March.



International women's day was celebrated by ICFWWO. Smt Sudha Agarwal, President, gave awards to best women employees.



SBI – ATM was opened by Shri Ashok K Agarwal, GM/ICF, on 19th March at Shell admin building.



On 15th March, Shri L.C.Trivedi, CPM/ICF, gave awards to employees involved in rolling out of First FIAT Bogie Frame - in-house - by ICF at LHB shop.



Smt R.Meena, SSE/Plg/F, received award from Shri Arunendra Kumar, CRB, on 8th March. She has been conferred with "Outstanding Woman Railway Employee of Indian Railways" for her commendable efforts in 100% implementation of Bio-toilets in ICF coaches and for single-handedly managing the planning activity of lavatory arrangements and interior door for 20 LHB-EOG coaches manufactured first time in ICF.



Shri S.K.Paswan, CWE/S, addressed the employees on National Safety Day at Shell division on 5th March.



On 4th March Sri.K.S.Jain, CWE/F, gave awards to safety-conscious employees of Fur division.

During the production year ended on 31.03.2014, ICF has achieved the best ever production of **1622 coaches** surpassing the target laid down by Railway Board. It consists of 53 variants: Self Propelled Coaches 164, LHB SS Coaches 25, AC coaches 248, Conventional coaches 1185. With the expansion project progressing more than halfway, ICF has already started manufacturing technologically advanced & upgraded High Speed Bogies, while the bulk production of stainless steel shells would take off from August 2014.

GM/ICF has congratulated the officers and employees on this remarkable performance.

OFFICIAL POSTINGS

Name S/Shri/ Smt	Previous	Present
P.V.Sureshkumar	DyCMM/FD	E.Co.Rly
Uma Shankar	SMM/S.Rly	DyCMM/FD
D.Neelakantan	SME/DSD	Curator/RRM
A.Manickavasagam	DyCME/Prod	Leave
N.Ranjitraj	SME/M&P	DyCME/Prod
K.Thiagan	PE/PR1/S	SME/M&P
K.N.Mohan	WM/A1/S	PE/PR1/S
Sanjay Angothu	AWM/A/F	WM/A1/S
Ran Vijay Pratap	APE/PL/F1	PE/PL/F
A.Anbalagan	AWM/Plant/F	WM/Plant/F
P.K.A.Naseer Iqbal	AWM/M1/S	AME/DSD

EMPLOYEES RETIRING on 30th April '14

1	Banerjee.P.K.	COS..	
2	Uma Sobana.N.	DyFA&CAO..	
3	Devaraj.S	Sr.Tech/Welder	11
4	Pilavendran .A	Tech-3/Welder	11
5	Mayachandran .E	Tech-1/Welder	11
6	Aboobacker.C	Sr.Tech/Welder	13
7	Manoharan .C	Tech-1/Welder	14
8	Mathivanan.R	Sr.Tech/Welder	20
9	Nagappan.E	Sr.Tech/FGL	20
10	Dhanapal.G	Sr.Tech/FGL	21
11	Devadoss.R	Sr.Tech/Welder	21
12	Velayudhan.S	Sr.Tech/Elec	21
13	Mahendran.D	Sr.Tech/Welder	22
14	Ramamurthy.M	Sr.Tech/Serang	22
15	Jayaraman.V	SSE	26
16	Tamilselvan.S.R	Sr.Tech/MTR	41
17	Vasantha .R	Tech-2/MTR	41
18	Vincent Raj.D	JE	48
19	Sridharan.B	Master Cook..	Canteen
20	Poopiratti Esakimuthu	Ch O.S.	74
21	Rajan.P.K	O.S.	Stores
22	Vichithravathy.V	Ch O.S.	PB
23	Kumari.S	Head Mali ..	Engg
24	Sathyanarayanan.J	Sr.Tech/Elec	28
25	Manoharan.P.N	Sr.Tech/Elec	28
26	Jayakumar.K	Sr.Tech/Elec	29
27	Thiagarajan.K	Tech-1/Carp	30
28	Padmanabhan.C	Tech-1/FGL	30
29	Palani.A	Tech-1/Carp	30
30	Narayanamurthy.M	Tech-1/Carp	30
31	Muthukrishnan .A	Tech-2/Carp	30
32	Kuberan.G	Sr.Tech/Carp	30
33	Devapriyan.D	Sr.Tech/Carp	30
34	Unnikrishnan.E	Sr.Tech/Elec	39
35	Kasturi.P	Helper	39
36	Kandavelu.S	Tech-1/Elec	39
37	Sugumaran.P	Sr.Tech/FMW	80
38	Syed Abbas Ali	Sr.Tech/FLTD	88

