

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

O. A. NO. 164/2018

IN THE MATTER OF:

ASHWANI KUMAR DUBEY

...APPLICANT

VERSUS

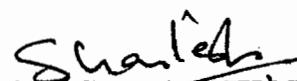
UNION OF INDIA & ORS.

...RESPONDENTS

STATEMENT OF OBJECTIONS ON BEHALF OF RESPONDENT NO.
10/VINDHYACHAL SUPER THERMAL POWER STATION TO THE MINUTES
OF MEETING [M.O.M.] DATED 17/12/2019 OF OVERSIGHT COMMITTEE

(PLEASE SEE THE INDEX INSIDE)

FILED BY:



[SHAILESH MADIYAL]

ADVOCATE FOR RESPONDENT

208, C.K. Daphtary Chamber

Supreme Court of India

New Delhi-110001

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STATEMENT OF OBJECTIONS ON BEHALF OF RESPONDENT NO.

10/VINDHYACHAL SUPER THERMAL POWER STATION TO THE MINUTES

OF MEETING [M.O.M.] DATED 17/12/2019 OF OVERSIGHT COMMITTEE

TO
HON'BLE CHAIRPERSON
AND HIS COMPANION MEMBERS OF THE
NATIONAL GREEN TRIBUNAL

THE HUMBLE OBJECTIONS ONE BEHALF
OF THE RESPONDENT NO. 10.

MOST RESPECTFULLY SHOWETH:-

1. The present Application has been filed by the Applicant alleging pollution caused by the industries in District Singrauli in the State of Madhya Pradesh and District Sonbhadra in the State of Uttar Pradesh.
2. That this Hon'ble Tribunal vide its order dated 28/08/2018 constituted an Oversight Committee [hereinafter to be referred as 'Committee'] headed by Justice Rajesh Kumar [Rtd.] of the Allahabad High Court to prepare a time bound action plan to deal with the problem of industrial pollution and to monitor its implementation and also to send reports of the action taken by it. It is submitted that the Committee thereafter has submitted its reports time to time before this Hon'ble Tribunal.

3. The Oversight Committee headed by Justice Rajesh Kumar [Rtd.] held its meeting on 17/12/2019 at NTPC -Vindhyachal in compliance with the order dated 28/08/2018 passed by this Hon'ble Court in the present matter.
4. The Answering Respondent would like to submit that it has already submitted the point-wise true factual position to the Regional Officer, State Pollution Control Board on 17/01/20 for onward submission to the Oversight Committee. The true copy of the point-wise response to the observations in the MoM dated 17/12/2019 is annexed herewith and marked as **Annexure R-10/1**.

OBSERVATIONS/RECOMMENDATIONS IN THE MINUTES OF MEETING DATED 17/12/2019 PERTAINING TO THE ANSWERING RESPONDENT AND THE RESPONSE THERETO.

5. Amongst other things, the Committee has made following observations/recommendations in its MoM:

(a) Observations - No.1:

The committee has visited on the information being received that there is a breach of fly ash dyke on 06.10.2019, the committee visited this spot on 16.12.2019. The committee found a huge breach of dyke No.VI. On the spot inspection it was found that huge quantity of fly ash have been drained from the Dyke, polluting water of Rihand Reservoir. We found that still sufficient quantity of water along with ash is going on to the Rihand Reservoir.

RESPONSE OF ANSWERING RESPONDENT:

It is submitted that the above observation of the Committee pertaining to the flow of fly ash from the breached Dyke to pollute the water of Rihand Reservoir is completely erroneous and unsubstantiated with material particulars. The Answering Respondent would like to submit the true factual position as under:

- The breach in V₁ dyke happened on 06/10/2019 and the same was plugged within 30 hrs of the incident. It is submitted that the site in

question has been visited several number of times by representatives of both Central Pollution Control Board ['CPCB'] and Madhya Pradesh Pollution Control Board ['MPPCB'] and at no time, further discharge from the breached dyke to the reservoir has been reported.

- The discharge of ash mixed water from the breached dyke had mostly flown into the Overflow Lagoon ['OFL'] of Ash Water Recirculation System-1 ['AWRS'] which resulted in collapse of one of its internal walls. This observation is evident from the perusal of the joint inspection report of CPCB and MPPCB which conducted the site visit on 09/10/2019. The true copy of the joint inspection report of CPCB and MPPCB is attached herewith and marked as **Annexure R-10/2.**
- It is submitted that after the OFL wall was repaired, the plugged part of V₁ dyke was opened as the repair work of this portion required proper foundation building. The discharge from the dyke was then routed to the OFL of AWRS-1 for re-circulation of water back to the Plant and the same was explained to the Oversight Committee during the site visit. It is submitted that the Committee visited the site of dyke breach only and therefore it is erroneous to mention that any alleged discharge from the breached dyke still going to the Rihand reservoir was evidenced by it.
- It is further submitted that during the meeting on 17/12/2019 also, the team from NTPC Vindhyachal had tried to explain this situation and were assured that their submission, explanation/clarification will be recorded in the minutes of the meeting.

