



Safety • Quality • Reliability

Ref: Solar/EC/RO/(WCZ)MoEF/019-20/01

Date 06.12.2019

To,
The Dy. Director,
Regional Office (WCZ)
Ground Floor, East Wing
New Secretariat Building
Civil Lines, Nagpur 440 001

Kind: Attn: Dr. E. Arockia Lenin, Scientist 'C'/Dy Director

Sub: **Submission of Six- Monthly Compliance Report (Apr-Sept,2019) as per Sce.10
of EIA notification dated 14th September,2006.**

Ref: (i) Your Letter No. EC-1047/RON/2019-NGP/5587 Dated 06.08.2019.
(ii) Your Letter No. EC-1047/RON/2019-NGP/5873 Dated 05.11.2019.
(iii) MoEF &CC letter F. No. J-11011/282017-IA9I) dated 07.07.2019

Dear Sir,

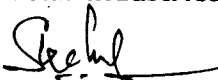
In reference to above and subsequent inspection of the project facility by an officer of your office on dated 13.11.2019 we enclose here with first Six monthly compliance report for the period Apr,2019 to Sept,2019 for your kind perusal and ready reference.

We also would like to furnish desired details as follows:

1. **Six monthly Compliance Status Report:** Enclosed Annex. 1
2. **Present Status of Work:** Enclosed Annex. 2
3. **Information Data sheet /Monitoring Report (Part-I):** Enclosed Annex. 3
4. **Copies of Consent to Establish /Operate from MPCB:** Enclosed Annex. 10.(a)
5. **EIA/EMP report (if applicable):** EIA/EMP was conducted by ANCON Laboratories and submitted to the MoEF & CC.

Thanking You,

For, Solar Industries India Limited


(Dr. S.K. Sharma)

Authorized Signatory

Enclosed: As above

Solar Industries India Limited

Factory : Village - Chakdoh, Kh. No. 37-39 & 78-83, Amravati Road,
Post: Bazargaon, Teh: Katol, Dist: Nagpur ☎ (+91)7118-277318/330
Head Office: "Solar" House 14 Kachimet, Amravati Road, Nagpur-440023, INDIA

Six Monthly Compliance Status Report

(Annexeure-1)



Safety • Quality • Reliability

Name of Project : Modernization and Expansion of Explosives and Defense products manufacturing plant by M/s Solar Industries India Limited at Village -Chakdoh, P.O.- Bazargaon Tehsil- Katol, District- Nagpur 440 023 (Maharashtra)

EC Letter No. : F. No. J-11011/28/2017-IA II (I) MoEF CC, IA Division, New Delhi Dated 7th Jun,2019

Period of Compliance : April'2019 to September' 2019

| S. No. / Cond ⁿ . No. | Terms & Conditions | Compliance Status |
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| 10.(a) | Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, shall be obtained from the State Pollution Control Board. | Renewal of Consent to Operate (CTO) obtained from MPCB, Mumbai vide Consent Order No. Formate 1.0/BO/CAC-Cell/UAN No. 000008004 /4th CAC/ 1612001045 dated 30.12.2016. Valid up to 30.06.2021. An application for expansion capacity of Explosives and Defence products manufacturing. has been submitted to MPCB vide UAN No. 0000071891. Refer Annex. 10.(a) |
| 10.(b) | Necessary permission from the Ministry of Defense and/or other statutory authorities shall be obtained for manufacturing products of their use. | Permission from Ministry of Commerce & Industry (DIPP), New Delhi has been obtained. Details of DIPP licence enclosed Annex. 10(b) |
| 10.(c) | Storage of different raw materials and/or the finished products shall be as decided by the PESO and the permission granted in this regard. | Permission for storage shed of different raw material and finished products have been granted by PESO. Refer Annex. 2. These licence are provided with respective production facilities. A separate licence granted for storage of explosives products. Refer Annex. 2 A. |
| 10.(d) | As already committed by the project proponent, Zero Liquid Discharge shall be ensured, and no waste/treated water shall be discharged outside the premises. | Effluent treatment plant facilities have been provided and treated water is recycled within the factory premises to ensure compliance pf Zero Liquid Discharge condition. Refer Annex. 10.d |
| 10.(e) | Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained. The provisions contained therein for handling, generation, collection, storage, packaging, transportation, use, treatment, processing, recycling, recovery, pre-processing, utilization, offering for sale, transfer or disposal of hazardous waste, shall be strictly adhered to. | Permission obtained from MPCB vide Consent Order No. Formate 1.0/BO/ CAC -Cell/ UAN No.000008004/4th CAC/ 1612001045 dated 30.12.2016. Valid up to 30.06.2021. Refer Annex. 10.(a) Disposal of waste is being done at the disposal site (CHWTSDF) of Maharashtra Enviro Power Ltd. Butibori, Nagpur Refer Annex. 10.(e) |
| 10.(f) | No raw material/solvent prohibited by the concerned regulatory authorities from time to time, shall be used for production of pesticides. | Not applicable. There is no plan for production of Pesticides. |
| 10.(g) | National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21 st July,2010 and amended from time to time shall be followed. | On commissioning of the proposed production facilities National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21 st July,2010 and amended, will be followed. |

