

IFFCO'S MISSION



"To enable Indian farmers to prosper through timely supply of reliable, high quality agricultural inputs and services in an environmentally sustainable manner and to undertake other activities to improve their welfare"

IFFCO-PHULPUR UNIT

Welcomes

Honorable Members of Jury and Delegates



IFFCO-PHULPUR UNIT A Profile



Phulpur-I Process Licensor Annual Capacity

- Ammonia Plant MW Kellogg, U.S.A 322400 MT
- Urea Plant Snamprogetti, Italy 551100 MT



FM 534418

Phulpur-II Process Licensor Annual Capacity

- Ammonia Plant HTAS, Denmark 501600 MT
- Urea Plant Snamprogetti, Italy 864600 MT



EMS 534419

•Commercial Production

- Phulpur-I Urea Mar. 28, 1981
- Phulpur-II Urea Dec. 22, 1997

(ISO 14001: 2004 certified)

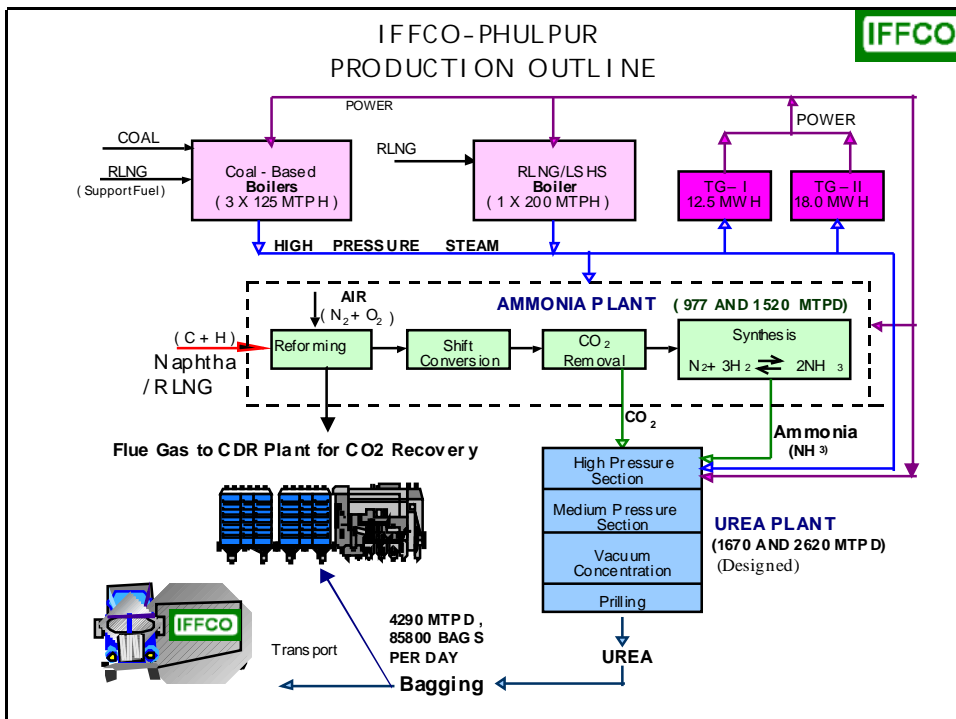


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(OHSAS18001:1999 certified)

ANNUAL UREA CAPACITY : 1415700 MT
(Design)

ANNUAL TURNOVER (07-08) : Rs. 1765 Crores (Including subsidy)



Major Water Recycle / Reuse Schemes
during 2004-2008
Phulpur Unit

IFFCO

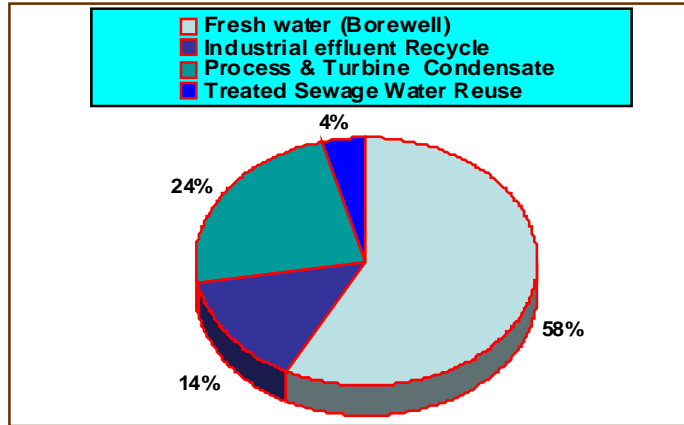
Sr. no.	Water Recycle / Reuse Scheme	Investment (Rs. in Lakhs)	Annual water Saving (m ³)	Pay back
1.	Increase in Cycle of Concentration of Cooling Tower (from 6.0 to 9.0)	--	603662	Immedi-ately
2.	Direct Recycling & Reuse of Turbine Condensate in Amm. – II Plant	0.92	23100	4.3 month
3.	Recycle of CDR effluent for process use as cooling Tower make-up through Water Softening Plant	0.44	118800	3.86 month