(b) Observation/Recommendations- No.2:

Prima facie, the committee is of the view that huge quantity of fly ash travelled to Rihand Reservoir following the breach. However, the assessment of exact quantity of fly ash travelled to Rihand Reservoir requires expert assessment. It is to be made by the competent authority including MPPCB.

RESPONSE OF ANSWERING RESPONDENT:

The prima-facie observation of the Committee that huge quantity of fly ash travelled to Rihand Reservoir following the dyke breach is erroneous and unsubstantiated with any documents/material particulars. The Answering Respondent would like to submit the true factual position as under:

- It is reiterated that the CPCB-MPPCB team that visited the site of breach on 09/10/2019, has clearly mentioned in its report that “no large quantity of ash met reservoir”. As per the report, most of the ash that drained out of the dyke following the breach had spread out either on NTPC land or contained in the OFL of AWRS-1.
- It is further submitted that the Answering Respondent has awarded the work of Environment Damage Assessment to a third party expert body i.e. National Environmental Engineering Research Institute [‘NEERI’], which is a Government Institute.
- It is also submitted that until the assessment is made and report is furnished, no adverse inference could be drawn against the Answering Respondent on the premise of alleged flowing of fly-ash to the Rihand Reservoir.

(c) Observations/Recommendations – No.3:

On a query Mr. Sen submitted that they are raising height of the dyke. On further query being made whether they have sought any permission from the MPPCB and submitted the drawing, he submitted that no permission has been sought. The committee is of the view that before

raising the height of the dyke, as it has direct connection / impact over the sustainability of the ash dyke, the proposed design requires approval by the SPPCB and the permission from SPPCB is mandatory in this regard.

RESPONSE OF ANSWERING RESPONDENT:

The above observations/recommendations of the Committee is completely misplaced and de-hors any expert opinion. The Answering Respondent would like to submit the true factual position as under:

- It is submitted that no height raising was being done in V₁ dyke where the breach took place. The dyke was under capacity raising work through a process called 'Buttressing' where lateral strengthening of the walls of the dyke is done using the ash accumulated inside the ash pond. The design for the same was provided by an expert consultancy team of Dr. Umesh Dayal (Retd. Prof. IIT, Kanpur) and Dr. C. R. Patra (Prof. NIT, Rourkela).
- It is submitted that V₁ dyke mainly caters to the ash slurry discharge of Stage 1 of Answering Respondent. There is no specific direction from MoEF & CC in its Environment Clearance ['EC'] or from MPPCB in its Consent-to-Operate ['CTO'] that mandates additional approval for capacity raising work of V₁ dyke.
- It is also submitted that Ash ponds of Answering Respondent are designed as per scientific standards and operated under the surveillance of expert and dedicated teams. The Ash Dykes are designed as per IS: 12169 (Design of Small Dams) and IS: 9429 (Internal Drainage system for earth Dams). The stability of dyke embankments have been checked for Static and Earthquake conditions as per IS: 7894 and found to be safe.

- It is further submitted that, post dyke-breach, in terms of the direction of the Oversight Committee and MPPCB, Answering Respondent had assigned the work of technical evaluation of design and construction of its dykes to Department of Civil Engineering, IIT-Roorkee, who have expertise in this area. It is submitted that in the report given by IIT-Roorkee, it certifies that the design and construction of the ash dykes of Answering Respondent, including all the four raisings and the on-going buttressing of V₁, are safe. The said report has already been submitted to the committee and the same is also placed on record before this Hon'ble Tribunal as **Annexure R-10/15** to the objections to the Committee report dated 29/10/2019.
- It is submitted that since Dyke Raising is a regular activity that is required to be taken up one-by-one for all ash dykes and since the design for dyke raising has already been approved by a third party expert i.e. IIT-Roorkee, seeking the same permission from MPPCB again, which is not an expert body in this field [as recommended by the Oversight Committee] does not serve any purpose and may result in unnecessary delay that may affect the operations of the Power Plant of the Answering Respondent. It is submitted that the Answering Respondent will intimate the MPPCB before starting the Dyke Raising activity so that officials of MPPCB can visit the site any time for observation and inspection.

(d) Observations/Recommendations – No.4:

Prima facie, the Interim environmental compensation demanded by the MPPCB at Rs. 10.00 Crores cannot be said to be excessive. The said amount ought to be deposited. We are of the view that the furnishing of bank guarantee of Rs. 1.00 Crores is not sufficient. MPPCB may issue the notice asking the Plant to deposit the entire Rs. 10.00 Crores. Bank

guarantee cannot be said to be deposit, it can only be treated as the security.

