

F. No. J-1 1011/489/2009-IA.II(I)
Government of India
Ministry of Environment, Forest and Climate Change

Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj,
New Delhi - 110003
E-mail: satish.garkoti@nic.in
Tele fax: 011: 24695316

Dated: 1st October, 2015

To

✓ The Director & CEO
M/s JSW Steel Limited,
P.O. Vidyanagar, village Tornagallu,
District Bellary - 583 275,
Karnataka

E-mail: unni.krishnan@isw.in, Ph: 08395-250120 Fax:08395-250138

Subject: Expansion of Integrated Steel Plant (from 10 MTPA to 16 MTPA) along with Captive Power Plant (600 MW) of M/s JSW Steel Limited located near Village Tornagallu, District Bellary in Karnataka - Environmental Clearance regarding.

Sir,

This has reference to your letter No. Nil dated 09.10.2010 along with copies of EIA-EMP report and subsequent communications dated 30.11.2010, 12.01.2011, 03.06.2011, 13.06.2011, 16.07.2011, 10.11.2011, 20.01.2014, 12.02.2014, 26.02.2014, 05.03.2014, 02.04.2014, 04.04.2014, 03.06.2014, 05.06.2014, 04.08.2014, 25.08.2014, 30.09.2014, 08.10.2014, 25.10.2014, 22.11.2014, 25.11.2014 and 27.10.2014 regarding project mentioned above. All the Integrated Steel Plants are listed at S.No. 3(a) under Primary Metallurgical Industries under "Category A" of the Schedule of EIA Notification 2006 and appraised at the Central level.

2. The Ministry of Environment, Forest and Climate Change (MoEFCC) has examined the application for the project cited above. It is noted that M/s JSW Steel Limited has proposed to expand the capacity of existing steel plant from 10MTPA to 16MTPA along with Captive Power Plant (600MW), near village Tornagallu, Dist. Bellary Karnataka. The proposed expansion will be carried out within the existing campus. The project site is located 29 km from Bellary and 33 km from Hospet. The Daroji Bear Wildlife Sanctuary is located at a distance of about 5 km from project site. Total project area available is 8000 acres and proposed expansion will be carried out in 700 acres. No forestland is involved. Augmentation of port, road and rail facilities will be carried out for receipt of raw materials and dispatch of products. Total estimated cost of the expansion project is Rs 15,130 crores as on 2009. Expansion from 7 MTPA to 10 MTPA Steel Plant has been commissioned.

S.N.	Name of the Units	Facilities for 4 MTPA project	Facilities for 7 MTPA Project	Facilities for 10 MTPA Project	Facilities proposed for	Total Capacity (MTPA)
------	-------------------	-------------------------------	-------------------------------	--------------------------------	-------------------------	-----------------------

					UMTPA project	
1.	Ore Beneficiation Plant (MTPA)	1x4.5	1x2.5 and 1x5	1x7.5	Nil	19.5
2.	Pellet Plant (MTPA)	1x5	-	1x5	-	10
3.	Sinter Plant (MTPA)	2.3	2.3	1x496m ³ = 5.75	8.05	18.40
4.	Coke Oven (NR)	Two batteries of 0.64 MTPA = 1.24 MTPA	-	-	-	1.24
5.	Coke Oven (Recovery type) (MTPA)	-	1.5	2	3.65	7.15
6.	Hot Metal Corex (MTPA)	1.6	-	-	-	1.6
7.	Hot Metal Blast Furnace	0.9 + 2.17 = 3.07	3	3	6	15.07
8.	Pig Casting machine (TPD)	1200	3600	3600	3600	12000
9.	Crude Steel-BOF & Auxiliaries (MTPA)	3x130t = 3.8	2x175 = 3	2x175t = 3	4x180t = 6	15.8
10.	Lime Kilns (TPD)	4x300 = 1200	4x300 = 1200	4x600 = 2400	8x300 = 2400	7200 TPD
11.	Slab Caster (MTPA)	3.2	4.8	1x2200mm slab caster of 1.6MTPA	2x2200mm slab caster of 3.2 MTPA	8
12.	Billet Caster	-	1.5	-	6.3	7
13.	HSM (MTPA)	2.8	0.4	5	-	8.2
14.	Plate Mill	-	-	-	-	-
15.	Pipe Mill	-	0.4	-	-	0.4
16.	Wire Rod Mill (MTPA)	-	1x0.6	-	-	0.6
17.	Rebar & section Mills (MTPA)	-	1x1 = 1	-	ISBQ mill (0.8 MTPA), 1 section mill (2.1 MTPA), & 1 Beam Mill (2.1 MTPA) = 5	6