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Period of Compliance : April'2019 to September' 2019

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| 10.(h) | Coal with Sulphur content less than 0.5% shall be used as fuel in the boiler, along with biofuel/ briquettes/ bagasse/ agro waste. | Coal, biofuel/ briquettes samples have been analysed and Sulphur content found less than 0.5%. Enclosed test report. Refer Annex. 10.h |
| 10.(i) | To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines. | Wet Scrubbers have been installed in the processes to mitigate fugitive emissions. AAQ monitoring at the 3 stations being done and meeting the NAAQS norms. Suitable stack height has been provided for discharge of gaseous emission. Photos Image attached. |
| 10.(j) | Solvent management shall be carried out as follows: | Solvent management is being carried out as follows: |
| 10.J.(i) | Reactor shall be connected to chilled brine condenser system. | Reactors are connected with chilled brine condenser system. Photo Image attached |
| 10.J.(ii) | Reactor and solvent handling pump shall have mechanical seals to prevent leakages. | Reactor & solvent handling pumps are having mechanical seal to prevent leakage, if any. |
| 10.J.(iii) | The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery. | The condensers are provided with sufficient HTA and residence time so as to achieve more than 95% recovery. |
| 10.J.(iv) | Solvents shall be stored in a separate space specified with all safety measures. | Solvent are being stored in a separate space as specified and safety measures. |
| 10.J.(v) | Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. | Proper earthing is provided in all the electrical equipment wherever solvent handling is done. |
| 10.J.(vi) | Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. | Entire plant (Flammable zone) is provided with Flame proof electrical fittings. The solvent storage tanks are provided with breather valves to prevent losses. |
| 10.J.(vii) | All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation. | All the solvent storage tanks are connected with vent condensers and chilled brine circulation system. |
| 10.(k) | Total freshwater requirement shall not exceed 471 cum/day, out of which 430 cum/day shall be met from ground water, and the remaining from surface water resource. Prior permission in this regard shall be obtained from the concerned regulatory authority/CGWA. | Total freshwater requirement is not exceeded to 471 cum/day and met with borewells/ Dug-well. After expansion remaining water requirement shall be fulfilled from surface water resources. Permission from CGWA has been obtained. Refer Annex. 10.k (i) Details of water withdrawal during Apr-Sep, 2019 is enclosed. Annex. 10.K (ii) |
| 10.(l) | Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system. | Process effluents/ waste-water drains are not mixing with storm water. The effluent is collected in the sump at the plant and transferred through counseled pipelines/drain (impervious and covered). The storm water of premises is discharged through separate drains. Photo image attached. |

Six Monthly Compliance Status Report

(Annexeure-1)



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EC Letter No. : F. No. J-11011/28/2017-IA II (I) MoEF CC, IA Division, New Delhi Dated 7th Jun, 2019

