NATIONAL CLEAN AIR PROGRAMME (NCAP)-INDIA

Concept Note

1. BACKGROUND

1.1 India is committed to clean environment and pollution free air and water. In fact, it is mandated in our constitution. India's commitments and obligations to conservation and protection of environment within the ambit of targeted goals on environmental sustainability under the Sustainable Development Goals (SDGs) is manifested in the fact that several administrative and regulatory measures including a separate statute on air and water pollution are under implementation since long. The Air (Prevention and Control of Pollution) Act, 1981, was enacted under Art. 253 of the Constitution to implement the decisions taken at the United Nations Conference on Human Environment held at Stockholm in June 1972, in which India participated. Sustainable development, in terms of enhancement of human well- being, is an integral part of India's development philosophy.

1.2 However, a vast country and an emerging economy like India, face enormous challenges with its burgeoning population and widespread poverty, in meeting its various other significant commitments associated with poverty and hunger eradication under the SDGs. India has been going through a phase of accelerated industrial activities for the past three decades. The associated growth in terms of industrialization and urbanization has led to manifold increase in pollution issues more specifically air pollution issues.

1.3 In recent years, medium and small towns and cities have also witnessed spurt in pollution thus getting fast reflected in the non-attainment cities of India. Air pollution has increasingly been becoming a serious concern, predominantly for health of the people. The reported perplexing statistics in various international reports, drawing correlation of air pollution with various aggravated figures on health, without validation on Indian population further complicates the issues by creating a flawed public perception.

1.4 Air pollution emission issues are associated with many sectors which inter-alia include power, transport, industry, residential, construction, and agriculture. The impact of air pollution is not limited to health but it gets extended to agriculture and general well-being of human, floral and faunal population. Furthermore, since air pollution is not a localized phenomenon, the effect is felt in cities and towns far away from the source. Thus creating the need of inter-state and inert-city coordination in addition to multi-sectoral synchronisation. While the problem of air pollution is mainly urban centric, studies shows the regional scale pollution, which is more concentrated in entire Indo-Gangetic plains of India and more industrialized states. Incidences of episodic air pollution during winters in Delhi NCR in recent years has attracted

significant media attention thus bringing the entire issue of air pollution under regular public scrutiny.

1.5 In order to address the issue, Government has undertaken many significant steps which *inter-alia* include notification of National Ambient Air Quality Standards and sector specific emission and effluent standards for industries; setting up of monitoring network for assessment of ambient air quality; introduction of cleaner gaseous fuels like CNG, LPG etc and ethanol blending; launching of National Air Quality Index (AQI); universalization of BS-IV for vehicles by 2017; leapfrogging from BS-IV to BS-VI fuel standards by 1st April, 2020; banning of burning of biomass; promotion of public transport network; Pollution Under Control Certificate; issuance of directions under Air (Prevention and Control of Pollution) Act, 1981; installation of on-line continuous (24x7) monitoring devices by 17 highly polluting industrial sectors; ban on bursting of sound emitting crackers between 10 PM to 6 AM; notification of graded response action plan for Delhi and NCR identifying source wise actions for various levels of air pollution, etc.

1.6 With these recent policy interventions, air quality has purportedly shown some minor improvement in some major cities in recent time which as of now cannot be called as trend. This is not sufficient and higher level of focused time bound initiatives at both city and rural level now appear obligatory to address the issue in comprehensive manner at national level. It is in this context, the need for a **National Clean Air Programme (NCAP)** at the National scale to draft and implement national level strategies for reduction in air pollution levels at both regional and urban scales is felt.

2. GOAL

2.1 Goal of this mission is to meet the prescribed annual average ambient air quality standards at all locations in the country in a stipulated timeframe.

3. OBJECTIVES

3.1 To augment and evolve effective and proficient ambient air quality monitoring network across the country for ensuring comprehensive and reliable database

3.2 To have efficient data dissemination and public outreach mechanism for timely measures for prevention and mitigation of air pollution and for inclusive public participation in both planning and implementation of the programmes and policies of government on air pollution

3.3 To have feasible management plan for prevention, control and abatement of air pollution.

4. APPROACH

4.1 Collaborative, Multi-scale and Cross-Sectoral Coordination between relevant Central Ministries, State Government and local bodies