42

18.	Cold Rolling Mill Complex (MTPA)	-	1	2	-	3
19.	Galvanising Lines (MTPA)	-	-	4x0.25 = 1	-	1
20.	Colour Coating	-	-	0.5	-	0.5
21.	Power Plant and Process Steam Boilers (MW)	Gas based CPP - 1x100 MW CPP- 1x130MW = 230 MW	Coal based (1X300MW) 300MW	Coal based (1x 300MW) 300MW	2x300MW Coal based = 600MW	1430
22.	Incinerator	-	250kg/h	500kg/h	250kg/h	1000kg/h
23.	Slag Grinding & Mixing Unit (outsourced) (MTPA)	1x0.2 = 0.2	1x0.6	1x2	1x2	6.2
24.	Oxygen Plant (outsourced)	1x2500TPD = 2500TPD	1x1800TPD 1800TPD	1x1800TPD + 1x900TPD = 2700TPD	1x1 800TPD = 1800 TPD	8800 TPD
25.	Township	2	1 unit at SG Colony	1 unit	1 unit	5 units

3.0 The PP has separately installed a DRI Plant of 1.2 MTPA capacity in the existing complex of the Steel Plant for which an environmental clearance has been obtained from this Ministry vide letter dated 13.01.2012.

Details of raw Material requirement for the Proposed Expansion of the Steel Plant from 10 MTPA to 16MTPA are given below:

S.N.	RAW MATERIAL	SOURCE	QUANTITY (TPA)	MODE OF TRANSPORT
1.	Iron Ore Fines	Bellary/Hospet	13,375,000	Rail
2.	Coking Coal	Imported/Blended	4,195,000	Rail
3.	Non-Coking Coal	Imported/Blended	700,000	Rail
4.	Limestone Fines for Pellet Plant	Bagalkot/Dronochalam	84,000	Rail
5.	Limestone fines for sinter plant	Bagalkot/Dronochalam	530,000	Rail
6.	Dolomite Fines for sinter plant	Bagalkot/Dronochalam	543,000	Rail
7.	Quartzite for BF	Belgaum Region	78,000	Road
8.	Limestone for SMS	Import ed/Bagalkot/Dronochalam	1,029,000	Road
9.	Dolomite for SMS	Imported/Bagalkot/Dronochalam	415,000	Road
10.	Bentonite for Pellet Plant	Belgaum	30,000	Road
11.	Ferro-Alloy for SMS	Local	93,000	Road
12.	Iron Ore for SMS	Bellary/Hospet Area	124,000	Road

13.	Thermal Coal for CPP (2x300MW)	Imported	350,000	Road
-----	--------------------------------	----------	---------	------

4.0 The 16 MTPA Integrated Steel Plant does not have its own iron ore mines and iron ore will be obtained from various sources. The Government of Karnataka vide letter No.CI 64 MMM 2014 dated 11.09.2014 has informed of sustained availability of 21 MTPA of iron ore through e-auction to meet 80% requirement of the expansion of the steel plant to 16 MTPA on a long-term basis/agreement.