RESPONSE OF ANSWERING RESPONDENT:

The above observations/recommendations have been made without taking into consideration the similar/relevant facts and therefore are completely misplaced. The Answering Respondent would like to submit the true factual position as under:

- It is submitted that in case of the dyke breach in the power plant of ESSAR POWER in August 2019 [where the discharge from the breach had damaged standing crops and entered inhabited areas] only Bank Guarantee of Rs. 1 crore was submitted by the power plant although the compensation imposed by MPPCB was the same as in the present case i.e. 10 crores.
- That the MPPCB notice for Rs. 10 crores was based on the initial assessment done by MPPCB team on 07/10/19 which had recommended that a detailed inspection should be done by a team of CPCB & MPPCB. It is further submitted that CPCB-MPPCB team, which carried out the detailed assessment on 08-09/10/19, had recommended an interim compensation of Rs. 1 crore only.
- It is submitted that the Answering Respondent has already assigned the work of Environment Damage Assessment to NEERI. The ash spread following the dyke breach is mostly contained on NTPC land only and has not damaged any private/public/Govt. property or damaged any crops or travelled into any private land. It is submitted that the ash spread is being cleared expeditiously from all the NTPC area and also from the Rihand Reservoir banks.

- It is also submitted that the Answering Respondent is already in the process of awarding a contract for dredging of the part of the Rihand Reservoir that is suspected to have been affected by the ash dyke breach. The estimated cost for the work is around 3 Crores.
- It is also pertinent to submit that Answering Respondent has made cash payment of Rs. 1 Crore to MPPCB on 13/01/2020 towards the interim compensation. The true copy of the email acknowledging the receipt of the payment is annexed herewith and marked as **Annexure R-10/3.**

(e) Observations/Recommendations - No.5:

To strengthen the ash dyke, the Plant should consider to develop RCC wall around the fly ash dyke. The structure should be of RCC having a layer of PVC tiles to ensure the stability of the dyke. At present the dyke is being made out of the fly-ash putting boulder pitching outside wall and brick lining inside the dyke.

RESPONSE OF ANSWERING RESPONDENT:

The above observations/recommendations of the Committee is completely erroneous and is due to non-advertence to the relevant facts. The Answering Respondent would like to submit the true factual position as under:

- The reason for the breach in V₁ dyke, as has been apprehended right from the start, is due to unseasonal heavy rainfall [at the relevant time] amidst the ongoing Buttrressing work resulting in rise of water level in the lagoon as the water escape from the lagoon was affected. This caused saturation of embankment and its failure.
- It is submitted that IIT-Roorkee, in its assessment report of Technical Aspects of breach in Ash Dyke (V₁) of Answering Respondent, has

suggested additional spillway in the design to take care of such excessive rainfall . It is submitted that the Answering Respondent has made provisions for the same.

- It is reiterated that, post dyke-breach, in compliance to the direction of the Oversight Committee and MPPCB, Answering Respondent had assigned the work of technical evaluation of design and construction of the dykes to IIT-Roorkee, a third party expert body. It is also submitted that in the report given by the IIT-Roorkee, it certifies that the design and construction of the ash dykes of Answering Respondent, including all the four raisings and the on-going buttressing of V₁, are safe. It is therefore submitted that any changes in the design are unwarranted and uncalled for.
- It would not be out of place to mention that ash dyke construction & design is a highly technical matter and the present committee had no expertise in this area.

(f) Observations/Recommendations - No.6:

The storage of fly-ash is very important aspect in the context of Environment. Improper storage of fly-ash results in air pollution and water pollution affecting the Environment. In the last meeting we have asked the thermal power plants to explore the possibility of developing the fly-ash mount as has been developed by NTPC Dadri. No interest has been shown in this regard.

RESPONSE OF ANSWERING RESPONDENT:

The above observation/recommendation of the Committee is erroneous and misplaced due to non-advertence to the relevant facts. The Answering Respondent would like to submit the true factual position as under:

Feasibility of construction of Fly ash Mounts is being worked out in consultation with Corporate Engineering & Ash Management group of NTPC Ltd. and therefore it is erroneous to conclude that the Answering Respondent is not interested in this area.

- It is submitted that availability of the land for construction of fly-ash mount is another factor, which needs to be worked out.
- It is also submitted that in its order dated 05/11/2019 in this case, the Hon'ble Tribunal has observed that

“10. We are of the view that the recommendations on the subject of development of fly ash mounts and filling up of abandoned mines are issues which need to be examined by experts with regard to the safeguards necessary in the process, after studying the impact of environment. It is only after such a study that the development of mounts and filling up of abandoned mines can be undertaken. If there are pre-existing guidelines of MoEF&CC/CPCB on the subject, the same may be followed.”

- It is pertinent to submit that the Answering Respondent is not aware of any pre-existing guidelines of MoEF & CC/CPCB on this subject.

6. It is submitted that the above-mentioned aspects shows that the observations/recommendations contained in the minutes of meeting dated 17/12/2019 [in so far as it is concerned with the Answering Respondent] are due to non-consideration of the relevant facts & material particulars as brought to the notice of the Oversight Committee and therefore the same does not deserve consideration of this Hon'ble Tribunal.

7. It is further submitted that the reports/MOM of the oversight committee are not signed by all its members although the same are required to be so signed.

