

Item No. 01

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 857/2018

(With report dated 08.01.2021)

Dr. Pentapati Pulla Rao

Applicant

Versus

Union of India & Ors.

Respondent(s)

Date of hearing: 23.02.2021

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

Applicant: Mr. Sravan Kumar, Advocate

Respondent: Mr. Mahfooz A. Nazki, Advocate for State of Andhra Pradesh
Mr. Raj Kumar, Advocate for CPCB
Mr. TVS Raghavendra Sreyas, Advocate for APPCB
Mr. Kumar Rajesh Singh, Advocate for MoEF&CC
Mr. A.K. Prasad, Advocate for PPA

ORDER

1. Grievance in this application is against illegal dumping of muck by the Pollavaram Project Authority on the land of the applicant and need for remedial action against adverse impact of Coferdam on upstream areas.

2. The matter was considered earlier. Vide order dated 01.11.2018, a four member Joint Committee was constituted, comprising the Central Pollution Control Board (CPCB), the Andhra State Pollution Control Board (SPCB) the PCCF and the District Collector, West Godavari. The Committee gave its report which was directed to be acted upon vide order dated 19.2.2019 and a status report was directed to be filed. Status

report dated 3.5.2019 was considered vide order dated 10.5.2019 and further directions were issued. Thereafter on 27.9.2019 report dated 30.7.2019 was considered and the matter was deferred to 7.11.2019 for further compliance report.

3. Accordingly, report dated 08.01.2021 has been filed on behalf of the joint Committee on 23.02.2021 as follows:-

“Details of the project:

*The Environmental Clearance (EC) to the proposed project has been accorded vide Lr.No.J-12011/74/2005-IA.1, Dt. 25.10.2005 and subsequently, revised in the year 2009 vide MoEF&CC LiNo.J-12011/74/2005-1A.1, Dt.09.03.2009. Consent for Establishment (CFE) was accorded by the A.P. Pollution Control Board vide Order No. 529/APPCBNSP/ELR/Polavaram/2005, Dated 18.10.2005. The total land requirement for the project is 46,060 hectares comprising of 3279 Ha of Forest Land. Forestry Clearance (FC) for the diversion of 3731.07 Ha. (3473 Ha. notified Forest Area plus 258.07 Ha. deemed Forest Land) has been obtained from the MoEF&CC vide letter No.8-123/2005-FC, Dt.28.07.2010. Further, requisite permission / NOC has been obtained from the Standing Committee of National Board for Wildlife (3267 Ha FC Land) vide Lr.No.F.NO.6-3/2002 WL-1(pt), Dt.06.07.2006. **The State of Andhra Pradesh had acquired an additional land of 203 Acres in Moolalanka of Polavaram Village vide Notification 2016 as per the provisions of the Right to Fair Compensation and Transparency in land acquisition and Re-habitation & Resettlement Act. 2013 and handed over to the project proponent for the purpose of dumping of muck and is being in use.”***

In addition, a land area of 83.45 acres is acquired for Polavaram Irrigation Project vide Proceedings dt.18.02.2018 issued by Collector & District Magistrate, West Godavari. The Committee is of the opinion that since the land is used presently for agriculture purpose by the farmers, the Project Authority should avoid utilizing the land for dumping or for any non-agriculture purpose. Presently, paddy cultivation is going on in the above said land adjacent to the existing dumping site. PIP informed that decision is not yet taken on returning the unutilized land if any, i.e., 83.45 Acs which was earlier proposed for dumping.

The Committee also held discussions with Forest Officers and it appears that the Papikonda National Park is located at around 8 Km. from the Moolalanka dumping site. It is also learnt that Eco-Sensitive Zone around the Papikonda National Park yet to be notified.

The project is intended to provide irrigation facilities to 2.91 Lakh hectares in Visakhapatnam and East Godavari Districts under Left Main Canal and West Godavari and Krishna Districts under Right Main Canal. Further, it also comprises of generation of Hydel Power of 960 MW and 80 TMC diversion of Godavari water to River Krishna for stabilizing the existing command under Prakasam Barrage and to provide drinking water facilities to 540 enroute villages together water supply to Visakhapatnam City and to industries enroute.

About, 5 TMC ft. and 1.5 TMC ft. of water respectively be lifted from the pond of Polavaram Project by the States of Odisha and Chattisgarh. Reportedly total 1,93,350 persons are likely to be affected by this project, out of that 1,75,275 in Andhra Pradesh and 6,319 persons from Odisha and 11,766 persons from Chattisgarh. The project activity commenced in the year 2005- 2006. As per the information of project Authority, total expenditure incurred is Rs.17,026.79 Crores and cost of the project as per 2017 -18 price level is Rs. 55,656.87 Crores (as per CWC)."

*"In compliance to above orders, status report on observations of Four Member Committee on 22.01.2020 is enclosed as **Annexure - 1** and Status report on Task Force direction dated 03.11.2019 is enclosed as **Annexure-11** for kind information.*

The Board issued a Show Cause Notice dt.15.12.2020 to the Chief Engineer, Polavaram Irrigation Project for non-compliance of directions issued by the Board (Annexure ill).

The Board subsequently reviewed the status of the directions issued to the project authorities in the External Advisory Committee (Task Force) meeting held on 21-12-2020. A copy of the directions issued vide order dt. 08-01-2021 to the Polavaram Irrigation Project is enclosed for kind information (Annexure - IV).