Period of Compliance : April'2019 to September' 2019

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| 10.(m) | Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps. | Hazardous chemicals are being stored in tanks, tank farms, drums, carboys etc. Flame arresters are provided on tank farm, and solvent transferring is done through pumps. Dyke wall is provided around storage tanks. Photo image attached |
| 10.(n) | Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed of to the TSDF. | There is no process organic residue/spent carbon is generated yet. ETP sludge and process waste is disposed to CHWTSDF. Industry has membership of MEPL. Refer Annex.10(e). |
| 10.(o) | The project proponent shall strictly comply with the manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended from time to time. Accordingly, the units shall prepare and update safety report, onsite emergency plan, supply of information relating to the industrial activity under his control to the District Emergency Authority for preparation of offsite Emergency Plan, etc. Schedule-5 of the Said Rules prescribes the list of Authorities and its corresponding duties. The transportation of all hazardous chemicals shall be as per the Motor Vehicle Act, 1989. | Industry is strictly complying with MSIHC Rules, 1989 Refer Annex10(o) Safety Audit & Onsite Emergency Plan has already been submitted to the District Magistrate, Nagpur. Refer Annex10(o) Cover page image. The transportation of all the hazardous chemicals being done as per the Motor Vehicle Act, 1989. |
| 10.(p) | Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality. Direct exposure of workers to fly ash & dust should be avoided. | Fly ash from bag filters of boilers is collected separately as per guidelines and adequate measures are being taken to prevent any adverse effect on the air quality. Workers are not exposed directly to fly ash and dust. |
| 10.(q) | The company shall undertake waste minimization measures as below: | The company is undertaking waste minimization measures as below: |
| 10.(q). i | Metering and control of quantities of active ingredients to minimize waste. | Metering and control of ingredients quantity is ensured by flow meter & Loadcell system provided in the processes. |
| 10.(q). ii | Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. | Reuse of by-products from the process as raw materials or as raw material substitutes in other processes is being done. E.g. Dilute Nitric acid of PETN process is used as raw material for manufacture of Calcium nitrate. |
| 10.(q). iii | Use of automated filling to minimize spillage. | Automated filling and transferring arrangement have been provided to minimize spillage. |
| 10.(q). iv | Use of Close Feed system into batch reactors. | Closed feeding systems is provided into batch reactors. |

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| 10.(q). v | Venting equipment through vapour recovery system. | Venting equipment is connected through vapor recovery system. |
| 10.(q). vi | Use of high- pressure hoses for equipment clearing to reduce wastewater generation. | Use of high-pressure hoses for equipment clearing to reduce wastewater generation is being done. |
| 10.(r) | The green belt of at least 5-10 m width shall be developed in nearly 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along roadsides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. | At present green belt cover of 10- meter width has been developed with plantation of 25050 nos. of trees in more than 33% area. The additional green belt will be developed in 25.92 Ha land along the plant periphery, in downward wind direction, and along roadsides. The selection of plantation species has been done in consultation with State Forest Department and Forestry Consultant. |
| 10.(s) | All the commitments made to the public during public hearing/consultation shall be satisfactorily implemented. | All the commitments made during public hearing/consultation meeting dated 28.12.2017 are being implemented satisfactorily. Further a meeting with Gram Panchayat Members is conducted and members/public representatives have submitted satisfaction. Refer Annex. 10(s) |
| 10.(t) | As committed by the project proponent monitoring stations shall be installed in nearby villages to monitor the vibrations due to blasting. | According to commitment monitoring station provided and vibrations recording during blasting is done and records are maintained. Refer Annex. 10(t) |
| 10.(u) | As committed by the project proponent ground vibrations shall be reduced to NIL. | As already informed during deliberations to EAC, that Ground vibrations can't be reduced to NIL however, all precaution and necessary measures will be undertaken in this regard. |
| 10.(v) | At least 1.5% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. | CSR allocation has been done @ 2.0% of average profit & actual expenditure in last 3 years was: FY: 2015-16- Rs. 2.23 Crores (2.032%) FY: 2016-17- Rs. 2.83 Crores (2.095%) FY: 2017-18 - Rs. 3.51 Crores (2.086%) Details submitted to the Regional office, Nagpur. Refer Annex. 10 (v) |
| 10.(w) | For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution. | The emission of DG sets is monitored regularly. Stacks height is conforming to the guideline of CPCB. The installed DG sets (Powerica) conforms to the Environmental (Protection) Rules, 1986 and certified as 'Silent DG set' and Noise Limit is 75 dB(A) Log Average at 1- meter distance. Attached Image 10(w) |