4.2 Focus on no Regret Measures, Participatory and Disciplined approach

5. GOVERNMENT INITIATIVES

5.1 National Air Quality Monitoring Programme

5.1.1 Government is executing a nation-wide programme of ambient air quality monitoring known as National Air Quality Monitoring Programme (NAMP). The network consists of Six hundred and Eighty-Three (683) manual operating stations covering Three Hundred (300) cities/towns in twenty-six (29) states and four (6) Union Territories of the country. Under NAMP, four air pollutants viz ., Sulphur Dioxide (SO_2), Oxides of Nitrogen as NO_2, Suspended Particulate Matter (PM10) and Fine Particulate Matter (PM2.5) have been identified for regular monitoring at all the locations. In addition, there are 55 real-time Continuous Ambient Air Quality Monitoring stations (CAAQMS) in 40 cities monitoring 08 pollutants viz. PM10, PM2.5, SO_2, NOx, ammonia (NH_3), CO, ozone (O_3) and benzene. PM10 are inhalable coarse particles, which are particles with a diameter between 2.5 and 10 micrometers (µm) and PM2.5 are fine particles with a diameter of 2.5 µm or less. Particulates are the deadliest form of air pollutant due to their ability to penetrate deep into the lungs and blood streams unfiltered. The smaller $PM_{2.5}$ are particularly deadly as it can penetrate deeper into the lungs.

5.1.2 The objectives of the NAMP are (i) to determine status and trends of ambient air quality; (ii) to ascertain whether the prescribed ambient air quality standards are violated; (iii) to Identify Non-attainment Cities; (iv) to obtain the knowledge and understanding necessary for developing preventive and corrective measures; and (v) to understand the natural cleansing process undergoing in the environment through pollution dilution, dispersion, wind based movement, dry deposition, precipitation and chemical transformation of pollutants generated.

5.1.3 The monitoring of meteorological parameters such as wind speed and wind direction, relative humidity (RH) and temperature were also integrated with the monitoring of air quality. The monitoring of pollutants is carried out for 24 hours (4-hourly sampling for gaseous pollutants and 8-hourly sampling for particulate matter) with a frequency of twice a week, to have one hundred and four (104) observations in a year. The monitoring is being carried out with the help of Central Pollution Control Board (CPCB); State Pollution Control Boards (SPCB); Pollution Control Committees (PCC); National Environmental Engineering Research Institute (NEERI), Nagpur. CPCB co-ordinates with these agencies to ensure the uniformity, consistency of air quality data and provides

technical and financial support to them for operating the monitoring stations. N.A.M.P. is being operated through various monitoring agencies. Large number of personnel and equipment are involved in the sampling, chemical analyses, data reporting etc. It increases the probability of variation and personnel biases reflecting in the data, hence it is pertinent to mention that these data be treated as indicative rather than absolute. State and city-wise distribution of operating stations under NAMP and their location may be referred at **Annexure 1.**

5.2 National Ambient Air Quality Standards (NAAQS)

5.2.1 Ambient air quality refers to the condition or quality of air surrounding us in the outdoors. National Ambient Air Quality Standards are the standards for ambient air quality with reference to various identified pollutant notified by the Central Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981. Major objectives of NAAQS are (i) to indicate necessary air quality levels and appropriate margins required to ensure the protection of vegetation, health and property, (ii) to provide a uniform yardstick for assessment of air quality at the national level, and (iii) to indicate the extent and need of monitoring programme. *Annual standards are basically* Annual Arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at a uniform interval and 24 hourly 08 hourly or 01 hourly monitored values, as applicable shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring. The NAAQS notified as on November 2009 is tabulated below-

Sr. No	Pollutants	Time Weighted Average	Concentration in Ambient Air	
			Industrial, Residential, Rural and other Areas	Ecologically Sensitive Area (notified by Central Government)
1	Sulphur Dioxide (SO_2), µg/m³	Annual*	50	20
		24 Hours**	80	80
2	Nitrogen Dioxide (NO_2), µg/m³	Annual*	40	30
		24 Hours**	80	80
3		Annual*	60	60