5.0 Recovery type of coke oven will be installed. BF coke will be used in the blast furnace and coke fines/coke breeze will be used in the sinter plant. Sinter will be manufactured in the sinter plant. Hot metal will be provided in blast furnace and transported to the SMS using hot metal ladles. Basic Oxygen Furnace technology will be used for the production of liquid steel. Crude steel will be produced in converter to manufacture beams, planks, blooms and billets. Steel will be converted into billets in Continuous Casting Machine (CCM). Wire rods, special bars, medium section and heavy sections such as beams, chemicals, angles, etc will be produced. Washed coal will be used. Coke oven gases after by-product will be used as supplementary fuel. Top gases from the blast furnace will be cleaned by gas cleaning devices. Dust extraction/fume extraction system with ESPs and stack will be provided to stock house and cast house. Secondary fumes will be captured by fume extraction system generated during hot metal and liquid steel transfer points. Dust emissions from calcining plant will be controlled by bag filters. Emissions of SO₂, NO_x and CO from reheating furnace will be controlled. The steam generators will be provided by low NO_x burners to reduce NO_x emissions. Dust suppression/dust extraction system will be provided to control fugitive emissions. It is proposed to achieve TSP <50mg/Nm³ and work zone dust levels <50mg/Nm³.

6.0 Total water requirement for the expansion project from Almatty and Tungabhadra Dam will be 2500m³/h. Water requirement will be within the 72 MGD allotted by the Government of Karnataka. The wastewater generated from the indirect cooling circuit will be routed through the cooling tower. Coke from the coke oven will be cooled in dry cooling plant to eliminate use of quenching water. The wastewater of gas cleaning plant (GCP) of blast furnace and steel melt shop containing suspended solids will be clarified in the wastewater treatment plant and recycled to the waste gas cleaning units. Wastewater from the CCM will be treated to remove scale and oil and treated water will be recycled after cooling. The domestic wastewater will be treated in a Sewage Treatments plant (STP) and used for dust suppression and green belt development.

7.0 Public Hearing / Public Consultation meeting was conducted by the Karnataka Pollution Control Board on 30.12.2010.

8.0 The proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 3rd meeting held on 23rd-24th September 2009, 17th meeting held on 13th-14th December 2010. A sub-committee of the EAC(I) also undertook a site visit to the unit on 16th- 17th June 2011 and submitted their Report dated 08.07.2011, which was considered in the 27th meeting of EAC(I) held on 26th-27th August 2011. After detailed deliberations, the EAC (I) recommended the project for Environmental Clearance and stipulated Specific Conditions along with other environmental conditions while considering for accord of Environmental Clearance.

9.0 The Ministry of Environment, Forest and Climate Change has considered the application based on the recommendations of the Expert Appraisal Committee (Industry) and

hereby decided to grant Environmental Clearance to the expansion of Integrated Steel Plant (from 10 MTPA to 16 MTPA) along with Captive Power Plant (600 MW) of M/s JSW Steel Limited under the provisions of EIA Notification dated 14th September 2006, subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITIONS:

- i. The project proponent should install 24x7 air and water monitoring devices to monitor air emission and effluent discharge, as provided by CPCB and submit report to Ministry and its Regional Office.
- ii. All the conditions stipulated by the Standing Committee of the National Board for Wildlife should be effectively implemented.
- iii. The PP shall participate in a Wildlife Conservation Plan for Sloth Bears and other schedule-1 fauna found in the study area and in the Daroji Bear Sanctuary. The Conservation Plan shall be prepared in consultation with the State Wildlife Department. The Plan with various activities including creation of water bodies, elimination of weeds, eco-regeneration plan including regeneration of fruit bearing trees and improvement of ecological habitat and support to the nearby villages to minimize dependency on forest produce for fuel shall contain budgetary support with details of capital and revenue costs for various activities, the details of expenditure made on which shall be regularly submitted as part of the Compliance Report to Regional Office, Bangalore.
- iv. The PP shall obtain assured raw materials (particularly iron ore and coal) from designated sources for long-term supply and shall enter into long-term MOUs with producers/sellers of raw materials used in steel making. Washed coal shall be used.
- v. All the units of the expansion Project shall operate using state-of-art energy efficient technologies, environmental pollution prevention and control technologies and energy efficient measures including the 4Rs shall be implemented at every step of the plant operation. The old design of the existing plant especially old coke ovens needs a scheduled phasing out for which the proponent shall prepare a detailed time-bound Plan and submit it to the Ministry.
- vi. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP) (to sinter plant) and dust catcher followed by venture scrubbers to blast furnace and bag filters etc. shall be provided to keep the emission levels of particulates below 50 mg/Nm³ from stacks and also meet level of the 50 mg/Nm³ in work zone.
- vii. Coke oven gases after by-product shall be used as supplementary fuel. Top gases from the blast furnace shall be cleaned by gas cleaning devices. Dust extraction/fume extraction system with ESPs and stack shall be provided to stock house and cast house. Secondary fumes shall be captured by fume extraction system generated during hot metal and liquid steel transfer points. Dust emissions from calcining plant shall be controlled by bag filters. Emissions of SO₂, NO_x and CO from re-heating furnace shall be controlled. The steam generators shall be provided by low NO_x burners to reduce NO_x emissions. Dust suppression/dust extraction system shall be provided to control fugitive emissions.