PRAYER

WHEREFORE, it is most respectfully prayed that this Hon'ble Tribunal may be pleased to take on record & consider the contents of the above reply and reject the observations/recommendations of the Committee in the Minutes of Meeting dated 17/12/2019 [in so far as it is concerned with the Answering Respondent] to the extent the same are contrary to the present objections.

**RESPONDENT NO.10
AUTHORISED SIGNATORY
THROUGH**

Shailesh
[SHAILESH MADHYAL]

Dated: 03 /03/2020

ADVOCATE FOR RESPONDENT NO. 10

AMRUSH KUMAR JAIN
Addl. General Manager (EMG/AUD)
Bhambhal Super Thermal Power Station NTPC

**Compliance status of Hon'ble NGT Oversight Committee Directives issued in the meeting
on 17/12/19**

S.No.	Issue	NTPC Vindhyachal Submission
1.	<p>The committee has visited on the information being received that there is a breach of fly ash dyke on 06.10.2019, the committee visited this spot on 16.12.2019. The committee found a huge breach of dyke No.V1. On the spot inspection it was found that huge quantity of fly ash have been drained from the Dyke, polluting water of Rihand Reservoir. We found that still sufficient quantity of water along with ash is going on to the Rihand Reservoir.</p>	<p>a) It is submitted that the breach in V1 dyke that took place on 06.10.2019 was plugged within 30 hrs of the incident. The site of the breach area has been visited several number of times by the representatives of both CPCB and MPPCB after that and no further discharge from the dyke has been reported (photographs of plugged breach attached as Annexure 1).</p> <p>b) The discharge of ash mixed water from breach in the dyke had mostly flown into the OFL (Overflow Lagoon) of AWRS (Ash Water Recirculation System) 1 and had also resulted in collapse of one of its walls. The observation is part of the inspection report of the Joint team of CPCB and MPPCB that conducted the site visit on 09.10.2019 (attached as Annexure 2).</p> <p>c) After the OFL wall was repaired, the plugged part of V1 dyke was opened again as the repair work of this portion required proper foundation building. The discharge from the dyke was routed to the OFL of AWRS 1 for recirculation of water back to the Plant and the same was explained to the Oversight committee during the sight visit. The committee visited the site of dyke breach only and the discharge from V1 going to the Rihand reservoir was not evidenced. During the meeting on 17.12.2019 also, the team from NTPC Vindhyachal had tried to explain this situation and were assured that their observation will be recorded in the minutes of the meeting.</p>
2.	<p>Prima facie, the committee is of the view that huge quantity of fly ash travelled to Rihand Reservoir following the breach. However, the assessment of</p>	<p>a) The CPCB-MPPCB team that visited the site of breach on 09.10.2019 in its report has clearly mentioned that "no large quantity of ash met reservoir". As per the report, most of the ash that drained out of the dyke following the breach was spread out either on NTPC land or contained in the OFL of AWRS 1.</p> <p>b) NTPC Vindhyachal has awarded the work of Environment</p>

	<p>exact quantity of fly ash travelled to Rihand Reservoir requires expert assessment. It is to be made by the competent authority including MPPCB.</p>	<p>Damage Assessment to NEERI, which is an expert Govt. institute for this type of work, and which will also be doing the quantity assessment.</p>
<p>3.</p>	<p>On a query Mr. Sen submitted that they are raising height of the dyke. On further query being made whether they have sought any permission from the MPPCB and submitted the drawing, he submitted that no permission has been sought. The committee is of the view that before raising the height of the dyke, as it has direct connection / impact over the sustainability of the ash dyke, the proposed design requires approval by the SPPCB and the permission from SPPCB is mandatory in this regard.</p>	<p>a) It is submitted that no height raising was being done in V1 dyke where the breach took place. The dyke is under capacity raising work through a process called 'Buttressing' where lateral strengthening of the walls of the dyke is done using the ash accumulated inside the ash pond. Design for the same was provided by an expert consultancy team of Dr. Umesh Dyal (Retd Prof IIT, Kanpur) and DR. C. R. Patra (Prof, NIT, Rourkela).</p> <p>b) It is also submitted that V1 dyke mainly caters to the ash slurry discharge of Stage 1 of NTPC Vindhyachal. There is no specific direction from MoEF & CC in its Environment Clearance (EC) or from MPPCB in its Consent-to-Operate (CTO) that mandates additional approval for capacity raising work of V1 dyke.</p> <p>c) It is also submitted that Ash ponds of NTPC Vindhyachal are designed scientifically and operated under the surveillance of expert and dedicated groups. The Ash Dykes are designed as per IS:12169 (Design of Small Dams) and IS:9429 (Internal Drainage system for earth Dams). The stability of dyke embankments are checked for Static and Earthquake conditions as per IS:7894 and found to be safe. Following the breach in the dyke, as per the direction of the Oversight Committee and MPPCB, NTPC Vindhyachal has assigned the work of technical evaluation of design and construction of the dykes to IIT, Roorkee, who are the experts in this kind of work, and they have certified that the design and construction of the ash dykes of Vindhyachal, including all the four raisings and the on-going buttressing of V1, are safe. The report IIT, Roorkee has already been submitted to the committee.</p>