Field Observations:

The Polavaram Irrigation Project (PIP) officials informed that the project construction work started during 2005-06 and present progress of Polavaram Head Works is 66.93%, Left Main Canal is 68.34%, Right Main Canal is 91.69%. The overall progress so far made in the project is 71.88%. As per the construction schedule, concrete in Spillway including construction of bridge, concrete in spill channel and construction of Cofferdams should have been completed by May, 2019. But all these works are lagging behind. The main Earth Cum Rock Fill Dam (ECRF) was scheduled to be completed by the end of 2021. Meanwhile the entire work was terminated and pre-closed. Fresh tenders were invited by the State Government vide NIT No.01/2019-20, Dt.17.08.2019. A new agency/contractor was identified and entrusted the work vide agreement No.01/2019-20 dt. 08-11-2019. Presently, the project works are under progress."

4. The report also annexes the status report. The said Annexure-I and Annexure-II giving the status of compliance as on 31.08.2019 and 03.11.2019 respectively will be treated as part of this order as appendix - I and II.

5. We quote below the extract compliance observed as on 18.11.2020 with reference to the directions as follows:-

“

S.No	Direction	Compliance observed by APPCB as on 18.1.2020
1	The PIP authority shall submit action taken report on proper disposal of muck every 15 days as recommended by the Joint committee	Complied.
2	The dumpsites shall be strengthened with proper heights and slopes along with vegetative cover immediately with Technical experts.	<p>Partially complied.</p> <p>Slopes of existing muck dumps opposite of B.C. Colony were taken up and completed in March, 2020.</p> <p>But during recent heavy floods in October, 2020, some portion of sloping works got disturbed and need to be taken up gain.</p> <p>800 bamboo tree saplings have been planted over the slopes for stabilisation in September, 2020. Further dumping of muck has not taken place at dumping yard near B.0 Colony.</p> <p>During the last working season in 2019-20, the excavated earth has been utilised for formation of internal ring bund, as a part of working arrangement by the agency.</p> <p>Vegetation on the slopes is not yet started.</p>

3	The Project Authority may re-look at the utilization of 87 Acres acquired adjacent to the existing dumping site (Moolalanka dump site)	Partially complied. Presently, paddy cultivation is going on in the 87 acres of land adjacent to the existing dumping site. PIP informed that decision is not yet taken on returning the unutilized land if any, out of the 87 Acs which is <u>earlier proposed for dumping.</u>
4	The Project Authority shall submit report every month on progress achieved and quantity of reutilization of muck. The feasibility of using the land already demarcated near the 0 point shall be furnished.	Partially complied. Not submitting specific reutilisation muck on regular basis. During the last working season in 2019-20, the excavated earth has been utilised for formation of internal ring bund, as a part of working arrangement by the agency. No Dumping is observed at zero point. As informed by PIP that 207 Lakh Cu.M. of rock muck will be required for the construction of i) balance cofferdams, H) ECRF dam in gap-II, Hi) upstream left side guide bund of Approach Channel and iv) for the river protection works. The total rock muck will be utilized in the above works.
5	As committed by the Project Authority, dumping of mucks shall not be done near the B.C.Colony area and Reserve forest area and Eco sensitive Zones.	Complied. Further dumping of muck has not taken place at dumping yard near B.0 Colony.
6	The PIP shall engage MoEF recognized/ Reputed environmental agencies for conducting Ambient Air Quality Monitoring, Water quality monitoring etc., regularly and submit Environment compliance reports to MoEF/APPCB.	Partially complied. NEERI has conducted Ambient Air Quality Monitoring in February and March 2020 only. But reports are yet to be submitted. Presently NEERI has been conducting field tests form 16.11.2020. (Interim report for the month of February,2020)
7	The recommendations of IIT Delhi regarding permanent protective measures on the sliding of embankments shall be duly followed and progress shall be reported.	Not complied. Not yet finalized the recommendations of IIT delhi.

8	Adequate dust suppression measures like providing water spraying shall be carried out till good vegetative cover is attained. Similarly, water spraying shall be arranged regularly for wetting the approach roads/village roads etc at project areas and nearby villages, for control of dust emissions due to vehicular movement and shall maintain records and submit reports. The frequency of wetting of roads shall be increased depending on the weather conditions, so as to avoid fugitive dust emission during vehicular movement	Partially complied. About 5 tankers are engaged for wetting of roads/ village roads. Frequency needs to be increased.
9	The PIP shall submit action plan for Solid Waste Management for the entire project area covering labour colonies, canteens & other offices etc.,	Not complied. No proper action plan. no solid waste processing facilities.
10	The PIP shall submit action plan for treatment of domestic waste water generated from labour colonies, canteens & other offices etc.,	Not complied. No specific proposal is received so far.
11	The PIP shall impart following measures to 9 No. of stone crushers existing in the project premises: a) Wetting of premises of stone crushers, roads to avoid dust emissions due to vehicular movement. b) Provide cladding to primary crushers, secondary crushers, screens, dust tank etc., c) Wind breaking walls around crushers to control dust emissions.	Partially complied. Except wetting, no concrete measures like cladding, wind breaking walls etc. are provided. Not complied. Not complied.
12	The PIP shall install Ambient Air Quality Monitoring stations at BC colony, Chandranna colony, Labour colony and project office and shall submit reports to Regional Office, Eluru and MoEF regularly.	Partially complied. NEERI has conducted Ambient Air Quality Monitoring in February and March 2020 only. But reports are yet to be submitted. Presently NEERI has been conducting field tests from 16. (Interim report for the month of February,2020)
13	Drilling operations should be carried out Using the machines equipped with dust extraction system only.	Complied.
14	The stone crushers shall be provided with air pollution control systems as per central pollution control board (CPCB) guidelines and shall operate only with valid consent of APPCB.	Not complied. About 9 crushers are existing but Without cladding and dust containment measures and also without having CFO of the

		Board.
15	Avenue plantation and green belt shall be developed in project area and surroundings as per the conditions stipulated.	Not complied.
16	Internal Monitoring team (Environment Cell) shall be constituted to monitor issues pertaining to environment and pollution and for ensuring implementation of the conditions specified by the MoEF&CC and A.P.Pollution Control Board.	Not complied. No exclusive Environmental monitoring cell is formed.