- viii. Air Pollution control measures shall include Pulse Jet Bag Filter of Upflow type, pneumatic conveying of dust, transport of materials in closed conveyors, wind screen in yards, DSS in yards.
- ix. In-plant control measures like bag filters, de-dusting and dust suppression system shall be provided to control fugitive emissions from all the vulnerable sources. Water sprinkling system shall be provided to control secondary fugitive dust emissions generated during screening, loading, unloading, handling and storage of raw materials etc.
- x. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.
- xi. The plant shall develop rail transport or rail-cum-pipeline transport for iron ore and other major raw materials within a time-bound manner.
- xii. Detailed unit-wise Risk Analysis and Assessment and detailed on-site and off-site Emergency Preparedness and Disaster Management Plan (DMP) linked to District-level DMP shall be prepared in consultation with district authorities and mock drills carried out periodically.
- xiii. Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste shall be submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB.
- xiv. A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal. These include slag generated during the process of steel making - BOF slag shall be used in construction of slime pond, sludge and bag filter dusts shall be recycled in sinter/pellet plant. A 0.3 MTPA briquetting plant and 0.6 MTPA micro pellet plant shall be set up for use of dusts. All the BF slag shall be sent to cement units and SMS slag produced for construction material. All the other solid wastes including broken refractory mass shall be properly disposed off in an environmentally friendly manner.
- xv. Backfilling of mine voids with SMS slag shall be appropriately reflected in the Mine Plan and prior approval obtained thereof from Indian Bureau of Mines.
- xvi. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office at Bangalore.
- xvii. Total water requirement shall not exceed 29.5MGD to be met from Almatty and Tungabhadra Dam. The water consumption shall not exceed as per the standard prescribed for steel plants. Use of air cooled condensers shall be explored and closed circuit system shall be provided to reduce water consumption and water requirement shall be modified accordingly. All the effluents shall be treated and used for plant processes/operations, dust suppression and green belt development. No effluents shall

[Handwritten signature]

be discharged and 'zero' discharge shall be adopted. Domestic wastewater will be treated in the Sewage Treatment Plant.