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| 10.(x) | The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms. | The industry has made necessary arrangement for protection of possible fire hazards during manufacturing process and material handling. A well-equipped Fire- fighting station with Fire Tender and Fire-fighters crew has been provided. |
| 10.(y) | Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act. | An Occupation Health Center is there in the factory. Occupational Health surveillance of the employees is being done on a regular basis and records are maintained as per the Factories Act in Form-7. Refer Annex.10(y) |
| 10.(z) | Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. | Industry in the process of procurement of continuous online (24x7) monitoring system for stack emissions. The monitoring of effluent is done by flow meters installed in the effluent's drains. The provision of web camera with night vision capability will be done. |
| 10.(aa) | Process safety and risk assessment studies shall be further carried out using advanced models, and the mitigating measures shall be undertaken accordingly. | Process safety and risk assessment studies CFD Consequence Analysis Studies has been conducted by GEXCON, India Pvt. Ltd. and report already submitted to the MoEF. (Attached cover Page Photo image) Industry has been accredited with OHSAS 18001:2007 by DNV-GL, accordingly, HAZOP/HIRA studies are being conducted periodically, and mitigations measures are being taken. |
| 10.(bb) | The unit shall comply with the provisions of the Public Liability Insurance Act, 1991 and get the insurance policy under the said Act to ensure immediate relief to the persons affected by accident occurring while handling any hazardous substance. | Industry is complying with the provisions of the Public Liability Insurance Act, 1991 and obtained Public Liability Act Policy No. 2302002719P107649849 duly renewed for the period 16.09.2019 to 15.09.2020. Attached Annex. 10.(bb) |
| 10.1 (i) | The project authorities must strictly adhere to the stipulations made by the state Pollution Control Board (SPCB), State Government and/or any other statutory authority. | Industry is committed to adhere the stipulations made by the Maharashtra Pollution Control Board (MPCB), State Government and/or any other statutory authority. |
| 10.1 (ii) | No further expansions or modifications in the plant shall be carried out without prior approval of the Ministry. In case of deviations or alterations in the project proposal from those submitted to the Ministry. A fresh reference shall be made to assess | Admitted. |

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| | the adequacy of conditions imposed and to add additional environmental protection measures required, if any. | |
| 10.1 (iii) | The location of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one stations is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated. | There are 3 stations for ambient air quality monitoring and same has been already approved by MPCB. Monitoring of AAQ is conducted by NABL approved laboratory and report is being submitted to the MPCB. Refer Annex. 10.1(iii) |
| 10.1 (iv) | The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16 th November,2009 shall be complied with. | Industry is complying with the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16 th November,2009. Refer Annex. 10.1(iv) |
| 10.1 (v) | The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time). | The noise levels in and around the plant area being maintained ≤ 75 dBA (during day- time) and ≤ 70 dBA (during night- time) according to the Environment (Protection) Act, 1986 Rules, 1989. There is no major source of Noise pollution in the industrial process. The DG sets (Powerica) conforms to the Environmental (Protection) Rules, 1986 and certified as 'Silent DG set' and Noise Limit is 75 dB(A) Log Average at 1-meter distance. The Monitoring of Noise level is being done regularly in house as well as by NABL approved monitoring agency. Refer Annex. 10.1(v) |
| 10.1 (vi) | The company shall harvest rainwater from the roof tops of the buildings and storm water drains to discharge the ground water and utilized the same for different industrial operations within the plant. | In the company rain- water from roof tops of the buildings is connected to water harvesting system and storm water drains discharge is connected to reservoir. The collected water is utilized in the industrial operations within the factory. Refer Annex. 10.1(vi) |
| 10.1 (vii) | Training shall be imparted to the all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted. | Training is being imparted to all the employees on the safety and health aspect of chemicals handling. Pre-employment and routine periodical medical examinations for all employees is being undertaken on regular basis and training record is maintained. Annex. 10.1(vii) |

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Period of Compliance : April'2019 to September' 2019