	Particulate Matter (Size <10 µm) or PM_{10} µg/m^3	24 Hours**	100	100
4	Particulate Matter (Size<2.5 µm) or $PM_{2.5}$ µg/m^3	Annual*	40	40
		24 Hours**	60	60
5	Ozone (O_3), µg/m^3	8 hours**	100	100
		1 hours **	180	180
6	Lead (Pb), µg/m_3	Annual*	0.50	0.50
		24 Hours**	1.0	1.0
7	Carbon Monoxide (CO), mg/m^3	8 hours**	02	02
		1 hours **	04	04
8	Ammonia (NH_3), µg/m^3	Annual*	100	100
		24 Hours**	400	400
9	Benzene (C_6H_6), µg/m^3	Annual*	05	05
10	Benzo(a)Pyrene (BaP)-particulate phase only, ng/m^3	Annual*	01	01
11	Arsenic (As), ng/m^3	Annual*	06	06
12	Nickel (Ni), ng/m^3	Annual*	20	20

5.2.2 In addition to above, MoEF&CC through CPCB has notified 115 emission/effluent standards for 104 different sectors of industries, besides 32 general standards for ambient air. Installation of on-line continuous (24x7) monitoring devices by 17 major polluting industries has been made mandatory

5.3 National Air Quality Index (AQI)

5.3.1 AQI was launched by the Prime Minister in April, 2015 starting with 14 cities and now extended to 34 cities. Air Quality Index is a tool for effective communication of air quality status to people in terms, which are easy to understand. It transforms complex air quality data of various pollutants into a single number (index value), nomenclature and colour. 2. There are six AQI categories, namely Good, Satisfactory, Moderately polluted, Poor, Very Poor, and Severe. Each of these categories is decided based on ambient concentration values of air pollutants and their likely health impacts (known as health breakpoints). AQ sub-index and health breakpoints are evolved for eight pollutants (PM10, PM2.5, NO2, SO2, CO, O3, NH3, and Pb) for which short-term (upto 24-hours) National Ambient Air Quality Standards are prescribed. 3. Based on the measured ambient concentrations of a pollutant, sub-index is calculated, which is a linear function of concentration (e.g. the sub-index for PM2.5 will be 51 at concentration 31 µg/m3 , 100 at concentration 60 µg/m3 , and 75 at concentration of 45 µg/m3). The worst sub-index determines the overall AQI. AQI categories and health breakpoints for the eight pollutants are at **Annexure II.**

5.4 Forty-two Action Point

5.4.1 Central Pollution Control Board (CPCB) has issued a comprehensive set of directions under section 18 (1) (b) of Air (Prevention and Control of Pollution) Act, 1986 for implementation of forty-two (42) measures to mitigate air pollution in major cities including Delhi and NCR comprising of action points to counter air pollution which include control and mitigation measures related to vehicular emissions, re-suspension of road dust and other fugitive emissions, bio-mass/municipal solid waste burning, industrial pollution, construction and demolition activities, and other general steps. Directions containing 42 action point which was issued initially for implementation in NCR was subsequently extended to State Boards for implementation in other non-attainment cities. The copy of the direction is at **Annexure III.**

5.4.2 In addition regular specific directions are being issued to various authorities in all 22 districts in NCR i.e. to Municipal Commissioners for road dust, garbage burning; to Superintendent of Police for Effective movement of traffic at busy intersections; to Director (Agriculture) in NCR States & Punjab for Stubble burning.

5.5 Environment Pollution (Prevention and Control) Authority (EPCA)

5.5.1 Environment Pollution (Prevention and Control) Authority (EPCA) was constituted under Section 3(3) of Environment (Protection) Act, 1986 in 1998 in pursuance of Hon'ble Supreme Court Order dated 7.1.1998 in Writ Petition (C) no. 13029/1985 in the matter of M.C. Mehta vs UoI &Ors to look into the matter pertaining to environmental pollution in National Capital Region (NCR). As per the Order, the Authority was proposed to be comprised of Shri Bhure Lal, Secretary, CVC as Chairman; and Shri D.K. Biswas, Shri Anil Aggarwal, Shri

Jagdish Khattar, and Smt Kiran Dhingra as members. Accordingly, this Ministry notified the constitution of EPCA vide notification no. SO 93(E) dated 29.2.1998 for two years comprising of above stated members and TOR. In the notification, jurisdiction of EPCA has been stated as National Capital Region as defined in clause (f) of section 2 of National Capital Region Planning Board Act, 1985 (2 of 1985). The EPCA has been subsequently re-constituted from time to time extending the tenure of the Authority and/or substituting or including new members.

