

The meeting conducted on 7th May 2012 was presided by Shri S.C. Jain, Chairman. Following members attended the meeting-

Shri K.P. Nyati, Member
Dr Mohini Saxena, Member
Shri A.P. Srivastava Member
Shri V. Subramanian, Member
Shri R.K. Jain, Member Secretary

The Chairperson welcomed all the members of the Committee and thereafter agenda items were taken up for deliberations.

1. Confirmation of minutes of 92nd & 93rd meetings of SEAC dated 8th and 9th April 2012

The minutes of 92nd & 93rd meetings of SEAC dated 8th and 9th April 2012 were confirmed and approved.

2. Consideration of the Projects

13 cases were invited to make presentation before the SEAC.

Field visit discussion:

River valley projects proposed in Panna District have been dealt in the earlier meetings for issue of TOR. Based on the submissions and the presentations made before the committee the PP was issued TOR. In view of multidimensional environmental issues covered in the projects it was decided by the committee to visit the site. Sub-committee comprising Shri K.P. Nyati and Shri A.P. Srivastava visited the site along with the concerned Officers from WRD. Visit was conducted during 5th and 6th of May 2012. Sites of the following projects were visited:

1. Case no. 688/2012 - Pawai Medium Irrigation Project Panna (M.P.) Catchment Area- 995.00 Sq.km., Gross Storage Capacity – 124.00 MCM, Live Storage Capacity – 108.45 MCM, Gross Command Area – 13785 ha. Cultivable Command Area – 9952 ha., at Village – Pandheria, Tehsil – Shanagar, Distt. – Panna (M.P.)

2. Case no. 686/2012 - Patne Medium Irrigation Project Panna (M.P.) Catchment Area- 1387.00 Sq.km., Gross Storage Capacity – 162.00 MCM, Live Storage Capacity – 103.98 MCM, Gross Command Area – 13795 ha. Cultivable Command Area – 6670 ha. at Village – Hada, Tehsil – Pawai, Distt. – Panna (M.P.)

3. Case no. 687/2012 - Runj Medium Irrigation Project, Panna (M.P.) at Village - Viashramgunj, Teh-Ajaygarh, Distt-Panna-(M.P.) Catchment Area- 226.17 Sq.km., Gross Storage Capacity – 72.04 MCM, Live Storage Capacity – 64.70 MCM, Gross Command Area – 13795 ha. Cultivable Command Area – 9800. ha., Designed Irrigation Area – 12550 ha. at Village – Pandheria, Tehsil – Shanagar, Distt. – Panna (M.P.)

The visiting sub-committee has suggested following additional TOR for all the river valley projects:

- No information has been given for the relief canal and disposal of the left over water, the same has to be provided in the scheme to be submitted with EIA.

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- Ground water table to be monitored for recharging during project operation. The post operation fluctuations to be measured with appropriate action to be planned. The water logging if found has to be addressed with preventive measures.
- Project-wise information on sewage treatment & disposal and MSW management has to be provided for: Temporary hutments for labours, Officers/Staff quarters and Office staff. It should be ensured that no sewage is discharged in to the water body (as proposed in the point no. 1.15 of the application)
- Demolition of the structures in the project area to be detailed out including the management of debris. It should also be ensured that no constructions come up in the cleared areas until the schemes are executed.
- L-section to be carefully selected to ensure balancing of cutting and filling to avoid borrowing of additional top & other soil for filling.
- Plantation along both the sides of canals to be taken up accordingly scheme to be provided.
- A defined quantity of water from storage tank has been assigned and reserved for industrial and drinking water uses. Similarly appropriate quantity of water from storage tank may also be assigned for maintaining a fair weather flow in the rivulet downstream. This quantity may be ascertained on the basis of various uses to which the rivulet/ river is put to, downstream.
- All structures such as aqua-ducts, bridges across-roads, river, natural drainage etc. will be identified in EIA. Plan for maintaining the natural drainage to be submitted.
- Detailed study for fluoride contents in ground water to be submitted with EIA.
- Source of metal stone, sand and soil for construction to be identified. The quarry and river bed to be identified *and* separate permission has to be obtained as per prevailing rules.
- Water supply to the workers and site staff should conform the limits of fluoride as specified in IS – 10500.
- As diesel is likely to be used in bulk; proper storage of the same has to be provided.
- Catchment area treatment plan to be submitted in EIA.
- Quantify the water replenishment in storage tanks and where such replenishment will be utilized.
- Measures proposed to be taken for prevention of siltation river/ rivulets feeding the reservoir to be reported.
- R&R plan should include the water supply, electricity, hospital, school and all the basic amenities for the displaced families.
- Most of the times the actual CCA differs from the estimated CCA. Anticipated actual CCA may be furnished based on past experience for such projects.
- All the projects in the basin of major river until it crosses inter-state boundary and in its sub-basins upstream may be shown on a map along with the storage capacities. It will help in understanding overall impact of the proposed projects on the water balance of main river basin
- Existing land-use pattern both in submergence as well as in down stream area i.e. CCA may be given.
- Monitor the water quality in the reservoir and in the down stream river stretch at 3-4 places particularly for pesticides, NPK and heavy metals like zinc.

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- Environmental impact of changed agriculture practices due the project may be included in EIA report.
- All the main canals shall be lined; it may be reported that how the ground water recharge shall get impacted.
- The Acts / Rights pertaining to tribal and traditional forest dwellers should be addressed while executing the project.
- Criteria for selection of proposed site along with comparison with other sites to be furnished highlighting the environmental issues.
- Impact of submergence on wild life and grazing lands to be furnished.
- Number of trees and orchards in the non-forest area under submergence shall be addressed.
- Quantity of rainfall expected to be captured by the proposed dam has to be evaluated using rain-fall data and reported in EIA.

Committee approved the above additional TOR for all the River Valley Projects.

Deliberations:

1. **Case no. 689/2012 - Shri M.G. Chobey, Engineer- in Chief Department of Water Resources, Tulsi Nagar, Bhopal (M.P.) – Semri Medium Project Catchment Area- 92.75 Sq.km., Gross Storage Capacity - 33.13 MCM, Live Storage Capacity – 29.85 MCM, Gross Command Area – 6350 ha., Cultivable Command Area 5700 ha., at Village – Markheda Tappa, Tehsil – Begamganj Distt. – Raisen (M.P.) For –ToR**

River Valley projects involving < 10,000 ha. of culturable command area and denies the general conditions falls under category "B" and have been mentioned at SN. 1(c) column B of Schedule of EIA Notification, hence such projects are required to obtain prior EC from the SEIAA.

This is an independent medium size river-valley project. The submissions and the presentations made by the PP reveals following:

Location: - Geographical location - Latitude 23° 29'00'' & Longitude 78°24'16''. Village-Markheda-tappa, Tehsil – Begamganj, District - Raisen

Proposed area/ /command area

Catchment Area – 92.75 sq km

Gross Storage Capacity - 33.13 MCM

Live Storage Capacity - 29.85 MCM

Gross Command Area – 6350 Ha

Cultivable Command Area – 5700 Ha

It was reported that the project does not attracts the general conditions.

Nearest town -Begmganj : 24 Km, District Headquarter- Raisen 74 km. It was submitted that 92.55 ha Forest land is involved in the project and hence the proposal involves approval /clearance under the Forest Conservation) Act, 1980. The case for diversion of 92.55 Ha of forest land has been submitted to Chief Conservative Office, Bhopal and is under scrutiny. It was reported that no litigation is pending against the project and/ or land in which the project is

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proposed to set up.

Land will be acquired for construction of various project appurtenances including submergence area. The majority of land coming under submergence is barren land, stony wasteland and agricultural land. The land will be acquired in a manner which involves minimum acquisition and parts of land under temporary use will be reused in post-construction phase.

Salient Features of the Project:

- The proposed project will involve consumptive use of water available at Semri Dam to facilitate irrigation.
- The submergence area at FRL is 746.0 ha. The present land in the submergence area is mostly barren, which will be converted into waterbody. The C.C.A. is 5700 ha and the irrigation intensity works out to be 100 %. No water is reserved for industrial use.
- The submergence reported is 746 ha and the details are as below:-
 - (i) Forest land 92.55 ha
 - (ii) Govt. Land (Revenue) 22.85 ha
 - (iii) Private Land 630.60 ha
- The main canal is 10.77 km long and two distributaries along with 52.0 km long canal network will irrigate 4560 ha by gravity flow and 1140 ha of land will be irrigated by lift in Begamganj Tehsil of Distt. Raizen
- Bore hole drilling, construction materials testing, soil sampling etc. are proposed as a part of investigation-activities.
- The project comprises the following: - 1775 M long earthen dam, irrigation sluice, canal network for gravity flow and other infra-structure facilities.
- Acquired structures, if any, are to be demolished to the extent required. The exact number shall be identified during the construction stage.
- About 1.0 ha for construction works for housing of construction workers and construction activities.
- Reclamation of land will be done by cut and fill, as per the site-specificity. The sites so reclaimed will be landscaped to integrate with the natural surroundings.
- Facility for temporary storage of cement, steel, E&M Heavy Machinery equipments, aggregate/sand, etc., will be created.
- During construction phase, labour colonies are proposed to be located at 3-4 locations, close to major construction sites. About 80 laborers and 20 technical staff are likely to congregate in the area during construction phase. The increase in population is expected to be of the order of 100. The average per capita solid waste generated is of the order of 210 gm/day/person. The solid waste likely to be generated from labor camps shall be of the order of .021 tons /day. Adequate facilities of, collection, conveyance and disposal of solid waste will be developed.
- One community latrine can be provided per 20 persons. The sewage from the community latrines can be collected at septic tank of adequate size. The drinking water facilities and water disposal sites will be located at a safe distance from each other.
- During construction stage, road traffic will increase due to transportation of construction material, equipments, and machines. However, these roads will be in the form of temporary roads or haul roads. Moreover most of the sites are connected now by PMGSY

