**BEFORE THE NATIONAL GREEN TRIBUNAL**
**EASTERN ZONE BENCH,**
**KOLKATA**
**.....**
**MISCELLANEOUS APPLICATION No. 05/2021/EZ**
**In**
**ORIGINAL APPLICATION No. 33/2014/EZ**

**IN THE MATTER OF:**

**Subhas Datta,**
**S/o Late Baneswar Datta,**
**25/1, Guitendal Lane,**
**P.O. + P.S. + District-Howrah,**
**Pin – 711101,**

**....Applicant(s)**

**Versus**

1. **State of West Bengal,**
**Through Principal Secretary,**
**Department of Transport,**
**Govt. of West Bengal,**
**Paribahan Bhawan, 12, R.N. Mukherjee Road,**
**Calcutta – 700001,**

2. **Ministry of Environment,**
**Through Additional Chief Secretary,**
**Govt. of West Bengal**
**5th Floor, Pranisampad Bhawan,**
**Block-LOB-II, Salt Lake, Sector-III,**
**Bidhannagar, Kolkata – 700106,**

3. **West Bengal Pollution Control Board,**
**Through Member Secretary,**
**Paribesh Bhavan, 10A, Block-L.A.,**
**Sector-III, Salt Lake City, Calcutta,**
**Pin – 700106,**

**4. Ministry of Environment, Forests and Climate Change,**
**Through Secretary,**
**Govt. of India,**
**Indira Paryavaran Bhawan, Jor Bagh Road,**
**New Delhi – 110003,**

**5. Kolkata Municipal Corporation,**
**Through Municipal Commissioner,**
**Kolkata,**

**....Respondent(s)**

**COUNSEL FOR APPLICANT:**

**Mr. Subhas Datta, in person**

**COUNSEL FOR RESPONDENTS :**

**Mr. Nayan Chand Bihani, Advocate a/w Mr. Sibojyoti Chakraborty, Advocate for R-1 & 2,**
**Mr. Dipanjan Ghosh, Advocate for R-3,**
**Mr. Prithwish Basu, Advocate for R-5,**

**JUDGMENT**

**PRESENT:**
**HON'BLE MR. JUSTICE B. AMIT STHALEKAR (JUDICIAL MEMBER)**
**HON'BLE MR. SAIBAL DASGUPTA (EXPERT MEMBER)**

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**Reserved On:- July 12th, 2022**
**Pronounce On:- July 26th, 2022**

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1. Whether the Judgment is allowed to be published on the net? **Yes**

2. Whether the Judgment is allowed to be published in the NGT Reporter? **Yes**

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**JUSTICE B. AMIT STHALEKAR (JUDICIAL MEMBER)**

Heard the Applicant in person and the learned Counsel for the Respondents and perused the documents on record.

2. This Miscellaneous Application has been filed in the Original Application No. 33/2014/EZ which was disposed of by this Tribunal vide its judgment and order dated 18.09.2020. In the said judgment, certain directions were given for compliance in paragraphs 13 to 22 which are also quoted in paragraph 3 of the Miscellaneous Application and the various authorities were directed to file the Action Taken Plan within six months.

3. A Committee was also constituted comprising of; Central Pollution Control Board, NEERI, & West Bengal Pollution Control Board, which was directed to assess the damage caused to the environment and the cost of its restoration/remediation on account of waste at the site (Dhapa).

4. Notices were issued to the Respondents in response to which affidavits have been filed.

5. An affidavit dated 15.11.2021 has been filed on behalf of the Respondent No.3, West Bengal Pollution Control Board. Along with this affidavit a Status Report of the Committee regarding Legacy Dumpsite at Dhapa (Kolkata) has been filed as Annexure-'R' (page nos. 38 to 57 of the paper book), wherein the calculation on account of damage caused due to $PM_{10}$ emission which works out to be Rs. 1.26 lakhs per month has been given which reads as under:-

***"Calculation of Damage cost due to $PM_{10}$ emission:***

| | | |
|---|---|---|
| *Limit of $PM_{10}$ as per prescribed standard* | = | *100 $\mu/m^3$* |
| *Average measured concentration of $PM_{10}$* | = | *439.66 $\mu/m^3$* |

| | | |
|---|---|---|
| *Concentration of $PM_{10}$ emission in excess limit* | = | *(439.66-100)μ/$m^3$* |

| | | |
|---|---|---|
| *Concentration of $PM_{10}$ emission in excess limit in kg/$m^3$* | = | *339.66/$10^9$ kg/$m^3$* |
| *Or* | = | *0.33966/$10^6$ kg/$m^3$* |
| *Mixing height of air in the affected site* | = | *10 m* |
| *Area of the affected site* | = | *24 ha* |
| *Or* | = | *240000$m^2$* |
| *Volume of Ambient air in affected area* | = | *2400000 x 10 $m^3$* |
| *Or* | = | *2400000 $m^3$* |
| *Total load of $PM_{10}$ in excess of the prescribed limit in the affected site* | = | *0.33966/$10^6$x2400000 kg =0.82 kg* |

*Since depending on the wind speed, the air in a particular area is being replaced continuously with the new air. Since we need to calculate the total load of $PM_{10}$ emission per day, a replacement factor needs to be derived as follows:*

***Let's suppose:***

| | | |
|---|---|---|
| *Radius covered for Ambient air monitoring* | = | *2 km* |
| *Average wind speed* | = | *3 km* |
| *Then, Air replacement factor* | = | *3/2 x 24 = 36* |
| *Total load of $PM_{10}$ in excess of the prescribed standard in the affected site* | = | *0.82 x 36 kg/day = 29.35 kg/day* |
| *Average Environment damage cost due to $PM_{10}$* | = | *26.6 Euro/kg as per 2015* |
| *Total Environment damage cost due to $PM_{10}$ = Total load (kg/day) x Present Euro value x inflation factor* | | |
| | | *= 29.35 x 86.26 x 1.66* ***= Rs. 1.26 lacs per month*** |

6. Table Nos. 11, 12 & 13 (page no. 51-51 of the paper book) show the Heavy Metal Concentration (mg/l) in pond water and ground water of Dhapa Dumpsite, damage cost due to emission of

pollutants per kg in water (Reference Table ExternE-1995) and damage cost estimated due to Leachate into water bodies, which read as under:-