WHEREAS vide reference 7th cited, this office was instructed to issue show cause notice to Polavaram Irrigation Project for non-compliance of the Board directions.

In view of the above, you are directed to show cause as why action should not be initiated against your industry under section 33(A) of Water (Prevention and Control of Pollution) Amendment Act, 1988 and under section 31(A) of Air (Prevention and Control of Pollution) Amendment Act, 1987 for non compliance of Board directions.”

6. Further, extract from direction dated 08.01.2021 is as follows:-

“The Board hereby issues following directions under Sec.33 (A) of Water (Prevention and Control of Pollution) Amendment Act, 1988 and under Sec.31 (A) of Air (Prevention & Control of Pollution) Amendment Act, 1987:

1. *The stone crushers shall be provided with air pollution control systems as per Central Pollution Control Board (CPCB) guidelines and shall operate only with valid consent of APPCB.*
2. *The PIP shall impart following measures to 9 no. of stone crushers existing in the project premises immediately:*
 - a. *Wetting of premises of stone crushers, roads to avoid dust emissions due to vehicular movement.*
 - b. *Shall Provide cladding to primary crushers, secondary crushers, screens, dust tank etc.,*
 - c. *Shall provide Wind breaking walls around crushers to control dust emissions*
3. *The PIP authority shall submit action taken report on proper disposal of muck every /5 days as recommended by the Joint Committee.*

4. *The disturbed portion of the sloping works at the BC colony shall be strengthened with proper heights and slopes along with vegetative cover.*
5. *The project authority to relook at the utilization of 87 acres acquired adjacent to the existing dumping site. (Moolkalanka dump site).*
6. *As committed by the Project authority, dumping of mucks shall not be done near BC colony area and Reserve forest area and Eco Sensitive Zones.*
7. *The recommendations of IIT Delhi regarding permanent protective measures on the sliding of embankments shall be duly followed and progress shall be reported.*
8. *The PIP during the earth work excavation shall take Adequate dust suppression measures like providing water spraying shall be carried out till good vegetative cover is attained. Similarly, water spraying shall be arranged regularly for wetting the approach roads/ village roads etc at project areas and nearby villages, for control of dust emissions due to vehicular movement and shall maintain records and submit reports. The frequency of wetting of roads shall be increased depending on the weather conditions, so as to avoid fugitive dust emission during vehicular movement.*
9. *The PIP shall install Ambient Air Quality Monitoring stations at B. C colony, Chandranna Colony, Labour colony and Project Office and shall submit reports to Regional Office, Eluru and MoEF regularly.*
10. *Drilling operations should be carried out using the machines equipped with dust extraction systems only.*
11. *Avenue plantation and green belt shall be developed in project area and surroundings as per the conditions stipulated.*
12. *Internal monitoring team (Environment Cell) shall be constituted to monitor issues pertaining to environment and pollution and for ensuring implementation of the conditions specified by the MoEF and A.P. Pollution Control Board.”*

7. We may now refer to the action taken report filed on behalf of the State of Andhra Pradesh which mentions the visit of the joint Committee to the project on 22.01.2020 and action taken report of the Department of Water Resources, Government of Andhra Pradesh. There is further reference to the report of the CSIR/NEERI on the subject of ambient air quality and water quality. Particular reference has been made during the hearing to the issue of restoration of the roads after development of the cracks, which issue remains unattended. The relevant extract from the report is as follows:-

SI.	Recommendations of the Committee during Polavaram site visit on 11-12-2018	Observations/Remarks of the Committee on 22-01-2020	Further Action taken by Water Resources Department as on 02.01.2021
8	<p>The Committee has verified the restoration of roads after development of cracks as reported in the project approach road during the last monsoon season. The report obtained from Central Design Organization, Vijayawada, AP is annexed as Annexure —D</p>	<p>It is reported by the Project Authority that the problem of sliding of Right side bank of spill channel was studied by Prof Ayothiraman of IIT, Delhi and the report furnished by him for providing 35m depth of stone columns was Discussed in the 11th DDRP meeting. The Agency expressed its inability to construct Stone columns to a depth of 35m as Recommended by IIT, Delhi and proposed alternative structures to Earthen Embankment. Various alternatives were discussed by the members of the panel and it was decided that the agency shall submit the alternative ground improvement technique or any suitable option in consultation with, IIT Delhi and CSMRS Prof Ramana I.I.T, Delhi and Mrs. R.Chitra, CSMRS, Delhi have been addressed to furnish suitable option for arresting slipping of banks and they are planned to inspect the site after dewatering of Spill channel. The dewatering of spill channel was started from 16.12.2019 by installing 28 pumps of total capacity about 4000 HP and will be completed by Dt. 14.02.2020. Necessary protective measures will be taken up as per their suggestions.</p>	<p>Prof Ramana I.I.T, Delhi and Dr. R.Chitra, Scientist "E", CSMRS, Delhi were addressed to inspect the site and to furnish suitable option for arresting slipping of banks. Dr. R.Chitra, Scientist "E", CSMRS, Delhi has inspected the site on 18th and 19th of Febraury,2020.</p> <p>As suggested in the DDRP meeting, the final report on Stability assessment of right bank along with recommended ground improvement measures as carried out by IIT, Delhi was submitted to CWC, New Delhi for According approval by the Chief Engineer, PIP vide Lr.No.1733, dated 19.12.2020 (Annexure-5). Based on the recommendations of the CWC, New Delhi, necessary design and drawings will be submitted for according approval. Based on the approved drawings, necessary protective measures/works will be taken up. The progress will be updated from time to time.</p>