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- Roads coming under submergence will be re-routed to other major roads, and spiral road-plan will be prepared roads.
- Submerged Transmission lines, will be re-erected and new transmission lines for villages will be provided.
- The probability of water-logging in the nearby lands is remote, as good natural drainage exists. Additionally, it will have a collateral benefit of addressing fluorosis in the area, as increased water availability will dilute the excessive fluoride content in the drinking water.
- The proposed project will change the waterbodies on account of reservoir formation due to of construction of dam. The land use will also change on account of increased water availability for irrigation. Green cover will improve on account of increased soil-moisture availability.
- The quantity of water required during construction and operation phases would be 250 KLD and 432000 KLD, respectively, which would be meet out by reservoir. During construction and operation phases, potable water for laborers and technical staff would be analyzed and adequately treated, if needed.
- Borrow areas and rock queries have been identified near the project vicinity to provide construction materials in the form of soil, coarse and fine aggregates. Sand deposits from Narmada River and other streams in the close proximity of projects will also be used for construction purpose.
- The project has been designed for extreme flood condition (PMF) in Semri River for a catchment area of 92.75 sq km, to take care of any potential cloudburst, and the spillway has been designed for SPF per catchment area 422 Cum which may occur in a particular area.
- The project design, as mentioned above, will also take care in absorption of high flood peaks.
- The proposed project is located in the area categorized as ZONE II as per Seismic Zoning Map of India (IS 1893:2002), which is one of the safest seismic zones. No landslides have been reported from the area in the past.
- No protected area under international conventions, national or local legislation for their ecological, landscape, cultural or other related value is falling, within 15 km zone of proposed project location boundary
- The project is not affecting any ecological regions-Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountain-forests.
- The land area is not used by any important or sensitive flora or fauna species for breeding, nesting, foraging, resting, over wintering, migration. The list of flora and fauna species, from the Forest Action Plan, District Raisen, which clearly shows that the land area is not used by any important or sensitive flora or fauna species. Furthermore, The latest Red List of IUCN also does not include any of the flora and fauna species found within 15 km of Proposed project location boundary.
- There is no coastal or marine waterbody. Underground water table in the area specified exists at 30-60 meters depth. There are no natural lakes, springs or any other waterbodies.

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- No state or national boundary exists within 15 km radius of proposed project location boundary.
- Routes or facilities to recreation or other tourist, pilgrim areas do not fall within 15 km radius of the proposed project location boundary. Furthermore, the proposed creation of reservoir will not obstruct any routes or facilities even beyond 15 km radius of the proposed project location boundary.
- There are no defence installations within 15 km radius of the proposed project location boundary.
- **Positive Impacts envisaged from the project are** - Increase in agriculture production, Fluoride Mitigation, Improvement in livestock, Employment generation, Urbanization, Industrialization and other miscellaneous changes.
- The area falls in the 'Seismic Zone II' considered as one of the safest seismic zones. Furthermore, appropriate seismic safety measure will be incorporated in the project design. Secondly, in terms of water storage and depth of column it is a moderate-sized medium project. Thirdly, the dam is to be built on the basaltic rocks, good for the foundation. Other precautions shall be taken to insulate dam from seismic event in future, if any.
- There have been no recorded cases of subsidence in the area. Similarly, no landslides have been reported from the area in the past.
- The area is susceptible to erosion from air. Availability of water will enable creation of wind-shields of plants providing protection against wind-erosion. Lack of water has resulted lack of erosion and weathering by water. Adequate protection against water-erosion will be taken up by creating soil and water conservation measures in the command area.
- The area is occasionally affected by floods during extra-ordinarily excessive monsoon. Creation of the project will provide as a buffer against the flooding.
- A drought is manifestation of extreme adverse climatic condition and is a common phenomenon in the area. Creation of a moderately-sized waterbody will shrink the frequency and intensity of droughts in the area.
- The groundwater table in the specified zone of 15 km area is at 30-60 meters depth. The creation of reservoir will address the scarcity of groundwater through natural recharge.
- The mother surface resource i.e., the land, in the specified 15 km radius at present is highly under-productive: feeble humus content, low agricultural yield, devoid of major natural vegetation, rocky outcrops, etc. Creation of waterbody will immensely improve the land quality and its 'land use capability' class.
- 92.55 ha of forest land is coming under submergence but this is almost blank forest. Being blank forest it does not have any vegetal stratification to support and nurture native and sensitive species of flora and fauna. Though there exist a few species of flora and fauna sporadically in the area. Furthermore, none of flora and fauna species found in the area are included in the latest Red List of IUCN.
- The proposed project will enrich the humid content of soil moisture zone and lead to qualitative improvement of forest.

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- At present most of the agriculture in the proposed project area is rain-fed having very low per unit yield and poor agriculture-intensity. Creation of the waterbody will lead to the qualitative and quantitative improvement of agricultural yield, eventually leading to sustainable family economy.
- At present, River Semri has only seasonal flow. Creation of reservoir with assured release of environmental flows in non-flowing periods, the river will be transformed into perennial one. This will lead to development of fisheries as well as promotion of aquatic flora and fauna.
- The proposed project does not have any tourism spot within 15 km of proposed project location boundary. The creation of a reservoir has potential to develop it as a tourism center.
- There is no surface or sub-surface minerals within 15 km of proposed project location boundary. It is corroborated by the geological map of the area.
- **Energy including electricity Requirement** - The total requirement of construction power will be about 20 KW. Dam site: 10 KW and other construction sites: 10 KW. This shall be met by existing electricity grid in the vicinity of the construction sites. Emergency power supply arrangements to meet the requirement of emergency power supply, in case of grid failure, by 2 No 10 KW phase silent DG sets, shall be used.

After deliberations, the committee resolved to issue above mentioned additional TOR to the proponent

2. Case no. 690/2012 - Shri M.G. Chobey, Engineer- in Chief Department of Water Resources, Tulsi Nagar, Bhopal (M.P.) – at Forest Compartment number 225 (Main Sip weir) Village – Jamli, Tehsil – Icchawar, Distt. – Sehore (M.P.) For –ToR

The project pertains to the augmentation of existing Kolar Dam *water storage*. It was reported that the CCA of Kolar dam is 35000 Ha. an addition of 6100 Ha has been proposed through construction of Main Sip Weir *and augmenting the capacity* . It was observed by the committee that the existing Kolar project by virtue of its CCA (more than 10,000 Ha with additional submergence of 40.163 Ha) falls under category 'A' as per EIA notification. Hence committee decided to return the case to SEIAA for further necessary action in the matter.

3. Case no. 691/2012 - Shri M.G. Chobey Engineer- in Chief Department of Water Resources, Tulsi Nagar, Bhopal (M.P.) – Majhagaon medicum irrigation project at village Majhagaon, Teh-Ajaygarh, Distt-Panna - Bariyarpur RBC Medium Project Catchment Area- 77.613 Sq.km., Gross Storage Capacity- 107.04 MCM, Live Storage Capacity – 95.65 MCM, Gross Command Area – 16978 ha. Cultivable Command Area 9900 ha. For –ToR

It was informed by the proponent that the department has dropped the projects at present, thus it may kept on hold till further communication from the department. Committee decided to keep the case on hold till next meeting. If proponent does not respond before the next

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meeting the project may be returned to SEIAA.

4. **Case no. 692/2012 - Shri M.G. Chobey, Engineer- in Chief Department of Water Resources, Tulsi Nagar, Bhopal (M.P.)** – *Ganeshpura Pick Up Weir Project Cultivable Command Area 6775 ha., Gross Command Area – 9650 ha, Catchment Area – 5698, Earth Dam Length – 2095 M, Left flank – 1597 M, Right flank 498 M, Maximum height of Dam – 10.293 Gross Storage Capacity - 107.04 MCM, Live Storage Capacity – 95.65 MCM,. at Village – Pacher, Tehsil – Khargapur, Distt. – Tikamgarh(M.P.)* **For –ToR**

River Valley projects involving < 10,000 ha. of culturable command area and denies the general conditions falls under category "B" and have been mentioned at SN. 1(c) column B of Schedule of EIA Notification, hence such projects are required to obtain prior EC from the SEIAA.

This is an independent medium size river-valley project. The submissions and the presentations made by the PP reveals following:

It was reported that the project does not attract the general condition as per the provisions of EIA notification. No litigation is reported pending against the project and/ or land in which the project is proposed to set up.

Proposed command/ Catchment area

Cultivable Command Area – 6775 ha

Gross Command Area – 9650 ha

Catchment Area – 5698 sq km

Earth Dam Length - 2095 M

Left flank – 1597 M

Right flank – 498 M

Maximum height of Dam – 10.293 M

Location- Latitude 24° 53'30'' Longitude 79°20'45''

Village – Pacher, Tehsil – Khargapur, District – Tikamgarh, State - Madhya Pradesh.

Nearest town is Chhatarpur at 30 km.

Forest land involved (hectares) - 69.75 ha

Submergence

The submergence area at FRL is 1656 ha. The present land in the submergence area is barren, agricultural and forest, which will be converted into waterbody (reservoir). The C.C.A. is 6775 ha and the irrigation intensity works out to be 170%. Plan is underway to augment water supply in Chhatarpur district headquarter by providing 5.475 MCM. The project will submerge 69.75 ha of forest land, having a forest density of 0.2-0.3. The submergence break-up is reported to be as follows :-

- Forest 69.75 ha
- Govt. Land (Rev.) 477.07 ha
- Private Land 1109.18 ha

Other Salient Features of the project:

- The left bank canal is 26.11 km long and will irrigate 6775 ha by gravity flow

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- The project comprises of- Composite dam having Concrete gravity dam, earthen dam, Gated Ogee type spillway, and Energy Dissipater in the form of bucket or stilling basin at Dam toe. Maximum height of Ganeshpura Dam is 17.94m. Construction and development of residential complex and offices. Acquired structures will be demolished to the extent required. The exact number shall be identified during the construction stage.
- About 5 ha for construction works for housing of construction workers and construction activities.
- Reclamation of land will be done by cut and fill, as per the site-specificity. The sites so reclaimed will be landscaped to integrate with the natural surroundings.
- During construction phase, labour colonies are proposed to be located closer to construction sites. About 800 laborers and 200 technical staff are likely to congregate in the area during construction phase.
- The increase in population is expected to be of the order of 1000. The average per capita solid waste generated is of the order of about 210 gm/day/person. The solid waste likely to be generated from labor camps shall be of the order of 0.21 tons /day. Adequate facilities for collection, and disposal of solid waste have been proposed.
- One community latrine per 20 persons is proposed. The sewage from the community latrines is proposed to be treated at sewage treatment plant (STP).
- The drinking water facilities and water disposal sites will be located at a safe distance from each other.
- The quantity of water required during construction and operation phases would be 930 kld and 650 kld, respectively. During construction and operation phases, potable water for laborers and technical staff would be provided.
- Construction material in the form of metal manufactured from granitic rocks and sand will be used in concrete dam and canal network. The quantum of the minerals shall be - Metal 2850 Metric Ton and Sand 1500 Metric Ton.
- The quantity of aggregate / rock required to be produced for the construction of concrete dam, Earthen dam and other estimated structures of the project has been estimated to be around 30 million cubic meter. Estimated requirement of various construction materials is under:
 - Coarse Aggregate : 1728 MT
 - Fine aggregate : 1128 MT
 - Clay for earthen dam 2112 MT
 - Rock fill Material 1630 MT
- The total requirement of construction power will be about 170 KW at different sites.
- Emergency power supply arrangements to meet the requirement of emergency power supply, in case of grid failure, provision of 2 No of 2X100 three phase diesel power sets will be provided in the power station.
- The land area is not used by any important or sensitive flora or fauna species for breeding, nesting, foraging, resting, over wintering, migration. The list of floral and faunal species, commonly found in District Tikamgarh and it clearly shows that the land area is not used by any important or sensitive floral or faunal species. Furthermore, The

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- latest Red List of IUCN also does not include any of the flora and fauna species found within 15 km of Proposed project location boundary.
- No state or national boundary exists within 15 km radius of proposed project location boundary. However, the boundary of the state of Uttar Pradesh adjoins 45-50 km downstream of the command area of the proposed project location boundary.
 - The groundwater table in the specified zone of 15 km area is at 10-15 meters depth.
 - The mother surface resource i.e., the land, in the specified 15 km radius at present is under-productive: feeble humus content, low agricultural yield, devoid of major natural vegetation, rocky outcrops, etc.
 - 69.75 ha of forest land is falling under submergence, largely open degraded forests.
 - At present most of the agriculture in the proposed project area is rain-fed having very low per unit yield and poor agriculture-intensity. Tikamgarh district falls within the Bundelkhand region of Madhya Pradesh, which has been reeling under severe droughts and famine since last one decade.
 - At present, river Dhasan has only seasonal flow and hence non-perennial in nature. Creation of reservoir is expected to transform the river into perennial.
 - The proposed project does not have any tourism spot within 15 km of proposed project location boundary. The creation of a reservoir has potential to develop it as a tourism center.
 - There is no surface or sub-surface minerals within 15 km of proposed project location boundary.
 - The area falls in the 'Seismic Zone II'. PP reported that the site-specific seismic investigations will be conducted and appropriate seismic safety measure will be incorporated in the project design, the dam is to be built on the granitic rocks, good for the foundation. Thus ample precautions are being taken to insulate dam from seismic event in future, if any.
 - There have been no recorded cases of subsidence in the area. Similarly, no landslides have been reported from the area in the past.
 - The area is occasionally affected by floods during extra-ordinarily excessive monsoon.
 - A drought is manifestation of extreme adverse climatic condition and has been prevailing in Bundelkhand since last one decade.

After deliberations, the committee resolved to issue above mentioned additional TOR to the proponent

- 5. Case no. 693/2012 - Shri M.G. Chobey, Engineer- in Chief Department of Water Resources, Tulsi Nagar, Bhopal (M.P.) – Mohgaon Medium Irrigation Tank Project**
Catchment Area- 234.00 Sq.km., Net Catchment Area - 180 Sq.km., Gross Storage Capacity – 34.465 MCM, Live Storage Capacity – 30.1855, Gross Command Area – 2725.00 ha. Cultivable Command Area 2485 ha., at Village – Bhumma, Tehsil – Sausar, Distt. – Chindwara (M.P.) **For –ToR**

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This is an independent medium size river-valley project. The submissions and the presentations made by the PP reveals following:

It was reported that the project does not attract the general condition as per the provisions of EIA notification. No litigation is reported pending against the project and/ or land in which the project is proposed to set up.

Proposed area command area

Catchments Area	-	234.00 Sqkm.
Net Catchments area	-	180 sqkm.
Gross Storage Capacity	-	34.465 mcum
Live Storage Capacity	-	30.1855 mcum
Gross Command Area	-	2725.00 Hact.
Cultivable Command Area	-	2485 Hact.

Location Main Dam

Geographical - Latitude 21°41'03" Longitude 78°41'12"

Village – Bhumma, Tehsil – Sausar, District – Chhindwara, State - Madhya Pradesh

Salient Features of the Project:

- Forest land involved (Hectares) - 57 Hact.
- The submergence area at FRL is 371.51 Ha. The present land in the submergence area is mostly barren, which will be converted into water body (reservoir).
- The C.C.A is 2485.00 ha. and the irrigation intensity works is kept for industrial work out to be 100% , 8.484 mcum water is kept for industrial use, 1.680 mcum water is exclusively ear-marked for drinking purposes for villages in the vicinity of the project.
- The submergence is 371.51 ha. with following break-up:
 - (i) Forest land : - 57 Hact.
 - (ii) Govt. Land (Revenue):- 59.54 Hact.
 - (iii) Private Land: - 255 Hact.
- The main canal LBC is 4.02 Km long & RBC is 8.90 Km. long whenever distributaries are off taking from main canal RBC & the Project will irrigate 2285 Hact. Rabi by gravity flow & 200 Hact. land will be irrigate by lift.
- The project comprises the following: - An Earthen dam with waste weir as surplus arrangement, irrigation sluice, and canal network for gravity flow.
- About 1 Ha. For construction works for housing of construction workers and construction activities.
- Reclamation of land will be done by cut and fill, as per the site- specificity. The sites so reclaimed will be landscaped to integrate with the natural surroundings.

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- Facility for temporary storage of cement, steel, E&M Heavy Machinery equipments, aggregate/sand, etc., will be created.
- During construction phase, labor colonies are proposed to be located at few locations, close to construction sites. About 100 laborers and 20 technical staff are likely to congregate in the area during construction phase. The average per capita solid waste generated is of the order of 210 gm/day/person. Adequate facilities for disposal of solid waste will be developed.
- The proposed project will change the water bodies on account of reservoir formation as a result of construction of dam.
- The land use will also change on account of increased water availability for irrigation. Green cover will improve on account of increased soil-moisture availability.
- The increased water availability could lead to increased water logging in the nearby land in a very small way as good natural drainage exists. Additionally, it will have a collateral benefit of addressing flood in the area.
- Land will be acquired for construction of various project appurtenances including submergence area. The majority of land coming under submergence is barren land, stony wasteland forest and agricultural land. The land will be acquired in a manner which involves minimum acquisition and parts of land under temporary use will be reused, if needed.
- The quantity of water required during construction and operation phases would be 150 KLD and 2.00 KLD.
- Construction material in the form of metal manufactured from basaltic rocks and sand will be used in waste weirs, sluice and canal network. The approximate quantum of the minerals shall be - Metal - 68000 Cum and Sand - 36000 Cum.
- The quantity of aggregate/ rock required to be produced for the construction of waste weirs, Earthen dam and other estimated to be around 80,000 cubic meters. Estimated requirement of various construction materials shall be - Clay for Earthen dam & Canal 10,50,000 Cum and Other material : 200 ton
- Borrow areas and rock queries have been identified near the project vicinity to provide construction material in the form of soil, coarse and fine aggregate the sand deposits and its tributaries in the close proximity of projects will also be used for construction purpose.
- Construction or demolition waste from various construction sites will be disposed at sites identified in consultation with the district administration.
- Regular sprinkling of water on all haul roads will be done, to reduce the dust has been proposed.
- Suitable sewage plants for make-shift arrangements will be installed together with installing of compost pits to address the sewage and organic waste has been proposed.
- The operation of various construction equipment requires combustion of fuels commonly diesel. The major pollutant, emitting from diesel combustion is SO₂. The short-term increase in SO₂ is expected.

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- The operation of various construction equipments will generate noise. Noise level is expected to increase due to various construction activities (like operation of various construction equipments, increased vehicular traffic, etc).
- It is reported that the project has been designed for Standard Project flood condition (SPF) for a catchment's area of 234 sqkm, to take care of any potential cloudburst, which may occur in a particular area.
- The Project design, as mentioned above, is also expected to take care in absorption of high flood peakes.
- The proposed project is located in the area categorized as ZONE-II as per Seismic Zoning Map of India (IS 1893:1973), which is one of the safest seismic zones.
- No landslides have been reported from the area in the past.
- No State or national boundary exists within 15 km. radius of proposed project location boundary. Routes or facilities to recreation or other tourist, pilgrim area do not fall within 15 Km. radius of the proposed project location boundary, furthermore, the proposed creation of reservoir will not obstruct any routes or facilities even beyond 15 km. radius of the proposed project location boundary.
- No defence installations within 15 km. radius of the proposed project location boundary have been reported. Also no densely populated or built up areas within 15 km. zone of the proposed project location boundary has been reported.
- The groundwater table in the specified zone of 15 km area is at 100-150 meters depth. the creation of reservoir will address the scarcity of groundwater through natural recharge.
- The mother surface resources i.e., the land, in the specified 15 km radius at present is highly under-productive : feeble humus content, low agricultural yield, devoid of major natural vegetation, rocky outcrops, etc. creation of water body will immensely improve the land quality and its land use capability class.
- At present most of the agriculture in the proposed project area is rain-fed having very low per unit yield and poor agriculture-intensity. Creation of the water body will lead to the qualitative and quantitative yield, eventually leading to sustainable family economy.
- At present, river Ajanl has only seasonal flow creation of reservoir with assured release of environmental flows in non- flowing periods, the river will be transformed into perennial one. This will lead to development of fisheries as well as promotion of aquatic flora and fauna.
- The proposed project does not have any tourism spot within 15 km of proposed project location boundary. The creation of a reservoir has potential to develop it as a tourism center.
- There is no surface or sub-surface minerals within 15 km of proposed project location boundary. It is corroborated by the geological map the area.
- **Positive Impacts envisaged from the project are** - Increase in agriculture production, Fluoride Mitigation, Improvement in livestock, Employment generation, Urbanization, Industrialization and other miscellaneous changes.

