

31st Dec 2021

Ref. No. JSPL/ENV/2021/10/Envcl

To,
Deputy Director General of Forests (C),
Ministry of Environment, Forest and Climate Change,
Regional Office (ECZ), Bungalow No. A-2, Shyamali Colony,
Ranchi – 834002

Ref: 1. Environment Clearance letter no. J-11011/77/2007-IA.II (I) dated 22.09.08
2. Environment Clearance issued by MoEF vide letter No. F - 11011/77/2007 - IA II(I) dated 01st March 2012 regarding change in configuration of Captive Power Plant from 1000 MW (3x330 MW sub-critical units) to 1320 MW (2x660 MW supercritical units)

Sub: Six Monthly Progress Report of M/s Jindal Steel & Power Limited (JSPL) for setting up a 6.0(MTPA) Integrated Steel Plant and 1320 MW (2x660 MW supercritical units) Captive Power plant at Balkudra, Patratu, Hazaribagh (Jharkhand)

Dear Sir,

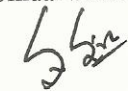
Please find enclosed the six monthly compliance report of the Environment Clearance issued to us with a soft copy in CD for the period April 2021 to Sept 2021. Presently the Rolling Mill and Coal gas based plant is in operation. The other units are planned to be commissioned in phases.

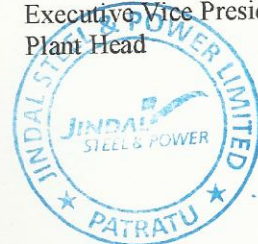
This CD contains the following documents as required :-

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|------------|---|
| Annexure A | Progress report on Specific and General conditions stipulated by MoEF and Amendment of EC |
| Annexure B | Present status of the Project with Production details |
| Annexure 1 | Stack emission report |
| Annexure 2 | AAQ report |
| Annexure 3 | Noise data |
| Annexure 4 | Env Statement |
| Annexure 5 | Half Yearly CSR report 2021 -22 |
| Annexure 6 | Website Display |

A soft copy of this six monthly compliance report has been sent to by e.mail id: ro.ranchi-mef@gov.in. We assure that we will take all appropriate measures to demonstrate our commitment for environmental preservation and conservation within the plant and its surroundings. We aspire to be best environmentally managed organization.

Thanking you,
For Jindal Steel & Power Ltd


Sanjay Sinha
Executive Vice President
Plant Head



Annexure - A

Compliance Status of Environment Clearance issued by MoEF
vide letter No. F - 11011/77/2007 - IAll(I) dated 22nd September 2008

Sl.No	Conditions	Compliance Status
A	Specific Conditions	
1	Project proponent shall confirm that compensation shall be paid to the land oustees for acquisition of agriculture land as per the State Government Norms and the norms prescribed in the National Resettlement and Rehabilitation Policy, 2007.	The existing plant is operating over 551.485 acres of lease hold land vide deed no. 853 dated 28.02.2009. Additional 702 acres of land has been acquired. Further acquisition of balance land will be done as per LARR Act, 2013.
2	Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. Continuous on-line stack monitoring facilities for all the stacks including Captive Power Plant (CPP) shall be provided and sufficient air pollution control devices viz. ESPs and bag filters etc. shall be provided to keep the emission levels below 100 mg/Nm ³ . High efficiency Electrostatic Precipitator (ESPs) shall be installed to ensure that particulate emission does not exceed 50mg/ Nm ³ . One multi-flue stack of 275 m height shall be provided for So ₂ NO _x and particulate matter. Exit velocity of flue gases shall be less than 20 m/sec.	Continuous on-line stack monitoring facilities for all the major stacks is being envisaged in the design stage. The various air pollution control devices like ESPs / Bag Filters shall be provided to keep the emission levels within the norms. One multi flue stack of 275m height is envisaged with flue gas exit velocity of more than 20m/sec. Two online continuous emission monitoring systems for stack have been installed in the stacks of both the Mills. The data is being regularly transmitted to PCB. The results obtained are within the norms and the data is being attached. - Annexure 1
3	Regular monitoring of ground level concentration of SO ₂ , NO _x , SPM and RSPM shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided prescribed immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with JSPCB. Periodic monitoring reports shall be submitted to the Ministry's Regional Office at Bhubaneswar, CPCB and JSPCB.	Online Continuous Ambient Air Quality Station has been installed in the complex and the data generated is being regularly transmitted and the same is being received by CPCB and JSPCB servers. Ambient air quality is monitored on regular basis. The results obtained are within the norms and the data is being attached. - Annexure – 2

