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Performance Appraisal of Environmental Clearance in Himachal Pradesh in 2016

Mining of Minerals dominates the EIA process in the State of Himachal Pradesh. This is linked to large scale constructions as well as road and dam building in the State. The fact that most of the activities are interlinked are never considered by both SEAC and SEIAA. The entire clearance granting procedure followed by the SEIAA has remained completely ignorant to the issue of cumulative impact assessment. Even the proponents were not asked to carry out any further study on this. The proceedings of SEIAA and SEAC reveal that no discussion took place while appraising mining projects with respect to the fragility of the Himalayan ecosystem. The manner in which projects have been appraised in the State reveals a casual, unscientific process which is contrary to the letter and spirit of the Environment Impact Assessment Notification, 2006.

An attempt has been made to analyze the Environmental Clearance granting procedure followed by various State Environment Impact Assessment Authority (SEIAA) on the recommendation of State Level Expert Appraisal Committee (SEAC) as per the provisions of Environment Impact Assessment (EIA) Notification 2006. The current focus is the state of Himachal Pradesh, wherein all the minutes of meetings of 2016 were studied. A total of 165 different projects were considered by SEIAA in 6 meetings spread over the year 2016, out of which 151 projects were granted environmental clearance and not a single project was rejected.

The appraisal procedure has hardly given any significance to the environmental parameters, as not a single project was rejected on environmental grounds. Granting of Environmental Clearances to a total of 142 mining of minor mineral projects out of 157 projects reflects the extent of exploitation of these resources from river beds and otherwise. Moreover, the need for cumulative impact assessment has not been

discussed while appraising any of these projects. The minutes of meeting also do not reflect any due importance given to the existence of District Survey Report while considering appraisal of minor minerals, which was mandated vide Ministry of Environment, Forest and Climate Change Notification S.O.141 (E) dated 15.01.2016.

It seems that, the expert members of SEAC have remained blissfully ignorant to the Column 9 of Form I of EIA Notification 2006. Not a single project was rejected clearance on environmental ground. Irrespective of the type and scale of the project, the environmental clearances were granted on the similar conditions without looking at the possible impacts that each project may generate. The conditions upon which the clearances were granted use vague terminologies. For example, words like '*adequate green belt*', '*vehicles of good conditions*', '*mitigation through appropriate plan*' etc. This paves an escape route for the project proponent, as the vagueness leaves a wide scope of interpretation for the project proponent in the manner that is most suited to them.

It is also evident from the minutes of the meetings of SEIAA that it has without any discussion and deliberation accepted the recommendations of the SEAC. While the EIA Notification 2006 does specify that the authority shall normally accept the recommendation of SEAC, this however does not imply that SEIAA should blindly and without deliberation should accept the recommendations of SEAC. SEIAA therefore has the duty to accept or reject a project after deliberation and unanimous agreement.

Insufficient data on the appraisal procedure itself is the violation of EIA Notification dated 14th September 2006, which states that "*the minutes of the EAC/SEAC meeting shall be finalised within 5 working days of the meeting and displayed on the website of the concerned regulatory authority. In case the project or activity is recommended for grant of EC, then the minutes shall clearly list out the specific environmental safeguards and conditions. In case the recommendations are for rejection, the reasons for the same shall also be explicitly stated*".[1]

Further, the EIA Notification states that all decisions of the SEIAA shall be unanimous and in case a decision is taken by majority, the details of views, for and against it, shall be clearly recorded in the minutes and a copy thereof sent to MoEF.[2] An instance of this is however not seen even in a single SEIAA meeting. They are merely, without application of mind, accepting the recommendations of SEAC.

Surprisingly, the residential and commercial building and construction projects and the waste processing facility got clearance on the grounds of fulfilling the specific and general conditions given to Mining of Minor Minerals projects, which simply does not explain the logic except the very practice of 'copy-paste' mechanism while finalizing minutes of these meetings. Reference can be made to *Homeland Exotica-mixed land use construction project*, Village - Kiyari & Rirka, Tehsil & District - Shimla, H.P. discussed in 24th SEIAA Meeting dated 27.02.2016.

In terms of meeting frequency also, non compliance was observed. The EIA Notification mandates EAC/SEAC to meet at least once every month[3]. However, this

[1] Para 6 of Appendix V of EIA Notification 2006
[2] Sub-Para 7 of Para 3 of EIA Notification – State Level Environment Impact Assessment Authority
[3] Para 5 of EIA Notification 2006

is not the actual case. SEAC of Himachal Pradesh met six times over the year of 2016 in the month of February, April, May, July, September and October.