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After deliberations, the committee resolved to issue above mentioned additional TOR to the proponent

- 6. Case no. 697/2012 - Shri M.G. Chobey, Engineer- in Chief Department of Water Resources, Tulsi Nagar, Bhopal (M.P.)—462-003 - Kachna Mandi (Medium) Irrigation Project (Main Dam) Catchment Area- 75.53 Sq.km., Gross Storage Capacity – 15.165 MCM, Live Storage Capacity – 12.708 MCM, Gross Command Area – 6917.00 ha. Cultivable Command Area 5560.00 ha., at Village – Salehe kala, Tehsil – Barghat, Distt. – Seoni (M.P.) For –ToR**

It was informed by the proponent that the department has dropped the projects at present, thus it may be kept on hold till further communication from the department. Committee decided to keep the case on hold till next meeting. If proponent does not respond before the next meeting the project may be returned to SEIAA.

- 7. Case no. 698/2012 - Shri S.L Jain, Chief Engineer, Dhasan Ken Basin, Department of Water Resources, Sagar Distt. Sagar (M.P.) – Panchamnagar Medium Irrigation Project Proposed 9900 ha, . area for irrigation, GCA 14260 ha. Catchment Area- 589.24 Sq.km., at Village – Near village Pagara, Tehsil –Banda Taluka, Distt. – Sagar (M.P.) For –ToR**

River Valley projects involving < 10,000 ha. of culturable command area and denies the general conditions falls under category "B" and have been mentioned at SN. 1(c) column B of Schedule of EIA Notification, hence such projects are required to obtain prior EC from the SEIAA.

This is an independent medium size river-valley project. The submissions and the presentations made by the PP reveals following:

It was reported that this is an Independent Project and the project does not attracts the general condition.

Proposed Catchment /command area

Catchment area - 589.24 Sq km
Gross Storage Capacity – 107.29 MCM
Live Storage Capacity – 82.927 MCM
Gross Command Area - 14260 Ha
Cultivable Command Area - 9900 Ha

Location Main Dam

Latitude 24⁰ 04'41''N Longitude 79⁰ 04'48'' E

Village - Near village Pagara, Tehsil - Banda Taluka, District – Sagar, State - Madhya Pradesh

Salient Features of the project as reported are as follows:

- The present land use in the submergence area of Barrage is neither under forest, agriculture or barren, which will be converted into water body (reservoir) on account of

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construction of barrage proposed in the project, in addition land use pattern will change due to increased capacity of the existing canal system.

- The project has about 14,260 ha of GCA with a CCA of 9,900 ha; this will lead to increase in cropping as well as irrigation intensity. As a result barren land will be converted in to productive agricultural land.
- Pagara dam feed Panchamnagar barrage on Bewas river downstream. Left bank canal system originate from Panchamnagar Barrage.
- The proposed project covers some villages of Sagar and Damoh district. The creation of reservoir would lead into submergence of public property and forest land. The total submergence area by Pagara dam shall be 1592.00 ha and that from Panchamnagar barrage shall be 93.00 ha.
- The total land coming under submergence area in Pagara dam and Panchamnagar barrage is 1685.00 ha. The break up of land as per ownership status is given as under:
 - Submergence of land of 13 villages 1493.28 ha.
 - Submergence of forest land 191.72 ha [Pagara dam : 191.72 ha and Panchamnagar barrage : Nil]
- The project has about 14,260 ha of gross command area with a CCA of 9,900 ha.
- The left bank canal is 26.172 km long, with 5 distributaries off taking from main canal, will irrigate 9900 ha in Damoh district.
- The project comprises of the following composite dam comprising of concrete gravity dam, earthen dam, gated ogee type spill way, energy dissipater in the form of bucket or stilling basin, dam to toe power house with penstock embedded in the dam body and switch yard of Pagara dam site. Height of Pagara dam site is 36.16 m. Construction and development of residential complex and offices will be carried out.
- The quantity of water required during construction and operation phases would be 300 KLD and 400 KLD respectively during construction and operation phases. Water would be required for meeting domestic requirement for construction staff/technical staff the water would be analyzed and would be disinfected, if required.
- Construction material in the form of metal manufactured from basaltic rocks and sand will be used in Waste weirs, sluices and canal network. The quantum of the minerals required shall be - Metal 184003 cum and Sand 113024 cum.
- The quantity of aggregate /rock fill required to be produced for the construction of concrete dam, power channel, penstock, power house, concrete phase rock fill dams (CFRD), earthen and other structures of the project has been estimated to be around 5.74 lakh cum, estimated requirement of various construction material shall be - Coarse aggregate :1,16,000 cum, Fine aggregate :58,000 cum, Rock fill material :30,000 cum, Clay for earthen dam:8,50,000 cum
- Borrow areas and rock quarries have been identified near the project vicinity to provide construction material in the form of soil, coarse and fine aggregate.
- The sand deposits in Dhasan river and its tributaries in the close proximity of project will also be used for construction purpose.

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- The total requirement of construction power will be about 1800kw at different sites as given below:
 - Dam site:600kw
 - Power house site:500kw
 - Plants stores and fabrication shops:400kw
 - Other construction sites:300kw
 - Substations of appropriate capacities will be constructed at locations as per requirements of construction power and colonies etc. To meet the requirements of emergency power supply in case of grid failure, provision of 2 nos., 2 x 250kW, 3phase diesel power sets have been envisaged during the construction period of the power station these diesel power station are proposed to be retained after completion of the construction work of the project for meeting the emergency supply requirements of the auxiliaries of the power station and starting of the generating units of grid failure
 - The area falls in the 'Seismic Zone III' considered as one of the safest seismic zones. Secondly, in terms of water storage and depth of column it is a moderate-sized medium project. Thirdly, the dam is to be built on the basaltic rocks, good for the foundation. Thus ample precautions are being taken to insulate dam from geological event in future, if any.
 - There have been no recorded cases of subsidence in the area. Similarly, no landslides have been reported from the area in the past.
 - The area is susceptible to erosion from air. Availability of water will enable creation of wind-shields of plants providing protection against wind-erosion. Lack of water has resulted lack of erosion and weathering by water. Adequate protection against water-erosion will be taken up by creating soil and water conservation measures in the command area.
 - A drought is manifestation of extreme adverse climatic condition and is a common phenomenon in the area. Creation of a moderately-sized water body will shrink the frequency and intensity of droughts in the area.
 - No state or national boundary exists within 15 km radius of proposed project location boundary has been reported. Similarly, there are no defense installations within 15 km radius of the proposed project location boundary. There are no densely populated or built up areas, within 15 km zone of the proposed project location boundary.
- After deliberations committee has issued above mentioned additional TORs' along with following:*
- The WRD has reported that, the dams proposed on inter-state rivers are designed to hold / use only the share of water allocated to the State (M.P) by the Central Water Commission (CWC); copy of allocation letters in all such cases have to be enclosed in the EIA report with summary of total water allocated to the state.
 - The land acquired or proposed for acquisition may include the lands of scheduled tribes / scheduled castes; in this context legality has to be ensured with respect to the rules prevailing in this context. The issue has to be addressed in detail for total land of the project.

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After deliberations, the committee resolved to issue above mentioned additional TOR to the proponent

8. Case no. 699/2012 - Shri M.G. Chobey, Engineer- in Chief Department of Water Resources, Tulsi Nagar, Bhopal (M.P.) – Mahuar Medium Irrigation Project Catchment Area- 410.98 Sq.km., Gross Storage Capacity – 73.55 MCM, Live Storage Capacity – 65.03 MCM Gross Command Area – 16293 ha. Cultivable Command Area 10860 ha.,at Village – Nawli, Tehsil – Pichhore, Distt. – Shivpuri (M.P.) For –ToR

River Valley projects involving < 10,000 ha. of culturable command area and denies the general conditions falls under category "B" and have been mentioned at SN. 1(c) column B of Schedule of EIA Notification, hence such projects are required to obtain prior EC from the SEIAA.

This is an independent medium size river-valley project. The submissions and the presentations made by the PP reveals following:

- It was reported that this is an Independent Project and the project does not attracts the general condition.
- **Catchment / Command Area**
 - Catchment Area - 410.98 Sq km
 - Gross Storage Capacity -73.55 MCM
 - Live Storage Capacity - 65.03 MCM
 - Gross Command Area - 16293 Ha
 - Cultivable Command Area -10860 Ha
- **Location Main Dam**
 - Latitude 25o 22'00" Longitude 78'00'00'
 - Village- Nawli, Tehsil – pichhore, District- Shivpuri, State- Madhya Pradesh
 - Forest land involved - 340.846 ha
- **Submerged area**

The submergence area at FRL is 865.95 ha. It was reported that the present land in the submergence area is mostly uneven and containing big boulders, which will be converted into water-body (reservoir). The C.C.A. is 9500 ha and the irrigation intensity works out to be 145%. The break-up of submergence is as below:-

 - (i) Forest land 335.6 ha
 - (ii) Govt. Land (Revenue) 232.37 ha
 - (iii) Private Land 308.13 ha
- There is no clearance of existing land, vegetation and buildings.
- The Main canal is 40.90 km (LB.C. & R.B.C.) long whereas 33 distributaries are off-taking from main canal and these will irrigate 8550 ha (rabi) by gravity flow, 8550 ha along main canal.
- The project is reported to consist construction of series of dams comprising of earthen dam with Central spillway as surplus arrangement, irrigation sluice, and canal network through gravity flow.