4	All the standards prescribed for the coke oven plants shall be followed as per the latest guidelines. Proper and full utilization of coke oven gases in power plant using heat recovery steam generators shall be ensured and no flue gases shall be discharged into the air.	All the prescribed standards for Coke oven are being considered in the project design stage to ensure compliance. All the waste gases from coke oven will be utilized for energy generation.
5	Electrostatic Precipitator (ESPs) shall be provided to Captive Power Plant (CPP). Space provisions shall be kept for retrofitting of FGD, if required at a later date. Gas cleaning plant having dust catcher a bag filter shall be provided to blast furnace (BF). Coal gas shall be used as reductant in DRI plant as well as reheating furnace. In-plant control measures for checking fugitive emissions from all the vulnerable sources including casting shop and SMS shall be provided. Dust extraction system shall be provided to control air emissions at material transfer and sizing plants. Further, specific measures like water sprinkling shall be carried out and fugitive emissions shall be controlled, regularly monitored and records maintained.	Space for FGD has been envisaged in layout. Appropriate air pollution control systems will be installed in all the production units to ensure compliance of respective norms. Dust extraction system will be installed in material transfer points. Coal gas is being used in reheating furnace. Fugitive emissions will be controlled effectively by suitable means. During operation fugitive emissions shall be regularly monitored from all the vulnerable sources including casting shop and SMS and records maintained. The casting shop and SMS is going to be installed in the near future and the plant control measures have been considered in the design stage.
6	Gaseous emission levels including secondary fugitive emissions from all the sources including CPP, blast furnace and sinter plant shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practices issued by the CPCB shall be followed. Adequate dust extraction system such as cyclones / bag filters and water spray system in dusty areas such as in coal handling plant (CHP), ash handling places, transfer points and other vulnerable dusty areas shall be provided.	Adequate dust extraction system / facilities are envisaged in design and shall be installed in CHP and wherever necessary. The waste gases will be recovered back to process.
7	Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emission during loading and unloading of the raw material and finished product.	Water sprinkling through water tankers is being done on regular basis. Sprinklers have been installed in all the dust prone areas right from the commissioning of the project. The main road in the residential area, plant area, road in the premises from A gate to Guest house, colony area and plant area have been made pucca bituminous.

8	Total water requirement from Nalkari dam & Srapahi/Tokisud River/ Doadhabnalla shall not exceed 15,000 m³/hr. No ground water shall be used. Closed cycle cooling system with cooling towers shall be provided. The wastewater from process shall be treated in effluent treatment plant (ETP) as per the prescribed norms. All the treated wastewater shall be recycled and reused to maximum level to conserve water. Cooling tower blow down will be used for ash handling and disposal. The treated effluent conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon for storm water. Arrangement shall be made that effluent and storm water do not get mixed. Sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt / plantation.	The water requirement will not exceed 15000 m³/hr. Ground water is not being used. Waste water from the mills is treated and reused within the process. There is no discharge outside the plant boundary except during monsoon for storm water. Sewage treatment plant will be provided and the treated sewage shall be used for raising greenbelt / plantation.
9	Proper source for the drawl of water shall be identified and prior 'permission' for the drawl of 13,600m³/h water from the concerned department shall be obtained.	The company has obtained concurrence from WRD for drawal of surface water from Damodar river.
10	Coke oven wastewater shall be treated in BOD plant to meet the standards and wastewater shall be used for wet quenching. Continuous monitoring of Total Organic Compound (TOC) shall be done at the outlet of effluent treatment plant (BOD plant).	Wastewater from the Coke Oven plant will be reused for wet quenching after treatment. Continuous monitoring of TOC is envisaged in design and shall be done at the outlet of ETP.
11	'Zero' effluent discharge shall be strictly followed and no wastewater shall be discharged outside the premises.	The waste water is maintained in close circuit .The effluent water generated from the utility area in plant is again recycled back to process. Online flow meter and web camera have been installed and commissioned for zero liquid discharge plant. There is no discharge outside the plant premises except during monsoon for storm water.