***"Table 11:*** *Heavy Metals concentration (mg/L in Pond Water and Ground water and Ground water of Dhapa dump site*

| **Parameter** | **TDS** | **$PO_4$** | **V** | **Cr** | **Mn** | **Fe** | **Co** | **Ni** | **Cu** | **Zn** | **As** | **Se** | **Cd** | **Pb** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | Mg/L | | | | | | | | | | | | |
| Pond water | 6274 | 0.88 | 0.006 | 0.014 | 0.31 | 0.6 | 0.0001 | 0.009 | 0.01 | 0.08 | 0.008 | 0.002 | 0.0002 | 0.004 |
| Ground water | 1110 | 0.05 | 0.002 | 0.02 | 0.57 | 0.7 | 0.0001 | 0.01 | 0.01 | 4.5 | 0.001 | 0.003 | 0.0002 | 0.006 |
| **Acceptable Limit (for potable water); IS 10500 (2012)** | **500** | **....** | **..** | **0.05** | **0.1** | **0.3** | **..** | **0.02** | **0.05** | **5** | **0.01** | **0.01** | **0.003** | **0.01** |

***Table 12:*** *Damage cost due to emission of pollutants per kg in water (Reference Table ExternE 1995)*

| *Pollutants per kg* | *Damage cost (Euro, 1995) ExternE, 1995* |
|---|---|
| *Lead (Pb)* | *178* |
| *Cadmium (Cd)* | *622* |
| *Mercury (Hg)* | *1022* |
| *Dioxins* | *62, 824, 889* |
| *Antimony (Sb)* | *121, 366* |
| *Arsenic (As)* | *308* |
| *Barium (Ba)* | *31* |
| *Beryllium (Be)* | *44,928* |
| *Copper (Cu)* | *5* |
| *Chromium (Cr)* | *17,479* |
| *Nickel (Ni)* | *12* |
| *Selenium (Se)* | *16,125* |
| *Zinc (Zn)* | *1* |
| *Physio-Chemical Pollutants* | *Damage cost (Euro, 2010) (Sancho et al., 2010)* |
| *Biological Oxygen Demand* | *0.033* |
| *Chemical Oxygen Demand* | *0.098* |
| *Suspended Solids* | *0.005* |
| *Nitrogen* | *16.3535* |
| *Phosphate* | *30.944* |

***Table 13:*** *Damage cost estimated due to Leachate into water bodies*

| *Sampling location where standard have* | *Pollutants breaching the* | *Leachate concentration (mg/L) for* | *Leachate volume (million* | *Damage Cost (Euro)* | *Total Damage (INR)* |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| *breached* | *standards* | *the pollutants* | *litre)* | | |
| *Pond water* | *TDS* | *627* | *0.26* | *0.005* | *116.71* |
| | *Phosphate* | *0.88* | *0.26* | *30.944* | *1013.79* |
| *Ground water* | *TDS* | *1110* | *0.26* | *0.005* | *206.62* |
| *Total damage due to breached leachate* | ***Rs. 0.01337 lacs*** | | | | |

***(Reference: ExternE)***

7. Table Nos. 16 & 17 (page no. 54-55 of the paper book) show the damage cost estimated due to the release of Heavy Metals from Municipal Solid Waste (MSW) into soil and consolidated damage cost for ground water and soil at Dhapa Dumpsite which read as under:-

***"Table 16**: Damage cost estimated due to the release of heavy metals from MSW into soil*

| *Heavy metals* | *Heavy metal concentration* ***(mg/Kg)*** | *Leachate volume (Million Litre)* | *Damage cost in Euro (1995)* | *Total damage (INR)* |
|---|---|---|---|---|
| *Pb* | *560* | *0.117* | *5* | *0.47* |
| *Cd* | *1.2* | *0.117* | *1514* | *0.3* |
| *Cu* | *379* | *0.117* | *1* | *0.63* |
| *Cr* | *106* | *0.117* | *320* | *5.68* |
| *Ni* | *29* | *0.117* | *4* | *0.02* |
| *Zn* | *1070* | *0.117* | *1* | *0.18* |
| *Total* | | | | *7.29* |

***Table 17**: Consolidated damage cost for Ground water and Soil at Dhapa dump site*

| ***S.N.*** | ***Components*** | ***Cost (INR) in lac*** |
|---|---|---|
| *1* | *Ground water & Pond water* | *0.01337* |
| *2* | *Soil* | *7.29* |
| ***Total damage cost*** | | *7.30* |

*The total damage cost due to exceedance of Ambient Air Quality standard is calculated as Rs. 1.26 lacs (Rupees One Lac twenty six thousand only) (**per month**).*

*However, the total damage cost due to contamination of Ground water/Pond water and Soils (Table.17) from Dhapa dumpsite is accounted as Rs. 7.30 lacs (Rupees Seven lacs thirty thousand only). Among the ground water/pond water and soil the damage cost is dominated by the soil (99.8%) followed by ground and pond water (0.2%). The lower contribution towards contamination of ground water and pond water may be due to low reservoir capacity. The estimation is done on the basis of total release of heavy metals on soil due to whole of Leachate and gives a value of total probable damage due to this heavy metal release. In comparison with all the heavy metals, chromium accounts for 77.9% of total damage cost followed by Lead, Copper, Nickel and Cadmium. Damage cost keeps on escalating, in case no mitigation measures are followed in terms of Leachate treatment before the discharge at the dumpsite.*

*From the above findings it is observed that the total damage cost due to contamination of Ground water/Pond water and Soil from Dhapa dumpsite is accounted as Rs. 7.30 lacs (Rupees Seven Lacs thirty thousand only). As per the order of Hon'ble NGT, Kolkata Municipal Corporation has already started the Bio-mining at the Dhapa dumpsite since November, 2019 and therefore, further damage of the ground water/pond water will expected to be minimised and controlled. However, the damage cost calculated is in the tune of Rs. 1.26 lacs (Rupees One lac Twenty-six thousand) per month due to exceecdance of ambient air quality standard (in terms of $PM_{10}$) prescribed by CPCB. It is the submission to the Hon'ble NGT for kind information that Kolkata Municipal Corporation is paying Environmental Compensation of Rs. 10.0 lac (Rupees ten lacs only) per month as they are yet to comply fully within the provisions of SWM rule of 2016."*

8. The relevant extract of Conclusion and Recommendation (page no. 56-57 of the paper book) of the Committee in its Report read as under:-