We wish them A Happy & Peaceful Retired Life

Last date for submission of applications:

RITES/WR-Mech & Elec deputation = 15.05.14
 DMRC Various posts = 13.04.14-23.59Hrs
 Tech-3 QSE =10.04.14
 Editor Bhartiya Rail/RB = 28.04.14
 Jr Commercial Research Officer/RB = 29.04.14

CIRCULARS

•RBE 22/2014: In case of medically decategorised/incapacitated employees where compassionate appointment is otherwise permissible, it will be the discretion of the concerned medically decategorised/incapacitated Railway employee to request for a job to either spouse or ward as per his/her choice. Further, in the event of death of the medically unfit employee without making clear his wishes, the first preference for appointment on compassionate ground should be that of spouse as done in case of death.

•RBE25: Transfer request of staff deployed in Udampur – Srinagar - Baramullah rail Link may be processed on out of turn basis to the place of their choice.

•LARGRESS scheme has been extended to Electrical power staff , Track machine staff, Bridge staff, TRD staff and PWI khalasis working on track with GP 1800.

•3% vacancies of fully exempted category posts reserved for PWDs (Person With Disability) may be shifted to identified posts in the same department. This will require careful planning in advance by the Railways so that the categories from which this 3% is proposed to be shifted and categories where this 3% will be placed are identified well before indents are placed.

•Honorarium payable for conducting PET:

S.No	Functionaries	Rate per day (in Rs.)
i.	Employees having grade pay of Rs. 1800/- & Rs. 1900/-	250/-
ii.	Employees having grade pay above Rs. 1900/- and upto Rs. 4600/-	400/-
iii.	Employees with grade pay above Rs. 4600/- but below Rs. 5400/-	600/-
iv.	Employees with grade pay of Rs. 5400/- &Rs.6600/-	750/-
v.	JAG and above	1000/-

WE DEEPLY MOURN THE SUDDEN DEMISE OF THE FOLLOWING EMPLOYEES

Sl	Name S/Shri	Designation
1	Devsingh.L	SrTech/30
2	Dharmasekar.R	Tech-1/22
3	Selvam.M	Tech-1/18
4	Vettriveeran	Tech-1/13
5	Harikrishnan.K	Tech-2/22
6	Ravi.K	Tech-3/48
7	Pirathapan.S	Trainee/54
8	Viswanathan.S	Sr Clerk/PB

STAFF OUTFLOW - LAST MONTH

Sl	Name S/Shri	Design	Mode
1	Vibhu.R	Peon/74	Resigned
2	Rajeet Kumar	Tech-2/21	Resigned
3	Gr-D staff	Accts/S	Transfer
4	Gr-D staff	74	Transfer
5	Gr-D staff	TTC	Transfer
6,7	Gr-D staff	Stores/SD	Transfer
8-19	Gr-D staff	Engg	Transfer

Agenda Subjects placed by Shri K.V.Ramesh & E.Ramesh

1. Promotion of 30 JEs of CSU and 32 senior most JEs irrespective of trade as SSE.

2. CMS/CMA working inside the shops shall be extended 15% incentive bonus as given in RWF.

1. Revision of BoS of Technical Supervisor of Sh54& 82

2. Granting of 3rd up gradation (MACP) for all paramedical staff who have spent 10 yrs in GP 5400/PB-3



ABOUT ICF - Part II

by Sri R.Srinivasan, APE/PR/F,
Ph:9003141449, rsrinivasanicf@gmail.com

WORK ORDER SYSTEM in ICF:

- It is the system used for calculating, analyzing and controlling the Expenditure of each and every area of workshop.
- Workshop expenditure is the total of cost involved in various Units, Shops and Sections.
- There are two heads of Work order like Production Work order and Non Production Work Order.

Production Work Orders:

- These are issued for collection of Costs of Jobs/Works undertaken in shops.
- These are designed to collect Expenditure under various elements of Costing like Direct material, Direct Labour, and Overheads.
- For different types of Coaches, for items manufactured for stock and subsequent use for Production, and Spares for Other Railways.