8. We have heard learned Counsel for the parties. Main contention on behalf of the applicant is that while the EC was granted in 2005 and

revised in 2009 but the project was expanded in the year 2016 when further land was acquired, without taking additional precautions to utilize the adverse impact of additional activities. There is adverse impact of coffer dams on upstream areas and huge dumping of mucks has taken place without proper environmental management plan.

9. We find that the issue needs to be addressed by preparing an appropriate action plan by a Committee with relevant Experts and headed by a former Judge. Accordingly, we constitute a six Member Committee to be headed by Justice B. Seshasayana Reddy, former Judge of the High Court of Andhra Pradesh and with nominees of the MoEF&CC, Central Pollution Control Board, Central Soil and Water Conservation Research Institute, Dehradun, IIT, Hyderabad and IIT, Delhi

10. The Committee will visit the site at least once and conduct public hearing, if necessary. Except for such visit, it will be free to conduct proceedings online. The Committee will be at liberty to take the assistance of any other Experts/Organization.

11. The Committee will

- a) compile information about the extent of generation and disposal of muck at the designated dumping sites and safety measures being adopted for the stability of the dumping sites.
- b) assess the damage to the Environment and remedial action.
- c) consider the question whether compensation for acquisition of land remains to be paid.
- d) get muck audit in respect of the project conducted.
- e) to deal with any other associated issue.

12. The Committee may commence its functioning as far as possible within two weeks. The nodal agency will be the CPCB and the State PCB

for coordination and compliance. The State PCB and the District Magistrate concerned will provide logistic support. The State PCB will bear the requisite expenses for functioning of the Committee, in the first instance. Honorarium of the Chairman of the Committee and non-official members may be determined by the Chairman, State PCB in consultation with the Chairman of the Committee. The Andhra State PCB will also pay a sum of Rs. 1 Lakh to the applicant to meet the litigation cost.

13. The Committee may give its report as far as possible within three months to the Tribunal by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

List for further consideration on 09.08.2021.

A copy of this order be forwarded to the Members of the Expert Committee, the CPCB and the State PCB by e-mail for compliance.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

February 23, 2021
Original Application No. 857/2018
SN

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Annexure-I

Action taken Report on Observations of the 4 Member Joint Committee on 31-08-2019

SI. No.	Recommendations of the Committee during Polavaram site visit on 11.12.2018	Remarks/Observation of the 4 Member Joint Committee on 24.07.2019	Remarks/Observation of the 4 Member Joint Committee on 22.01.2020	Present Status
1	Observed disposal of muck Without proper height, leveling and gradient	The project authority failed to Submit any action taken report every 15 days as suggested by the four member joint committee during 25.04.2019. However, it is reported that the excavation work has been stopped due to monsoon.	<p>It is reported that contract of main dam package work was terminated and pre-closed during August, 2019. Fresh tenders were called for and balance works were awarded to the new agency vide agreement No.01/2019 20, dt.08.11.2019.</p> <p>The PIP has informed that they will ensure.</p> <ul style="list-style-type: none"> • Work to maintain proper slopes of existing muck dumps will be started immediately and will be completed within one month. • After resumption of works by the new contractor, muck will be disposed maintaining the proper slopes as suggested by the Committee. 	<p>Slopes of existing muck dumps opposite of B.C. Colony were taken up and completed in March, 2020.</p> <p>But during recent heavy floods in October, 2020, some portion of sloping works got disturbed and need to be taken up again.</p> <p>800 bamboo tree saplings have been planted over the slopes for stabilisation in September, 2020.</p> <p>Photo graphs are enclosed.</p> <p>Further, dumping of muck has not taken place at dumping yard near B.O Colony. During the last working season in 2019-20, the excavated earth has been utilised for formation of internal ring bund, as a part of working arrangement by the agency.</p>