> *"**Conclusion**:*
>
> *Study of Damage to the Environment due to Legacy Waste present in Dhapa dump site was undertaken by monitoring of air, water and soil. The salient findings are as follows:*
>
> - *Impact of total dissolve salts in the pond water, ground water and Leachate samples are above the permissible limit. However, heavy metals were detected within the permissible limit.*
> - *Presence of particulate matter is evidenced about the threshold limit of air quality.*
> - *Study conducted during 25th to 26th February, 2021 revealed high concentration of $PM_{10}$ in Ambient air at source and receptor site.*
>
> ***Recommendation**:*
>
> - *Special attention to control the local emission of particulate from fire in the dumping area and resuspension of road dust from heavy vehicular movement should be accorded with a proper planning.*
> - *Sprinkling of water on roads and other areas may be actively considered to control dust emissions.*
> - *Smog guns may be deployed at suitable locations to control particulate air pollution.*
> - *Ensure advance demarcation and declaration of a buffer zone of no new habitation for upto 500 meters.*
> - *Seepage of leachate from the fresh dump site should be managed as per SWM Rule 2016.*

*Proper drainage and pumping of the leachate to the leachate treatment unit must be given special attention.*

- *The standard plan addressing the potential risks was not present in the site for any disaster while working therefore, it is proposed to have that at site at the earliest.*
- *Action initiated for Bio-mining by the Authority has to be completed as per CPCB guidelines and need to be completed at the earliest.*
- *GHG and VOCs emissions are part and parcel of any dumpsite. Hence, periodic monitoring of these emissions is needed. Frequent fire in the dumping site should be under constant vigilance.*
- *The aesthetic view of the area should be enhanced by extensive plantation around the boundary.*
- *Further detailed investigation are required to assess the actual impact of the dumpsite related activities on the environment (air, water and soil quality).”*

9. In view of the issues raised in the Committee’s Report, we had directed the Applicant to implead the Kolkata Municipal Corporation in the array of Respondents as Respondent No.5. The Kolkata Municipal Corporation has also filed its affidavit dated 17.2.2022.

10. The Department of Environment, State of West Bengal, in their affidavit dated 17.02.2022 has enumerated the action taken by the various authorities which are extracted herein below for proper appreciation of the case and which reads as under:-

(i) ***Monitoring Mechanism***:-

(a) *WBPCB currently operates 17 Semi-automatic Air Quality Monitoring Stations (SAAQMS) in Kolkata and 4 in Howrah Municipal Corporation area in 5 in Howrah District. Further, 7 Continuous Air Quality Monitoring Stations (CAQMS) are operational in Kolkata and 9 in Howrah.*

(b) *In compliance of the order of Hon'ble NGT, WBPCB has made operational 70 Sensor-based Air Quality Monitoring Stations throughout West Bengal, including Kolkata and Howrah. These were inaugurated on 28th December, 2021. The machines are now in the initial stages of calibration. Data from the station is being analyzed.*

(c) *Kolkata and Howrah have already been integrated with National AQI Alert System. Besides, WBPCB has launched a dedicated 'Paribesh' App, so that the citizens may have access to real-time/latest data about air quality, on 24 x 7 basis.*

(d) *The Kolkata Municipal Corporation has identified 10 (ten) potential hotspots responsible for higher air pollution in the city, namely: Manicktala Main Road, Canal South Road, J.B.S. Halden Avenue, Christopher Road, Diamond Harbour Road, Anandpur, Bara Khola, Mukundapur, B.L. Saha Road and Manmohal Banerjee Road. The Urban Development & Municipal Affairs Department, Government of West Bengal has requested West Bengal Pollution Control Board to install Air Pollution Monitoring Stations at these identified hotspots.*

(e) *For the period 01.01.2019 to 31.12.2021, the Kolkata Police initiated 6,82,378 cases for violation of environment/pollution rules. The Anti-*

*Pollution Cell of Kolkata Police has imposed total fines of Rs. 79,90,300/- in the year 2019, Rs. 53,54,700/- in the year 2020 and Rs. 1,04,40,150/- in the year 2021.*

*(f) For the period 01.01.2021 to 30.11.2021, the police authority of Howrah registered 43,891 cases for violation of pollution standards by vehicles.*

*(g) The Transport Department has been conducting regular checks of vehicular emissions. From October to December 2021, a total of 2,47,627 vehicles have been checked for vehicular emissions by Remote Sensing Device.*

*(h) Further, till date, 1,55,904 no. of vehicles have been checked for vehicular emissions at the Automatic Emission Testing Centres of which, 1,48,507 vehicles passed for PUC certificate and 7,397 failed, during the period Oct-Dec 2021. Challans have been issued by the RTO against vehicles lacking PUC.*

*(i) An Air Pollution Control Cell has been set up in Kolkata Municipal Corporation and also in Howrah Municipal Corporation. In Kolkata, the Cell functions under the supervision of a DGP-Rank Officer. Commissioners of the respective municipal corporations review the matter fortnightly.*

***(ii) <u>Phasing out of 15 year old vehicles by Government Departments:-</u>***

*(a) The Solid Waste Management (SWM) Department of Kolkata Municipal Corporation (KMC) has phased out 159 fifteen year old vehicles.*

*(b) The Kolkata Police has phased out 123 such vehicles.*

*(c) RTO, Howrah has scrapped 83 vehicles in the last 03 years.*

(d) KMDA has phased out 31 such vehicles.

***(iii) <u>Conversion to Green Fuel</u>:-***

(a) The Electric Vehicle Policy has been published by the Power Department, Government of West Bengal vide order no. 189-POW/2021 dated 3rd July, 2021. Electric Buses have been exempted from permit. 80 such buses are plying in the city.

(b) The installation of a Compressed Natural Gas (CNG) station by Bengal Gas Corporation Limited at Kasba Depot is in progress. The West Bengal Transport Corporation has plans to install another 07 CNG stations at its various Depots.

(c) E-tender has been floated for conversion of 300 Diesel-run buses of WBTC to CNG-fuelled buses.

(d) Presently, 38 Electric Buses are plying on the roads of Howrah.