- xviii. The proponent shall adopt water conservation measures to reduce requirement of make-up water. The wastewater generated from the indirect cooling circuit shall be routed through the cooling tower. Coke from the coke oven shall be cooled in dry cooling plant to eliminate use of quenching water. The wastewater of gas cleaning plant (GCP) of blast furnace and steel met shop containing suspended solids shall be clarified in the wastewater treatment plant and recycled to the waste gas cleaning units. Wastewater from the CCM shall be treated to remove scale and oil and treated water shall be recycled after cooling. The domestic wastewater shall be treated in a Sewage Treatments plant (STP) and used for dust suppression and green belt development.
- xix. Efforts shall further be made to use maximum water from the rain water harvesting sources to reduce intake of water from Almatty and Tungabhadra Dam. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.
- xx. Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate study for the effluents generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB.
- xxi. Green belt shall be developed in 33 % of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.
- xxii. Power from the CPP of 1430 MW capacity shall be entirely utilized for the plant operations only. The 600 MW expansion Unit of the CPP is coal based and any change in configuration or capacity shall be made only with prior approval of this Ministry.
- xxiii. The environment wing of the company and for this Plant as well as of the company shall be strengthened with qualified personnel, state-of-art laboratory, infrastructure, etc and regular records of the environmental data including on-line monitoring of emissions shall be maintained.
- xxiv. Company shall develop an HSE Policy. All the permanent workers shall be covered under ESI Scheme. The company shall have the provision for treatment of its workers at the local sub-committee Nursing Homes & Hospitals in case of emergency. Annual Medical Check-up on some medical parameters like Blood test, Chest X-Ray, Eye test. Audiometry, Spirometry etc. shall be regularly conducted amongst the employees of the Company and records maintained thereof.
- xxv. A CSR Plan shall be prepared and implemented in consultation with the local villages and administration. Issues raised/covered during public hearing and incorporated in the EMP and CSR Plan. During construction phase of the expansion project, an expenditure of about minimum 5% of the capital expenditure shall be earmarked for CSR activity covering the broad areas of education, health, infrastructure, water and power spread over 5 years/period of construction of project. During operation phase

of the project, the CSR activity will be funded based on 2% of the profit during operation phase of the project. 70% of the employment shall be made from the local population. The activities shall include skill development, education for the girl child, common infrastructure, alternate livelihood schemes and creation of SHGs, etc. The PP shall as part of the CSR Plan meet the drinking water requirements (pipeline) of neighbouring villages from the State authorities. In addition, villages such as Dharmasagara and Bandri, which have a fluoride problem shall also be provided drinking water. All the commitments made to the public during the Public Hearing/Public Consultation meeting held on 30.12.2010 shall be satisfactorily implemented and details of which shall be furnished as part of CSR. A separate budget for implementing the same shall be allocated made. The annual capital and recurring expenditure on CSR - village-wise and activity-wise shall be uploaded on the company website and also included in the Annual Report of the company to the Ministry's Regional Office at Bangalore.

- xxvi. The Company shall submit within three months its policy towards Corporate Environment Responsibility which shall inter-alia address (i) Standard operating process/ procedure to bring into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.
- xxvii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

B. GENERAL CONDITIONS:

- i. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEFCC).
- ii. At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM₁₀, PM_{2.5}, SO₂ and NO_x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bangalore and the SPCB/CPCB once in six months.
- iii. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.
- iv. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).

- v. Vehicular transportation of raw materials and finished products shall be kept to minimum. Dust suppression systems shall be in place at transfer points. All internal roads shall be black topped. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using native species shall be developed along the roads.
- vi. Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEFCC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bangalore. The funds so provided shall not be diverted for any other purpose.
- vii. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.
- viii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEFCC at Bangalore. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM₁₀, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- ix. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEFCC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bangalore / CPCB / SPCB shall monitor the stipulated conditions.
- x. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEFCC at Bangalore by e-mail.
- xi. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEFCC) at <http://envfor.nic.in> . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Bangalore.

- xii. Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

10.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.


11.0 The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

12.0 The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.


(Dr. Satish C. Garkoti)
Scientist 'F'

Copy to:

1. The Secretary, Department of Environment & Ecology, Govt, of Karnataka, Room No. 708, Gate 2, Multi Storied Building, Dr. Ambedkar Veedhi, Bangalore - 560001
2. The Additional Principal Chief Conservator of Forests, Regional Office (Southern Zone, Bangalore) Kendriya Sadan, 4th Floor, E&F Wing, II Block Koramangala, Bangalore-560034.
3. The Chairman, Karnataka State Pollution Control Board, #49, Parisara Bhavana, Church Street, Bangalore-01 (Karnataka).
4. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi -110 032.
5. The District Collector, District Bellary, Karnataka.
6. Guard File/Monitoring File/Record File.


(Dr. Satish C. Garkoti)
Scientist 'F'