The overall analysis of the proceedings before the SEAC and SEIAA clearly reveals a lack of seriousness on the part of the members of these bodies to undertake the detailed scrutiny which is required under the EIA Notification. The projects were considered in a mechanical manner and approval were granted without consideration of any key environmental issues. Issues concerning air pollution specially with respect to mining projects as well as synthetic organic chemicals were not even discussed. Only cursory mention were made with reference to key pollutants such as VOC's without addressing issues with respect how it will impact the environment and health of the people. There is thus an urgent need to review the functioning of both SEIAA as well as SEAC in order to ensure that they comply with the aims and objective of the EIA Notification, 2006.

SECTOR WISE ANALYSIS

1. Mining of Minor Minerals

Out of a total of 165 projects, 157 projects were clearances sought for 'mining of minor minerals'. Out of a total of the said 157 projects, 142 projects were granted Environmental Clearance, 8 projects were transferred to DEIAA for decision as SEAC / SEIAA were not the appropriate competent authority[4]. 3 projects were referred to MoEFCC[5] , 2 application was deferred owing to the clarification sought from the Mining Department State Geologist and 1 project awaited inspection report and another project was reissued EC due to change in certain facts.

Mining includes minor minerals like sand, stone and bajri, limestone, slate and brick earth.

Minor minerals were appraised as Category B-2 Project under the EIA Notification, 2006. The discussions on air pollution prevention were limited to the general and specific conditions mandated by SEAC which included:

- Effective safeguard measures to ensure process as well as vehicular emission within permissible limit
- Regular monitoring of ambient air quality and submission of the same to MoEF&CC and its Regional Office and CPCB, SPCB.
- Regular water sprinkling in critical areas prone to air pollution and areas having high levels of particulate matter such as loading and unloading point and all transfer points and on haul roads; use of high efficiency dust extraction system in mineral handling area.

Analysis

The entire mining process involves various activities in phased manner, which includes manual digging, loading and unloading, haul road, transportation of raw materials and products, crushing, waste/top soil handling and last but not the least

[4] For appraisal of cluster area of mine leases less than 25 hectare and all individual lease less than 5 hectare, the authority to appraise/grant EC is the respective DEAC/DEIAA

[5] Fell under Category A as these were cluster mining (cluster of any size with any of the individual lease greater than 50 Ha)

DG set operations and therefore are responsible for fugitive dust emission into the atmosphere.
The conditions upon which the environment clearance were granted were vague in nature and suggested preventive actions such as "*effective safeguard measures shall be taken to control particulate matter level*", "*adequate number of high efficiency dust extraction system*'" etc. The vagueness provides a huge gap and can be interpreted in any manner that the project proponent thinks fit. In order to ensure strict compliance detailed and exact measures have to be provided to avoid inadequacy.
Cumulative Impact Assessment study must be needed to carry out to estimate the potential impacts of all the activities listed and their contribution to fugitive air pollution, which was missing while checked information from SEAC meetings. This is a gross violation of EIA notification 2006, which mandates submission of detailed information on cumulative impacts from a proposed as well as existing project[6].

Mining involves fugitive dust emission and resultant air pollution. High dust is observed near crusher sites. A study titled "Impact of Crushing and Quarrying on Vegetation" revealed dust and other Respirable Particulate Matter (RPM) cover the leaf surface and clog the stomata. This completely covers not only the photosynthetic surface but also interferes with the exchange of gases and reduces the transpiration rate. Plants sensitive to a particular pollutant show visible symptoms like chlorosis, necrosis and growth retardation (Jacobson and Hill, 1970; Pandey and Shrivastava, 1980). The study also confirms lowering of crop yield in the agricultural lands present adjacent to crushing sites owing to the deposition of dust.

Furthermore, the appraisal procedure also lacks measures which are needed to be incorporated in order to address the issue of air pollution, some of which includes regular maintenance and cleaning of machineries, covered storage of mined out material etc.

2. Building and Construction Projects

Building and construction projects are appraised as Category 8 (a) as well as category 8 (b) under EIA Notification, 2006.[7] The SEAC appraises category 8 (a) projects.

A total of 4 different projects under this sector have been considered and discussed in the minutes of the meeting of SEIAA for the year 2016. The projects under this sector include constructions of residential and commercial buildings, construction of hospital and construction of multi storey parking. All the 4 projects were granted Environmental Clearance.