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- Reclamation of land will be done by cut and fill, as per the site-specificity. The sites so reclaimed will be landscaped to Integrate with the natural surroundings.
- During construction phase, labour colonies are proposed to be located at few locations, close to construction sites. About 90 laborers and 25 technical staff are likely to congregate in the area during construction phase. The average per capita solid waste generated is of the order of 210 gm/day/person. Adequate facilities for disposal of solid waste will be developed.
- Construction material in the form of metal manufactured from basaltic rocks and sand will be used in Central spillway, 2 Nos. sluices and canal network. The quantum of the minerals shall be - Metal 29164 cum, Sand 31529 cum
- Estimated requirement of various construction materials is under:
 - i. Aggregate: 181459 cum
 - ii. Clay for earthen dam & canal: 109401 cum
 - iii. Other material: 1055 tonne steel
 - iv. Other material: 56008tonne
- Borrow areas and rock queries have been identified near the project vicinity to provide construction materials in the form of soil, coarse and fine aggregate the sand deposits and its tributaries in the close proximity of projects will also be used for construction.
- The project has been designed for Standard Project flood condition (SPF) for a catchment area of 410.98 sq km, to take care of any potential cloudburst, which may occur in a particular area. The project design, as mentioned above, will also take care in absorption of high flood peaks.
- No landslides have been reported from the area in the past.
- Another major dam Madikheda (Atal Sagar) in the vicinity of Mahuar Medium Project on river Sindh. It was reported that both of these projects have their own well defined catchment and command areas as well as users and water-use.
- It was reported that the area is not protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value is falling, within 15 to 25 km zone of proposed project location boundary
- It was reported that the project is not affecting any ecological regions-Wetlands, water courses or other water bodies, coastal zone, biospheres, mountain -forests.
- It was reported that the land area is not used by any important or sensitive flora or fauna species for breeding, nesting, foraging, resting, over wintering, migration. The list of flora and fauna species, from the Forest Action Plan, The latest Red List of IUCN also does not include any of the flora and fauna species found within 15 km of proposed project location boundary.
- No state or national boundary is reported within 70 km radius of proposed project location boundary. Also no defence installations within 80 km radius of the proposed project location boundary have been reported.
- It was reported that the groundwater table in the specified zone of 15 km area is at 12-20 meters depth. The mother surface resource i.e., the land, in the specified 15 km radius at present is highly under-productive; feeble humus content, low agricultural yield, devoid of major natural vegetation, rocky outcrops, etc.

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- It was reported that at present most of the agriculture in the proposed project area is rain-fed having very low per unit yield and poor agriculture-intensity.
- River Mahuar is reported to have only seasonal flow. Creation of reservoir is expected to transform the river into perennial.

After deliberations, the committee resolved to issue above mentioned additional TOR to the proponent.

9. Case no. 700/2012 - Shri M.G. Chobey, Engineer- in Chief Department of Water Resources, Tulsi Nagar, Bhopal (M.P.) – 462-003- Datuni Tank Project Catchment Area- 181.61 Sq.km., Gross Storage Capacity – 51.02 MCM, Live Storage Capacity – 49.14 MCM Gross Command Area – 10206 ha. Cultivable Command Area 9073 ha., at Village – Sukhliya, Tehsil – Kannod, Distt. – Dewas (M.P.) For –ToR

River Valley projects involving < 10,000 ha. of culturable command area and denies the general conditions falls under category "B" and have been mentioned at SN. 1(c) column B of Schedule of EIA Notification, hence such projects are required to obtain prior EC from the SEIAA.

The submissions and the presentations made by the PP reveals following:

- It was reported that this is an Independent Project and the project does not attracts the general condition.

Location

The proposed Datuni Tank Project is situated in Tehsil Kannod of Dewas District Madhya Pradesh. The scheme can be located in topo sheet No. 55 B/10. The estimated cost is Rs. 17455.00 Lakhs. The designed irrigation of the project is 8800 Ha. The Irrigation percentage of District Dewas from all sources is 45%. The percentage for Kannod Tehsil is 32.45%. The Datuni Tank is a storage irrigation project

The proposed dam site is situated in Tehsil and Block Kannod of District Dewas. The Dam site is only 2 Km. Left of 87 km stone of Indore Nagpur National Highway. The site comes under earth quake zone no. 2. The site is situated very near to village Sukhliya of Gram Panchayat Kiloda and the same can be located on topo sheet No 55-B/10. The latitude and longitude of the Dam location are as below.

Latitude	22 ⁰	-	42'	-	34"	North
Longitude	76 ⁰	-	40'	-	15"	East

Environmental Aspect

The scheme is situated in hilly terrain with medium thick forest. The total forest affected by the project is 268.39 Hactare. Out of this, 247.81 Ha is coming under submergence and 20.58 is coming under Dam seat, spill channel, waste weir and canal. The project is in the jurisdiction of Sub Divisional Officer, Paras Canal Sub Division, Bagli. This office is administered by Executive Engineer, Water Resources Division, Dewas, MP. The circle office is Office of the Superintending Engineer, Water Resources circle, Indore, which falls under control of the Chief Engineer, Narmada Tapti Basin with head quarter at Indore.

The project is situated in major basin of Narmada River. The overall master plan of Narmada

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River has already been planned by Narmada control authority and project is a pin pointed Scheme in this master plan. The scheme claims overall development of the basin. The scheme is proposed to be executed in single phase. By construction of this project, no riparian rights are being affected. There is no project existing in upstream or downstream of the project. The Main canal alignment has been approved by the Chief Engineer, Narmada Tapti Basin, Indore.

The construction of this project does not violate any interstate or international agreement. The utilization of stored water is in agreement with Narmada Tribunal Award and from the state share of Madhya Pradesh. The whole catchment area, construction site and benefitted command area lies in Dewas district of Madhya Pradesh state.

The project is planned as earthen water storage tank. To ascertain soundness of foundation, open dug trial pits and exploratory drilling is carried out. The trial pits are dug on Dam line and in borrow area. 6 No. Bore hole drilling has been done on Dam line, Main River and spillway portion of project. The detailed geological analysis report has been submitted with the DPR.

Seismic Investigation

The project lies in seismic zone type 2. It was reported that the site area do not falls under severe seismic zone. The seismic coefficient for this zone is -0.02. The coefficient of Horizontal acceleration is 0.06 and for vertical acceleration is 0.03. These factors are accounted for in the design of earthen dam section. There is no possibility of liquefaction of foundation.

The foundation investigation is carried out by drilling bore holes and by collection of foundation soil samples. Accordingly COT bed level and provision of curtain grouting is proposed in the estimate. Soil tests are carried out for foundation soil for 'Q' and 'R' test from laboratory. The test results as obtained are used in design of Dam. As a special feature, to avoid seepage, curtain grouting is proposed (0.7H) has been suggested by geologist.

Construction Material

It was reported that the construction material for Earthen Dam is available in the basin (Hearting and casing soil) and has been tested in the laboratory for suitability. The sand is available in good quality and quantity from Narmada River. Rock and coarse aggregates are available in submergence and nearby area. Cement, Steel is available in Kannod or can be procured from Indore. The source of Materials has been identified and accordingly lead of material is included in the estimate. All the works will be done on contract basis except supply of sluice gates and Canal gates, which are to be supplied by Electrical & Mechanical unit of water resources department.

Hydrology of the area

The catchment area at site is 70.12 sq. mile/181.61 sq km and consists of mainly hilly terrain. The hydrology of the project is dealt with in detail in separate volume. Flood estimation studies of SPF are appended in this volume. The standard project flood is estimated as 1823.05 and routed flood works out to be 1532 cumec after flood routing studies. The corresponding reservoir level reached in the reservoir if 362.65 m. hence the reservoir MWL is planned to be kept at the elevation of 362.65 M. There is no observed flood data available corresponding to specific rain fall.

The designed flood is worked out and appended in the volume. Proper water way will be provided during construction to pass on the flood. The Nalla Closure will be taken up as single phase activity. The evaporation rate of 1' in Monsoon season, 2' in winter and 3' in summer is

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expected. The whole project and command lies in Kannod Tehsil, hence rain fall data of Kannod are adopted for crop water planning.

The reservoir sedimentation studies have been carried out by Moodie's zero elevation method. According to this, the NZE is worked out at RL 340.00 M. as Dead Storage. However the LSL is finally fixed at an elevation of 343.00 M with the consideration of command area topography. These levels are used in simulation studies.

It was reported that the Datuni river is not a perennial river and receives its all flow / runoff during rainy season and dries up after irrigation season. Kasarni River also join the Datuni river 3 Km. D/S of Dam, which bring necessary environmental inflow. The d/s river system will also have the benefit of seepage from Dam and regeneration of Irrigation water because whole command area is sloping towards river. Due to this, no provision for environmental release has been made in simulation studies.

The Spill channel is situated on the left flank of Dam and joins the parent river 750 M D/S of Dam. Therefore it won't bring any undesirable changes in the river regime.

The Dam will be constructed in phased Manner. First both the flanks will be constructed. Till then, the flood will pass through its existing natural water way. After completion of flanks, a coffer dam will be constructed in the upstream of dam to store post monsoon flow and in the mean while earth work will be started in the River portion. The Nalla closure of Main dam is planned to be completed within one year between October to June i.e. before on set of next monsoon season.

Capacity: In the absence of any data regarding silt observation, the silt load expected at the tank site has been worked out as per Moodie's zero elevation method. Accordingly the NZE is worked out at RL 340.00 M. However The LSL is fixed at an elevation of 343.00 M with the consideration of command area requirement. Total silt load has been worked out to be 229.08 Mcft. / 6.48 Mcum. By considering the dead storage capacity of 6.48 Mcum the Live storage capacity has been fixed as 49.13 Mcum with Gross capacity of 51.01 Mcum. Flood routing studies has been carried out and corresponding to peak flood of 1823.05 cumecs and routed out flow has been worked out. The spillway has been designed for routed flood of 1532 Cumec. No back water studies have been done because there is no rehabilitation beyond FRL line and full basin is surrounded by high hillocks. Hence back water is not going to affect any cultivated land or property.

Rainfall – Runoff studies of nearby Chandrakeshar project has been done, which is only at 15 Km Ariel distance away from proposed site. The rain fall run off equation so developed was imposed over the rain fall data of Datuni Tank. Based on observed Runoff and rain fall data of Chandrakeshar Dam (Catchment area 110 Sq Km.) from period 1990 – 2010, which is adopted for planning purpose. Director, (Dam Safety) BODHI approved the hydrology of the project and 75 % dependable yield of 46.81 Mcum for 181.61 Sq. Km vide their letter no. 268/BODHI/Hyd/237-4/08, Bhopal Dated 04-11-2011.

