

II: Environmental & Legal Policies & Administrative Framework

2.0 INDUSTRIAL POLICY (2004 – 2009)

Chhattisgarh, endowed with abundant natural resources, is a 21st century state. The state contains rich forests and minor forest produce having more than 88 species of medicinal plants and is a store house of huge mineral deposits, including precious minerals. Due to easy availability of these resources, it has immense potential for industrial development.

It is the endeavour of the State Government to work towards rapid economic growth with regional balance so as to take the state to the category of "developed states". To bring about prosperity to the people of Chhattisgarh, it is necessary that the present rate of industrial growth increases substantially. Therefore, creation of a favourable investment environment for increasing industrial production and creating employment opportunities is one of the priority areas of the State Government.

The main objective of the new industrial policy is to add maximum value to state's abundant natural resources within the state itself, and create maximum employment opportunities by setting up industries in all its districts across the state. To attract industrial investment in the state, the policy attempts at providing necessary infrastructure for investment, reducing the cost of production for the investor and ensuring an investor friendly administration. Towards this end, special importance has been given to private sector participation.

Special effort has been made in the policy to see that, in addition to the industrially more developed areas, industries are set up in the state's industrially backward areas also, and that entrepreneurs from scheduled caste and scheduled tribe category also join the process of industrial development. Due attention has also been paid to investments by non-

resident Indians, foreign direct investment, rehabilitation of closed and sick industries, development of skills for industrial employment, etc.

For finalising the draft of the industrial policy, industrial associations, industrialists, investors, representatives of financial institutions, subject experts, etc. were consulted and their valuable views and suggestions have been accepted. The State Government hopes that implementation of the "Industrial Policy (2004-2009)" will provide impetus to State's industrialisation and creation of employment opportunities.

2.1 OBJECTIVES

- ü To create additional employment opportunities by accelerating the process of industrialisation in the state.
- ü To create enabling environment for ensuring maximum value addition to the abundant, locally available mineral and forest based resources.
- ü To ensure balanced regional development by attracting industries in the economically backward areas of the state.
- ü To ensure participation of scheduled castes, scheduled tribes and other weaker sections in the development process.
- ü To make industrial investments in the state competitive vis-a-vis other states in the country.
- ü To promote private sector participation for creation of industrial infrastructure in the state
- ü To create an enabling environment for increasing industrial production, productivity and quality up-gradation to face the challenge of competition emerging from economic liberalisation.

2.2 STRATEGY

- § To take measures for ensuring availability of necessary basic industrial infrastructure like rail-road, power, water, etc.
- § To encourage private sector for providing quality roads, developed land, water, etc. in the least possible time, and to encourage captive power generation for providing low cost power.
- § To establish new industrial areas, expand the existing industrial areas and to improve available services therein.
- § To set up special industrial parks to provide common infrastructure and services by adopting cluster approach for the development of industries which have not been developed inspite of availability of abundant resources.
- § To identify and promote such non-traditional industries for which good potential exists in the State due to availability of necessary resources.
- § To provide special directed incentives to encourage establishment of industries by the weaker classes and in the economically backward areas of the State.
- § To provide special incentives to small scale and cottage industries to create employment opportunities in the industrial sector in the least possible time throughout the State.
- § To provide incentives to industrial units for technology upgradation and modernisation to enable them to face the challenges of global competition.
- § To make arrangements for skill improvement, training and guidance of younger sections to enable them to seek maximum possible employment.

- § To provide special package necessary for rehabilitation of sick and closed industrial units.
- § To establish an effective system of "single point contact" and "time bound clearance" for providing requisite facilities, services and statutory clearances for investment.

2.3 ENVIRONMENTAL RULES AND REGULATIONS

The general environmental rules and regulations are given by the Ministry of Environment and Forests (MoEF), Government of India for location of new industries in the country. The guidelines notified in 1986 are applicable to new industries and also for the existing industries going for expansion.

According to the 1986 notification by MoEF, the areas to be avoided for setting up a new industry or expansion of existing industry along with its distances are given in the following table

Areas to be avoided for establishing new industries and expansion of existing Industrial estate

S. No	Area	Distance
1	Ecologically or otherwise Sensitive Areas	At least 25 km away
2	Flood plains of the riverine systems	At least 500 m away
3	Transport and communication systems	At least 500 m away from an highway or railway line
4	Major settlements (> 3 lakhs Population)	25 km away from the projected growth boundary for the next decade

Source: Pollution Control Law Series

2.4 RULES FOR PREVENTION & CONTROL OF ENVIRONMENTAL POLLUTION

For prevention and Control of Environmental Pollution, the Ministry of Environment and Forests have notified the following acts.