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2	<p>No vegetation / greenbelt Have been made on the Dumps to stabilize and to prevent air pollution</p>	<p>The Committee inspected BC Colony area. No major plantation activity noticed for a length of 1200 mts. Stretch along kademma drain. It was informed by Project Authority that they have planted about 400 Plants during the period. Photographs of plantation enclosed. However, in the meeting the Project Authority informed that the Comprehensive plantation programme at a cost of Rs.2.74 Cr. is in pipeline which is to be taken up after receipt of orders of the government.</p>	<p>The Government of Andhra Pradesh issued GO. RT No. 35, dated 21.01.2020 giving administrative sanction for Rs. 306.5 Lakhs for "Rising of plantation and 3-year maintenance at Mulalanka dump yard. Tendering process is yet to be started by the PIP. After completion of tendering process and award of work, plantation will be started. GO Copy Annexed (Annexure-A).</p> <p>The government has also sanctioned an amount of Rs. 84.45 Lakhs for carrying out "Ambient Air Quality Monitoring and water quality tests etc.". The work order in this regard addressed to CSIR, NEERI, Hyderabad dt.20.01.2020 is attached as (Annexure — B)</p>	<p>The Superintending Engineer has issued Work order for raising of plantation in Mulalanka dump yard to the divisional forest officer, Eluru vide Work Order No.SE/PIPHW/OT1/AEE1/EIA Vol.12/01/2020-21 dt 10.09.2020. Copy of the work order is enclosed (Annexure - C)</p> <p>800 bamboo tree saplings have been planted over the slopes for stabilisation in September, 2020</p>
3	<p>The Project Authority may re-look at the utilization of 87 Acres acquired adjacent to the existing dumping site (Moolalanka dump site)</p>	<p>The committee observed that no dumping activity is happening in the 87 Acres of additional area of Moolalanka lands. The Committee opines that the Project Authority shall put up a proposal to the Government for the withdrawal of acquired land since, as per the revised plan there is no such requirement. The Project Authority is yet to initiate follow up action in this regard.</p>	<p>During the earlier inspections, the project authorities were repeatedly informing the Committees that the land in question is in the final state of award, and same was informed in their ATRs. During the review meeting on 22.01.2020, the Revenue Divisional Officer, Jamgareddugidem, West Godavari District has informed to the Committee that the 87 acres in question was acquired by GoAP vide order dt.18.02.2018</p> <p>However, the land area mentioned in the award order was 85.35 acres. The Committee is of the opinion that since the land is used presently for agriculture by the farmers the Project Authority should avoid utilizing the land for ' dumping or for any non-agriculture purpose.</p>	<p>Presently, paddy cultivation is going on in the 87 acres of land adjacent to the existing dumping site. PIP informed that decision is not yet taken on returning the unutilized land, if any, out of the 87 Acs which is earlier proposed for dumping. Photographs are enclosed.</p>