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| 10.1 (viii) | The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing shall be implemented. | The company is complying with all the environmental protection measures and safeguards proposed in the document submitted to the Ministry. EIA/EMP in respect of environmental management, risk mitigation measures and public hearing dated 28 th Dec,2017 is being implemented. |
| 10.1 (ix) | The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also, eco-developmental measures shall be undertaken for overall improvement of the environment. | The company is already taking necessary measures for improving socio-economic conditions of the surrounding area. CSR activities conducted in consultation with local villagers. Eco developmental measures are being taken e.g. Distribution of Solar Cookers, Smokeless Chulha, Toilet facility in schools, at Village panchayat office, Rehabilitation center, Ambulance facility, Medical check-up camps, Health care activities, Reverse Osmosis plant at Bazargaon, for safe drinking water, Play items at schools, and plantation activities. |
| 10.1 (x) | A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. | Environmental Management Cell has been formed. A full-fledged laboratory facility to carry out the Environmental Management and Monitoring functions will be set up. |
| 10.1 (xi) | The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/Pollution Control Measures shall not be diverted for any other purpose. | Company is committed to implement the conditions stipulated by the Ministry of Environment, Forest and climate Change as well as by the State Government along with the implementation schedule for all the conditions stipulated. Provision of sufficient funds has been earmarked for environment management/ Pollution Control Measures and will not be diverted for any other purpose. |
| 10.1 (Xii) | A copy of clearance letter shall be sent by the project proponent to concern Panchayat, Zila Parisad/ Municipal corporation, Urban local body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the Proposal. | A copy of Environmental Clearance letter has been sent to local body and Gram Panchayat Ringanabodi, Bazargaon vide letter No. Solar/ EC/2019-20/07 dated 09.07.2019. Refer Annex. 10.1(xii) |

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| 10.1 (xiii) | The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective regional office of MoEF &CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental clearance and six- monthly compliance status report shall be posted on the website of the company. | Since EC clearance letter No. J-11011/28/2017-IA II (I) MoEF CC, IA Division, New Delhi had been issued on Dated 7 th June, 2019 hence, first Six Monthly report (for the period Apr-Sept, 2019) is submitted on 05.12.2019 to the Regional office, MoEF& CC Nagpur. Similar information's will be posted on the website of the company. Environmental clearance and six- monthly compliance status report and monitoring data up to 13.11.2019 has already been submitted to the Regional Office, Nagpur. |
| 10.1(xiv) | The environmental statement for each financial year ending 31 st March in Form-V is mandated shall be submitted 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 environment clearance conditions and shall also be sent to the respective regional office of MoEF &CC by e-mail. | The environmental statement for financial year ending 31 st March, 2019 in Form-V is submitted to the Maharashtra Pollution Control Board online and updated under sustainability on the website of the company www.solargroup.com Compliance of environment clearance conditions has been sent to the Regional office of MoEF &CC by e-mail arockia.lenin@gov.in on dated 05.12.2019 |
| 10.1 (xv) | 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/Committee and may also be sent at website of the Ministry at http://moef.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 concerned Regional Office of the Ministry. | The project proponent has published a news for information to the public that the project has been accorded environmental clearance by the Ministry. The News has been published in Navbharat (Hindi), Daink Bhaskar (Hindi) that are widely circulated in the region and in the Deshonnati (Marathi) daily newspaper. Copies of News already submitted to the Regional Office, MoEF CC, Nagpur. Refer Annex. 10.1 (xv) |
| 11. | The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory. | Admitted and compliance will be ensured. |

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| 12. | The above conditions will be enforced, inter-alia under the provisions of the water (Prevention & control of Pollution) Act, 1974, the Air (Prevention & control of water Pollution) Act, 1981, the Environment (Protection) Act 1986, the Hazardous waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991, read with subsequent amendments therein. | Admitted and compliance will be ensured. |
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For, Solar Industries India Ltd.

A handwritten signature in black ink, appearing to read 'S.K. Sharma'.

(Dr. S.K. Sharma)
Authorised Signatory

Enclosed: As above



PRESENT STATUS OF WORK PROGRESS

(ANNEXURE-2)

Safety • Quality • Reliability

Name of Project: Modernization and Expansion of Explosives and Defense products manufacturing plant by M/s Solar Industries India Limited at Village Chakdoh, P.O.- Bazargaon Tehsil- Katol, District- Nagpur 440 023 (Maharashtra)

EC Letter No. : F. No. J-11011/28/2017-IA II (I) MoEF CC, IA Division, New Delhi Dtd.7th Jun,2019