Major Water Recycle / Reuse Schemes
during 2004-2008
Phulpur Unit

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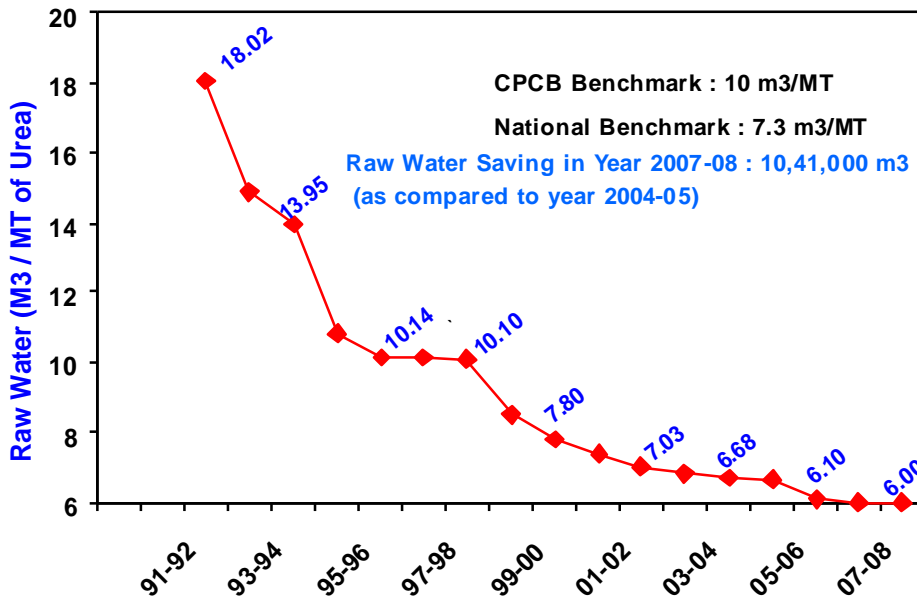
Sno.	Water Recycle / Reuse Scheme	Investment (Rs. in Lakhs)	Annual water Saving (m ³)	Pay back
4.	Installation of Rain Water Harvesting System	13.14	3600	--
5.	Collection and reuse of rain water in process through Mist Cooling System	316.72	3900	--
6.	Installation of Water Spraying System in Ammonical Guard Pond	5.50	32200	17.1 month

RAW WATER CONSUMPTION FOR UREA PRODUCTION

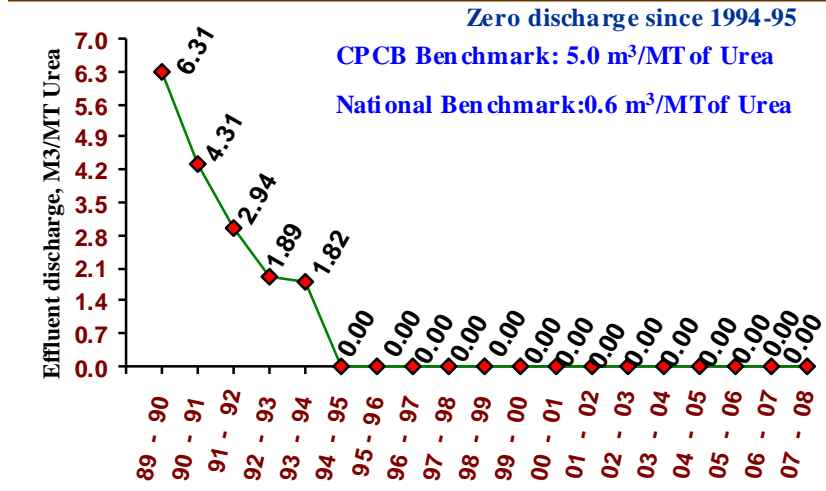


Description	Year 2004-05	Year 2007-08
Urea Production, MT	14,29,078	15,53,980
Raw Water, M3	95,29,997	94,62,926
Raw Water Consumption per MT Urea	6.67	6.00