5.6 Impetus on Vehicular Pollution

5.6.1 Vehicles being identified as major source of pollution there had been greater emphasis on regulation of vehicular pollution. In this regard Bharat Stage IV (BS-IV) norms has been launched for mandatory implementation since 1st April 2017 and leap-frogging to BS- VI by 1st April, 2020 has been proposed. Bharat stage emission standards (BSES) are emission standards instituted by the Government of India to regulate the output of air pollutants from internal combustion engines and Spark-ignition engines equipment, including motor vehicles. The standards and the timeline for implementation are set by the Central Pollution Control Board under the Ministry of Environment & Forests and climate change. The standards, based on European regulations were first introduced in 2000. Progressively stringent norms have been rolled out since then. All new vehicles manufactured after the implementation of the norms have to be compliant with the regulations. Since October 2010, Bharat Stage (BS) III norms have been enforced across the country. In 13 major cities, Bharat Stage IV emission norms have been in place since April 2010 and it's enforced for whole country from April 2017. In 2016, the Indian government announced that the country would skip the BS-V norms altogether and adopt BS-VI norms by 2020.

5.6.2 In addition to BS IV norms, various other measures have been taken up by government for control and management of vehicular emission. These measures include emphasis on cleaner / alternate gaseous fuel like CNG, LPG etc, ethanol blending in petrol in order to reduce vehicle exhaust emissions, promotion of public transport, Pollution Under Control Certificate, lane discipline, vehicle maintenance etc. It is estimated that a 5% blending (105 crore litres) can result in replacement of around 1.8 million Barrels of crude oil . The renewable ethanol content, which is a by product of the sugar industry, is expected to result in a net reduction in the emission of carbon dioxide, carbon monoxide (CO) and hydrocarbons (HC). Ethanol itself burns cleaner and burns more completely than petrol it is blended into. In India, ethanol is mainly derived by sugarcane molasses, which is a by-product in the conversion of sugar cane juice to sugar.

5.7 Graded Response Action Plan (GRAP)

5.7.1 The Government has notified a Graded Response Action Plan for Delhi and NCR, which comprises of the graded measures for each source framed according to the AQI categories. It also takes note of the broad health advisory for each level of AQI that was adopted by the Government of India along with the AQI . The proposal has been framed keeping in view the key pollution sources in Delhi and National Capital Region of Delhi (NCR). While major sources of pollution including vehicles, road dust, biomass burning, construction, power plants and industries remain continuous throughout all seasons, the episodic pollution from stubble burning, increase in biomass burning, etc. varies across seasons. During winter the relative share of vehicles, biomass burning, MSW burning, firecracker, stubble burning, construction, and secondary particles increase. During summer, the influence of road dust, fly ash, vehicles, biomass burning etc is high. The proposed graded measure approach has considered all these aspects and includes appropriate measures for each level of pollution according to AQI. The graded measures according to AQI are listed from public health emergency level to downward. The measures are cumulative. Emergency and Severe levels include cumulatively all other measures listed in the lower levels of AQI including Very Poor, Poor and Moderate. It is also clear that the actions listed in the poor category need to be implemented though out the year. But during months when weather conditions turn more adverse there is need for greater scrutiny on enforcement. The responsibility of implementing GRAP lies with EPCA. The GRAP is enclosed as **Annexure IV.**

5.8 Source Apportionment Studies

5.8.1 Data generated from NAMP over the years reveal that particulate matters (PM10 & PM2.5) are exceeding more than the permissible levels at many locations, particularly in urban areas. Air pollution problem becomes complex due to multiplicity and complexity of air polluting sources (e.g. industries, automobiles, generator sets, domestic fuel burning, road side dusts, construction activities, etc.). A cost-effective approach for improving air quality in polluted areas involves (i) identification of emission sources; (ii) assessment of extent of contribution of these sources on ambient environment; (iii) prioritizing the sources that need to be tackled; (iv) evaluate various options for controlling the sources with regard to feasibility and economic viability; and (v) formulation and implementation of most appropriate action plans. Source apportionment study, which is primarily based on measurements and tracking down the sources through receptor modelling, helps in identifying the sources and extent of their contribution. The Auto Fuel Policy document of Government of India also recommended for carrying out source apportionment studies. Accordingly, source apportionment studies have been initiated in six major cities viz. (i) Delhi; (ii) Mumbai; (iii) Chennai; (iv) Bangalore; (v) Pune; and (vi) Kanpur. The study would focus on apportionment of particulate matters (PM 10 & PM 2.5), being most critical. Statistics generated from source

apportionment studies of Delhi by CPCB and IIT Kanpur showing percentage contribution of PM10 from various sources is at **Annexure V.**

5.9 Other Measures

5.8.1 Focusing on pollution from waste, five Waste Management Rules on solid waste, hazardous waste, plastic waste, biomedical waste and e-waste has been revised and rules on Construction & Demolition Waste major source of dust pollution was newly notified during 2016. Further ban was imposed on burning of leaves, biomass and municipal solid waste.