12	Ground water monitoring around the solid waste disposal site / secured landfill (SLF) shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhubaneswar, CPCB and JSPCB. Regular monitoring of ground water in and around ash pond area, solid waste disposal site/ secured landfill (SLF) shall be carried out in consultation with the Central Ground Water Authority / State Ground Water Board (CGWA/ SGWB) and records maintained. Periodic reports shall be furnished to the Ministry's Regional Office at Bhubaneswar, CPCB, JSPCB and CGWA/ SGWB.	Ground water monitoring around the solid waste disposal site, in and around the ash pond area, solid waste disposal site/SLF will be carried and submitted to the concerned authorities once the ash pond/ disposal sites are developed.
13	All the char from DRI plant shall be utilized in AFBC boiler of power plant and no char shall be disposed of anywhere else. The middlings, coal and coke fines along with raw coal shall be used for power generation. Iron ore, fluxes, Mill scale etc. shall be recycled to sinter plant to produce sinter. Pellets shall be used in the DRI plant and BF. BF slag shall be 100% utilized. The sinters shall be used in the BF. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner. Oily waste shall be provided to authorized recyclers/reprocessors.	The middlings, coal & coke fines along with raw coal shall be used for power generation. Iron ore, fluxes, Mill scale etc. shall be recycled to sinter plant to produce sinter. BF slag shall be utilized. Oily waste is being provided to authorized recyclers/reprocessors approved by CPCB.
14	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal to the Ministry's Regional office at Bhubaneswar, CPCB and JPCB.	Measures will be taken for reduction of solid waste.
15	All the blast furnace (BF) slag shall be granulated and provided to cement manufacturers for further utilization. SMS slag shall also be properly utilized. Slag from ferro alloy plant shall be used for road making only after passing through Toxic Chemical Leachability Potential (TCLP) test. Toxic slag shall be disposed in secured landfill as per CPCB guidelines.	Slag from BF will be provided to cement manufacturers. SMS slag will be utilized after granulation. The slag from Ferro alloy plant will be used for road making. Unused slag shall be disposed in secured landfill as per CPCB guidelines.

16	Proper utilization of fly ash shall be ensured as per Fly ash notification, 1999 as amendment in 2003.	The fly ash generated from CPP will be utilized as per the Fly ash Utilization Notification, 1999 (as amended till 2016).
17	The ash pond shall be lined with impervious lining to avoid any leaching into groundwater. The ash dyke shall be so designed and strengthened to ensure guard against breaching. Adequate safety measures shall also be taken so that pond ash does not become air borne to cause air pollution in the surrounding areas.	The ash pond shall be lined with impervious lining. Adequate measures will be taken so that pond ash does not become air borne in the surrounding areas.
18	As proposed, green belt shall be developed in 33% of total land available (3,138 acre) within and around the plant premises as per the CPCB guidelines in consultation with DFO.	Tree plantation/Green belt development activity is being carried out regularly in & around the plant premises. Around 33% area will be developed in Green Belt once the project is fully constructed and commissioned.
19	Rainwater harvesting shall be adopted. Central Ground Water Authority/ Board shall be consulted for finalization of appropriate rain water harvesting technology within a period of three months from the date of clearance and details shall be furnished.	Four rain water harvesting structures – two near the A gate hostel area and the other two for the Mills in Filter house area have been constructed for artificial recharging of ground water. The rainwater is presently being stored in a pond/lagoon and the water is being used for process in the lean season besides recharging the ground water table.
20	Leq of Noise levels emanating from gas and steam turbines shall be limited to 75dBA. For people working in the high noise area, requisite personal protective equipment like earplugs / earmuffs etc. shall be provided. Working engaged in noise areas such as steam and gas turbines, air compressors etc., shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy / less noisy areas.	The noise level is being monitored on regular basis and the results are within the norms. - Annexure – 3 However people working in high noise areas are being provided with proper PPE's like ear plugs, ear muffs etc. Further, periodical examination is carried out and audiometric records being recorded and maintained as stipulated.
21	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Necessary first aid and sanitation arrangements for the drivers and other contract workers during construction phase shall be ensured. Further dispensary and a mobile van for giving medical facilities to all employees and villagers is being operated by JSPL.