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4.	<p>Prima facie, the interim environmental compensation demanded by the MPPCB at Rs. 10.00 Crore cannot be said to be excessive. The said amount ought to be deposited. We are of the view that the furnishing of bank guarantee of Rs. 1.00 Crore is not sufficient. MPPCB may issue the notice asking the Plant to deposit the entire Rs. 10.00 Crore. Bank guarantee cannot be said to be deposit, it can only be treated as the security.</p>	<p>a) It is submitted that NTPC Vindhyachal has made cash payment of 1 Crore to MPPCB on 13/01/20.</p> <p>b) It is further submitted that in case of ash dyke breach in the power plant of ESSAR POWER which happened in Aug'19, where the discharge from the breach had damaged standing crops and entered inhabited areas, BG of 1 crore only was submitted by the power plant although the compensation imposed was the same as in the case of NTPC Vindhyachal i.e. 10 crore.</p> <p>c) The MPPCB notice of 10 crore was based on the initial assessment done by MPPCB team on 07.10.19 which had recommended that a detailed inspection should be done by a team of CPCB & MPPCB. CPCB-MPPCB team, which carried out the detailed assessment on 08-09.10.19, had recommended an interim compensation of Rs 1 crore only.</p> <p>d) It is submitted that NTPC Vindhyachal has already assigned the work of Environment Damage Assessment to NEERI. The ash spread following the dyke breach is mostly contained on NTPC land only and has not damaged any private/public/govt property or damaged any crops or travelled in to any private land. All the NTPC area and the Rihand Reservoir banks are being cleared of the ash spread and the work is expected to be completed by Feb'20.</p>
5.	<p>To strengthen the ash dyke, the Plant should consider to develop RCC wall around the fly ash dyke. The structure should be of RCC having a layer of PVC tiles to ensure the stability of the dyke.</p>	<p>a) Following the breach in the dyke, as per the direction of the Oversight Committee and MPPCB, NTPC Vindhyachal has assigned the work of technical evaluation of design and construction of the dykes to IIT, Roorkee, who are the experts in this kind of work, and they have certified that the design and construction of the ash dykes of Vindhyachal, including all the four raisings and buttressing, are safe.</p> <p>b) The failure of V1 dyke, as has been apprehended right from the start, was due to unseasonal heavy rainfall amidst the on-going Buttressing work which resulted in rise of water level in the lagoon as the water escape from the lagoon was affected.</p>

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		<i>This caused saturation of embankment and its failure. IIT, Roorkee has suggested additional spillway in the design to take care of such excessive rainfall and same shall be incorporated in the design.</i>
6.	<i>Development of Fly Ash Mount.</i>	<i>Feasibility of construction of Fly ash Mount is being worked out in consultation with Corporate Engineering & Ash Management group of NTPC.</i>

Breach of V-1 Dyke

Just after breach



After Repair (work still in progress)



**Inspection Report of M/s NTPC, Vindhnagar thermal Power plant w.r.to the
Ash dyke breach incident happened on 6.10.2019 (5-6pm)**

A detailed inspection of the site i.e. breached ash dyke of NTPC, Vindhnagar was carried out on 9.10.2019 by Sh Sunil Kumar Meena, Sc-D, CPCB, RD Bhopal along with Sh S D Valmiki, E.E. Regional Office, MPPCB, Singrauli w.r.to the assessment of the spread area of the ash, contamination of the surface water bodies etc.

On the day of inspection, out of total 13 units; unit number 06 was out of service & the total production load was about 3625MW. The discharge of slurry was on ash dyke no. V3A, V3B & V4A. Unit has 06 ash dykes in total i.e. V1, V2, V3A, V3B, V4A & V4B at Shahpur & Baliyari area. Details of the dykes are as tabulated below:

Ash dyke	Area (Starter Dyke)	Raising in service	Operating area (Acre)	Current raising in service since
V-1	474	4 th raising exhausted, Buttrassing in progress	227 (after Buttrassing)	Not applicable
V-2	600	4 th raising in progress	308 (after 4 th raising)	Not applicable
V-3A	315	3 rd raising in service	218 (after 3 rd raising)	05.10.2019
V-3B	172	2 nd raising in service	126	28.02.2018
V-4A	184	Starter dyke in service	184	31.03.2016
V-4B	165	1 st raising in progress	148 (after 1 st raising)	Not applicable

The ash dyke breach incident happen at ash dyke no. V-1 in North-West direction. This dyke is in operation since 1987. The area of starter dyke was 474 acres whereas on the exhaust of 4th raising the operating area is 227 acres. The buttrassing was in progress. One line of slurry disposal was in operation on the day of incident. To recirculate the ash water unit has established 03 AWRS systems; out of which AWRS 1 & 2 are of 1000M3/hr capacity whereas the AWRS - 03 is of 1500m3/hr capacity. After the day of incident AWRS 1 & 2 are out of service as the ash slurry flown through the AWRS building with such a pressure that it broke down the double layer boundary walls & filled up in the working area of the AWRS premises. Currently AWRS-

Sd/-



03 is in operation. The ash slurry flow has also dislodged the ash slurry carrying pipeline of the NTPC Shaktinagar plant. That resulted in non-operation of AWRS systems of NTPC Shaktinagar. The decanting water of NTPC, Shaktinagar ash dyke N. S1 & S2 is directly being discharged in Rihand reservoir.