Specific Raw Water Consumption



SPECIFIC EFFLUENT DISCHARGE



EFFLUENT DISCHARGE PER MT OF UREA

Per capita Domestic Water consumption



Year	Industrial			Colony water consumption		
	Consumption m ³ / day	Average No. of employ ee per day	Per capita consumption (Ltr per person per day)	Consumption m ³	No of person	Per capita consumption (Ltr per person per day)
2004-05	350	1185	295	3800	4000	950
2005-06	350	1118	313	3800	4000	950
2006-07	300	1063	282	3800	4000	950
2007-08	300	1967	281	4100	4500	911

INNOVATIVE PROJECT No. -1

IFFCO

ETP cum Recycle Plant based on Steam Stripper

Off-specification Ammonical effluent and deoiled water from Ammonia and Urea Plant is treated in stripper of ETP

✓ Earlier treated water was discharged into Guard Pond.

✓ Presently this effluent water is recycled and reused in process as Cooling Water make-up. This saves 742 M3/day of Raw water.

Year of Implementation: 2004-05

Water Quality (mg/l)



Effluent Treatment Plant
Cost : Rs. 203 Lakh

Parameter (Designed).	Before Treatment	After Treatment
Amm. - N	2000	< 50



Treated Water Recycled as CW make-up

INNOVATIVE PROJECT No. - 2

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Blow-down reduction due to improved COC from 6 to 9



Plant	Cooling Water flow, m ³ /hr	Cooling Range, de gC	Evaporation, m ³ /hr	Make up COC = 6	Make up CO C = 9	Blow-down COC = 6, m ³ /hr	Blow-down CO C = 9, m ³ /hr
Ammonia C.T.-I	13,000	12	279	33.4	3.13	56	35
Urea C.T.-I	10,000	10	179	21.4	2.01	36	22
Power C.T.-I	32,00	5	29	3.4	3.2	6	4
Ammonia C.T.-II	20,000	7	250	30.0	2.81	50	31
Urea C.T.-II	17,000	7	213	25.5	2.39	43	27
Power C.T.-II	48,00	5	43	5.1	4.8	9	5
Total	68,000		991	118.9	11.15	198	124

Benefits:

- ✓ Reduction in Blow-down = 1776 m³/day
- ✓ Yearly Raw water saving = =603662 m³
- ✓ Reduction in Hydrated lime consumption in Cold lime softening process due to reduced make up water requirement.
- ✓ Year of Implementation: 2004-08

INNOVATIVE PROJECT No.- 3

IFFCO

Recycle of CDR Effluent Water in to Plant Process

Year of Implementation: 2006-07

Cost : Rs. 0.44 Lakh.

Payback: 3.86 months

Raw Water Saving (118800 m³ per year)

✓ **Reduction in quantity of the effluent (118800 m³ per year)**

✓ **Saving of Electrical energy (39204 KWH per annum)**



S.N.	Composition	Design Value	CDR Effluent Actual	Fresh Raw Water
1.	Na ₂ SO ₃	0.02-0.03 W%	0.012 %	-
3.	Na ₂ CO ₃	0.04-0.05 W%	0.10 %	-
5.	pH	7.0	7.80	7.6
6.	Colour	None	None	None
7.	Total Amm.-N (as N)	0	25.0ppm	nil
8.	TKN (as N)	<50 mg/L	29.5 ppm	nil
10.	COD	<50 mg/L	55 ppm	-
14.	TDS		800 ppm	360

INNOVATIVE PROJECT No.- 4

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Recycle of Turbine Condensate in Ammonia Plant -II

Year of implementation :2006-07

Cost : Rs. 0.92 Lakh

Benefits:

✓ **Raw Water Saving (23100 m³per year)**

✓ **Reduction in quantity and improvement in quality of the effluent (23100 m³per year)**

✓ **Saving of required chemical (HCl – 100 MT per Annum and NaOH – 89 MT per annum) for regeneration of condensate Polisher Unit for this condensate water.**

✓ **Saving of Electrical energy (80750 KWH per annum)**



INNOVATIVE PROJECT No. – 5
Water Spraying System in Guard Pond
Year of Implementation: 2007-08, Cost – Rs. 5.5 Lakh

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Benefits:

- ✓ Raw Water Saving (28000 m³ per year)
- ✓ Reduction in quantity of the effluent 28000 m³ per year)



Rain Water Harvesting System
(Central School & Guest House Ghiyanagar
Township)

IFFCO

Roof Area : 4340 Sq. mtr. (excluding ground area)
Cost : Rs. 13.14 Lakh
Annual Water Saving : 3700 m³ per year