- √ The Water (Prevention and control of Pollution) Act, 1974 and its subsequent amendments
- √ The Air (Prevention and control of Pollution) Act, 1981 and its subsequent amendments
- √ The Noise Pollution (Regulation and control) Rules, 2000
- √ The Environment (Protection) Act 1986 and Environment (Protection) Rules, 1986
- √ Indian Factories Act, 1948 (as amended by Act 20 of 1987)
- √ Public Liability Act, 1991
- √ Forest (Conservation) Act 1980
- √ Manufacture, Storage and Import of Hazardous Chemicals, rules 1989 and amended 2000,

The above acts are amended by MoEF from time to time through official notifications and Environment (Protection) Act prescribes from time to time several emission and discharge standards for specific industries and also in general for all industries which has to be complied.

2.5 APPLICABLE STANDARDS

For the preparation of this report reference for standards has been made to Indian Standards. The standards used in this report are reproduced here in the following section for ready reference.

a) Air Quality Standards

- National Ambient Air Quality Standards- of the CPCB June'95, India
- Ambient Air quality standards with respect to noise- of the Central Pollution Control Board (CPCB) June'95, India
- Noise standards for Occupational Exposure

b) Water Quality and Wastewater discharge Standards

- India Standard-Drinking water –Specification- IS 10500:1991- Bureau of India Standards(BIS)
- General Standards for discharge of Env. Pollutants-GSR 422(E)-of CPCB, India

c) Solid waste disposal Standards

- Hazardous Wastes (Management and Handling) Rules, 1991- of Ministry of Environment & Forests, India.

NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutants	Time Weighted Average	Concentration in Ambient Air			Method of Measurement
		Industrial Area	Residential, Rural & Other Area	Sensitive Area***	
Sulphur Dioxide SO ₂	Annual Average*	80 µg/m ³	60 µg/m ³	15 µg/m ³	1. Modified West & Gaeke method 2. Ultra violet fluorescence
	24 Hours**	120 µg/m ³	80 µg/m ³	30 µg/m ³	
Oxides of Nitrogen NO ₂	Annual Average*	80 µg/m ³	60 µg/m ³	15 µg/m ³	1. Modified Jacob & Hochheischer 2. Gas Phase Chemiluminiscence
	24 Hours**	120 µg/m ³	80 µg/m ³	30 µg/m ³	
Suspended Particulate Matter (SPM)	Annual Average*	360 µg/m ³	140 µg/m ³	70 µg/m ³	High Volume Sampler Flow rate not less than 1.1 m ³ / min
	24 Hours**	500 µg/m ³	200 µg/m ³	100 µg/m ³	
Respirable Particulate Matter (Size Less than 10µm)	Annual Average*	120 µg/m ³	60 µg/m ³	50 µg/m ³	Respirable Dust Sampler
	24 Hours**	250 µg/m ³	100 µg/m ³	75 µg/m ³	
Lead (Pb)	Annual Average*	1.0 µg/m ³	0.75 µg/m ³	0.5 µg/m ³	AAS Method after sampling using EPM 20000 equivalent paper
	24 Hours**	1.5 µg/m ³	1.0 µg/m ³	0.75 µg/m ³	
Carbon Monoxide (CO)	Annual Average*	5.0 µg/m ³	2.0 µg/m ³	1.0 µg/m ³	Non Dispersive Infrared Spectroscopy
	24 Hours**	10.0µg/m ³	4.0 µg/m ³	2.0 µg/m ³	
Ammonia (NH ₃)	Annual Average*	----- 100 µg/m ³ -----			
	24 Hours**	----- 400 µg/m ³ -----			