6. PRESENT POLLUTION STATUS

6.1 SO_2 (Sulphur dioxide)- The levels of sulphur dioxide are within the prescribed National Ambient Air Quality Standards. SO_2 concentration has decreased over the years indicating that there has been a decline in SO_2 levels. Decreasing trend may be due to various interventions that have taken place in recent years such as reduction in sulphur in diesel, use of cleaner fuel such as CNG in metro cities, change in domestic fuel from coal to LPG

6.2 NO_2 (Nitrogen dioxide)- The levels of nitrogen dioxide are within the prescribed National Ambient Air Quality Standards in most of the cities. NO_2 concentration has remained stable over the years with a slight decrease in last three years despite increase in sources like vehicles. The reason for this may be various intervention measures that have taken place such as improvement in vehicle technology and other vehicular pollution control measures like alternate fuel etc

6.3 PM_{10} (Particular Matter)-The levels of PM10 exceed the prescribed National Ambient Air Quality Standards in most of the cities. PM10 concentration shows fluctuating trend exceeding the NAAQS. The reasons being emission from gensets, small scale industries, biomass incineration, suspension of traffic dust, natural dust, commercial and domestic use of fuel and vehicular emission etc. Furthermore, the increasing trend for PM10 may be attributed to the increasing number of vehicles and re-suspension of natural dust. **Graph-Trend (Annexure)**

6.4 Non-attainment Cities

CPCB has identified list of polluted cities in which the prescribed National Ambient Air Quality Standards (NAAQS) are violated. These cities have been identified based on ambient air quality data obtained (2011-2015) under National Air Quality Monitoring Programme (NAMP). PM10 has been found to be exceeding in 94 cities consecutively for five years and NO_2 is exceeding in 5 cities. PM2.5 data since 2015 indicates 16 cities as non-attainment cities. List

of 94 non-attainment cities is at **Annexure VI** and their location on map is at **Annexure VII.**

7.0 NATIONAL CLEAN AIR PROGRAMME (NCAP)

7.1. In line with the gaps drawn from the ongoing government initiatives and existing air pollution status, the need is felt for augmentation of our efforts towards mitigation of air pollution in mission mode. Comprehensive strategy in NCAP is being envisaged to plug the gaps in maintenance of air quality in the country.

7.1.1 Augmenting Air Quality Monitoring Network

National air quality monitoring network to be revisited, past data to be analyzed for rationalization of monitored parameters, and monitoring needs be reassessed for augmenting the monitoring network adopting optimum blending of techniques such as manual, continuous, sensor & satellite based techniques A few initiatives are suggested below:

i. **Manual monitoring stations** -With reference to existing 4000 cities in the country, manual monitoring stations in 300 cities reflects limited number and need augmentation. It is proposed to augment it to 1000 stations from existing 680 stations.

ii. **CAAQMS** -Recognizing the need to monitor real time and peak concentration levels of critical pollutants more specifically with reference to AQI, CAAQMS to be increased from existing 55 in 40 cities to 268 in 67 cities.

iii. **Identification of alternative technology for real time monitoring-** Central Pollution Control Board (CPCB) is to steer the process of identifying and for developing/validating alternative cost effective technology for source and ambient air quality monitoring in consultation with IIT, CSIR and other such institutes as NEERI

iv. **Rural Monitoring Network-** Air quality in rural areas remains a neglected issue so far. The common belief is that rural areas are free from air pollution. On the contrary air quality in the rural areas all over the world and particularly in the developing countries may be more polluted than some of the urban areas. Rural areas suffer from outdoor air pollution as well as indoor air pollution. Major sources of outdoor air are indiscriminate use of insecticides/pesticides sprays and burning of wheat and paddy straw. Atmospheric concentration of ozone has been observed higher in rural areas as compared to urban areas. Indoor air

pollution exposes more people worldwide to health risks than out door air pollution. The indoor air pollution exists in rural areas where the main source of air pollution is domestic fuel used. In rural areas cow dung, wood sticks are used as fuel in household. The kitchen is without any proper ventilation resulting in build-up of air pollutants in the houses. Since rural areas have not been covered under NAMP till it is proposed to set up 50 such stations in rural areas.