Non Production Work order:

- These are issued for Collection of Expenses/Receipt nos. (Indirect expenditures) by various Shops/Dept.

Expense numbers:

- These are intended to record and collection of different expenditures separately.
- These are issued keeping in view the various items of expenditures and their relative importance.

Receipt numbers:

- These are intended to record and collection of Different items of Receipts and Credits which are taken in reduction of Overheads.
- These are issued keeping in view the various Receipts/Credit and their relative importance.

Standing Work Order:

- These are for Classification of Expenditure incurred by Shops/ Depts. by various types eg. Direct expenses manufacture, indirect expenses on works chargeable to capital etc.
- These are issued keeping in view the various items of expenditure directly to be incurred and their relative importance.

NUMBERING OF WORK ORDERS:

3 barrel, 7 digit code

- First barrel of 2 digits represent standing w. o signifying particulars type of production work order or expenses / receipts of non production w.o.

2nd three digits represents

- For production w.o- serial no of RLY Board bulk order placed for production and running no of Special w.o.
- for non production w.o expense or receipt number

3rd barrel of 2 digits represents

- serial no of batch within the order in case of Board's bulk orders
- shop no. in case of non production w.o

Under main production w.o of three barrels

- Sub work order issued consists of two barrels, the first barrel representative's assembly code, 2nd barrel component number.

SPECIAL WORK ORDER:

Production orders other than coaches like manufacturing job for other Railways, Govt Dept etc. and works chargeable to capital.

Work order numbers:

11- Factory Overhead, 12- Administrative Overhead, 13- Stores Overhead, 30-49 Regular production services, 60 SCRLY, 61 CR, 62 ER, 63 SE/NE, 64 SR, 65 WR, 66NR/NFR, 67RB, RDSO, CLW, DLW, 68RCF, 69 Outsiders, 70 Jigs & Fixture

Regular production BO no.

32 BGS, 33BGSLR, 34BGSCN, 35 Misc like Tourist car, Double Decker, 36 AC, 37 BG Composite, 38-43 BG EMU, 47 Exports, 51 Prototype, 52 Special coaches.

Eg: Production WO- 32 543 02.

(32-BGS, 543-WO sl.no, 02- BO no.)

Non Production work order- 11 321 40

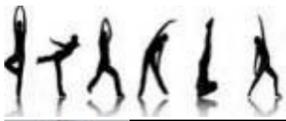
(11-FOH, 321- Expense no. of section, 40- shop no.)

Note: After the introduction of SAP, the Batch Order of 5 digit no. has been changed as Sale order with 6 digits nos. (32 543 is now 320543). - (to be continued)

Shri Arunendra Kumar, CRB, during his interactions with JA level officers urged them to ensure that they spend quality time with their family. He advised officers to be more liberal in not only availing leave to spend time with the family but also in granting leave to their juniors, which in turn will enhance the efficiency in their official responsibilities. He suggested that different departments should stop functioning within walls and shall work towards achieving the common goal through positive thinking. He also advocated cordial labour relations, urging managements to engage more with trade unions and the latter to reciprocate constructively.

CRB carried out a quick inspection of the passenger amenities at MAS and MMC suburban stations, the quality of bed-rolls at the linen factory and the Integrated Security System at Central. He told officials to frame a plan for developing the frontage, bus bay and taxi stands at Chennai Central. CRB told newsmen that adequate fire safety measures were being taken up to prevent mishaps. He also wanted the travelling public to cooperate by not carrying inflammable materials.

கொஞ்சி வரும் கோலமொழி மழலைமொழி
கொள்ளை கொள்ளும் நெஞ்சையள்ளும் அமுதமொழி
அஞ்சாமை போர்களத்தில் ஆண்மைமொழி
அச்சமில்லா வீரர்களின் வீரமொழி
நெஞ்சத்தை நெகிழ்ச்சையும் நிதிவழி
நிகருண்டோ தமிழுக்கு வேறுமொழி !
சிங்கமென சங்கமதில் வளர்ந்த மொழி
சிவபெருமான் நெற்றிக்கண்ணை திறந்த மொழி
தங்கமென குற்றமரையை தந்தமொழி
செங்கரும்பாய் இலனக்கியங்கள் படைத்த மொழி
நிலமகமளின் யதிருவடியில் திளைக்கும் மொழி
நிகரில்லை தமிழுக்கு வேறுமொழி !
அனைவருக்கும் தமிழ்ப்புத்தாண்டு வாழ்த்துக்கள்.
36 வருடங்கள் பணிபுரிந்து அன்பு உள்ளங்களிடமிருந்து
விடைபுரியும் கே.கோபாலன், Ch.OSTOVF.