The River flows mostly in the deep forest and low populated area. There is no existing or proposed project in the catchment area of upstream side. However, for future utilisation, a provision of 2.275 Mcum is kept in the total yield. For domestic purpose / drinking water, 3.00 Mcum is allocated, which is about 7 % of the live capacity.

Utilization of the water - There is no industrial demand in this zone. However a provision of

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3.00 Mcum stored water is made for Domestic and drinking water utilisation. Sufficient command is available in the D/S, in which irrigation can be provided by gravitational flow.

Land acquisition and resettlement of outsees: Detailed survey for the land coming under submergence, Dam seat, Spill channel and canal has been carried out. There are two No. villages going to be affected by this project namely Sukhliya and Thikariya. The village Thikariya is going to be submerged fully where as Village Sukhliya is going to be affected partially. The brief village wise details are as under.

Thikariya: This village is going to be submerged fully along with its total Cultivated land, Houses, Roads, property etc. There are 103 Farmers going to be affected with their total 115.62 Ha. Land. Beside this, 155 No. houses are also going to be submerged. 14.15 Ha. Govt land of this village is affected by the project.

Sukhliya: This Village is partially going to be submerged. There is 146.78Ha land of 95 No. villagers affected by the project. 132 Houses of this village are going to be submerged with 33.42 Ha. Govt. Land.

Beside this, 268.39 Ha. Forest Land is also going to be affected in which 247.81 Ha. Land is coming under submergence. The details are as follow.

Submergence: The Submergence up to FTL at R.L. 360.00 is under following villages. Total submergence area is 557.78 Ha. (Revenue 309.97 Ha. and Forest 247.81 Ha.)

- | | | |
|----|----------|---------|
| 1) | Sukhliya | Partial |
| 2) | Thikria | Full |

The total population of the two villages is 1150 including 60 % ST i.e. 650 No.of 194 Families and total families are 289 No.

The details of submergence and Dam are as followed:

	Hectare
I) Cultivated Land	196.80
ii) Uncultivated Land	65.60
iii) Forest land	260.89
iv) Govt. Land	47.57
v) Temple	1 Nos.
vi) Pucca House	46 Nos.
vii) Kaccha House	119 Nos.
viii) School building	1 no.
ix) Fruit trees	848 Nos.
x) Hand pump	1 No.

R&R Proposal - The rates for land compensation have been kept in the estimates on the basis of the rates proposed by the Collector in the village with 30 % solatium charges and 12 % interest. Cast wise, type wise details of land and Type of houses being affected is appended in the report. The fields within FRL are proposed to be acquired. All the property comes under FRL level. There is no property coming under MWL and FTL.

There are 11 of SC and 194 ST Families going to be affected by this project and 84 houses of General and OBC cadre are also being affected. As per norms, the Kannod block is not a tribal block and total No. of oustees families are 289. A provision of 14.62 Crore is kept for rehabilitation and resettlement.

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For rehabilitation of oustees, it is planned to construct a colony in 5.96 Ha. Land for 289 No. affected People. The cost of House is taken as cost of one Indira awas. Provision of Road, one primary school, One temple is also made. Various type of grants like financial assistance @ 10000/- per family, Rehabilitation @ 750R, Monthly living allowance for one year@ 4375/- per month, Transportation facility to new rehabilitation area @ 10000/- per family, grant for cattle home @ 15000/- per family, grant for shop @ 50000/- per shop and grant to ST people @ 500 Days salary is made in the estimate. All the necessary provisions as laid down in “Adarsh Punarvas Niti – 2008” of Madhya Pradesh are made in the estimate.

Irrigation and Command Area Development: The Datuni tank project is Planned mainly for 7600 Ha. Rabi Irrigation. Provision of 1200 Ha. Kharif irrigation is also made for Kharif crops during less rain fall years. Hence the project is planned for a designed irrigation of 8800 Ha. Crop Water requirement has been worked out fortnightly. Warabandi proposals have not been planned at this stage. The crop water requirement has been analysed accordingly as per TC – 15 and TC – 25 of WRD. The analysis has been done for last 20 years rain fall data.

There is no irrigation canal system in the proposed command area. There is one Minor Irrigation scheme “Kiloda” near the command of Datuni Tank. The tank is providing irrigation facility in only 10 Hactare against a designed irrigation of 125 Ha because there is heavy seepage from Tank. The Command area of this tank now falls under proposed command of Datuni tank.

Ground water is available in the command area and farmers are using it from dug wells or tube wells. Quality survey in specific has not been carried out but looking to their crop production, quality of water looks satisfactory. In general the water level in wells and tube wells ceases till February and quantity of water supply get reduced. Conjunctive use of Ground water with surface water is not planned because sufficient power is not available for lifting of water from tube wells. Also when surface gravity flow is available, no farmer opts for lift.

Flood Control and Drainage: The scheme is not designed as flood control but flood control is achieved as a by product. The project is having flood absorption capacity of MWL – FRL i.e. 14.35 Mcum. The command area is having good drainage in terms of small rivers and nallas. Hence no specific drainage planning is needed.

Estimate: The estimated cost of project is 17455.00 Lakh.

After deliberations, the committee resolved to issue above mentioned additional TOR to the proponent.

10. Case no. 701/2012 - Shri M.G. Chobey, Engineer- in Chief Department of Water Resources, Tulsi Nagar, Bhopal (M.P.) – 462-003 Cheantikgheda (Medium) Irrigation Project Catchment Area- 481.25 Sq.km., Gross Storage Capacity – 61.05 MCM, Live Storage Capacity – 55.45 MCM, Gross Command Area – 11033.00 ha., Cultivable Command Area 8230.00 ha., at Village – Arrod, Tehsil – Vijaypur, Distt. – Sheopur (M.P.) For –ToR

River Valley projects involving < 10,000 ha. of culturable command area and denies the general conditions falls under category "B" and have been mentioned at SN. 1(c) column B of Schedule of EIA Notification, hence such projects are required to obtain prior EC from the

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SEIAA.

The submissions and the presentations made by the PP reveals following:

It was reported that this is an Independent Project and the project does not attracts the general condition.

No litigation is pending against the project and/ or land in which the project is proposed to set up.

Catchment/ Command Area

Catchment Area – 481.25 Sq km

Gross Storage Capacity - 61.05 MCM

Live Storage Capacity - 55.45 MCM

Gross Command Area – 11033.00 Ha

Cultivable Command Area – 8230.00 Ha

The project does not attract the general condition.

Location Main Dam- Latitude 25⁰ 58'3.5"N Longitude 77⁰ 17' 2.5 "E

Khasra No. - 1490, 1529, 1532, 1557 of village Arrood. At Village – Arrood, Tehsil – Vijaypur, District – Sheopur, State - Madhya Pradesh

Forest land involved (hectares) 69.00 Ha.

Submergence

The submergence is 1220 ha and the details are as below :-

(iv) Forest land 69 ha

(v) Govt. Land(Revenue) 476.63 ha

(vi) Private Land 674.367 ha

- The submergence area at FRL is 1220 ha. The present land in the submergence area is cultivated barren, which will be converted into water body (reservoir). The C.C.A. is 8230 ha and the irrigation intensity works out to be 108 %. No water is kept for industrial use. 3.36 MCM (for complex) water is exclusively ear-marked for drinking purposes for villages in the vicinity of the project.
- There are two Main canal proposed RBC & LBC whose length are 20.95 km and 5.16 Km. three Number distributaries off takes From LBC 8230 Ha. Proposed for rabi and 670 ha. For kharif
- The project comprises of construction of Series of dams comprising of earthen dam with gated spillway surplus arrangement, irrigation sluice, and canal network. About 5 ha for construction works for housing of construction workers and construction activities.
- Reclamation of land will be done by cut and fill, as per the site-specificity. The sites so reclaimed will be landscaped to integrate with the natural surroundings.
- During construction phase, labour colonies are proposed to be located at few locations, close to construction sites. About 50 laborers and 5 technical staff are likely to congregate in the area during construction phase. The average per capita solid waste generated is of the order of 210 gm/day/person. Adequate facilities for disposal of solid waste will be developed.
- Land will be acquired for construction of various project appurtenances including submergence area. The land coming under submergence is 60 % agricultural land and 40 %

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land is barren land, stony wasteland, forest and agricultural land. The land will be acquired in a manner which involves minimum acquisition and parts of land under temporary use will be reused in post-construction phase.

- The average quantity of water required during construction and operation phases would be 150 KLD and 280 KLD, respectively. During construction and operation phases, potable water for laborers and technical staff would be analyzed and adequately treated, if needed.
- **Construction material** in the form of metal manufactured from locally sand stone and sand of sindh or chambal rivers will be used in concrete Dam, sluices and canal network. The quantum of the minerals is given below –

Metal 104662.76 cum

Sand 82719.50 cum

- The quantity of aggregate / rock required to be produced for the construction of concrete dam, Earthen dam and other estimated structures of the project has been estimated to be around 14,32,598.30 cubic meters. Estimated requirement of various construction materials is under:
 - i. Aggregate : 104662.76 cum
 - ii Clay for earthen dam: 1432598.30 cum
 - iii Other material: steel.789 Tonnes and Cement.15965 MT.
- Borrow areas and rock queries have been identified near the project vicinity in submergence area to provide construction materials in the form of soil, coarse aggregate. The sand is to be transported from Sindh , or Chambal.rivers.
- The groundwater table in the specified zone of 15 km area is at 80-120 meters depth. The creation of reservoir will address the scarcity of groundwater through natural recharge.
- The mother surface resource i.e., the land, in the specified 15 km radius at present is highly under-productive: feeble humus content, low agricultural yield, devoid of major natural vegetation, rocky outcrops, etc.
- At present most of the agriculture in the proposed project area is rain-fed having very low per unit yield and poor agriculture-intensity.
- At present, river Kunwari has only seasonal flow. Creation of reservoir with assured release of environmental flows in non-flowing periods, the river is expected to transformed into perennial one.
- The proposed project does not have any tourism spot within 15 km of proposed project location boundary. The creation of a reservoir has potential to develop it as a tourism center.
- There is no surface or sub-surface minerals within 15 km of proposed project location boundary. It is corroborated by the geological map of the area.
- The project has been designed for 100 yrs flood condition for a catchment area of 481.25 sq km to take care of any potential cloudburst, which may occur in a particular area.
- The project design, as mentioned above, will also take care in absorption of high flood peaks.
- The proposed project is located in the area categorized as ZONE III as per Seismic Zoning Map of India (IS 1893:1973), which is one of the safest seismic zones.
- No landslides have been reported from the area in the past.