Analysis

The Environmental Clearance was granted subject to the fulfillment of certain general and specific certain by the project proponent. Astonishingly, SEIAA referred to the same conditions listed for Mining of Minor Minerals projects for Building and

[6] Para 9 of Form 1 of Appendix I of EIA Notification
[7] Building and construction projects having built-up area of more than or equal to 20,000 sqm and less than 1,50,000 sqm is considered as 8(a) projects and townships and area development projects covering an area of greater or equal to 50 ha and or built up area of greater or equal to 1,50,000 sqmis considered as Category 8(b)

Construction project. The said conditions were for projects that fell under the mining of minor mineral sector and listed conditions that were specific to this sector.

A close look at the clearance granting procedure of building construction sector found that no air pollution discussion pertaining specifically to Buildings and Construction sector has therefore taken place given the fact that the mining of minor mineral conditions were blindly referred to.

The building and construction sector is largely mandated[8] to give detailed information with respect to air environment, which includes details of background air quality level along with the prediction from the increased traffic generation and operation of DG set and other equipments; impact on generation of fume, dust, odours and other hazardous gases; details on present transport infrastructure as well as the measures proposed for improvement and traffic management details; details of internal movement patterns with internal road design details; any increase in the traffic noise and vibration and impact of DG sets and other equipment on noise level. In absence of these information, change in the air quality can hardly be determined; This is a gross violation of Appendix II to be read with Para 6 of the EIA Notification[9].

3. Enhancement in storage capacity of petroleum products at petroleum terminal

One project for enhancement in storage capacity of petroleum products at petroleum terminal expansion of Salsan Steels Pvt. Ltd. was considered and discussed in the minutes of the meeting of SEIAA for the year 2016. The application was recommended for granting Environment Clearance by SEAC to SEIAA.

SEIAA granted Environmental Clearance subject to certain conditions that included the following air pollution related conditions:

- Use of low sulphur diesel based diesel generators during construction phase remain within the permissible emission standards and stack of adequate height
- Use of good quality vehicles/ equipment during construction phase
- Fortnightly monitoring of ambient air quality (SPM, S02 and NOx) and equivalent noise levels during construction phase
- The green belt of the adequate width and density preferably with local species along the periphery of the plot
- Internalisation of parking to avoid traffic congestion near the entry and exit points from the roads adjoining the proposed project and no use of public space
- The HPSPCB shall conduct regular monitoring of emission of pollutants into the air.
- Rolling mill furnace shall be provided with cyclone and wet scrubber for control of emissions.

[8] Appendix II to be read with Para 6 of EIA Notification 2006
[9] Air Environment of Form 1 A

Analysis

SEIAA granted environment clearance to the project subject to certain conditions which were very vague and suggested preventive measures such as "vehicles/ equipment deployed during construction phase should be in *good condition*", "green belt of the *adequate* width and density" etc. The vagueness provides a huge gap and can be interpreted in any manner that the project proponent thinks fit. In order to ensure strict compliance detailed and exact measures have to be provided to avoid inadequacy on the part of the project proponent.

Further, according to the United State Environment Protection Agency (US EPA)[10] the equipment leaks in chemical handling unit is also a major contributor of emission of pollutant in the air. No discussion took place about this, neither the units were asked to install Leak Detection And Repair (LDAR) system. This will again be a contributor to emission of various forms of VOC.

It is important to note here that VOCs refer to a group of chemicals. Each chemical has its own toxicity and potential for causing different health effects. Common symptoms of exposure to HIGH levels of VOCs include eye, nose and skin irritation, its various toxic and neurological effects; carcinogenicity, teratogenicity and mutagenicity[11]. It has the potential to cause photochemical ozone at ground level and damage to stratospheric ozone as well[12].

VOCs do have direct and indirect adverse effects on plants which include epinasty, chlorosis, curling, leaf abscission and growth retardation[13], with general implications for the well being of natural ecosystems. VOCs which are persistent in nature have the potential to remain in the ecosystem for long and can pass through numerous possible environmental mediums, for example through contamination of the natural water cycle.

4. Expansion of Man Made Fibre Unit (Spandex Yam Petrochemical)

1 (one) application for Environmental Clearance for the expansion of Man Made Fibre Unit (Spandex Yam Petrochemical) was considered and discussed in the minutes of the meeting of SEIAA for the year 2016.