PHYSIO PAGE

MOVE... TO REMOVE...!

Physio:Kumaravel.M

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BACK EDUCATION

HOME WORK AND BACKPAIN



Recent research shows that nowadays simple home tasks may turn into troubled back for many people. Continuous and improper way of home work can put a great strain on the back. It is estimated that in our Clinic (ICF HOSPITAL) too, 6 out of 10 back pain referrals are due to improper home work only.

HOME WORK RELATED RISK FACTORS FOR LBP:

- Improper lifting, carrying and moving the objects.
- Frequent bending and twisting.
- Repetitive works.
- Static improper posture.
- Psychological / psychosocial

Ways to limit/prevent low back pain at home

LIFTING:

Many people hurt themselves by lifting even small objects in an improper way. "Silly single coin may make your back sick". Here are some safe lifting techniques to avoid back strain....

To lift very small objects

When you want to pick a dropped pen / coin / very small vessels like spoon.



- ✓ Hold one hand on stable and sturdy object like kitchen slab or chair or arm support over the thigh.
- ✓ Put all your weight on the same side of the leg.
- ✓ Raise the other leg little behind you and bend at the hip and knee then pick up the object with other hand.

TO LIFT HEAVY OBJECTS



- Stand close to the thing you want to lift.
- Squat and wrap the object / baby with your arms and get.

- Keep your feet shoulder width apart up with straightened knees. Tighten your buttocks & belly to support your back.
- While lifting the object close your body as much as you can to act trunk as a stabiliser.
- Keep your upper back straight, while lifting the object. Don't slouch.



VARIATION:

- Kneel on one knee and keep the back straight.
- Grip & pick the load and lift by straightening the knees.
- Lift the object slow, steady and safely. Do not be jerky and speedy.

Note: While lifting the weight do not twist your back. Rather shift your feet to turn and maintain the proper posture for entire steps.

Do not lift heavy objects above shoulder level.

TO LIFT HEAVIER OBJECTS:

- Don't squat and lift while lifting heavier objects.
- Reach from as short distance as possible and pick up the heavier objects.
- Bend the hips and sticking your buttocks behind you.
- Grab the item and pull it close to your body and maintain the natural curve of the back.
- Put it down in the same way.

NOTE: Don't bend and lift any objects and give stress to your back. If the object is heavy or awkward, find someone to help.

Never lift the heaviest objects. Know your own limitations.

CARRYING THE WEIGHTS: (Pic below)

- If the weight is much, share the weight equally (approx) on both hands to avoid strain over one side of the back and arm muscles. Eg: carrying wet cloth buckets and grocery bags.
- Keep your arms close to your body and balance the weight of (see the picture) the object over the hips while carrying the weights. It helps to minimise the strain over the low back.

NOTE: Avoid carrying weight on one hand to prevent strain over the paraspinal muscles (one side back muscle)



MOVING THE OBJECTS: (Pic above)

Moving the objects is also very common during the day-to-day household works while washing and cleaning. It is also one of the common causes for back pain if not done in a proper way.

- ✓ Always stand close towards the object while you are moving it.
- ✓ Keep your upper back straight and use your weight of your body and legs to avoid strain over the waist muscles.

NOTE: Don't push heavy object by bending trunk. To overcome /prevent more mobile strain it is necessary to do core muscle strengthening exercises as described in previous issues.

FREQUENT BENDING AND TWISTING

Bending and twisting are very common activities in home work particularly at kitchen, garden and work around the house. Bending & twisting abruptly alter the spine curvature and put stress over the back muscles. Hence, it should be avoided totally for a healthy back. When these are a must, you have to follow modified ways at home.



First 60degree of forward bending put maximum strain over the lower back region. So initiate bending at the hips & knee while doing such works and maintain normal back curvature to avoid stress over spinal column.

To minimise frequent twisting, everyday items should be easy to reach at home especially in kitchen. If it is necessary to take any things, instead of twisting your waist, turn by your feet and reach close to them.

Wait for further steps to move.....