***(iv) <u>Water Sprinkling</u>***

(a) 20 water sprinklers are regularly being used by the Kolkata Municipal Corporation for water sprinkling on strategic stretches of Kolkata to tackle the menace of road dust. In addition to the above, tender for procurement of another 20 water sprinklers has been floated to cover more areas of the city. Currently, 545 Kms of street surfaces are being regularly cleaned(using 20 Mechanical Sweepers) and sprayed with water(with 2 Mist Cannons and 20 water sprinklers) to suppress dust suspension in the air.

(b) Presently, 2 mist cannon are regularly in use for watering/ washing of city roads by KMC.

(c) Additionally, a fleet of sixteen(16) dedicated vehicles is deployed by the West Bengal Pollution Control Board at different locations in Kolkata and adjoining areas, including Howrah and

*Bidhan Nagar, to assist in water sprinklers with 5-year AMC for watering at different air pollution hotspots in the city of Howrah.*

***(v) <u>Plantation</u>***

*a)K.M.C is maintaining green median strips along important roads stretches (over 30 km) to control road dust.*

*(b)KMC has also done roadside plantations of different species with 4-6 ft-high saplings during the monsoon period. Species mainly chosen for plantation are Neem, Jarula, Asoke, Bakul, Sarna Champa, Arjun, Weeping Debdaru, Mehagony, and different fruit-bearing plants based on the recommendations of the West Bengal Bio-diversity Board. Last year, i.e., in the monsoon of 2020, KMC planted approx. 18,000 of roadside plants.*

*(c) 12 vehicles fitted with water sprinkler jets are regularly used for watering newly-planted saplings, washing of leaves of the trees on main traffic corridors and also for watering of greenery within KMC area.*

*(d) WBPCB has completed plantation of 17,000 seedlings at different places within 25 km radius of 'Paribesh Bhawan' under Bidhan Nagar Municipal Corporation area alongside VIP road (from HUDCO Bhaban to Dum Dum Airport). Further plantation of 7,000 seedlings of different species has been undertaken at the Newtown-Rajarhat Satellite Township.*

*(e) Howrah Municipal Corporation, in collaboration with the Forest Department, has started work for 15.8 KM Avenue Plantation.*

*(f) The concept of vertical garden has been adopted in some traffic congested areas of HMC. A total budget of Rs. 50 lakh has been provided for this purpose.*

*(g) Recently, the Environment Department has sanctioned a pilot research project to Jadavpur University for indoor botanical bio-filtration to work as air filter to contain particulate matter pollution, which, if successful, should go a long way in providing good quality air within residential premises.*

***(vi) <u>Legacy Dumpsite</u>***

*(a) Bio-mining of legacy waste at Dhapa dumpsite has been started by KMC. So far, 1,31,606 MT legacy waste has been processed. As on 31.01.2022, 3.2 hectare of the dumpsite land has been reclaimed. The entire work is expected to be completed within 3 years.*

*(b) The Fire Department has been deploying fire tenders at Dhapa Dumpsite regularly to douse the fires caused by Methane has emitted from this legacy dumpsite.*

*(c) KMC has taken up a project of Construction and Demolition (C&D) Waste Processing Facility of 500 TPD capacity at Patharghata, Rajarhat. Work order for C&D Waste Processing Plant at Patharghata has been issued to M/s Hyderabad Integrated MSW Ltd. Work at the site has already commenced.*

*(d) A tender is in the final stage for bio-remediation of 10 lakh MT of legacy waste at the Belgachhia Dumping Ground.*

*(e) In compliance of the directions of Hon'ble National Green Tribunal, Bio-mining work has also started at 78 out of 107 legacy dumpsites throughout West Bengal, which includes the Promod Nagar and Mollar Bheri Dump sites.*

***(vii) <u>Solid Waste Management</u>***

(a) *Source segregation of municipal solid waste has been started in 27 wards of KMC.*

(b) *A 2 TPD capacity Plastic Waste Processing is in operation at the Dhapa dumpsite as part of the Material Recovery Facility, and the end products are bench, door, window frame, shutter etc.*

(c) *Installation of 5 TPD capacity Bio-CNG plant at Dhapa is under process. Also, 58 Decentralized Organic Waste Converters (OWC) are in operation at different locations within Kolkata city.*

(d) *A Material Recovery Facility has been set up with coordination of UNDP to recycle plastic waste at Belgachhia Dumping Ground.*

(e) *In New Town area, a bio-methanation plant using bio-degradable waste has been commissioned. The Methane Gas generated from the plant is being used to light street lights over a stretch of 2.5 km.*

***(viii) Open Burning of Waste***

*Kolkata Municipal Corporation has taken an initiative to stop open burning of waste. A Bye-law has been notified vide Notification No. 117/SWM/Bye-laws/Corri/2m-2/2020 dated 26th August, 2020. KMC officials are on vigil to stop open burning of solid waste within the city.*

*Ten notices have been issued to offenders from KMCs Solid Waste Management Department for open burning of solid waste at different places within KMC jurisdiction.*

*Howrah Municipal Corporation has taken a similar initiative to stop open burning of waste. A Bye-law has been notified vide Notification No. 01/Con.s/SWM/Bye-Laws/Corri/Commr./2019-20 dated 06th September, 2020.*

***(ix) Clean Fuel to Roadside Eateries***

*Pollution Control Board had distributed LPG gas cylinders within ovens and other accessories to about 2570 beneficiaries of Kolkata, Howrah, Bidhannagar and Lake Town area since 2019. Recently, a programme was orgnaised on 28th December, 2021 at Paribesh Bhawan, where 122 LPG gas cylinders and ovens were given to road-side eateries; apart from these, 90 LPG-Powered irons were also given to the beneficiaries.*

***(x) Multi-level car parking***

*KMC has made multi-level car paring at Rowdon Street (park-o-mat) under Gariahat Flyover and at New Market (Simpark) in order to reduce vehicular congestion & resultant air pollution.*

***(xi) Under Pass and Over Bridges at major crossings***

*(a) KMDA has already constructed underpasses at Science City, Beliaghata Connector, Kandapara Connector on E.M. Bypass, Patipukur Undrepass, Milan Mela Subway, Subway between Energy Education Park and Science City.*

*(b) KMDA has constructed a Foot Over Bridge at Chaupatty Road, which has recently been completed and is ready for inauguration.*

*(c) KMDA has began construction of a Foot Bridge at Patiuli, which is expected to be completed by 30-04-2022.*