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- Another moderately sized minor tank Bardha Dam Project on river Bansrai is constructed in the vicinity of Chentikheda Project. Though in the command areas, the characteristic trait of the soil is free-draining, but taking extra-precaution to thwart any potential water logging, provision of total command area has been made. Furthermore, the entire canal-network will be lined to reduce seepage and leakage, to prevent even the slightest chance of water logging.
- There is no coastal or marine waterbody. Underground water table in the area specified exists at 80-120 meters depth. There are no natural lakes, springs or any other waterbodies. However there are 2 small irrigation tanks (less than 3 MCM), solely used for irrigation purposes.
- No state or national boundary exists within 15 km radius of proposed project location boundary.
- Routes or facilities to recreation or other tourist, pilgrim areas do not fall within 15 km radius of the proposed project location boundary. Furthermore, the proposed creation of reservoir will not obstruct any routes or facilities even beyond 15 km radius of the proposed project location boundary.
- There are no defence installations within 15 km radius of the proposed project location boundary.
- There are no densely populated or built up areas, within 15 km zone of the proposed project location boundary.

After deliberations, the committee resolved to issue above mentioned additional TOR to the proponent

11. Case no. 662/2012 - Mr. Ashish Tiwari M/s Varun Fertilizer Pvt. Ltd. 203,2nd Floor, Indore Trade Centre, South Tukoganj, Indore, (M. P.) Single Super Phosphate: 350 TPD (P SSP) Plot No.6,7,8,11,12,13 Industrial Area Sector 1, A.B. Road Dewas (Near Tata Squar ,Dewas) Distt. – Dewas (M.P.) For –Revised ToR

The project was issued TOR in the 88th meeting of SEAC dated 13/02/2012 for production of Single Super Phosphate: 1000 TPD (Granulated SSP 500 TPD & Powder SSP - 500 TPD). In view of non-availability of required land the proponent has decided to limit the production capacity to 350 TPD Powder SSP only. The request for change in the production capacity and necessary amendment in the issued TOR was made by the PP to SEIAA. The same has been forwarded by the SEIAA vide letter no. 130 dated 24/04/2012 for consideration in the SEAC meeting. The case has been discussed in the earlier meeting at length. Committee has accepted the request of PP and decided to issue revised TOR with inclusion of following:

- Production capacity for which EIA/EMP has to be prepared shall be 350 TPD Powder SSP only.
- If any additional land purchased, hired or leased have to be ear-marked on map showing various aspects such as distance from the unit, infra-structure available, type of procession along with the supporting documents.

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- Uranium has to be analyzed through authorized laboratory.
- Methods have to be explored to reduce the fluorine gas emissions as below as possible from the prescribed standards.
- Lay out plan showing details of the storage area, plantation area etc.
- Lay out of the Industrial area with list of industries.
- Land allotment orders in name of the proponent (Mr. Ashish Tiwari M/s Varun Fertilizer Pvt. Ltd).
- Copy of notification of Industrial Area from Industry Department has to be furnished.
- PP shall have to conduct a public hearing if the proposed plot is not located in a Notified Industrial Area.

After deliberations, the committee resolved to revise the TOR earlier issued to the proponent.

12. Case no. 258/2009 - M/s Vinod Traders R.L. House Behind New Bus Stand Ind. Area Dhamtari – 493773 (C.G)- Manganese Ore Mines, 9.105 Ha at Village - Punia, Tehsil - Katangi, Distt. - Balaghat (M.P.) Capacity – 3000 MT/Y For –EIA Presentation.

This being a mining project with lease area between 50 ha to 5 ha is listed at S.N. 1(a) of schedule under 'B' Category of EIA Notification, 2006 and is to be appraised by SEAC. The EIA /EMP for the project were forwarded by the SEIAA for appraisal of the same. PP with his consultant presented the case before the committee. The presentation and the submissions made by the PP reveal the following:

- Manganese ore Mining project is located at village – Puniya, Tehsil – Katangi, District - Balaghat (MP). The lease area is being hold by M/s Vinod Traders, having office at R. L. House, Bastar Road, Dhamtari (CG) and the lessee firm is Partnership firm.
- The lease was granted for period of 20 years from 19.05.2011 to 18.05.2031. As per P-II form, land of lease area is Govt. land.
- The committee suggested Terms of References (ToR) for the preparation of the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) through its letter no. 224/PS-MS/MPPCB/SEAC/TOR/APR (21)/2009 Bhopal dated 09.04.2009, which are incorporated in the EIA/EMP report at their respective places.

Land status: Mining lease has been granted by M. P. Govt. for 20 year from 19.05.2011 to 18.05.2031 **Geographical location:** 21⁰41'50" N and 79⁰45'35" E. Life of mine with proposed rate of mining is 9 years

Tehsil	Village	Patwari halka	Khasra no.	Area in ha	Ownership	Land use
Katangi	Puniya	6	486/1Kha, 486/2, 487,	9.105	Govt.	Grazing

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			488/2, 489, 490, 491/1, 491/2k, 493, 494, 495/1, 496/1, 497/1, 499/2			
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Documents submitted pertaining to land:

- Notarized/Certified copies of Panchsala Khasra
- Executive summary
- Copy of Mining Plan
- Copy of Lease Order dated 31/12/2010
- NOC from DFO
- NOC from Gram Sabha dated 31/12/2011
- Certificate from PWD department indicating the distance of M.P.- Maharashtra border

Distance & Location of Lease area from	
Forest boundary	1km
National park Wild life protection act 1982 etc.	Kanha National Park -95 km & PENCH National Park- 26 km
Buffer zone of PENCH National Park	09 Km
Boundary of proposed Kanha-PENCH Corridor	06 Km
Interstate boundary	Maharashtra – 26.60km , Chhatisgarh – 161.60km
Distance of project boundary from Critically Polluted area	None within 10km radius

It has been reported by the DFO, Balaghat (South) that, the distance of the site from PENCH National Park Buffer Zone and proposed Kanha –PENCH Corridor is 9 and 6 Km respectively. However, as the distance of site from the boundaries of core zone of Kanha National Park and PENCH National Park were observed to be more than 10 Km the project was considered as category 'B' project.

Salient features of the project

Particulars	Details
Nearest National Highway	Katangi – Tirodi PWD Road - 4.0km Kachha road – 50m
Archaeological Important Place within 10km radius	None
Reserved / Protected Forest within 10km	Garraghat RF-4.0km-S, Bichhua RF-2.0km-

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**MINUTES OF STATE EXPERT APPRAISAL
COMMITTEE**

**94th MEETING
7th May 2012**

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radius (Boundary to boundary distance)	SW
Nearest Town / City within 10km radius	Katangi - 7km
Nearest village	Chougandi – 0.5km-ENE
Nearest River	Chandan River -6.0km-NE
Near by Lake/ Ponds/Nalla/ canal	Nahlesra Main Canal-0.5km-SW Balwa Nalla-2.25km-NE
Source of Water in lease area	Mine pit

Mining lease status

The fresh lease was granted for period of 20 years from 19.05.2011 to 18.05.2031. As per P-II form, land of lease area is Govt. land.

Mining Details

Particulars	Details
Type of Mine	Opencast
Mining Lease Area	9.105hect
Existing Pits & Quarries	0.4029 hect
Existing Dumps/mineral stack	0.3785 hect
Plantation	0.01hect
Method of mining	Semi-mechanised
Proposed capacity of mines	3000 tonnes per annum
Lease Period	20 year upto 2031
Thickness of top soil/OB	
Minimum	1.0 m
Maximum	2.0 m
Stripping Ratio	1:2.88
mode to transportation	Road
Area to be covered under dumps during lease period	2.3790hect
Area covered under pit	1.0564Hect
Area to be reclaimed by lease period end	nil
Area to be covered under plantation by lease period end	3.3hect
Area to be under water reservoir by lease	1.0564hect

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period end	
Average mRL	350m RL
Ground water table	
Monsoon period	10m bgl
Dry month	12m bgl
Ultimate depth of pit	8m bgl

Mineable Reserves and Life of Mine- 25298.5 - Anticipated Mine Life - 8.75 years says 9years from date of opening of mines

Method of Mining - It was reported that this area has been extensively mined in past for many years by other parties. Fresh lease was grant for mining of manganese ore. Proposed mining operation will be carried out through semi-mechanized method of mining using hand tools There are 7 old abandoned pits, worked in the area by opencast method. From these old pits manganese ore was produced in a fairly large quantity. Pit No.1 and pit no. 4 are water logged. Pit No. 4 is the deepest of the four pits and is water logged hence the working is considered from pit no. 1 and 2 towards east, during this mining plan period.

Land - Total mining lease area is 9.105 Ha. The status of the land is given below:

Dist.	Tehsil	Village	Khasra no.	Area in hect	Ownership
Balaghat	Katangi	Puniya	486/1Kha, 486/2, 487, 488/2, 489, 490, 491/1, 491/2k, 493, 494, 495/1, 496/1, 497/1, 499/2	9.105	Govt. Land

Water Requirement - The total water requirement is 7.5 m³/day.

Manpower Requirement - Estimated requirement of manpower for this project will be about 15.

Baseline environmental details- Ambient air quality and noise level monitoring results for 4 locations whereas, surface & ground water sampling was at 2 & 4 locations respectively and soil sampling at 3 locations have been submitted by the PP.

Socio Economic activity

Activity	Exp. Incurred
providing scholarship for two students	Rs. 2000 per year per student
Provision of carpus fund for social /developmental activities like provision of infrastructure facility at school of Puniya & Chougandi, medical camps etc as proposed by Village Panchayat	Rs. 50,000/- per year

Impact on Air Environment – Drilling and blasting operations are source of fugitive dust emission but its effect is more or less localized. Regular drilling and blasting will be proposed for the subject mine.