Rapid Environmental Impact Assessment & Management Plan for the Proposed Large Industrial Area – Dagori, Bilaspur District, Chhattisgarh	Chhattisgarh State Industrial Development Corporation Limited (CSIDC)
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*	Annual Arithmetic mean of minimum 104 measurements in a year taken twice a week 24 hourly at uniform
**	24 hourly / 8 hourly values should be met 98 % of the time in a year. However, 2 % of the time, it may exceed but not on two consecutive days.
***	<p>Sensitive areas may include</p> <p>10 km all around the periphery of health resorts so notified by SPCBs in consultation with department of Public Health of the concerned States.</p> <p>10 km all around the periphery of Biosphere Reserves, Sanctuaries and National Parks, so notified by MoEF or concerned States.</p> <p>Areas, where crops, sensitive to air pollution are grown or areas which are important from agriculture / horticultural angle or areas having orchards, so notified by SPCB in consultation with Department of Agriculture / Horticulture of concerned States.</p> <p>5 km all around the periphery of centres of tourism and / or pilgrimages due to their religious, historic, scenic or other attractions, so notified by Department of Tourism of the concerned State in consultation with SPCB.</p> <p>Note:</p> <p>National Ambient Air Quality Standard: The Levels of air quality necessary with an adequate margin of safety, to protect the public health, vegetation and property.</p> <p>Whenever and wherever two consecutive values exceeds the limit specified above for the respective category, it would be considered adequate reason to institute regular / continuous monitoring and further investigations.</p> <p>The State Government / State Board shall notify the sensitive and other areas in the respective States within period of six months from the date of Notification of National Ambient Air Quality Standards.</p>

{S.O. 384 (E), Air (Prevention & Cont. of Pollution) Act, 1981 dated April 11, 1994}.

NOISE: (AMBIENT STANDARDS)

Area code	Category of Area	Limit in dB (A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Area	50	40

Note	Day time is reckoned in between 6 a.m., and 9 p.m
	Night time is reckoned in between 9 p.m., and 6 a.m
	Silence zone is defined as areas upto 100 metres around such premises as hospitals, educational institutions and courts. The silence zones are to be declared by the Competent Authority
	Mixed categories of areas should be declared as "one of the four above mentioned categories by the Competent Authority and the corresponding standard shall apply

Damage Risk Criteria for Hearing Loss

Occupation Safety & Health Administration (OSHA)

Maximum Allowable Duration Per Day, h	Noise Level dB (A) (Slow Response)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

India Standard-Drinking water –Specification- IS 10500:1991
Bureau of India Standards (BIS)
(AMENDMENT NO. 1 JANUARY 1993)
(First Revision) IS 10500: 1991

S.No.	Substance or Characteristic	Requirement (Desirable Limit)	Undesirable Effect outside the Desirable Limit	Permissible Limit in the Absence of Alternate Source	Methods of Test (Ref to IS)	Remarks
1	2	3	4	5	6	7
Essential Characteristics						
i	Color, Hazen units, Max	5	Above 5, consumer acceptance decreases	25	3025 (Part 4) : 1983	Extended to 25 only if toxic substances are not suspected, in absence of alternate sources
ii	Odour	Unobjectionable	-	-	3025 (Part 5) : 1983	a. Test cold and when heated b. Test at several dilutions
iii	Taste	Agreeable	-	-	3025 (Parts 7 & 8) : 1984	Test to be conducted only after safety has been established
iv	Turbidity, NTU, Max	5	Above 5, consumer acceptance decreases	10	3025 (Part 10) : 1984	-
v	pH value	6.5 to 8.5	Beyond this range the water will affect the mucous membrane and / or water supply system	No relaxation	3025 (Part 11) : 1984	-
vi	Total hardness (as CaCO ₃) mg/l, Max	300	Encrustation in water supply structure and adverse effects on domestic use	600	3025 (Part 21) : 1983	-
vii	Iron (as Fe) mg/l, Max	0.3	Beyond this limit taste/ appearance are affected, has adverse effect on domestic uses and water supply structures, and promotes iron bacteria	1.0	32 of 3025 : 1964	-
viii	Chlorides (as Cl) mg/l Max	250	Beyond this limit, taste, corrosion and palatability are affected	1000	3025 (Part 32) : 1988	-