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4	<p>The Project Authority shall immediately prepare an Action plan regarding feasibility of utilizing the excavated material within the Project area and the feasibility of using the land already demarcated near the "0" point</p>	<p>The progress and quantity of reutilization of muck as suggested in the previous meeting is not submitted by the Project Authority</p>	<p>During the review, the PIP has informed that</p> <ul style="list-style-type: none"> • The balance works were entrusted to the New Agency on dt.08.11.2019. The new agency has started Spillway concrete works and dewatering of Spill channel initially and soon will start other works. • A total quantity of 130 Lakh Cum of Rock muck dumps are available at site on right side and further about 17.2 Lakh Cum of useful rock muck will come from excavation 902 Hill and about 60 lakhCum will come from excavation' at power house foundations making the total rock muck available to the tuna of about 207.2 lakh cum. • So far 41.49 Lakh cum of rock muck has been utilized in partially executed Upstream and Downstream Cofferdams. Further 207 lakh cum of rock muck will be required for the construction of balance cofferdams, ECRF dam in gap-II, upstream left side guide bund of Approach Channel and for the river protection works. The total rock muck will be utilized in the above works from February, 2020 to December,2021. The Government land demarked near the zero point cannot be utilized for dumping as the excavated muck has to be transported through Polavaram village. The land will be utilized for the future needs of the project appropriately 	<p>Not submitting specific reutilisation muck on regular basis. During the last working season in 2019-20, the excavated earth has been utilised for formation of internal ring bund, as a part of working arrangement by the agency. No Dumping is observed at zero point. As informed by PIP that 207 Lakh Cu.m. of rock muck will be required for the construction of i) balance cofferdams, ii) ECRF dam in gap-II, iii) upstream left side guide bund of Approach Channel and iv) for the river protection works. The total rock muck will be utilized in the above works.</p>
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5	Project Authority made the Commitment and assured before the Committee that Henceforth ie., 11-12-2018 onwards dumping of mucks will not be done near the BC colony area.	The project Authority shall continue to abide by their commitment.	The Project Authority shall continue to abide by their commitment	Complied. Further dumping of muck has not taken place at dumping yard near B.0 Colony.
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6	<p>The project authority shall regularly carry out air quality monitoring in line with National Ambient Air Quality Monitoring Programme and submit reports to MOEF & CC/APPCB.</p>	<p>No comprehensive AAQM has Implemented by the project authority. However M/s. NEERI, Hyderabad was engaged for May 2019 and M/s Envi Tech Pvt Ltd for June 2019 for monitoring AAQM at 5 places including BC colony. Photographs and analysis reports Enclosed (Copy enclosed as Annexure —C). The committee Examined the reports submitted And found that PM₁₀ and PM_{2.5} exceeded at four places out of five places monitored in May 2019. To get conclusive evidence, a comprehensive AAQM is required.</p>	<p>The Ambient Air Quality Management (AAQM) has been conducted in five places in May, June and July of 2019 and on 18.01.2020. The study reports of May, June & July have already been Submitted and the latest reports are also submitted to APPCB and Polavaram Project Authority on dt.21.01.2020.</p> <p>The GoAP have accorded administrative sanction vide G.O.RT.No.35, dt.21.01.2020 for rs.406.21 Lakhs for the Estimate for carrying out the Air Quality Monitoring water quality tests by M/s. NEERI Hyderabad for rs.84.45 lakhs plus GST and plantation including providing Tree guards, watering and maintenance for 3 years at Mulalanka dump yard for Rs.306.50 lakhs.</p> <p>The work order was placed on M/s. NEERI, Hyderabad vide work order No.SE/PIPHMOTVAEEVEIANo1.11/01/2019- 20, Dt.20.01.2020 for carrying out the AAQM and water quality studies for one year Hence, the Reports prepared by NEERI, Hyderabad, by Collecting data of Air environment, Noise nvironment, Ground water and surface water environment and soil environment on line with National Ambient Air Quality Monitoring Programme will be submitted to APPCB & MoEF regularly as suggested by the Committee</p>	<p>The NEERI has submitted interim report in the month December, 2020. Based on the primary data collected during the study period, following conclusions are drawn by the NEERI in the report:</p> <ul style="list-style-type: none"> • The ambient air quality at all locations in the study area are found to be within National Ambient Air Quality Standards (NAAQS) w.r.to gaeous pollutants (SO₂) NO₂, O₃, CO, NH₃ and C₆H₆). The higher values of particulate matter (PM₁₀ and PM_{2.5} in termsof maximum concentrations in the study area may be due to the vehicular movement and unpaved roads. • In the villages and residential colonies surrounding the Polavaram project, it is observed that the daytime noise levels vary between 50.2-52.9 dB(A), 50.1-54.5 dB(A) & 51.6-53.8 dB(A) and night time noise levels vary between 43.1-45.0 dB(A), 42.8-44.8 dB(A) & 40.8-44.0 dB(A) during February, March and November 2020, respectively. The noise levels are compared with CPCB limits for residential areas. The noise levels are observed to be within the CPCB standards for residential areas. • The observed Leq values of day time noise levels during February, March and November 2020 respectively are varying between 64.2-70.2 dB(A), 62.6-66.6 dB(A) and 59.4-68.6 dB(A). The night time noise levels are within the range of 52.2-67.9 dB(A), 53.6-60.9 dB(A) and 50.7-60.7 dB(A), respectively, during February, March and November 2020 near the construction activities of Polavaram project. It is observed that daytime and night time noise levels are exceeding the CPCB limits for commercial zone at most of the sites. These higher noise levels are attributed to operation of DG sets, Excavators, Cranes, Crushers, movement of Trucks, vehicles, and concrete mixers etc. in connection with ongoing construction activities of Polavaram.
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				<ul style="list-style-type: none"> • The observed Leq values of day time noise levels during February, March and November 2020 respectively are varying between 64.2-70.2 dB(A), 62.6-66.6 dB(A) and 59.4-68.6 dB(A). The night time noise levels are within the range of 52.2-67.9 dB(A), 53.6-60.9 dB(A) and 50.7-60.7 dB(A), respectively, during February, March and November 2020 near the construction activities of Polavaram project. It is observed that daytime and night time noise levels are exceeding the CPCB limits for commercial zone at most of the sites. These higher noise levels are attributed to operation of DG sets, Excavators, Cranes, Crushers, movement of Trucks, vehicles, and concrete mixers etc. in connection with ongoing construction activities of Polavaram. • The groundwater quality at most of the sampling locations for various parameters was well within the permissible limit of BIS except for TDS, calcium hardness, nitrate. • Iron and Manganese concentrations at some locations in groundwater were observed to be more than permissible limit of the BIS which may be attributed to the dominant Rocks • The river water quality showed values within the range. Phytoplankton and zooplankton showed significant diversity in the study area • Soil texture in the study area varies from loamy sand, sandy clay loam, clay and sand, whereas, loamy sand and sandy clay loam are the prominent textural class <p>Future Work:</p> <ul style="list-style-type: none"> • The sampling work for all the components are per the schedule will be carried out. • Analysis of the samples for various environmental components will be continued <p>A copy of the NEERI, December, 2020 report is enclosed for kind information (Annexure D)</p>
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7	Strengthening of dump sites with proper heights and slopes along with vegetative cover may be planned immediately in consultation with technical experts	Progress as suggested in Point No.2 may be compiled	Progress as suggested in Point No.2 may be complied.	<p>Slopes of existing muck dumps opposite of B.C. Colony were taken up and completed in March, 2020.</p> <p>But during recent heavy floods in October, 2020, some portion of sloping works got disturbed and need to be taken up gain</p> <p>800 bamboo tree saplings have been planted over the slopes for stabilisation in September, 2020. Photo graphs are enclosed.</p> <p>Further dumping of muck has not taken place at dumping yard near B.O Colony. During the last working season in 2019-20, the excavated earth has been utilised for formation of internal ring bund, as a part of working arrangement by the agency.</p> <p>The Superintending Engineer has issued work order for raising of plantation in Mulalanka dump yard to the divisional forest officer, Eluru vide Work Order No.SE/PIPHW/OT1/AEE1/EIA Vol.12/ 01/ 2020-21 dt 10.09.2020 (Annexure C).</p>
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8	<p>The Committee has verified the restoration of roads after development of cracks as reported in the project approach road during the last monsoon season. The report obtained from Cental Design Organization, Vijaywada, A.P</p>	<p>As informed, report from IIT Delhi is still awaited on the permanent protective measures on the sliding of embankments. Opinion of experts may be followed.</p>	<p>It is reported by the project authority that the problem of sliding of right sided bank of spill channel was studied by Prof. Ayothiramam of IIT, Delhi and the report furnished by him for providing 35 m depth of stone columns was discussed in the 11th DDRP meeting. The agency expressed its inability to construct stone columns to a depth of 35m as recommended by IT, Delhi and proposed alternative structures to Earthen Emabankment Various alternatives were discussed by the members of the panel and it was decided that the agency shall submit the alternative ground improvement technique or any suitable option in consultation with III Delhi and CSMRS. Prof Ramana IIT,, Delhi and Mrs. R.Chitra, CSMRS, Delhi have been addressed to furnish suitable option for arresting slipping of banks and they are planned to inspect the site After dewatering of Spill channel. The dewatering of spill channel was started from 16.12.2019 by installing 28 pumps of total capacity about 4000 HP and will be completed. By dt.14.02.2020. Necessary protective measures will be taken up as per their suggestions</p>	<p>Recommendations are not yet finalized.</p>
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9	<p>Adequate dust suppression Measures like providing Water spraying may be arranged till good vegetative Cover attained. Similarly, Water spraying may be Arranged for wetting the Approach roads/village Roads etc. at the project areas and nearby villages</p>	<p>It is reported that being the monsoon season, the wetting of roads/ village roads are temporarily suspended. About 5 tankers are engaged as emergency measure in this regard.</p>	<p>During inspection the committee has observed the spraying of water on approach road to suppress the dust. The PIP further informed that after resumption of earth work the number of tankers engaged will be increased according to the requirement as suggested by the committee</p>	<p>About 5 tankers are engaged for wetting of roads/ village roads</p>
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Annexure - II