Probable reason of the ash dyke (V1) breach

Heavy rains are reported since last two months in every part of the Madhya Pradesh. Similarly, Singrauli district also had heavy rains during August to 5th Oct 2019. Similar kind of ash dyke breaching incident occurred in the month of August 2019 at M/s Essar MP Power limited, Singrauli due to the heavy rain & poor decanting system. The rainfall data of 20th Sept to 5th Oct 2019 revealed that Vindh nagar area had heavy rainfall on the following days:

S.NO.	Day	Rainfall in mm
1.	20.9.2019	10.5
2.	23.09.2019	68
3.	24.09.2019	31.5
4.	25.9.2019	16
5.	26.6.2019	10
6.	27.9.2019	45.2
7.	28.9.2019	50.8
8.	29.9.2019	10
9.	30.9.2019	36.6
10.	1.10.2019	10.5
11.	3.10.2019	19
12.	4.10.2019	10.7
13.	5.10.2019	21

As reported, 4th raising of the V1 ash dyke got exhausted & buttressing work was on going as per the approved design & drawing. Total 14,20,000 M³ quantity of ash got excavated from the 918442 m² area of the dyke i.e. 1.55 m³/m² and used in buttressing from V-1 dyke; that in result created voids of different dept & size. As per the field survey; the measurement of the breached out area was done using the Google Earth Pro software. The breached out area so calculated was about 3.75 Hectares with 250mtrs wide & 150mtrs in length dimension. Taking the average depth of ash breach as 05mtrs as it varied from 9mtrs to 3mtrs throughout the calculated area; the

sk.

30/12

quantum of ash breached is approx. 225000 Tons (considering ash density 1.2T/m³). The water pool so created due to the excavation of 1.55 m³/m² in affected area i.e. 3.75Ha stored rainwater & slurry water of approx. 58,125m³ say 50000m³ (density of ash 1.2 T/m³). This water pool's hydrological pressure may be the reason of the ash dyke breach. The dyke breached out in about 100mtrs length & pulled of the decanting well along with the slurry water.

Assessment of the Ash slurry spread over

The team carried out the field survey to understand & assess the spread of ash slurry. With the help of Geo-graphical co-ordinates, elevation data & field survey information; spread area of the slurry was mapped on Google earth Pro software (Annexure-1). The slurry spread over 33Ha area from the ash dyke VI to decanting pond & AWRS 1 & 2 surrounding area. That dislodged the AWRS pipeline of NTPC Vindhagar & Shaktinagar. The slurry flown in the decanting pond filled up with the decanted water & created a heavy water pressure & broke down the walls of AWRS system & flown through a garland drain and spread over a area of 12 Ha in North-West. The decanting pond's one side embankment also got breached out in a length of 50-60mtrs & slurry spread over an area of 8Ha towards Rihand reservoir & Surya Drain. Presently, no large quantity of ash met reservoir & right bank of Surya drain. In total 53Ha area came under the verse of ash slurry. Considering the area where ash dumped in as 80000m² & depth of slurry as 1mtr in decanting pond about 1 lac Ton ash retained in the decanting pond. That resulted in 125000Tons of ash spread over the 45Ha area with average dept of 1ft other than the ash retained in decanting pond.

The ash slurry spread in the plant premises & didn't affect villages like Gehalgarh due to higher elevation. The village Juari was also not affected as it is on the left bank of Surya Drain. No agricultural land got affected on the spread of the ash slurry. Water samples were collected from 04 locations as AWRS garland drain, Rihand reservoir, fall out of S1 dyke decanted water into Rihand reservoir & Juari village. The analysis of the water sample for the heavy metals shall be carried out at MPPCB, Jabalpur.

Measures taken on the day of incident and thereafter by the Unit

1. Total ash slurry in discharge in V-1 dyke was immediately stopped.
2. Power supply to the entire Shahpur ash dyke area was cut-off immediately in-line of the safety.
3. Flooded area was evacuated of all working personnel and complete area was searched immediately following the breach to ensure that no man/animal was trapped inside the affected area. It was informed by plant official Shri Munish Jain, AGM that no casualty/death of man/animal was reported.
4. Breach portion of V-1 dyke was plugged within 30 hours and restoration work was in progress.
5. Breach portion of overflow lagoon was plugged within 12 hours and restoration work was in progress.
6. Cleaning work in surrounding area of V-1 started at 7:00 AM on 7th Oct'19 and it was in progress. A separate contract has been awarded for cleaning of the entire ash and to put back the same in V-1 ash dyke.
7. AWRS-I cleaning work was in progress.
8. Ash spill from overflow lagoon following breach in boundary in the North West side is being collected by deploying equipments from 10th Oct'19.