v. **Protocol for setting up of monitoring stations and monitoring** - Guidelines for Ambient Air Quality Monitoring has been issued by CPCB in 2003 for assisting taking decision with respect to setting up of monitoring stations. However, it is noted that the guideline needs revision in reference to sound decision making in selection of pollutants, selection of locations, frequency, duration of sampling, sampling techniques, infrastructural facilities, man power and operation and maintenance costs. The network design also depends upon the type of pollutants in the atmosphere through various common sources. Accordingly, it is planned to review the existing guideline and issue protocol for setting up of monitoring stations and monitoring.

vi. **Monitoring of PM 2.5**- Particulates are the deadliest form of air pollution due to their ability to penetrate deep into the lungs and blood streams unfiltered, causing various health issues. The smaller $PM_{2.5}$ are particularly deadly, as it can penetrate deeper into the lungs and blood stream. The monitoring data also indicates higher concentration of PM2.5 in major cities. Accordingly, in order to evolve comprehensive for management of PM 2.5 it is proposed to augment the number of monitoring stations for PM2.5 from existing 67 to all stations under NAMP.

vii. **Indoor Air Monitoring-** It refers to the physical, chemical, and biological characteristics of air in the indoor environment within a home, building, or an institution or commercial facility. In the developing countries, it is the rural areas that face the greatest threat from indoor pollution, where some 3.5 billion people continue to rely on traditional fuels such as firewood, charcoal, and cowdung for cooking and heating. In urban areas, exposure to indoor air pollution has increased due to a variety of reasons, including the construction of more tightly sealed buildings, reduced ventilation, the use of synthetic materials for building and furnishing and the use of chemical products as in paints, pesticides, and household care products. Indoor air pollution can begin within the building or be drawn in from outdoors. Other than nitrogen dioxide, carbon monoxide, and lead, there are a number of other pollutants that affect the air quality in an enclosed space.

The issue is proposed to be addressed through Guidelines and Protocols on indoor air pollution.

viii. **Setting up of 10 city Super Network**- This network may capture overall air quality dynamics of the nation, impact of interventions, trends, investigative measurements, etc. The cities may be identified for capturing possible variations (e.g. metro city, village, mid-level town, coastal town, controlled background location, industrial town, etc.). Each city may have one well-equipped monitoring station representing the city background. In addition to notified 12 pollutants, constituents of PM_{10} & $PM_{2.5}$, PM_1, particle number, etc. may be monitored. It should generate highly quality controlled data and will represent national air quality dynamics.

7.1.2 Air Quality Management Plan for 100 Non-Attainment Cities- The city action plans need to be guided by a comprehensive science based approach involving (i) identification of emission sources; (ii) assessment of extent of contribution of these sources; (iii) prioritizing the sources that need to be tackled; (iv) evaluation of various options for controlling the sources with regard to feasibility and economic viability; and (v) formulation of action plans. A detailed source apportionment study including air quality monitoring, emission inventory, chemical speciation and receptor modelling can provide vital inputs for drawing up city specific action plans. Source apportionment study is resource intensive and highly specialized technical work, and considering that such studies are required in about 94 non-attainment towns; capacity building and networking of domestic Institutes will be extremely important. It is suggested that these studies are taken up in a few cities and towns, to begin with. It has been observed that towns in northern India, particularly in Indo-gangetic plains, have higher ambient particulate concentrations in comparison to southern parts. Similarly, source activities (industries, typical urban, etc.) and meteorological settings (e.g. coastal) are other important factors that may influence air pollution levels. It is, therefore, proposed to select candidate cities and towns considering above factors. Further, State capitals and cities with population more than a million (due to more people being exposed to higher PM concentrations) may be taken up on priority. All the non-attainment cities & towns may be covered in a phased manner. In the first phase, 10 cities may be taken up with support of leading Institutes like IITs, NEERI, TERI, ARAI, etc. Each of these Institutes may associate two or three Institutes during the study for their capacity building and involvement in subsequent phases.