ACTION TAKEN REPORT ON THE TF DIRECTIONS DT. 03.11.2019 ISSUED BY APPCB IN O.A.No.857 OF 2018 IN THE HON'BLE NATIONAL GREEN TRIBUNAL

SI. No.	Direction	Compliance submitted by Polavaram Irrigation Project	Compliance observed by APPCB
1	The PIP authority shall submit action taken report on proper disposal of muck every 15 days as recommended by the Joint committee	PIP authorities have been submitting Action taken reports on proper disposal of muck every 15days as recommended by the Joint Committee.	Complied. The Project Authorities have submitted the ATR on disposal of muck every fifteen days up to November, 2020.
2.	Thedumpsites shall be strengthened with proper heights and slopes along with vegetative cover immediately with Technical experts.	<p>i. As per the suggestion of the Forest Authorities, StyloHameta Grass seeds were sprinkled over the slopes for growing vegetative cover for stabilization of slopes opposite of BC colony.</p> <p>ii. As promised to the committee, the works to maintain proper slopes of existing muck dumps were taken up and completed up to opposite of B.C. Colony.</p> <p>iii. As per the suggestion made and with the help of Forest authorities, 800 bamboo tree saplings have been planted over the slopes for stabilisation in September, 2020.</p>	<p>Partially complied. Slopes of existing muck dumps opposite of B.C. Colony were taken up and completed in March, 2020.</p> <p>But during recent heavy floods in October,2020, some portion of sloping works got disturbed and need to be taken up gain.</p> <p>800 bamboo tree saplings have been planted over the slopes for stabilisation in September, 2020. Photo graphs are enclosed.</p> <p>Further dumping of muck has not taken place at dumping yard near B.C. Colony.</p> <p>During the last working season in 2019-20, the excavated earth has been utilized for formation of internal ring bund, as a part of working arrangement by the agency.</p>

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3.	The Project Authority may re-look at the utilization of 87 Acres acquired adjacent to the existing dumping site (Moolalanka dump site)	Presently, the land is under the possession of Land owners only and they have been cultivating the lands. As reported earlier, after finalization of balance drawings of Pilot channel and Spill channel right side slope, exact quantities can be finalized and a decision can be taken on returning the unutilized land if any, out of the 85.35Acs proposed land for dumping.	Partially complied. Presently, paddy cultivation is going on in the 87 acres of land adjacent to the existing dumping site. PIP informed that decision is not yet taken on returning the unutilized land if any, out of the 87 Acs which is earlier proposed for dumping. Photographs are enclosed.
4.	The Project Authority shall submit report every month on progress achieved and quantity of reutilization of muck. The feasibility of using the land already demarcated near the 0 point shall be furnished.	Through Action Taken reports, every month/fort night, progress achieved and quantity of reutilisation muck are being submitted regularly. During the last working season in 2019-20 , the excavated earth has been utilised for formation of internal ring bund, as a part of working arrangement by the agency. As reported earlier, the Government land demarked near the 0 point will be utilised for the future needs of the project appropriately.	Partially complied. Not submitting specific reutilisation muck on regular baiss. During the last working season in 2019-20, the excavated earth has been utilised for formation of internal ring bund, as a part of working arrangement by the agency. No Dumping is observed at zero point. As informed by PIP that 207 Lakh Cu.M. of rock muck will be required for the construction of i) balance cofferdams, ii) ECRF dam in gap-II, iii) upstream left side guide bund of Approach Channel and iv) for the river protection works. The total rock muck will be utilized in the above works.
5.	As committed by the Project Authority, dumping of mucks shall not be done near the B.C.Colony area and Reserve forest area and Eco sensitive Zones.	As committed and as submitted earlier, dumping of muck near B.C.Colony has been stopped completely.	Complied. Further dumping of muck has not taken place at dumping yard near B.0 Colony