Recommendations

1. M/s NTPC Shaktinagar to repair the AWRS dislodged pipeline within 07 days & to stop discharge of decant water of S1 & S2 dyke immediately by pumping in M/s NTPC Vindhnagar AWRS 03 system immediately.
2. M/s NTPC Vindhnagar shall collect back the spread over ash from 53Ha' area with minimal fugitive emission & dispose it in operating dyke. Unit shall submit the time bound action plan in this regard.
3. M/s NTPC Vindhnagar to stop the probable mixing of slurry in Rihand reservoir & Surya drain near decanting pond with no further delay.
4. M/s NTPC Vindhnagar may be asked to deposit 01 Crore to CPCB or MPPCB towards an interim environmental compensation w.r.to Aryavart Foundation Vs M/s Vapi Green Enviro Ltd & Ors. Hon'ble NGT O.A. 95/2018 order dated 11.1.2019.

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s. To engage national importance institute like IIT/NEERI/NIT & others to carry out the assessment of the ash dyke stability to further avoid such incident to occur.

sd
(S D Vaidya) 10/11/2019
Executive Engineer
RO, MP PCB, Singrauli

Sunil Kr Meena
(Sunil Kr Meena)
Scientist D

**Inspection Report of M/s NTPC, Vindhnagar thermal Power plant w.r.to the
Ash dyke breach incident happened on 6.10.2019 (5-6pm)**

A detailed inspection of the site i.e. breached ash dyke of NTPC, Vindhnagar was carried out on 9.10.2019 by Sh Sunil Kumar Meena, Sc-D, CPCB, RD Bhopal along with Sh S D Valmiki, EE, Regional Office, MPPCB, Singrauli w.r.to the assessment of the spread area of the ash, contamination of the surface water bodies etc.

On the day of inspection, out of total 13 units; unit number 06 was out of service & the total production load was about 3625MW. The discharge of slurry was on ash dyke no. V3A, V3B & V4A. Unit has 06 ash dykes in total i.e. V1, V2, V3A, V3B, V4A & V4B at Shahpur & Baliyari area. Details of the dykes are as tabulated below:

Ash dyke	Area (Starter Dyke)	Raising in service	Operating area (Acre)	Current raising in service since
V-1	474	4 th raising exhausted, Buttrissing in progress	227 (after Buttrissing)	Not applicable
V-2	600	4 th raising in progress	308 (after 4 th raising)	Not applicable
V-3A	315	3 rd raising in service	218 (after 3 rd raising)	05.10.2019
V-3B	172	2 nd raising in service	126	28.02.2018
V-4A	184	Starter dyke in service	184	31.03.2016
V-4B	165	1 st raising in progress	148 (after 1 st raising)	Not applicable

The ash dyke breach incident happen at ash dyke no. V-1 in North-West direction. This dyke is in operation since 1987. The area of starter dyke was 474 acres whereas on the exhaust of 4th raising the operating area is 227 acres. The buttrissing was in progress. One line of slurry disposal was in operation on the day of incident. To recirculate the ash water unit has established 03 AWRS systems; out of which AWRS 1 & 2 are of 1000M3/hr capacity whereas the AWRS - 03 is of 1500m3/hr capacity. After the day of incident AWRS 1 & 2 are out of service as the ash slurry flown through the AWRS building with such a pressure that it broke down the double layer boundary walls & filled up in the working area of the AWRS premises. Currently AWRS-

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03 is in operation. The ash slurry flow has also dislodged the ash slurry carrying pipeline of the NTPC Shaktinagar plant. That resulted in non-operation of AWRS systems of NTPC Shaktinagar. The decanting water of NTPC, Shaktinagar ash dyke N. S1 & S2 is directly being discharged in Rihand reservoir.

Probable reason of the ash dyke (V1) breach

Heavy rains are reported since last two months in every part of the Madhya Pradesh. Similarly, Singraulli district also had heavy rains during August to 5th Oct 2019. Similar kind of ash dyke breaching incident occurred in the month of August 2019 at M/s Essar MP Power limited, Singraulli due to the heavy rain & poor decanting system. The rainfall data of 20th Sept to 5th Oct 2019 revealed that Vindhannagar area had heavy rainfall on the following days:

S.NO.	Day	Rainfall in mm
1.	20.9.2019	10.5
2.	23.09.2019	68
3.	24.09.2019	31.5
4.	25.9.2019	16
5.	26.6.2019	10
6.	27.9.2019	45.2
7.	28.9.2019	50.8
8.	29.9.2019	10
9.	30.9.2019	36.6
10.	1.10.2019	10.5
11.	3.10.2019	19
12.	4.10.2019	10.7
13.	5.10.2019	21

As reported, 4th raising of the V1 ash dyke got exhausted & buttressing work was on going as per the approved design & drawing. Total 14,20,000 M³ quantity of ash got excavated from the 918442 m² area of the dyke i.e. 1.55 m³/m² and used in buttressing from V-1 dyke; that in result created voids of different dept & size. As per the field survey; the measurement of the breached out area was done using the Google Earth Pro software. The breached out area so calculated was about 3.75 Hectares with 250mtrs wide & 150mtrs in length dimension. Taking the average depth of ash breach as 05mtrs as it varied from 9mtrs to 3mtrs throughout the calculated area; the

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quantum of ash breached is approx. 225000 Tons (considering ash density 1.2T/m³). The water pool so created due to the excavation of 1.55 m³/m² in affected area i.e. 3.75Ha stored rainwater & slurry water of approx. 58,125m³ say 50000m³ (density of ash 1.2 T/m³). This water pool's hydrological pressure may be the reason of the ash dyke breach. The dyke breached out in about 100mtrs length & pulled of the decanting well along with the slurry water.