Period of Compliance: April'2019 to September' 2019

| S. No. | Name of Products | Existing Products & Facilities | Name of New Products, Facilities & Equipment | Status as on 30.11.2019 |
|--------|---------------------------------|---|--|---|
| 1. | Slurry/Emulsion Explosives | Slurry Explosive Production House - PP1, PP2, PP3, PP-11 Emulsion Explosive Production House-PP4, PP5, PP7, PP9, PP12, PP-16. Equipment: OB Reactor, OB Storage Tank, FB Reactor, FB Storage Tank, Dry Fuel mixer, Dynamic mixer/ Jet Mixer, Matrix transfer pump, Cartridge Packing Machine (KP), Conveyor Cooling Bath, Box Packing machine, Box shifting Conveyor. | Slurry Explosive House - PP21. Emulsion Explosive House-PP20. Note: The Equipment for slurry explosives/ emulsion explosive are similar as existing. | Civil work of both the buildings PP20 and P-21 in progress. Equipment: Ordered. Delivery scheduled in Feb,2020. |
| 2. | Bulk Emulsion (SME) | No existing facility | BEMP /SME OB Reactor, OB Storage Tank, FB Reactor, FB Storage Tank, Jet mixer, Matrix transfer pump, Silo. The product is transfer to Bulk Matrix delivery vehicle. | Commissioning of production facility under progress. Will be ready for production in Jan,2020. BMD vehicles. Procured. |
| 3. | HMX and HMX compounded products | Production House - PP6 Raw material storage tank, solution preparation vessel and transfer pump, nitrator, simmer, settler, crystallizer, pressure filter, evaporator, nutsch filter. Utilities- steam boiler, chiller, cooling tower, nitrogen compressor, air dryer, MCC, VFD, UPS, Scrubbers, DM water Unit, ETP (Vacuum Distillation Unit). | HMX New Facility-PP-15 Equipment are similar as in PP6. HMX compounded products will be manufactured in the Crystallization Building (CB) Equipment: Crystallizer dissolver, nutsch filter, distillation column, vacuum pump, condenser Utilities-steam boiler, chiller, cooling tower, nitrogen generation unit, compressor air dryer, VFD, MCC, UPS, ETP. | Commissioning of production facility completed. Equipment installation in CB building underway. All the equipment received. |

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| | | | | |
|----|---------------------------------|---|---|---|
| 4. | RDX and RDX compounded products | No existing facility for RDX. | <p>PP19 - RDX (New facility) Raw material storage tank, solution preparation vessel and transfer pump, nitrator, simmer, hydrolysis tank settler, crystallizer, pressure filter, evaporator, cyclone separator, nutsch filter.</p> <p>RDX compounded products: Granulation Building (GB) Equipment: Crystallizer, dissolver, nutsch filter, distillation column, vacuum pump, condenser Utilities- steam boiler, chiller, cooling tower, nitrogen compressor, air dryer, MCC, VFD, UPS, Scrubber, DM Unit.</p> <p>HMX & RDX Drying building HD4, HD5 Drying vessels 8 nos. EA, cooling tower, vacuum trap, vacuum pump, heat exchanger, MCC.</p> <p>Packing building PB1, PB2, PB 3 and Transit Stores TS-1 & TS 2.</p> | <p>Commissioning of production facility at PP-19 completed.</p> <p>Equipment installation in GB building for RDX compounded products Completed.</p> <p>HMX/ RDX Drying building HD-4 and HD-5 Ready</p> <p>All the equipment received. Packing building PB-1 Ready. Another Packing building PB-2 and PB3 and Transit stores TS1 and TS 2 civil work in progress.</p> |
| 5. | TNT | No existing facility for TNT. | <p>TNT (New facility) PP-18 Raw material storage tank, transfer pump, nitrator (7 nos.), washer (5 nos.), WNA/ CNA distributor, separator, heater, dryer, flaking unit.</p> <p>Utilities - steam boiler, chiller, cooling tower, denitrification system, MCC, VFD, UPS, Scrubber, RO Unit.</p> <p>Denitrification system ETP: MEEP (1 No.)</p> | <p>Commissioning of production facility at PP-18 completed.</p> <p>Denitrification system Work completed. ETP: MEEP (1 No.) Completed. Trail done.</p> |
| 6. | PETN | <p>Batch Process Plants: PP8, PP10 Raw material storage tank, transfer pump, nitrator, crystallizer, vacuum filter, condenser, Refused acid tank scrubber.</p> <p>Utilities- steam boiler, chiller, cooling tower, compressor, air dryer, MCC, VFD, UPS, DM Unit.</p> | <p>PETN continuous PP-14 Production Rate to be increased @ 500 Kg/Hr. New PETN Drying (PD-6) Utilities- steam, cooling tower, Vacuum pump compressor, air dryer, MCC, VFD, UPS.</p> | <p>Trial @ 500 Kg/Hr. PETN Production has been taken and found satisfactory. Civil work of new PETN Drying plant PD6 underway.</p> |