Southern Railway Hospital/ Perambur has got a new state-of-the-art cardiac catheterization laboratory. The Rs. 3.88 crore cath lab was launched by Dr. P.S. Prasad, Director General, Railway Health Services, Railway Board, in the presence of Sri Rakesh Misra, GM/SR on 7th March. Currently the unit performs around 2,500 cath lab procedures and around 1,000 cardiac surgery procedures a year.

New Trains:

Tr No	Departure	Arrival
66047	MAS 09.30	TPTY 13.30
66048	TPTY 17.20	MAS 21.10
22631	MAS 21.10 Thu	Bikaner 18.00 Sat
22632	Bikaner 13.50 Sun	MAS 09.55 Tue

'SMS Gateway', which will enable waitlisted passengers to get SMS alerts on confirmation, developed by CRIS, was launched on 3rd March.

Winners of Safety Award for 2014 in Shell

1.	10	Kadirvelu.G	Tech-3.Serang
2.	11	Danial D'souza .P	Tech-1.Welder
3.	12	Sathish Kumar.V	Tech-3.Serang
4.	13	Pandian.S	Tech-1.Welder
5.	14 – XI	Karthikeyan.D	Tech-1.FGL
6.	15	Yuvaraj .S	Sr.Tech/BS
7.	16	Gandhinathan .S	Sr.Tech/MGL
8.	18	Agilan.G	Helper
9.	20	Palani.N	Techn-1.FGL
10.	21/R	Murthy .S	Tech.I Welder
11.	21/R	Balu.P	Tech-3..FGL
12.	21 / UF	Dinesh Babu.A	Helper
13.	21 / UF	Girinathan .D	Tech-1.Welder
14.	21 / UF	Senthilkumar.S	Jr. Engineer
15.	22 B/ J	Nanda Gopal .B	Help-II
16.	22–X	Jithesh.V.R.	Tech-3.Welder
17.	22–X	Loganathan.K	S.S.E
18.	23	Yogeswaran.S	Tech-2.Welder
19.	24	Kasthuri Rangan.K	Tech-3..FGL
20.	25	Sekar Irmalraj.Dp	Sr.Tech/GB
21.	26	Shijil.C	Tech-2..FGL
22.	40	Anthony Alexander.S	Sr.Tech.Welder
23.	41	Sankar.B	Techn.I/ FTR
24.	42	Khader Basha	Inspector/.BS
25.	45&46	Srinivasa Rao.A	Tech-1.Elect.
26.	48	Sanjo.C.R	Tech-3 FLT driver
27.	PCO	Subash.S	Progressman
28.	Store	Velavan.J	Sub.Helper
29.	SSE/W	Rajendrababu.L	Tech-1.Welder
30.	CMT	Karthikeyan.V	C &M S

Winners of Safety Quiz -2014 in Shell

I - Prize	1	Shop 12	Sathish Kumar.V
	2	Shop 12	Ibrahim.K
	3	Shop 12	Peter.L
	4	Shop 12	Ezhilarasan.R
	5	Shop 42	Ramakrishnan.S
II - Prize	6	Shop 18	Peter .T
	7	Shop 18	Thyagarajan.S
	8	Shop 18	Edward Robert.S
	9	Shop 18	Rajkumar.K
	10	Shop 18	Shanmuga Sundaram.S
III- Prize	11	Shop 20	Natarajan.M
	12	Shop 20	Sivakumar.A
	13	Shop 20	Anish Kumar.R
	14	Shop 20	Daniel Mohankumar.M
	15	Shop 42	Sridhar .C B

Shri T.Raghu and Shri A.Barnibas, Safety Officers/Shell, have made a remarkable contribution towards developing "EMPLOYABILITY SKILLS", a manual developed by the Ministry of Labour & Employment, on the topic – 'Occupational Safety and Health'. This manual will be followed in all Vocational Training Institutes including TTC/ICF and Industries.



CNG DEMU by Sri B.Chandrasekaran,
SME/D-II, Ph:9003141407,
bcsekar12@rediffmail.com

1400 HP DEMU DPC With Dual Fuel Engine (CNG DEMU)

ICF will be manufacturing DEMUs with dual fuel engine using CNG (Compressed Natural Gas) as an alternate fuel during 2014-15. It is well known that CNG is used for public transport in NCT of Delhi and it reduces air pollution. CNG combustion produces fewer undesirable gases than the conventional fuels such as petrol and diesel.