ix	Residual, free chlorine, mg/l in	0.2	-	-	3025 (Part 26) : 1986	To be applicable only when water is chlorinated. Tested at consumer end. When protection against viral infection is required, it should be Min 0.5 mg/l.
x	Fluoride (as F), mg/l Max	1.0	Fluoride may be kept as low as possible. High fluoride may cause fluorosis	1.5	23 of 3025 : 1964	-
Desirable Characteristics						
xi	Dissolved solids mg/l Max	500	Beyond this palatability decreases and may cause gastro intestinal irritation	2000	3025 (Part 16) : 1984	-
xii	Calcium (as Ca), mg/l Max	75	Encrustation in water supply structure and adverse effects on domestic use	200	3025 (Part 40) : 1991	-
xiii	Magnesium (as Mg), mg/l Max	30	Encrustation to water supply structure and adverse effects on domestic use	100	16, 33, 34 of IS 3025 : 1964	-
xiv	Copper (as Cu), mg/l Max	0.05	Astringent taste, discoloration and corrosion of pipes, fitting and utensils will be caused beyond this.	1.5	36 of 3025 : 1964	-
xv	Manganese (as Mn) mg/l Max	0.1	Beyond this limit taste/ appearance are affected, has adverse effect on domestic uses and water supply structures	0.3	35 of 3025 : 1964	-
xvi	Sulphate (as SO ₄) mg/l Max	200	Beyond this causes gastro intestinal irritation when magnesium or sodium are present.	400 (see col 7)	3025 (Part 24) : 1986	May be extended up to 400 provided (as Mg) does not exceed 30
xvii	Nitrate (as NO ₂), mg/l Max	45	Beyond this methaemoglobinemia takes place	100	3025 (Part 34) : 1988	-
xviii	Phenolic compounds	0.001	Beyond this, it may cause objectionable	0.002	54 of 3025 : 1964	-

	(as C ₆ H ₅ OH) mg/l Max		taste and odor			
xix	Mercury (as Hg) mg/l Max	0.001	Beyond this, the water becomes toxic	No relaxation	(see Note) Mercury ion analyzer	To be tested when pollution is suspected
xx	Cadmium (as Cd), mg/l Max	0.01	Beyond this, the water becomes toxic	No relaxation	(See Note)	To be tested when pollution is suspected
xxi	Selenium (as Se), mg/l Max	0.01	Beyond this, the water becomes toxic	No relaxation	28 of 3025 : 1964	To be tested when pollution is suspected
xxii	Arsenic (as As), mg/l Max	0.05	Beyond this, the water becomes toxic	No relaxation	3025 (Part 37) : 1988	To be tested when pollution is suspected
xxiii	Cyanide (as CN), mg/l Max	0.05	Beyond this limit, the water becomes toxic	No relaxation	3025 (Part 27) : 1986	To be tested when pollution is suspected
xxiv	Lead (as Pb), mg/l Max	0.05	Beyond this limit, the water becomes toxic	No relaxation	(see Note)	To be tested when pollution is suspected
xxv	Zinc (as Zn) mg/l Max	5	Beyond this limit it can cause astringent taste and an opalescence in water.	15	39 of 3025 : 1964	To be tested when pollution is suspected
xxvi	Anionic detergents (as MBAS) mg/l Max	0.2	Beyond this limit it can cause a light froth in water	1.0	Methyleneblue extraction method	To be tested when pollution is suspected
xxvii	Chromium (as Cr ⁶⁺) mg/l Max	0.05	May be carcinogenic above this limit	No relaxation	38 of 3025 : 1964	To be tested when pollution is suspected
xxviii	Polynuclear aromatic hydrocarbons (as PAH)mg/l	-	May be carcinogenic	-	-	-
xxix	Mineral oil mg/l Max	0.01	Beyond this limit undesirable taste and odor after chlorination take place	0.03	Gas chromatographic method	To be tested when pollution is suspected
xxx	Pesticides mg/l Max	Absent	Toxic	0.001	-	-
xxxi	Radioactive				58 of 3025 :	-

	materials a. Alpha emitters Bq/l, Max b. Beta emitters pci/l, Max	- -	- -	0.1 1	1964 - -	
xxxii	Alkalinity mg/l Max	200	Beyond this limit taste becomes unpleasant	600	13 of 3025 : 1964	-
xxxiii	Aluminum (as Al) mg/l Max	0.03	Cumulative effect is reported to cause dementia	0.2	31 of 3025 : 1964	-
xxxiv	Boron (as Bo) mg/l Max	1	-	5	29 of 3025 : 1964	-

Note : Atomic absorption spectrophotometric method may be used.

General Standards for discharge of Environment Pollutants
GSR 422(E)-of CPCB, India
THE ENVIRONMENTAL (PROTECTION) RULES, 1986 ¹[SCHEDULE - VI]
(See Rule 3A) PART - A: EFFLUENTS