22	Storage facilities for liquid fuel such as LDO / HFO / LSHS shall be made in the plant area at the location where risk is minimum to the storage facilities. Adequate arrangement of risk management shall be made in the Disaster Management Plan for the same. Mock drills shall be conducted regularly as planned.	Safe storage layout of liquid fuel storage facilities has been made to minimize the risk and ensure proper storage. Mock drills are being conducted regularly. Approval obtained from PESO Nagpur for handling and storage of LDO/HFO. The onsite emergency plan has been prepared and adequate arrangement of risk management considered.
23	Adequate safety measures shall be provided in the plant area to check / minimize spontaneous fires in coal yard, especially during summer season. Detail of these measures alongwith location plant layout shall be submitted to the ministry as well as to the Regional office of the ministry at Bhubaneswar.	Adequate safety measures have been taken to check / minimize spontaneous fires in the coal yard. Sprinklers/ Rain guns have been installed which covers the entire coal yard of the coal based gas plant. The onsite emergency plan has been prepared and every aspect has been covered to take control of any risks.
24	All the recommendations made in the charter on Corporate Responsibility for Environment Protection (CREP) for the steel plants shall be implemented.	The recommendations made in the charter on Corporate Responsibility for Environment Protection (CREP) for steel and power industry shall be complied
25	Recommendations of the State Forest Department shall be obtained regarding likely impact of the proposed steel plant on the surrounding reserve/protected forests, if any and implemented.	Letter has been sent to District forest officer and the recommendation is awaited.
B.	GENERAL CONDITIONS :	
1	The project authorities must strictly adhere to the stipulations made by the Jharkhand Pollution Control Board (JPCB) and the State Government.	The Company is strictly adhering to the stipulations made by the Jharkhand Pollution Control Board (JPCB) and the State Government.
2	No further expansion or modification in the plant should be carried out without prior approval of the ministry of Environment and Forests.	Noted for compliance

3	The gaseous emissions from various process units shall be conform to the load/mass based standards notified by this Ministry on 19th May,1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.	Noted for compliance. The gaseous emissions shall meet the prescribed standards. Continuous emission monitoring systems are envisaged in design and shall be installed to monitor the emission levels. Possible interlocking facilities are envisaged for pollution control.
4	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO₂ and NO_x are anticipated in consultation with the JPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the JPCB/CPCB once in six months	Online Continuous Ambient Air Quality Station has been installed in the complex and the data generated is being regularly transmitted and the same is being received by CPCB and JSPCB servers. Ambient air quality is monitored on regular basis. The results obtained are within the norms and the data is being attached. Annexure – 2
5	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 utilize for plantation purpose.	The waste water is maintained in close circuit. The effluent water generated from the utility area is again recycled back to process. The entire effluent water generated from the process goes to scale pit where the scales are separated out. The effluent water then passes through various process stages like Settling tank, thickener, sludge holding tank, DMF (Dual Media filter) ,cooling tower and then to process for use. The effluent treatment system installed in the plant in utility area maintains the water in close circuit. The total system is maintained and operated regularly round the clock. There is no discharge from the process area. The effluent generated is being treated and recycled. The entire water is in a re-circulation process.

6	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 (night time).	Over the period the noise levels in work zone in WRM and Bar Mill are within the standards (85 dBA). Acoustic enclosures are provided & considered in the project to control noise within the standards Noise levels are being monitored regularly. Ambient noise levels obtained are within the norms. - Annexure – 3
7	Occupational Health Surveillance of the workers shall be done on regular basis and records maintained as per the Factories Act.	The occupational health check up of the workers is being done and records maintained as per the Factories Act.
8	The company shall develop surface as well as ground water harvesting structures to harvest the rainwater for utilization in the lean season besides recharging the ground water table.	Four rain water harvesting structures – two near the A gate hostel area and the other two for the Mills in Filter house area have been constructed for artificial recharging of ground water. The rainwater is presently being stored in a pond/lagoon and the water is being used for process in the lean season besides recharging the ground water table.
9	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding village like community development programmes, educational programmes, drinking water supply and health care etc.	The environmental protection measures and safeguards recommended in the EIA/EMP report are being duly implemented. The company is taking various initiatives for socio-economic development activities in the surrounding village like community development programmes, educational programmes, drinking water supply and health care
10	As mentioned in the EIA/EMP, Rs.536.00 Crores and Rs.81.00 Crores earmarked for capital cost and recurring cost/annum towards environment protection measures shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forest as well as the STATE Government. The fund so provided shall not be diverted for any other purpose.	Noted for compliance. Separate fund is earmarked annually as recurring cost towards environment protection measures. Further separate capital cost will be earmarked as and when construction of remaining project commences.
11	The regional office of this ministry at Bhubaneswar / CPCB / JPCB will monitor the stipulated conditions. A six monthly compliance report and the mentioned data along with statistical interpretation shall be submitted to them regularly.	The six monthly compliance report is being submitted to MoEF&CC,JSPCB and CPCB on regular basis.