SALIENT POINTS OF CNG DEMU POWER CAR

- IROAF (Indian Railway organisation for Alternate Fuels) is developing and executing eco-friendly technologies for IR.
- CNG conversion kits will be supplied by M/s Cummins India Ltd. against contract placed by IROAF. ICF will manufacture 8 DEMU power cars with CNG kits.
- CNG DEMU power car consists of Driver's cab, Engine room, Radiator room, passenger compartment (ladies) like any other DEMU power car and also has a CNG cascade room at the rear end.
- Design of shell structure has been modified by providing opening in the roof for CNG cascade loading. This will be closed permanently after lowering cascade by 'huckbolt' arrangement.
- Part of passenger area (Differently enabled passengers area) in DPC is converted for CNG cascade compartment.
- Pipe lines carry CNG from cascade room to Engine room
- Seating capacity will be 25 meant for ladies compartment.

KEY TECHNICAL FEATURES OF CNG DEMU

- Rake formation

DPC Ladies	TC Vendor	TC Genl	TC Genl	TC Genl	TC Genl	TC Vendor	DPC Ladies
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- Maximum speed – 100 kmph
- Steel nose cone at front end of DPC
- Shell and underframe of corten steel material
- 1400 hp KTA-50L make Cummins engine in DPC
- On board Diesel-Electric AC-DC Transmission
- FRP Driver's desk
- 2 Pivoted doors one at each end and middle sliding doors aside in case of TC and 2 Pivoted doors aside in case of DPC
- Fully vestibuled unit for inter coach passenger movement
- Stainless steel Centre duct lighting and ventilator arrangement
- PU foam cushion seats with fire retardant upholstery with stainless steel frames.
- Interior panelling of Laminated plastic sheet.
- PVC + compreg flooring for passenger compartment and Aluminium chequered sheet for CNG kit room

- Lift up type Aluminium windows with fixed glass on top and bottom half movable.
- Stainless steel luggage racks
- Stainless steel grab rails
- Trailer coaches provided with toilets
- Schaku type semi permanent coupler
- Air Spring in secondary suspension of bogies
- Spring Loaded Parking brake on DPC
- Bogie mounted graduated release EP brake system
- SS pipes and double ferrule fittings for brake piping

Basic Principle Of Operation Of Dual Fuel Engine

- In the dual fuel engine, CNG is mixed with air by an air-gas blender and is injected in the combustion chamber of engine. This air-gas mixture is compressed in the engine at high pressure and high temperature.
 - Thereafter the diesel fuel is injected, which auto ignites and in turn ignites natural gas. Thus the power is generated by burning mixture of natural gas and diesel in the combustion chamber of engine.
 - Normally the natural gas and diesel is mixed in the ratio of 50:50. However it varies according to the load. At lower loads, use of diesel fuel tends to be higher, whereas at higher load the gas proportion is higher.
 - Dual fuel control unit (DFM controller) controls the proportion of natural gas and diesel as per requirement. It sets the amount of injected diesel fuel via the diesel actuator with position sensor. Simultaneously, the amount of gas into the air-gas blender is also regulated by it.
 - The air/gas mixture then passes through the turbo charger, through the inter-cooler into the engine. The required engine speed is controlled by the governor control, which measures the engine speed at the engine ring gear via speed sensor.
 - Whenever there is a tendency of knocking, the knock sensors send signal to knock controller, which in turn sends signal to DFM controller and thereby regulates the supply of CNG and diesel to control knocking tendency.
 - Similarly, temperature sensors control the exhaust gas temperature by regulating ratio of CNG and Diesel.
- COMPONENTS OF CNG CONVERSION KIT**
- CNG cascade contains 40 cylinders each of capacity 15 kg of CNG at 255 bar pressure (Volumetric capacity 900 cu.m).
 - DFM-100 Dual Fuel Controller
 - Diesel actuator
 - Gas valve actuator
 - ESD-5300 speed Governor
 - Special LCC speed & Load control Unit
 - Electronic Knock Control –DF 16
 - Exhaust Temperature Sensor
 - Knocking sensor
 - Engine speed sensor
 - Air-gas blender
 - Gas filter
 - Pressure Regulator
 - Pressure Gauge with Valve
 - Electric Gas shut off valve
 - Manual shut-off valve

SAFETY FEATURES

- Pressure relief devices
- Flame arrester
- Fire Alarm System
- Separate Storage
- Gas leak detector