**Conversion of Ash Pond in to Rain Water Harvesting Pond
Rain Water Collection : 2,20,000 m³ per year**



Water Monitoring Report

A. Total Raw water Consumption.	15.11.2008	28787 KL
B. Raw Water Consumption per M.T. of Urea.	15.11.2008	5.49 KL
C. Effluent Water Reuse/ Recycle Effluent	1	2
Recycle pump Running at Guard Pond.	Yes	No
1. R.O. Plant.	Yes	No
2. Bottom Ash Deashing to Old Ash Pond.	Yes	No
3. Fly Ash Deashing to New Ash Pond.	Yes	No
4. Old Ash Pond through 6" direct line from Guard Pond.	Yes	No
5. Coal Yard Spray.	Yes	
6. Cordet	Yes	
		Continued

Water Monitoring Report

7. Treated Sewage Water from STP water softening Plant.	Yes	No
8. Lawn Irrigation in Township.	Yes	No
9. Extra Pump Running.		No
10.. Hydrolysed Water from Urea-I.	CPU	
Hydrolysed Water from Urea-II.	CPU	
11. In effluent Holding pit from Urea-I/II, Amm.-II.	Yes	No
12. Leakage / Water Loss U/G		
Raw Water Leakage		
1. Near Urea-2 silo under maint.		

Salient features of Environment Awareness Programme

Natural resource conservation & awareness among the employees and community are an integral part of our Environmental Policy . A lot of work regarding these is being done in IFFCO Phulpur to increase awareness among the people

- ✓ Display of Hoardings and Banners, Display of Slogan/film regarding water conservation on CCTV in township, Lectures on Importance of water conservation regularly, Distribution of Circulars & leaflets among the community
- ✓ In house training programmes on natural resource conservation, Community awareness programmes organised in nearby villages, Awareness lectures organised at nearby schools & colleges to motivate students.
- ✓ Employees are involved through suggestion scheme. Technically suitable suggestions are implemented and employees are rewarded.
- ✓ Water leakage / overflow from pipe lines / tanks observed in township & plant of immediately informed by township residents / employees to EPC group for corrective action.
- ✓ Township residents (employees) optimize water uses in their houses by reducing the wastage of water in day to day work.

AWARENESS CAMPAIGN

IFFCO



ENVIRONMENT AND SUSTAINABILITY

IFFCO

- ✦ Zero Liquid Effluent Discharge
- ✦ Reverse Osmosis Plant For Effluent
- ✦ Recycle Of Sewage Water For Process Use
- ✦ Hydrolysed Water Being Used As BFW
Through CPU On Continuous Basis
- ✦ Household Waste Disposal using Vermi-Composting
- ✦ Fly Ash for Usar land reclamation
and ash disposal in Eco-friendly tankers
- ✦ Ground water Recharge by Water Har vesting
- ✦ Bio-Methanation Plants from waste

Recognition on Environmental Performance

Year 2007-08

- **Best over all performance Award for Nitrogenous (Ammonia & Urea) plant – From Fertiliser Association of India, New Delhi**
- **National Energy Conservation Award – 2007 (First Prize in the Fertiliser Sector) – From Ministry of Power**
- **National Energy Conservation Award – 2007 (First Prize in the Fertiliser Sector) – From Ministry of Power**
- **Best Production Performance Award in Nitrogenous Fertiliser Plants – From Fertiliser Association of India, New**
- **National Award for Excellence in Energy Management – 2007 from CII, Hyderabad**

Year 2006-07

- **Indira Gandhi National Award-Best Pollution Implementation Gold Award from Public Sector Today, Hyderabad**
- **Prestigious National Energy Conservation Award – 2006 in Fertiliser sector from Bureau of Energy Efficiency , Ministry of Power , Government of India.**

Recognition on Environmental Performance

Year 2006-07

- **Best Chief Executive Gold Award to Unit Head of IFFCO-Phulpur from Public Sector Today, Hyderabad.**
- **Best Technical Paper Award by FAI on the Paper - “Implementation of Energy Saving Project at IFFCO Phulpur Unit ” .**

Year 2005-06

- **Innovative Project Implementation Award 2005 in the field of Water Management by Confederation of Indian Industry (CII), GBC, Hyderabad.**
- **National Award for “Excellence in Energy Management-2005” by CII-Sohrabji Godrej Green Business Centre – Chennai**
- **National Award for “Efficient Water Management-2005” by CII- Sohrabji Godrej Green Business Centre – Chennai**
- **Rajiv Ratna National Gold Award for “Best Pollution Control Implementation (2004-05)” from Public Sector Today, Hyderabad**

Year 2004-05

- **National Energy Conservation Award (awarded in Dec. 2004) - from Ministry of Power**

Thank You