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Measures taken on the day of incident and thereafter by the Unit

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Shri

5. To engage national importance institute like IIT/NEER/NIT & others to carry out the assessment of the ash dyke stability to further avoid such incident to occur.

sdv
(S D Valmiki) 10/10/2019
Executive Engineer
RO, MPPCB, Singrauli

Sd/M
(Sunil Kr Meena)
Scientist 'D'

ANNEXURE R-10/3

Re: Regarding payment of 1 crore as Environment Compensation**From :** Mp Pcb <pcbacct@gmail.com>

Tue, Jan 28, 2020 03:44 PM

Subject : Re: Regarding payment of 1 crore as Environment Compensation**To :** Munish Kumar Jain <mkjain@ntpc.co.in>, jaiswal sandesh <jaiswal.sandesh@gmail.com>

-----Email received from [External domain] from Internet. Actual Sender:-- pcbacct@gmail.com-----

Dear Sir,

We have received Rs.one crore in our PNB-EPCO-SHAHPURA BRANCH ACCOUNT No.631-000-12-00000043 dated 13.01.2020 against which we have issued Receipt No.2823/28.01.2020 from NTPC-SINGROLI.This is for your information.

Regards

sharad sharma
Finance Officer

On Tue, 28 Jan 2020 at 12:41, Munish Kumar Jain <mkjain@ntpc.co.in> wrote:

Dear Sir,

With reference to the trailing mail, you are again requested to provide a confirmation regarding the amount deposited.

Regards.

M.K.Jain,
AGM (Env Mngmt), NTPC Vindhyachal

From: "Munish Kumar Jain मुनीश कुमार जैन" <mkjain@ntpc.co.in>

To: "Mp Pcb" <pcbacct@gmail.com>

Cc: "Sandesh Jaiswal, NTPC BHOPAL" <jaiswal.sandesh@gmail.com>, "rskori2762" <rskori2762@gmail.com>

Sent: Monday, January 13, 2020 6:36:33 PM

Subject: Regarding payment of 1 crore as Environment Compensation

Dear Sir,

Rs. 1 crore payment has been made in the bank account provided in the trailing mail on account of Environment Compensation vide UTR No. SBINR52020011300089098. Please confirm the payment.

Regards.

MUNISH JAIN
AGM (EMG & AU), VSTPS.
Mob. 9415342516

From: "Mp Pcb" <pcbacct@gmail.com>

To: "Munish Kumar Jain मुनीश कुमार जैन" <mkjain@ntpc.co.in>, "Sandesh Jaiswal, NTPC BHOPAL" <jaiswal.sandesh@gmail.com>

Cc: "rskori2762" <rskori2762@gmail.com>

Sent: Friday, January 10, 2020 6:29:26 PM

Subject: Fwd: Regarding details of bank account

-----Email received from [External domain] from Internet. Actual Sender:-- pcbacct@gmail.com-----

As desired the bank account number of ENVIRONMENT COMPENSATION FUND of MPPCB is 6310001200000043 ,Punjab National Bank,EPCO-SHAHPURA,Branch, IFSC Code-PUNB0631000.The amount may be transferred through NEFT/RTGS to this account.

SHARAD SHARMA
FINANCE OFFICER

----- Forwarded message -----

From: R S Kori < [mailto:rskori2762@gmail.com | rskori2762@gmail.com] >

Date: Fri, 10 Jan 2020 at 18:05

Subject: Fwd: Regarding details of bank account

To: Mp Pcb < [mailto:pcbacct@gmail.com | pcbacct@gmail.com] >

----- Forwarded message -----

From: Munish Kumar Jain < [mailto:mkjain@ntpc.co.in | mkjain@ntpc.co.in] >

Date: Fri, Jan 10, 2020 at 3:16 PM

Subject: Regarding details of bank account

BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH AT NEW DELHI

ORIGINAL APPLICATION 164 OF 2019

IN THE MATTER OF:-

ASHWANI KUMAR DUBEY

... APPLICANT

VERSUS

UNION OF INDIA & ORS.,

...RESPONDENTS

PROOF OF SERVICE

S. NO.	ADVOCATE NAME	SIGNATURES
1	ASHWANI KUMAR DUBEY, IN PERSON	By email.
2		
3		
4		
5		
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7		
8		
9		
10		