BENEFITS OF CNG

- Safety Feature – Although CNG is a flammable gas, it has a narrow flammability range, making it an inherently safe fuel.
- Emissions – Pure CNG engine as compared to conventional Diesel engine reflects the following potential reductions. However, IR's experience with dual fuel DEMU shows about 20% diesel substitution.
 - Reduction in Carbon monoxide emissions by 90 to 97%
 - Reduction in carbon dioxide emissions by 25%
 - Reduction in Nitrogen oxide emissions by 35 to 60%
 - Reduction in Non-Methane hydrocarbon emissions by 50 to 75%
- Fewer toxic and carcinogenic pollutants
- No particulate matter produced
- **Cost** – Cost of CNG is approximately 60% less than diesel for generating equal amount of power.
- **Less Lube-Oil Change** – The oil in a CNG vehicle does not need to be changed frequently as CNG burns cleaner than diesel, producing less deposit in the oil. In addition, cleaner burning characteristics of natural gas and the absence of particulates often reduce engine wear and tear. CNG engine runs more efficiently than a Diesel powered vehicle, thereby extending the life of the vehicle.
- **Less noisy** – CNG engines are less noisy than diesel engines.
- **Availability** – Abundant, underused resources are available in many developed countries including India

LIMITATIONS

- CNG occupies large storage space, which results in loss of passenger area.
- Additional weight of CNG cascade (about 6 tonnes in DEMU) to be carried per DPC in addition to Diesel Storage tank.
- CNG need to be frequently filled. It lasts for 2 to 3 days only in IR operating condition.
- Services of CNG DEMU are feasible in regions such as Delhi, where adequate storage facility is available.

Do not quote your PAN for Tatkal bookings since it is displayed in reservation chart. It is mandatory for traders to submit PAN No of customers on sale of jewelry worth Rs 5 lakh & bullion worth Rs 2 lakh. Traders engage agents to collect PAN No along with name, age and sex pasted on reservation chart @ Rs10 per PAN No.

-S.R.S, retd. DGM/RITES

ICF LU/AIRF celebrated the World Women's Day on 21st March with plantation of 1000 trees. Dr Renuka Sridhar, Smt B.Rani, SrEDPM, Smt Bagyalakshmi, AIRF Womens wing/S.Rly, participated in the program which was attended by women employees of ICF in large number.



Open Contracting –

From Transparency to Participation

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Governments, be it local, at state level and at national level as well as multinational government agencies, govern and make their service delivery thru' contracts. Governments enter into contracts with private bodies and individuals, not only to spend but also to generate revenues. Contracts are at the nexus of revenue generation, budget planning, resource management and delivery of public goods. In a nutshell, contracts are at the core of everything government does, how countries and multinational government agencies operate.

It is estimated that world over governments enter into contracts with the private sector to the tune of approximately \$9.5 trillion a year. A mere 1% improvement (\$ 95 billion a year), would potentially be a great contribution for social benefit schemes and infrastructure development. Such improvement can only be brought about by bringing in more competition and better service delivery / project execution, which can only be ensured by better transparency. But contracting information is often unavailable for public scrutiny, till recently. Passing of Right to Information Act brought about a change to this scenario and has made public access of contract information. However, the information on contracts is not freely available, as it is made available only reactively on ask-to-know basis. This lack of transparency leads to poor performance of public contracts inadequately managed or squandered resources, compromised credibility of both government and the executing private bodies and inefficient service delivery.

Apart from lack of transparency, the resources, be it natural or public revenue, spent through these contracts are often poorly managed or misappropriated. At times of deep financial constraints like now, effectively managing these resources is crucial. When companies, governments and citizens continue to get hit by ineffective and unfair contracting practices, theft and waste, everyone is paying the price. Ultimately, contracting that is not open and subject to poor management, undermines development for all. Ensuring proper management of resources, credibility of players, effective legislative procedures can lead to better service delivery and development.

In most of the countries, public procurement is one of the major areas affected by corruption. In some developing countries like India, procurement accounts for about 70% of public spending and is hotbed for unfair competition, kickbacks and overall economic inefficiency. At such magnitude of spending, even the tiniest improvements in procurement transparency result in vast public gains. Transforming public procurement into a truly open and competitive process can make a poor country much less poor.

Open Contracting is a new emerging global movement that attempts to promote increased transparency and monitoring in public contracting. Open Contracting strengthens procurement outcomes and service delivery, resulting in a more effective use of public resources.