***(xii) Cycling track***

*(a) In compliance of the order of the Hon'ble Tribunal and as per the Action Plan submitted by the Chief Secretary, Government of West Bengal before the Hon'ble Tribunal in OA 33/2014/EZ, a conlsulting agency has been appointed by the*

*KMDA. DPR for the cycling track has been prepared.*

*(b) A state-of-the-art cycle track has been constructed in Dumurjola, Howrah to promote/popularize use of cycles.*

*(c) A dedicated cycle track has been constructed by NKDA in the New Town area.*

*5. Apart from the above, the Urban Development & Municipal Affairs Department has prepared draft policy on Faecal Sludge and Septage Management for the urban areas in West Bengal. The Draft Policy has been placed on the Department's website for obtaining public opinion by 21.02.2022. A 30 KLD Faecal Sludge treatment plant (FSTP) is already under operation at Promod Nagar; another plant of 30 KLD capacity is going to be commissioned by March 2022.*

*6. Under the National Clean Air Programme, the Central Government has identified some cities/towns in the country as Non-Attainment Cities (NACs). Kolkata and Howrah are among the non-attainment cities in West Bengal. Action Plans for the Non-Attainment Cities including Kolkata and Howrah have been prepared and duly approved by the Central Pollution Control Board.*

*7. Kolkata is one of the first metropolitan city in the country where Source Apportionment Study was conducted by NEERI. Study Report has been filed before the Ho'nble Tribunal. It came out from the study, inter-alia, that during the winter season, the major pollutants are as follows:-*

*i) PM2.5 in Kolkata is contributed significantly by vehicular activities (25%), after secondary aerosols (32%), and moderately by wood combustion (15%) and coal combustion (9%). In Howrah, PM2.5 contributed by vehicular activities (31%), secondary aerosols (27%) and by wood combustion and coal combustion (11%).*

*ii) PM10 in Kolkata is contributed by vehicular activities (10%) after secondary aerosols (22%), and moderately by road dust (10%). In Howrah, it is contributed by vehicular activities (11%), after secondary aerosols (20%), and by road dust (14%). In the Action Plan for Kolkata, thrust has given for taking various measures to arrest PM10 surges. Measures like proper solid waste management, regular sweeping of roads, water sprinkling during winter months, transportation of waste material by covered trucks, initiatives of re-greening, prevention of waste burning, use of covers during construction and demolition of buildings, pot-hole repairing, gradual shift to clean and green fuels, popularizing LPG use in road side eateries and ironing units have been included in the detailed Action Plan of Kolkata. WBPCB has made a comparative study of air quality over Diwali periods of 2019, 2020 and 2021 respectively which shows that three has not been any significant deterioration of air quality during this period. Rather, PM10 level has shown some signs of reduction over the study period. The comparative graphs are collectively annexed and marked as.*

*8. That the Ministry of Environment, Forests and Climate Change (MOEFCC) is implementing the National Clean Air Programme (NCAP) from January 2019 for improving 122 Non-Attainment Cities (NACs) in the country. The Central Pollution Control Board (CPCB) has identified Kolkata, Howrah, Durgapur, Asansol including Raniganj, Haldia and Barrackpore as Non-Attainment Cities of West Bengal. Comprehensive Action Plans (CAPs) have been prepared for all the seven NACs of West Bengal by Environment Department. The implementation of CAP started in Kolkata in 2019 and in 2020 in the rest of the cities. Implementation of Comprehensive Action Plan (CAP) requires collaboration and co-ordination among many Government Departments. City-level air quality management teams are being mobilized under the*

*leadership of the concerned Urban Local Bodies (ULBs) under the overall supervision of the Urban Development and Municipal Affairs (UD&MA) Department. City level Action Taken Reports (ATRs) are being sent to CPCB in the prescribed format, on quarterly basis.*

*9. In 2020, based on the recommendations of the 15th Finance Commission, the Government of India has launched the Million Plus Cities Challenge to finght air pollution over the next five years. A total of 42 Urban Agglomeration (UAs) across India having a million-plus population have been provided special grants by the 15th Finance Commission under the said Million Plus Cities Challenge Fund (MCF). It is a performance based fiscal transfer funding program for air quality management in the identified cities.*

*Under MCF, financial grants of INR 385 crore and INR 34 crore have provided for improvement of air quality in Kolkata Urban Agglomeration (UA) and Asansol UA respectively for the year 2021-22. Since Howrah Municipal Corporation (HMC) falls under the Kolkata UA, it has obtained its share of INR 38.2631 from Kolkata Municipal Corporation. Under this funding programme, the city-level air quality management team involving Urban Local Bodies, Police, West Bengal Pollution Control Board, PWD (city office), RTOs, DFOs etc. in a co-ordinate manner to ensure improvement of air quality.*

*10. That in course of performance evaluation by CPCB, the central agency has noted that the PM10 concentration has reduced to 95 microgram per m3 in 2020-21 for Kolkata. The number of observed days with AQI<200 has increased from 354 in 2020-2021 to 356 in 2021-2022 for Kolkata. A declining trend is observed in monthly averages of MP10 from 2020-21 winter to 2021-22 (current) winter for twin cities of Kolkata and Howrah:*

*Average PM10 in December 2020 was 237.57 microgram per m3 and the same was 191.75 microgram per m3 for Kolkata in December 2021. Average PM10 concentration in January 2021 was 24.25 microgram per m3 and the same in January 2022 was 189.28 microgram per m3, which suggests reduction of PM 10 during two most critical winter months in Kolkata during current winter season (December 2021 and January 2022) over the previous winter season. The PM10 was 266.81 microgram per m3 in Howrah in December 20214. Average PM 10 in January 2022 (213.97 microgram per m3) is also less than January 2021 (234.93 microgram per m3). Hence, data reveals that air quality has marginally improved in both cities.*

*11. Based on their performance evaluation over the last one year, only 18 UAs (out of 42 UAs in the country) could achieve 75% and above of the total score and could, accordingly, qualify for release of further funds from GoI. Based on the performance assessment (till 15th February 2022) done by the State Level Monitoring and Implementation Committee (SLMIC), West Bengal and the Central Pollution Control Board, both Kolkata UA and Asansol UA have figured in this list of 18 UAs in the country which have qualified for availing funds in the next financial year i.e. 2022-2023."*

11. The Kolkata Municipal Corporation, Respondent No.5, has also brought on record the activities being undertaken by the said Municipal Corporation which are extracted herein below:-