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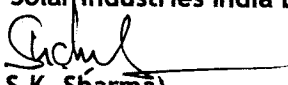
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| | | PETN continuous process (PP-14) Existing Production@ 200 Kg/Hrs. Raw material transfer pump, nitrator, crystallizer (2 nos.), vacuum filter, Nutsch filter condenser Refused acid tank scrubber. Utilities- steam boiler, chiller, cooling tower, compressor, air dryer, MCC, VFD, UPS. | | |
| 7. | Detonating Fuse | Process Buildings: DF 1, DF 2 Spinning machine DF-1: 12 Nos. DF2: 10 nos. Coating machine: 1 No., Crushing & Printing m/c.2 Nos, Reeling machine 4 nos. in each plant. Humidifier, MCC. | Process Buildings: DF-3 Spinning machine 10 nos. Coating machine:1 No., Crushing machine:2 No., Reeling machine: 4 Nos. Humidifier, MCC. | Commissioning of spinning machines, coating, crushing and Reeling machines have been completed. Trial has been taken satisfactorily. |
| 8. | Cast Booster | Cast booster Plant: CBH-1, CBH-2, CBH-3, CBH-4 List of equipment in each production house - TNT melting vessels (3 nos.) PETN & TNT mixing vessel (3 nos.) Cooling chamber 2 lines (1no.) Scrubber (1no.) ETP | Cast booster Plant: CBH-5 List of equipment - TNT melting vessels (3 nos.) PETN & TNT mixing vessel (3 nos.) Cooling chamber (1no.) Scrubber (1no.) ETP | Commissioning of Melting and mixing vessels have been completed. Trial has been taken satisfactorily. |
| 9. | Utility Boiler | Boiler - 2 TPH, 3 TPH, 6 TPH Fuel - Coal / Agro waste APC- Bag filter Stack Height - 30 meters | Boiler - 12 TPH Fuel - Coal APC- Bag filter Stack Height - 33.5 meter | 12 TPH Boiler has been commissioned |

For, Solar Industries India Ltd.


(Dr. S.K. Sharma)

Authorised Signatory

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Monitoring the Implementation of Environmental Safeguards LAR
Ministry of Environment, Forest & Climate Change
Regional Office (West Central Zone), Nagpur
Monitoring Report

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Part – I
DATA SHEET

| | | |
|---|--|---|
| 1 | Project Type: River-valley / Mining / Industry/ Thermal / Nuclear / Other (Specify) | Industry |
| 2 | Name of the Project | Modernization and Expansion of Explosives and Defence Products manufacturing plant by M/s Solar Industries India Limited at Village Chakdoh, Tehsil Katol, District Nagpur (Maharashtra) Environmental Clearance reg. |
| 3 | Clearance Letter (s) / OM No. and date | F. No. J-11011/28/2017-IA II (I) Dated 7 th June, 2019 |
| 4 | Location a. District (s) b. State (s) c. Latitude d. Longitude | Nagpur Maharashtra 21° 8'22.88" N-21° 8'17.81" N 78° 43'37.02" E-78° 45'18.12" E |
| 5 | Address for correspondence a. Address of concerned Project Chief Engineer (with Pin Code & Telephone/ Telex/ Fax Numbers) & Address of Executive Project Engineer / manager (with Pin Code & Fax Numbers) | Mr. A. K. Jain Executive Director Solar House, 14, Kachimet, Amravati Road, Nagpur- 440 023, (Maharashtra) Tel. No. 0712- 6634508, Mob. No. 9822219605 Dr. S.K. Sharma Dy. General Manager Village Chakdoh (Near Bazargaon) Tehsil- Katol Nagpur- 440 023, (Maharashtra) Tel. No. 0712- 2812929, Mob. No. 9665081945 E mail: s.sharma@solargroup.com |
| 6 | Salient features a. Of the Project b. Of the Environmental Management Plan | The project of modernization and expansion of explosives and defence products manufacturing plant has been proposed within the existing factory site of M/s Solar Industries India Limited at Village Chakdoh, Tehsil Katol, Dist. Nagpur-440023. The major Events are as follows: TOR application submitted at MoEF CC on 23.01.2017 TOR presentation in 22 nd EAC (Ind-2) meeting on 17.04.2017 TOR issued by EAC, MoEF CC New Delhi on 7.7.2017 Public Hearing conducted on 28.1.2018 Resubmission of proposal on 22.10.2018 EC Presentation 1 st EAC (Ind-2) Sr No. 1.3.9 on 19.12.2019 Additional Details submission to MoEF CC on 12.01.2019 Reconsideration EC Presentation in 4 th EAC (Ind-2) Meeting (at Sr No. 1) on 27.02.2019 |