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The major part of the dust generated during such operations usually gets settle down near vicinity and thus the effect of such operation will be localized phenomenon. Production capacity of other mine is 3430TPA, which is approximately same hence emission rare from mine pit and haul road will be same. Thus the total emissions rate from both mines is 0.7764g/sec/m. During the mining of mineral predicted value reveals that the maximum incremental 24 hourly ground level concentrations of particulates will be 5.06 ug/m³. The results of the background PM₁₀ concentration at all receptors over the area are low as compared to the standards prescribed by the CPCB for ambient air quality.

Mitigation: Following air pollution control measures shall be taken to minimize negative impact due to mining activity:

- Dust suppression over the roads by carrying out water sprinkling.
- It is observed that the approach road from lease area to pucca road (RCC about 1.2km) towards is kuchha. However no habitations have been observed along the said kachha road. Water spraying twice in a day is suggested on same road
- Proper stabilization of soil/OB dumps through grasses and shrubs.
- Green belt development along the roads, over the overburden dumps and in the mining area as whole.
- Proper maintenance of haulage roads, which shall be used for transportation of material
- Wet drilling will be carried out

Impact on Water Environment –

Impact on Ground Water - Mining will be done well above the existing water table therefore impact on ground water regime will not be done. The ground water table is at 10-12 m bgl. Ultimate depth of pit is reported to be 8 m hence the mining shall not intersect the GW. The ground water analysis indicates that the ground water in the area is potable and doesn't contain any toxic elements. In fact, the accumulated rain water in the quarry pits will recharge the ground water.

Impact on Surface Water:- Mine discharge will be taken to settling tanks (pit No.4) in north east direction through garland drain. No impact on existing surface water resources is expected as the mining activity is confined to occupied area

Mitigation measures for Water Pollution – It was reported that no toxic substance is envisaged from mining operation, which may affect the quality of surface water. No waste water will be discharged outside the lease area which may affect the quality of surface water bodies. However, protective measures are proposed to be taken by making garland drain all around the working pits & dump in order to control sedimentation and siltation.

Impact on Noise - Major noise generating sources may be considered as excavation, blasting, drilling, and loading and dumper movement used for transportation of minerals. Mitigation measures proposed are: use of personnel protective equipment (PPE) such as ear plugs for the workers and Use of physical barriers as green belt development in & around the mine to restrict the noise to go outside from mine boundary during operation

Environmental Monitoring Programme – has been proposed by the PP.

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Environment Management Plan**Air quality management**

Present Air Quality - At present no mining activity is being carried in the lease area. The one another mine near to subject lease which also not functional during study period. One rice mill also observed near the subject mine which is running during the study period. Therefore air quality of the area carried the portion of emission that would have generated from the operational rice mill.

Air Pollution Control - Mitigative measures suggested towards air pollution are based on the data obtaining for ambient air quality monitoring data.

Dust control measures- The controls measures are proposed to control the fugitive dust released during the mineral production are given below:

a) Haulage road & Dumps

1. Water sprinkling on haul road shall be carried out at regular interval.
2. Plantation around dump and along haul roads will be carried out to reduce the spread of dust.
3. Existing over burden dumps has been stabilized with legumes and grass to prevent the erosion of soil and arrest the dust emission during windy days.

b) In lease area

1. Water will be sprayed over the muck pile to reduced the dust generation;
2. Dust mask will be provided to all workers.
3. Plantation will be done at the periphery of mining lease
4. Regular maintenance of vehicles will be carried out in order to control emissions;
5. A good housekeeping will be practiced which will extend help in controlling pollution.

c) Village road

Water spraying at the frequency of twice in a day is suggested on Kuccha road which connect the mine approach road to RCC road towards Puniya.

Water Quality Management - The Surface water bodies in the study area mainly Chandan River, Dhoriya Nalla, Balwa Nalla, Jimun Nalla, Sarpunra Nalla & Nahlesra Main Canal located NE, SSW, NE, WSW, SW & SW direction at about 6.0km, 8.5km, 2.25km, 7.0km, 9.5 & 0.5km respectably from mine. Therefore the nearest surface water body is canal which is located at SW direction at 500m, which are required to be protected from siltation problem. The general slope of area is towards south; hence water drainage pattern should also be towards the southern direction. Following measures will be taken to avoid contamination and siltation problem

1. Garland drain provided around dump requires maintenance. Drain shall also be provided around the pit. All garland drain will be connected to Settling tank and water of settling tank will be used for dust suppression and agricultural purpose
2. Pit No. 4 (62 x 20 x 7.0m), which is located northern west side of the lease area is converted as settling tank. The pumped out water will be used for agricultural purpose.
3. During lease period 1.0564 ha area will be converted as a water reservoir.

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4. Silt trapping system will be provided for the garland drains. Maintenance and cleaning of drains will be taken care at regular interval
5. Quality of water of settling tank will be checked at pre-monsoon and post- monsoon

Rain water harvesting - Following methods shall carry out the rainwater harvesting:

1. After excavation of mineral, excavated pit is proposed as water reservoir structure.
2. The settled mine water can be gainfully utilized by the local people for irrigation use.
3. During lease period 1.0564 ha area will be converted as a water reservoir

Solid Waste Management - Presently 0.3785hect area has been covered old dump. During the first five year 14430M3 overburden, 1846t mineral reject, 2280cum top soil & 6840cum soil wastes will be dumped in the north east part of the lease area. Area for dumping for first five years is about 7700sqm with a height of about 3m where as the total area for dumping for conceptual working is about 12305sqm with a maximum height of 4m. These dumps will be accommodated in the north east area. All the waste that will be produced and during proposed mining operations will be accommodated in area in the north east and also on existing old dump. There is no program of backfilling during lease period. All waste dumps will be stabilized with grasses and trees to prevent the waste material to flow to the nearby area.

Following measures should be taken to avoid/minimise the adverse effects of proposed mining activity. :

1. Vegetation should be removed only from the specific site on which extraction of mineral to be take place.
2. Proper stabilization of overburden dumps
3. Before dumping, soil should be removed from the dump place.
4. The soil should be separated stacked and slope should be maintained.
5. The soil dump should not be kept with active for more than 06 month
6. Plantation along dumps, lease periphery and water reservoir shall be carried out.

Noise Management - In order to control the noise levels in the work zone following measures have been proposed

- **Mitigation Measures to Reduce Ambient Noise Levels**

1. Green belt will be provided in phased manner around the periphery of the mine to screen the noise;
2. Trees will be planted on both sides of roads used for transportation;
3. Proper maintenance will be done of noise generating machinery including the vehicles

- **Measures to Protect Workers from High Noise Levels**

1. Provision and compulsory used of protective devices like ear muffs/ear plugs;
2. Reducing the exposure time of workers to the higher noise levels

Socio-Economic Environment

The impacts on the different components viz employment, housing, educational, and medical and transport facilities, fuel availability, economics, status, health agriculture is not significant because size of project is very small. However, it would definitely increase the employment opportunity (primary as well as secondary) in the project area. Some of these impacts would be beneficial. It is not out of place to mention that another one mine, which in the vicinity and which also not operational.

(S.C. Jain)
Chairman

(V.Subramanian)
Member SEAC

(K.P. Nyati)
Member SEAC

(A.P.Srivastava)
Member SEAC

(Dr Mohini Saxena)
Member SEAC

(R.K. Jain)
Member Secretary

Considering the scale of mining, following is proposed for implementation.

Activity	Exp. Incurred
providing scholarship for two students	Rs. 2000 per year per student
Provision of carpus fund for social /developmental activities like provision of infrastructure facility at school of Puniya & Chougandi, medical camps etc as proposed by Village Panchayat	Rs. 50,000/- per year

Greenbelt Development and Plantation Programme

Since there are no notified endangered species in the area, which will be effected due to the mining activities, therefore the biological environment will not have significant impact due to proposed environment. The impact on the biological environment due to amount of dust generation is minimised by well-developed green belt in and around mining lease area.

Plantation Schedule - A stage-wise afforestation program is prepared and shall be implemented. The locations of the proposed greenbelt along with area of the green cover are given in the conceptual plan.

Year	Unworked area green belt		Outside dumps (reclaim)		Inside Dumps		Total	
	Area (Ha)	Trees	Area (Ha)	Trees	Area (Ha)	Trees	Area (Ha)	Trees
Present	-	-	Nil	Nil	0.01	50	0.01	50
1 st to 5 th	1.0	1500	Nil	Nil	0.29	450	1.29	1950
6 th to mine life	1.0	1500	Nil	Nil	1.0	1500	2.0	3000
Total	2.0	3000	Nil	Nil	1.3	2000	3.3	5000

Public hearing

Public hearing was conducted on 09.01.2012 from 11.00 pm at Mine Premises, Village- Puniya, Tehsil-Katang, Dist-Balaghat (MP). Total 79 people have attended the public hearing and certain suggestion and observation (22 no. written) given during the public hearing . The issues were discussed in length during the meeting.

After deliberations committee has asked the PP to reply to the following queries:

- Point-wise compliance of TOR to be submitted.
- Point-wise compliance of the permissions granted to the mine in previous years to be furnished. (present scenario of the mine with respect to environmental issues)
- Route of transport of mineral from site.
- Monitoring reports to be submitted in the original format provided by the approved laboratory.
- Dimensions of the existing pits necessary safety measures to avoid any accidents to be furnished.

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13. **Case No.657/2011** Mr. Ashish Tiwari, M/s Advance Fertilizers India Pvt. Ltd., 203, 2nd Floor, Indore Trade Centre, South Tukoganj, Indore,(M.P.) - Single Super Phosphate: 1500 TPD (Granulated SSP 500 TPD & Powder SSP 1000 TPD) Survey No.: 7/1,9,6,7/2,& 7/2 (Part), under revenue patwari halka no.:34 and new patwari halka no; 79,Revinu circle no; 2, Village: Yasbanth Nagar,Near Sunkota, Village, Tehsil: Tarana, Distt.- Ujjain (M.P.) **For –ToR**

Neither the PP nor his representative was present to explain the query which might be raised or to make any commitment which may be desired by the committee during the deliberation. Request from PP was received for consideration of the case in coming meeting. Committee decided to call the PP in the next meeting as per the turn.

Meeting ended with thanks to the Chair.

(S.C. Jain)
Chairman

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