*3. That in compliance of the order passed in connection with O.A. No. 33 of 2014, the following activities undergone by the Kolkata Municipal Corporation:-*

*A. Solid Waste Management (SWM) department of Kolkata Municipal Corporation has already phasing out 159 no. of vehicles, which were 15 years old.*

*B. Presently 15 water sprinklers are regularly used for water sprinkling on strategic stretches of Kolkata to tackle the menace of road dust. In addition to above, tender for procurement of additional 20 water sprinklers have already been floated to cover more area of this city (Vide NIT No GEM/2021/B/1690600 dated 20.11.2021).*

*C. The Fire Department has continuously deployed fire tenders at Dhapa Dumpsite to douse the frequent fires caused by methane gas emitted from the waste dumpsite in the city of Kolkata.*

*D. As per the direction passed by this Ho'nble Tribunal, Bio-Mining of waste at Dhapa Dumpsite has started and 2,35,717.70 MT legacy waste has already been mined and so far out which 1,81,8249.23 MT processed as per CPCB guideline and SWM rule, 2016.*

*E. On the basis of NEERI's source apportionment study and approved action plan of CPCB, KMC has already prepared micro plan and submitted to the environment department, Government of West Bengal for its approval. In line with the Kolkata Municipal Corporation has floated tenders as per micro plan in perspective with solid waste management related activities.*

*F. For abatement of air pollution due to dust from re-suspension of road dust, demolition & construction activities actions taken in Kolkata are as follows:-*

*i. Average 15 no. out of 20 no. mechanical sweepers are regularly deployed for sweeping and arresting re-suspension of silt dust on 500 km road stretch per day in addition to regular manual sweeping by Kolkata Municipal Corporation. Tender for procurement additional 20 no. regenerative mechanical road sweeper has already been floated vide NIT no. GEM/2021/B/1693858 dated 22.11.2021 which will cover more than road stretches in Kolkata.*

*iii. Presently, total no. of 2 mist cannon are regularly in use for watering/washing of city roads by KMC.*
*iv. Total average 115.26 MT drainage silt is removed per day by using average 21 no. of vehicles by Kolkata Municipal Corporation, Bidhannagar Municipal Corporation and other outside agencies.*

*G. Methane gas generated from solid waste and legacy waste dumpsite is considered as one of the major pollutants of air. Several initiatives have been taken by the Kolkata Municipal Corporation to scientifically manage these waste, which are as follows:-*

*i. Source segregation of Municipal Solid Waste is continuing in 27 wards. Due to the non-availability of qualified bidders in 4th time tender, KMC has decided to set up 300 TPD capacity material recovery facility at Patherghata, Rajarhat on a 5 acre land on PPP mode for which KMC will float fresh tender probably by February, 2022 and segregation of waste at source will be done by SWM department by its own resources for collection of dry waste. However, tender for procurement of primary collection equipments, bins has already has been floated and technical evaluation of participated bidders is on progress.*

*ii. The work order for 300 TPD capacity C&D waste processing plant at Patharghata, has already been issued to M/s Hyderabad Integrated MSW Ltd. vide LOI being No. CME/SWM03/CD/PROV/2021. Plant installation work has already been started and expected to be commissioned by May, 2022.*

*iii. A 2 TPD Plastic Waste Processing plant is in operation and the end products are bench, door window frame, shutter etc. some of the composite board and post are used for fencing work.*

*iv. Land development, site fencing, security rooms shade for segregation storage material are completed for 5 TPD bio-CNG plant at Dhapa. Installation of plant is under process.*

*v. Total 5 nos. decentralized organic waste converters are in operation.*

*vi. Tender for procurement of additional 8 nos. Organic Waste Converters has been initiated for processing of waste in a decentralized manner.*

*vii. Total 25 no. vehicles are used for collection and transportation of segregation dry waste from 27 wards. Total 500 TPD wet waste sent to compost plant at Dhapa.*

*viii. Work order has been issued to M/s D.H. Patel for bio-mining of 40 lakh MT legacy waste at Dhapa. (vide work order no. CME/SWM/02/BM/1-PROV/2021 dated 19/02/2021).*

*H. That the Kolkata Municipal Corporation has completed the following works:-*

*i. Drone survey and precursor Study.*
*ii. Site Preparations & Infrastructure development.*
*iii. Deployment of Handling equipment & Vehicles.*
*vi. Deployment of Human Resources.*

*I. That the ongoing activities of the Kolkata Municipal Corporation are as follows:-*

*i. Excavation*
*ii. Bio-stabalization of waste*
*iii. Screening and recovery of recyclables*
*iv. Final disposal of different fractions and rejects managements*
*v. Leachate management*
*vi. Air quality monitoring*
*vii. water quality monitoring*

*viii. Environment and safety plan and maintaining of COVID protocol."*

12. In the affidavit of the Kolkata Municipal Corporation, it is also stated that there has been some delay in the execution of the Bio-Mining Project due to second wave of pandemic and shortage of labour but the Corporation is now trying its best to increase the progress on bio-mining and processing work by engaging manpower and machinery on day and night basis and more Trommels, Ballistic Separators and other machinery and vehicles will be deployed to increase the volume of work after creating space through bio-mining of legacy waste.

13. The Kolkata Municipal Corporation has also outlined the activities undertaken by them which are extracted herein below:-

*"K. That, in compliance with the order of the Hon'ble Tribunal, Kolkata Municipal Corporation has taken steps as per the Committee report. They are the followings:-*

*i. Special attention to control the local emission of particulate from fire in the dumping area and re-suspension of road dust from heavy vehicular movement has been given with proper planning.*

*ii. Sprinkling of water on roads and other areas are actively considered to control dust emissions.*

*iii. 2 no. mist cannon are deployed at suitable locations to control particular air pollution.*

*iv. Advance demarcation and declaration of a buffer zone of no new habitation for upto 500m is in progress.*

*v. Seepage of leachate from the fresh dumpsite is managed as per SWM Rule 2016. After collection of*

*leachate it is sending to nearby 300 KLD Leachate Treatment Plant.*

vi. *Kolkata Municipal Corporation has a skeleton disaster team which will be used at Dhapa, whenever it will be required.*

vii. *Periodic monitoring is continually done by Kolkata Municipal Corporation as well as academic Institution Jadavpur University engaged for Bio-Mining of legacy waste at Dhapa.*

viii. *Air, water, leachate quality monitoring at Dhapa bio-mining site is done in very month from the NABL accredited laboratories. In addition to that noise quality monitoring is also done at plant boundary. M/s D.H. Patel has been instructed by Kolkata Municipal Corporation and Jadavpur University for testing of Benzo(a) Pyrene (Bap) as a criteria pollutant and M/s D.H. Patel has done the test after collecting necessary sampling and awaiting for the results."*

14. By our order dated 05.07.2022, we had directed the Applicant to crystallize the issues through an affidavit, particularly in view of the various affidavits and action taken reports filed by the Department of Environment, State of West Bengal and the Kolkata Municipal Corporation.