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| | | |
|---|--|---|
| | | <p>Grant of EC vide F. No. J-11011/28/2017-IA II (I) Date: 07th June, 2019</p> <p>The expansion of existing explosives products will be meet the requirements of mining sectors within the country as well as export whereas defence products viz. HMX & RDX and TNT will be supplied to Defence Research and Development Organisation (DRDO), and its uses for various defence applications within the country.</p> <p>This is line with the new Defence Procurement Management & Structure and System set up by Ministry of Defence (MoD) in order to achieve enhanced self-reliance in defence manufacturing and to leverage the economic opportunity present in developing the Indian Defence Industry and to facilitate 'Make in India' in defence manufacturing.</p> |
| 7 | <p>Break Up of the Project Area</p> <p>a. Submergence area: Forest & non-Forest (SQ. Meters)</p> <p>b. Others (SQ. Meters)</p> | <p>Nil</p> <p>1108474.47</p> |
| | a. Total Plot area (SQ. Meters) | 1108474.47 |
| | c. Build-Up Area including Road (SQ. Meters) | 29142.02 |
| | C. Open Space Available (SQ. Meters) | 713537.10 |
| | d. Green belt area (SQ. Meters) | 365795.35 |
| 8 | <p>Break up of the Project affected population with enumeration of those losing houses/dwelling units only, agricultural land only, both dwelling units & both dwelling units & agricultural land & landless laborers/artisan</p> <p>a. SC, ST/Adivasis</p> <p>b. Others</p> <p>(Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey carried out gives details and years of survey.</p> | <p>There will be no affect on the population and in the agricultural land since, proposed expansion project will be constructed within the existing land owned by company.</p> <p>NA</p> <p>NA</p> |
| 9 | <p>Financial Details</p> <p>a. Project costs as originally planned & subsequent revised estimates and the year of price reference.</p> <p>b. Allocations made for environmental Management Plan with item wise & year wise breakup</p> <p>c. Benefit Cost Ratio / Internal rate of Return and the year of assessment.</p> <p>d. Whether (C) includes the cost of Environment Management as shown in the above</p> <p>e. Actual Expenditure incurred on the Project so far</p> | <p>184.01 Crores</p> <p>Capital Cost: 7.261 Crores &</p> <p>Recurring Cost: 3.629 Crores</p> <p>Not applicable</p> <p>No</p> <p>166.46 (as on March,31,2019)</p> <p>6,43 (as on March,31,2019)</p> |

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| | f. Actual Expenditure incurred on the Environment Management plan so far | |
| 10 | Forest land requirement a. The status of approval for diversion of Forestland for Non -forestry use b. The Status of clearing felling c. The status of compensatory Afforestation programme in the light of actual field experience | Not applicable |
| 11 | The status of clear felling in non-forest areas (such, as submergence area of reservoir, Approach roads), if any with quantitative information | Not applicable |
| 12 | Status of construction a. Date of commencement (Actual and/or Planned) b. Date of completion (Actual and/or Planned) | Installation of plant and machineries of proposed expansion and modernisation has been completed. Trial conducted and production facilities are ready for production. |
| 13 | Reasons for the delay if the project is yet to start | Not applicable |
| 14 | Dates of site visits a. The dates on which the project was monitored by Regional office on previous occasions, if any b. Date of site visit for this monitoring Report | NA 13.11.2019 |
| 15 | Details of correspondence with project authorities for obtaining action plan / information on status of compliance to safeguards other than the routine letters for logistic support for the site visit. (The monitoring report may obtain the details of all the letters issued so far but the later reports may cover only the letters issued subsequently.) | Not applicable |

Signature of Project -in-charge /Manager

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