S. No (1)	Parameter (2)	Standards			Marine Coastal Areas (d)
		<u>Inland Surface Water (a)</u>	Public Sewers (b)	Land for Irrigation (c)	
1	Color and Odor	See 6 of Annexure – I	--		
2	Suspended Solids mg/l, Max.	100	600	200	a. For Process waste water - 100 b. For cooling water effluent 10 percent above total suspended matter of influent.
3	Particular size of suspended solids	Shall pass 850 micron IS Sieve	--	--	a. Floatable solids max. 3mm b. Settleable solids max. 850 microns
² 4	****	**	--	**	--
5	pH Value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6	Temperature	Shall not exceed 5°C above the receiving water temperature	--	--	Shall not exceed 5°C above the receiving water temperature
7	Oil and Grease mg/l, Max.	10	20	10	20
8	Total residual chlorine mg/l, Max.	1.0	--	--	1.0
9	Ammonical Nitrogen (as N), mg/l, Max.	50	50	---	50
10	Total Kjeldahl Nitrogen (as NH ₃) mg/l, Max.	100	--	--	100
11	Free Ammonia (as NH ₃) mg/l, Max.	5.0	--	--	5.0
12	Biochemical oxygen demand (5 days at 20°C),	30	350	100	100

	mg/l Max.				
13	Chemical Oxygen demand, mg/l Max.	250	-	-	250
14	Arsenic (as As), mg/l Max.	0.2	0.2	0.2	0.2
15	Mercury (as Hg), mg/l Max.	0.01	0.01	-	0.01
16	Lead (as Pb), mg/l Max.	0.1	1.0	-	2.0
17	Cadmium (as Cd), mg/l Max.	2.0	1.0	-	2.0
18	Hexavalent Chromium (as Cr+6), mg/l Max	0.1	2.0	-	1.0
19	Total Chromium (as Cr), mg/l Max	2.0	2.0	-	2.0
20	Copper (as Cu), mg/l Max.	3.0	3.0	-	3.0
21	Zinc (as Zn), mg/l Max.	5.0	15	-	15
22	Selenium (as Sc.), mg/l Max.	0.05	0.05	-	0.05
23	Nickel (as Ni), mg/l Max.	3.0	3.0	-	5.0
² 24	**	**	**	**	**
² 25	**	**	**	**	**
² 26	**	**	**	**	**
27	Cyanide (as CN), mg/l Max.	0.2	2.0	0.2	0.2
² 28	**	**	**	**	**
29	Fluoride (as F) mg/l Max.	2.0	15	-	15
30	Dissolved Phosphates (as P), mg/l Max.	5.0	-	-	--
² 31	**	**	**	**	**
32	Sulphide (as S), mg/l Max	2.0	-	-	5.0
33	Phenoile Compounds (as C ₆ H ₅ OH) mg/l Max.	1.0	5.0	-	5.0
34	Radioactive Materials a Alpha emitter micro curie/ml	10 ⁻⁷	10 ⁻⁷	10 ⁻⁷	10 ⁻⁷
	b. Beta emitter micro curie/ml	10 ⁻⁷	10 ⁻⁷	10 ⁻⁷	10 ⁻⁷
35	Bio-assay test	90% survival of fish after 96 hours in 100%	90% survival of fish after 96 hours	90% survival of fish after 96 hours in	90% survival of fish after 96 hours in 100% effluent

		effluent	in 100% effluent	100% effluent	
36	Manganese (as Mn), mg/l Max	2	2	-	2
37	Iron (as Fe), mg/l Max.	3	3	-	3
38	Vanadium (as V), mg/l Max	0.2	0.2	-	0.2
39	Nitrate Nitrogen, mg/l Max.	10	-	-	20
² 40					

Schedule VI inserted by rule 2 (d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R. 422 (E) dated 19.05.1993, published in the Gazette No. 174 dated 19.05.1993.

Omitted by Rule 2 (d) (i) of the Environment (Protection) Third Amendment Rules, 1993 vide Notification No. G.S.R. 801 (E) dated 31.12.1993.

6 of Annexure - I All efforts should be made to remove colour and unpleasant odour as far as possible.

Rating Chart of the Soil Test Data

(Indian Council of Agricultural Research, New Delhi)

Nutrient	Units	Low	Medium	High
Organic Carbon (As measure of available Nitrogen)	%	< 0.5	0.5 – 0.75	> 0.75
Available Nitrogen (N)	Kg/ha	<280	280-560	> 560
Available Phosphorus (P)	Kg/ha	< 10	10-25	> 25
Available Potassium (K)	Kg/ha	<110	110-280	>280

pH			
Acidic	Normal to saline	Tending to become alkaline	Alkaline
Below 6.0	6.0-8.5	8.6-9.0	Above 9.0
Total Soluble salts (Conductivity in Millimhos/cm)			
Normal	Critical for germination	Critical for growth of the sensitive crops	Injurious to most crops
Below 1.0	1.0-2.0	2.0-4.0	Above 4.0