15. The Applicant has crystallized the issues through a supplementary affidavit dated 08.07.2022. The relevant extract of the crystallized issues is reproduced herein below:-

***SOURCE APPORTIONMENT STUDY BY CSIR-NEERI***

*2. That as per the order of the Hon'ble Tribunal, West Bengal Pollution Control Board had engaged CSIR-NEERI to carry out Source Apportionment Study and Development*

*of Emission Inventory of Twin Cities Kolkata and Howrah, the final report of which was prepared in December 2019 and submitted before the Hon'ble Tribunal on which it had been directed on 1st October, 2020 'the Action Plan ought to be executed urgently if any meaningful result is to be achieved. It is accordingly directed so.'*

*3. That the final report of CSIR-NEERI, vide chapter-7 has summarized the sources, the brief of which is reproduced as under:-*

*7.1.1 Summer Kolkata*

*"Based on the preliminary analysis, mass closure, back-trajectory analysis followed by source contribution function and CNG results, it can be observed that PM10 is contributed significantly by vehicles (22%), road dust (20%) followed by secondary inorganic aerosols (19%). The contribution of domestic and commercial combustion activities to PM10 is 16% followed by construction activity (12%). PM2.5 is contributed significantly by domestic and commercial combustion activities (35%), vehicles (22%) and slightly by road dust (10%) and open burning (6%)."*

*7.1.2 Summer Howrah*

*"PM10 is contributed significantly by domestic and commercial combustion activities (30%) followed by vehicles (21%), road dust and construction (20%) and secondary aerosols (20%). Open burning also contribute to PM10 (9%) in Howrah PM2.5 is contributed significantly by domestic and commercial combustion (27%), secondary aerosols (28%) and vehicles (20%). Open burning contribution (16%) is observed to be higher for PM2.5 in Howrah as compared to Kolkata. Road dust contributed 10% of PM2.5 mass."*

*7.2.1 Winter: Kolkata*

*"Based on the preliminary analysis, the mass closure, back-trajectory analysis followed peotential source contribution estimation and CMB results; it can be*

*observed that PM2.5 contributed significantly by vehicular activities (25%) after secondary aerosol moderately by wood combustion (15%) and coal combustion (9%).*

*7.2.2 Winter: Howrah*
*"Vehicular contribution to PM2.5 is observed to be 31% in Howrah. Coal and wood combustion share is 11% each, whereas secondary aerosol contribution is 27%."*

16. In para 4 of the affidavit, the Applicant has stated that the concerned authorities have not spelt out anything in their affidavits about the Action Plan to combat the sources of pollution and the Action Taken thereon. Pathological tests have been carried out but the treatment of the ailments has been put on hold for a long period.

17. As regards the Phasing out of Old Vehicles is concerned, in para 5 of the affidavit, it is stated by the Applicant that although the original direction was passed by the Hon'ble High Court of Calcutta (in W.P. No. 6377(w)/2007) on 8.07.2008 on 'phasing out of commercial vehicles that are more than 15 years old' and the Hon'ble National Green Tribunal, Eastern Zone Bench has passed orders on 11.08.2016 and on 01.10.2020, the Principal Secretary, Transport Department, Govt. of West Bengal, has placed vide affidavit dated 07.01.2022 a 'Report on Removal of Old Vehicles from Kolkata and Howrah – present scenario, implication and implementations,' which contains historical and related data with 'Recommendations of the Committee.' It is stated that the Report of the Committee dated 02.08.2021 does not state anything about

what action has already been taken in this regard. Para nos. 5, 6, 7, 8, 9, 10, 11 & 12 of the affidavit are reproduced herein below:-

> *5. That although the original direction was passed by the Hon'ble High Court Calcutta (in W.P. No. 6377(W)/2007) on 18.07.2008 on 'phasing out of commercial vehicles that are more than 15 years old' and the Hon'ble National Green Tribunal, Eastern Zone Bench has passed orders on 11th August, 2016 and on 1st October, 2020, the Principal Secretary, Transport Department, Govt. of West Bengal has placed vide affidavit dated 7th January, 2022 a 'Report on Removal of Old Vehicles from Kolkata and Howrah:-Present Scenario, implication and implementations,' which contains historical and related data with 'Recommendations of the Committee.' Such Report of the committee is dated 2nd August, 2021, but the same does not indicate anything about what action has already been taken in this regard. it is still travelling through the corridor or recommendation only.*
>
> *6. That in the matter of 15 years old vehicles operating/registered in Calcutta/Howrah and in the State, it is pertinent to mention that the Ministry of Road, Transport and Highways, Govt. of India had earlier informed vide affidavit dated 8thJuly, 2019, page no. 786 that the total number of vehicles are as follows:-*
>
> *Calcutta*
>
> | | | |
> |---|---|---|
> | *i)* | *Transport (Commercial) vehicles* | *2,19,137* |
> | *ii)* | *Non-Transport(Non-Commercial) vehicles* | *18,20,382* |
>
> *In West Bengal (Outside Calcutta)*
>
> | | | |
> |---|---|---|
> | *i)* | *Transport (Commercial) vehicles* | *6,97,635* |
> | *ii)* | *Non-Transport (Non-Commercial) vehicles* | *65,01,179* |

*Note:-The above data is as per VAHAN-4.*

***NO ENTRY OF NON-BHARAT STAGE IV VEHICLES WITHIN KOLKATA AND HOWRAH***

*7. That although the Hon'ble National Green Tribunal, Eastern Zone Bench has passed specific orders on 11th August, 2016 and on 1st October, 2020 stating, 'it is high time for the State to ensure that the public transport vehicles below BS-IV are phased out rapidly to arrive at a stage when only BS-IV would play in the two cities to be extended gradually to the rest of the State,' nothing has been stated by the State Respondent about this major issue. They have preferred to remain silent in this regard.*