The environment clearance was granted by SEIAA subject to certain general conditions which were mandated upon the project proponent. These included the following air pollution related conditions:

- The emissions of RSPM, SPM, SO_2, NOx, HC & VOC from DG Set and from flare stack shall conform to the standards prescribed by the HP State Pollution Control Board & CPCB.
- Regular monitoring of Ambient Air for HC and VOC shall be carried out as per CPCB guidelines.

[10] Chapter 4 of the document
[11] http://www.health.state.mn.us/divs/eh/indoorair/voc/
[12] http://www.ultralast.com.au/the-harm-of-VOCs-in-our-environment.pdf
[13] http://www.eng.utoledo.edu/~akumar/Health%20Effects.htm

- Stack height attached to DG sets shall be in-conformance with the environment protection acts and rules.

Analysis

The project falls under Category 5 (d) of the EIA Notification 2006 i.e. “Manmade fibres manufacturing”.

It was noted that SEIAA did not elaborated upon the air pollution aspects of the project, as it lacks any detailing on air pollution prevention measures. Neither has it focused on the potential process specific parameters which might arise from this unit.

It is important to mention here that, the process emission during synthetic fibre manufacturing largely depends on the type of spinning method and the type of fibre produced. Other emission sources include dope preparation (dissolving the polymer, blending the spinning solution, and filtering the dope), fiber processing (drawing, washing, and crimping) and solvent recovery.

For example, dry and wet spinning method involves use of solvents and thereby is the major contributor to the VOC emissions. The various air pollutants include volatilized residual monomer, organic solvents, additives, and other organic compounds used in fiber processing. Unrecovered solvent constitutes the major substance. The largest amounts of unrecovered solvent are emitted from the fiber spinning step and drying the fiber.

The SEAC during their appraisal procedure did not discuss the processes involved in the manufacturing and therefore without focusing on that, any discussion on impact prediction and mitigation measures is of no use.

5. Waste Processing / Disposal Facility

One project seeking Environmental Clearance for setting up a waste processing / disposal facility was considered and discussed in the SEIAA meeting of the year 2016, which was granted environment clearance.

Analysis

The Environmental Clearance was granted by SEIAA subject to the fulfillment of certain general and specific certain by the project proponent. Astonishingly, SEIAA referred to the same conditions listed for Mining of Minor Minerals projects for Waste Processing / Disposal Facility project. The said conditions were for projects that fell under the mining of minor mineral sector and listed conditions that were specific to this sector.

No air pollution discussion pertaining specifically to Waste Processing / Disposal Facility sector has therefore taken place given the fact that the mining of minor mineral conditions were blindly referred to.

6. Isolated storage & handling of hazardous chemicals

One project for Isolated storage & handling of hazardous chemicals was considered and discussed in the minutes of the meeting of SEIAA for the year 2016. The application was recommended for grant of environment clearance by SEAC to SEIAA.

The environment clearance was granted by SEIAA on certain conditions that included the following air pollution related conditions:

- The gaseous emissions and particulate matter from various processes shall conform to the standards prescribed by HP State Pollution Control Board & CPCB. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the prescribed standards.

- Proper ventilation should be provided in the whole premises.
- All venting equipment shall have vapour recovery system. All the pumps and other equipments where there is a likelihood of leakages shall be provided with Leak Detections and Repair (LDAR) system. Provisions for immediate isolation of such equipment in case of a leakage shall also be made.
- All the storage tanks shall be fitted with appropriate controls to avoid any leakages. Close handling system for chemicals shall be provided. Double mechanical seals shall be provided for pumps /agitators for reactors for reduction of fugitive emissions and leakages. Traps shall be installed wherever necessary.
- Ambient air quality status with respect to VOC in the area shall be monitored in consultation with Himachal Pradesh State Pollution Control Board and its records shall be submitted to MoEF&CC regional office, Dehradun and HP SEIAA.
- The company shall develop a plot area as green belt as per the CPCB guidelines to mitigate the effect of fugitive emissions and shall plant indigenous tree species such as Kikar, Khair, Peepal, Amla, Mango, Gauva etc.
- The proponent shall adopt appropriate plan to contain escape of VOC.
- The emissions of RSPM, SPM, SO_2, NOx, HC & VOC from DG Set and from flare stack shall conform to the standards prescribed by the HP State Pollution Control Board & CPCB. Regular monitoring of Ambient Air for HC and VOC shall be carried out as per CPCB guidelines. Stack height attached to DG sets shall be in-conformance with the environment protection acts and rules.

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