12	The Project Proponent shall inform the public that the project has been accorded environment clearance by the ministry and copies of the clearance letter are available with the JPCB and may also be seen at website of the Ministry of Environment and Forest 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 shall be forwarded to the Regional office.	The Env clearance was granted on 22.09.2008 and was published in the local newspaper in <i>Hindustan</i> 26.09.2008 and <i>Prabhat Khabar</i> on 26.09.2008.
13	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.	Financial Closure is yet to be done as discussions with banks/FIs are going on for financial closure. Land development work is in progress. Approval obtained from Chief Inspector of Factory.

Compliance Status of Environment Clearance issued by MoEF
vide letter No. F - 11011/77/2007 - IAll(I) dated 01st March 2012

Regarding change in configuration of Captive Power Plant
from 3x350MW from 1000 MW (3x330 MW sub-critical units) to 1320 MW (2x660 MW supercritical units)

Compliance Conditions

S.No.	Conditions	Status
i)	The particulate emissions shall be controlled below 50 mg/Nm ³ by installation of ESP from the captive power plant. A twin-flue stack of 275 m height be installed for dispersion of gaseous emissions.	ESP shall be designed to control the particulate emissions below 50 mg/Nm ³ . A twin flue stack will be installed for dispersion of gaseous emissions.
ii)	The disposal of ash in the abandoned mines shall be carried after carrying geo-hydrological studies only. Measures shall be taken to prevent leaching of heavy metals in the ground water.	Necessary studies will be carried before disposal of ash in mines. Suitable preventive measures shall be taken to prevent leaching of heavy metals if any in the ground water.
iii)	Data on ambient air, stack and fugitive emissions shall be regularly submitted online to Ministry's Regional office at Bhubaneswar, SPCB and Central Pollution Control Board as well as hard copy ones in six months and display data on RSPM, SO ₂ and NO _x outside the premises at the appropriate place for the general public.	Online Continuous Ambient Air Quality Station has been installed in the complex and the data generated is being regularly transmitted and the same is being received by CPCB and JSPCB servers. Ambient air quality is monitored on regular basis. The results obtained are within the norms and the data is being attached. - Annexure – 2 Presently the Rolling Mill & Coal Gas based plant are in operation. Two online continuous emission monitoring systems have been installed in the stacks of both the Mills. The data is being regularly submitted with the six monthly progress report. - Annexure – 1 The electronic display system has been installed and commissioned and the data is being regularly displayed outside the premises at the appropriate place for the general public.
iv)	The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16 th November, 2009 shall be followed.	The National Ambient Air Quality Standards is being followed and the monitoring is being done as per the norms.

v)	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of the monitored data (both in hard copies as well as by e-mail) to the respective Regional office of MOEF, the respective Zonal office of CPCB and the SPCB. The Regional Office of this Ministry at Bhubaneswar /CPCB/SPCB shall monitor the stipulated conditions.	Compliance report submitted regularly
vi)	The environment statement for each financial year ending 31 st March in Form-V as in 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 Offices of the MOEF by e-mail.	The environment statement for the financial year ending 31st March 2021 was submitted in Form-V on 28th June 2021 vide letter no. JSPL/ENV/2021/07/CON. The environment statement for the financial year ending 31st March 2022 has been submitted in Form-V on 28th September 2022. - Annexure 4 - Annexure 6
vii)	At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner. The action plan shall include major items like school, vocational training etc.	As a Good Corporate citizen the company is committed to improve the Quality of life of surroundings by way of implementation of need based social development projects. The Company has a dedicated Team of Professionals in its CSR Dept. Based on need analysis of the local community living in the vicinity, the company has been undertaking various socio-economic development initiatives on project modes in the surrounding / periphery villages encompassing mass educational programmes, skill development programme, drinking water supply , sanitation and health care projects and other community development programmes on a sustainable basis. Based on local needs, yearly plan for CSR is prepared and implemented. The report for the period April 2021 to Sept 2021 is being attached. - Annexure – 5

viii)	The Company shall submit within three months their policy towards Corporate Environment Responsibility which should 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.	Complied. Corporate Environment Responsibility submitted vide letter no. JSPL/EMD/2012/EC Comp-1 dated 22nd May 2012
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