***SOLID WASTE MANAGEMENT BY KOLKATA MUNICIPAL CORPORATION***

*8. That Kolkata Municipal Corporation has stated in the affidavit dated 17th February, 2022, vide internal page no. 2, para A that Corporation 'has already phasing out 159 no. of vehicles.' It is not clear whether 159 vehicles have phased out or being phased out. Moreover, it has not been stated how may polluting vehicles are in operations and to be phased out.*

*9. That vide the affidavit dated 17th February, 2022, internal page no.3, para E it has been stated that the Corporation has 'prepared micro plan and submitted to the environment department, Govt. of West Bengal for its approval,' NEERI has submitted the report in December 2019 and after the lapse of 30 months the matter is still waiting for the approval of the State Govt.*

*10. That it has been claimed in the aforesaid affidavit vide internal page no.3, point no. I that tender for procurement of 20 nos. of mechanical road sweepers has*

*been initiated in November 2021. The same is required to be finalized and procured at the earliest. In the matter of abatement of dust arising from demolition and construction activities, more emphasis is to be given to regulate and control such activities for which 'Guidelines on Environmental Management of Constructions & Demolition (C&D) wastes,' have been prescribed by the Central Pollution Control Board. Kolkata Municipal Corporation should ensure that such guidelines are followed not to allow any excessive dust from such activities.*

*11. That vide internal page no.4, para Gi, of the same affidavit it has been stated that waste-segregation is continuing in 27 wards of the Corporation. Since the Corporation has 144 wards, catering only 27 wards (18.75%) is not sufficient. Moreover, it is pertinent to mention that the Corporation has deployed hundreds of COMPACTORS, which works totally against the waste segregation process and concept.*

*12. That vide internal page no.74, Para K, the Corporation has briefed about the steps taken on the RECOMMENDATIONS OF THE Committee, which need to be further streamlined and properly executed."*

18. Considering the issues raised by the Applicant in his supplementary affidavit, we do not feel it proper to call for any counter-affidavit from the State Government and we are of the view that the matter can be disposed of by issuing the following directions which will have a bearing on all the issues raised in the present Miscellaneous Application which are as follows:-

(i) **With regard to disposal of Municipal Solid Waste**:-

Legacy waste dumped in Dhapa and other such areas

throughout the State of West Bengal requires to be treated by Bio-Mining/Bio-remediation within the specific time frame. Although Action Plans have been prepared by the concerned Municipal Corporation/Municipality but the ground reality is far from satisfactory.

Bio-mining/Bio-remediation of legacy waste should be carried out in a manner where the quantum of Bio-remediation should exceed the quantum of waste being dumped to ensure successful clearance of the site by Bio-remediation within the specified timeline.

In this regard it is directed that the number of Trammels/Ballistic Separators be increased in a phased manner so that the legacy waste can be effectively bio-mined/bio-remedied within the specified time frame;

(ii) **With regard to Phasing Out of Old Vehicles (more than 15 years old):-**

Although the affidavit of the State Government indicates some actions, a concerted effort by the State Government is lacking. Huge number of private and commercial vehicles older than 15 years are plying in the cities of Kolkata and Howrah and also in other places in the State of West Bengal which amounts to few lakhs. An exact time frame for phasing out of all old vehicles (more than 15 years old) is not clearly mentioned.

It is, therefore, directed that all the old commercial and private vehicles in the State of West Bengal including the

cities of Kolkata and Howrah be phased out in the next six months.

The State Government must ensure that the public transport vehicles below BS-IV are phased out in the next six months so that after six months only BS-VI vehicles would ply in the State of West Bengal including the cities of Kolkata and Howrah.

It is further directed that while phasing out of the old vehicles, a move towards use of cleaner and greener technology with the introduction of Compressed Natural Gas (CNG) Buses/Electric Buses may be expedited.

(iii) **With regard to Air Pollution in the cities of Kolkata and Howrah:**-

The major contributors of air pollution are (i) Construction Activity, (ii) Burning of Municipal Solid Wastes (iii) Vehicular Pollution, (iv) Dust on the Roads, and (v) Emission from Hot-mix Plants and Stone Crushers.

On the directions of the Tribunal the West Bengal Pollution Control Board had engaged CSIR-NEERI to carry out Source Apportionment Study and Development of Emission Inventory in the twin cities of Kolkata and Howrah. The said Report has been finalized and Action Plan needs to be implemented with immediate effect.

It is accordingly directed to carry out the implementation of the Action Plan to combat the sources of pollution and

thereby remediate the situation within a period of three months.

(iv) **With regard to Noise Pollution:**-

The West Bengal Pollution Control Board, in consultation with the Police Department who are entrusted with the responsibility of control of noise under the Noise Pollution (Regulation and Control) Rules, 2000, may undertake a Gap Analysis Study and set-up sufficient number of monitoring stations and acquire such number of equipments as may be necessary. The Police Department of the State of West Bengal may obtain the necessary Noise Monitoring Devices within a period of three months and train the staff regarding the use of such devices. Use of Sound Limiters in all Sound Systems/Public Address Systems must be ensured for effective control of noise pollution.

The Police Department of the State of West Bengal is directed that Sound Limiters be procured in such quantities so that all Sound Systems/Public Address Systems are fitted with this device within a period of three months.

A Task Force at appropriate level most likely at the Police Station Level should be constituted for effective enforcement of the noise norms and selective officers should be nominated as Nodal Officers of Noise Pollution. There should be a regular drive by Traffic Police to prosecute the violators of noise norms like modified motorcycles, pressure

horns etc. and check indiscriminate honking at crossings. No Honking week should also be organized.

The Government of West Bengal may issue appropriate notification for mandatory use of Sound Limiters in all Sound Systems.

19. With the aforesaid directions, the Miscellaneous Application No. 05/2021/EZ is disposed of.

20. There shall be no order as to costs.

**.....**
**B. AMIT STHALEKAR, JM**

**.....**
**SAIBAL DASGUPTA, EM**

**Kolkata,**
**July 26th, 2022,**
**Miscellaneous Application No.05/2021/EZ**
**In**
**Original Application No. 33/2014/EZ**
**AK**