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6.	The PIP shall engage MoEF recognized/Reputed environmental agencies for conducting Ambient Air Quality Monitoring, Water quality monitoring etc., regularly and submit Environment compliance reports to MoEF/APPCB.	Work order was issued to NEERI, Hyderabad which is a central government agency, on 21.01.2020 for conducting "Ambient Air Quality Monitoring and Water quality tests etc." regularly for one year, for Rs.84.45 lakhs. NEERI, Hyderabad has been conducting the tests regularly and Environment compliance reports will be submitted to MoEF/APPCB soon.	A copy of the NEERI, December, 2020 report is enclosed for kind information (Annexure - D) .
7.	The recommendations of IIT Delhi regarding permanent protective measures on the sliding of embankments shall be duly followed and progress shall be reported.	The recommendations are not yet finalized but, as suggested the recommendations will be followed	Not complied. Not yet finalized the recommendations of IIT delhi.
8.	Adequate dust suppression measures like providing water spraying shall be carried out till good vegetative cover is attained. Similarly, water spraying shall be arranged regularly for wetting the approach roads/village roads etc at project areas and nearby villages, for control of dust emissions due to vehicular movement and shall maintain records and submit reports. The frequency of wetting of roads shall be increased depending on the weather conditions, so as to avoid fugitive dust emission during vehicular movement.	Presently earth wok excavation has not yet started due to stagnation of water in the spill channel. After dewatering, the earth work excavation will be resumed. The details will be informed. As per the present conditions, five water tankers have been engaged for spraying water on the approach roads to suppress the dust. As and when required more no of tankers will be used for suppression of dust in the project area/nearby villages.	About 5 tankers are engaged for wetting of roads/village roads. Frequency needs to be increased.
9.	The PIP shall submit action plan for Solid Waste Management for the entire project area covering labour colonies, canteens & other offices etc.,	Two bins i.e. one for disposal of dry solid waste and another for disposal of wet solid waste were provided at Labour colonies, canteens, offices etc., Both the solid wastes have been handed over to the local authorities for recycling.	Not complied. No proper action plan. No solid waste processing facilities.

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10.	The PIP shall submit action plan for treatment of domestic waste water generated from labour colonies, canteens & other offices etc.,	It is planned to treat Domestic waste water at colonies by decentralized waste water treatment plant i.e., by passing through 1. Settler, 2. Anaerobic baffled reactor and 3. Planted gravel filter bed.	Not complied. No specific proposal is received so far.
11.	The PIP shall impart following measures to 9 No. of stone crushers existing in the project premises: a) Wetting of premises of stone crushers, roads to avoid dust emissions due to vehicular movement. b) Provide cladding to primary crushers, secondary crushers, screens, dust tank etc., c) Wind breaking walls around crushers to control dust emissions.	a) Wetting is being done daily at the premises of stone crushers and on the approach roads using sprinkler type water tankers. b) To be provided c) To be provided	Partially complied. Except wetting, no concrete measures like cladding, wind breaking walls etc. are provided. The Board issued a Show Cause Notice dt. 15.12.2020 to the Chief Engineer, Polavaram Irrigation Project for non-compliance of directions issued by the Board Annexure - III). Not complied. Not complied.
12.	The PIP shall install Ambient Air Quality Monitoring stations at BC colony, Chandranna colony, Labour colony and project office and shall submit reports to Regional Office, Eluru and MoEF regularly.	NEERI, Hyderabad has been conducting the Ambient Air Quality tests by installing the equipment at i) BC colony, ii) project site near Check post, iii) CWC office premises iv) Irrigation quarters and v) Purushothapatnam village. Due to COVID-19 and prevailing lockdown conditions and also as per the Government orders, the field work was not carried out in the months of April, May, 2020. Due to heavy rains in this area the tests have not been done during September and October 2020. Now NEERI, Hyderabad began conducting field tests from 16 ^u November, 2020 and the reports will be submitted soon.	A copy of the NEERI, December, 2020 report is enclosed for kind information (Annexure D).
13.	Drilling operations should be carried out using the machines equipped with dust extraction system only.	Complied with the suggestions made. Drilling operations have been done using the machinery equipped with dust extractions systems as directed by the committee.	Complied.

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14.	The stone crushers shall be provided with air pollution control systems as per central pollution control board (CPCB) guidelines and shall operate only with valid consent of APPCB.	Stone crushers are being operated as per the guidelines of central pollution control board with valid consent of APPCB by taking precautionary measures of wetting the approach roads and premises frequently by the water tankers.	Not complied. About 9 crushers are existing but without cladding and dust containment measures and also without having CFO of the Board. The Board issued a Show Cause Notice dt.15.12.2020 to the Chief Engineer, Polavaram Irrigation Project for non-compliance of directions issued by the Board (Annexure - III).
15.	Avenue plantation and green belt shall be developed in project area and surroundings as per the conditions stipulated.	The Government of Andhra Pradesh have accorded administrative sanction vide G.O.RT.No.35 dt.21.01.2020 (Annexure No.2) for Rs 306.5 Lakhs for "Raising of plantation and 3-year maintenance at Mulalanka dump yard". The Chief Engineer, PIPHW has accorded Technical sanction to the estimate vide proceedings no. CE/PIP1-1W/DCE/OT-1/AEE-2/126SE Dated 21.01.2020. The Superintending Engineer, PIPHW Circle, Dowlaiswaram has addressed the Principal Chief conservator of Forests (HoFF), Andhra Pradesh, to issue necessary orders to the concerned Divisional Forest Officer (DFO) to take up the plantation at Mulalanka dump yard, Polavaram.	Not complied.
16.	Internal Monitoring team (Environment Cell) shall be constituted to monitor issues pertaining to environment and pollution and for ensuring implementation of the conditions specified by the MoEF and A.P. Pollution Control Board.	A multi disciplinary committee with Superintending Engineer as the Convenor and Officials from State Forest department, Principal Scientist, Horticultural research station, Ambajipeta; Principal Scientist, Horticultural research station ,Kovur, Head of Department of Zoology, Nannayya university, Rajahmundry and Engineers of polavaram Irrigation project as members, is looking after implementation of the environmental issues along with other things .The committee has been submitting the reports on Environment and& Forest to MoEF regularly.	Not complied. No exclusive Environmental monitoring cell is formed.