7.1.3 Air Pollution Health Impact Studies- Many international studies often report data on mortality due to air pollution exposures. These studies use extrapolation techniques for air quality and health/disease related data, which probably may not be realistic. While there is no denial on serious health implications, attributing one to one correlation and number of deaths due to air pollution needs to be further investigated and supported by indigenous

studies. More authentic Indian data and studies may further strengthen our efforts and public participation in improving air quality. With focus on environmental health issues, MoEF&CC has constituted a high level Apex Committee and a Working Group under the joint chairmanship of ICMR and the Ministry to identify thrust areas in environment health and to evaluate the related projects. In line with recommendation of Working Group, our Ministry in coordination with M/o Health and ICMR has already initiated action towards study on National Environmental Health Profile, with emphasis on impact of air pollution on health. Hopefully the preliminary indicative figures will be available in 5-7 months.

7.1.4 Setting up Air Information Centre- An Air Information Center may be set up, which will be responsible for data analysis, interpretation, dissemination including through GIS platform, issuing bulletins, keeping track of international developments, and bringing out policy updates.

7.1.5 Certification system for monitoring instruments- There is no certification body in the country which provides certification of equipment specifically equipment used in environmental monitoring progamme. This body is expected to accredited by authentic Accreditation Service according to the existing ISO standards. The accreditation will provide confidence in the impartiality, competence and consistency of the certifications provided by accreditation body. This certification will promote public confidence in monitoring data, equipment and personnel and provides a framework for choosing monitoring equipment and services that meet the regulatory specifications.

7.1.6 Air Quality Forecasting System- Air Quality Forecasting System (AAQFS) as a state of the art modelling system which forecasts the following day's air quality is being envisaged. The meteorological and emissions information is to be entered into the model which aims to accurately forecast air pollution.

7.1.7 Extensive Plantation Drive- In the first broad-scale estimate of air pollution removal by US trees nationwide, researchers found that trees and forests in the US removed 17.4 million tons of air pollution in 2010, with human health effects valued at $6.8 billion. Although this pollution removal equated to an average air quality improvement of less than 1 percent, its effects on human health were significant, especially in urban areas. Trees remove air pollution primarily by uptake of pollutants via leaf stomata (pores on the outer "skin" layers of the leaf). Some gaseous pollutants are also removed via the plant surface. Thus extensive planation drive by identification and use of plant have high pollutants absorbing capacity is expected not only to purify air but also will help in improvement of health.

7.1.8 Issuance of Notification on Dust Management (Road dust and C&D)- It has been noted that though government has notified various waste management rules including C&D waste rules, there is no regulation

prescribing preventive measures to be taken for management of dust including road dust and C&D dust that arises during construction. This is in spite of the fact that PM is the major source of air pollution in our country. Accordingly, it is proposed to formulate and notification on dust management (Road dust and C&D).

7.1.9 Intensive Awareness and Capacity Building Drive- One of the major issue which is hurdle in effective implementation of air pollution management plans have been observed to lack of capacity and awareness on air quality issues due to limited formal training available; limited collaboration between government, universities and other research institutions; lack of a forum for sharing of published local research work on air quality; limited number of trained individuals in air quality management, limited publications designed to provide information on local air quality issues. Accordingly, it is planned to undertake extensive awareness and public outreach programme and capacity building of manpower involved in air quality management.

7.1.10 National Emission Inventory- An emission inventory is an accounting of the amount of pollutants discharged into the atmosphere. An emission inventory usually contains the total emissions for one or more specific air pollutants, originating from all source categories in a certain geographical area and within a specified time span, usually a specific year. Emissions and releases to the environment are the starting point of every environmental pollution problem. Information on emissions therefore is an absolute requirement in understanding environmental problems and in monitoring progress towards resolving these. Emission inventories are essential for policy formulation and implementation, and other related scientific studies. Its significance is in tracking progress towards emission reduction targets and as inputs to air quality model. Comprehensive National Emission Inventory which is still lacking in the country will be formalized under this mission.

7.1.11 Network of Technical Institutions- Knowledge Partners

Network of highly qualified and experienced academicians, academic administrators and technical institutions in the area of air pollution will be created to provide holistic services for the establishment and operation of policies and programmes of Government of India on air pollution. Further, Knowledge Partners will also endeavour towards making these Universities and higher education institutions in India globally competitive in terms of the body of knowledge, academic resources and academic processes on the issue of air pollution.

7.1.12 *Technology Assessment Cell* - Technology Assessment as the study and evaluation of new technologies is based on the conviction that new technologies are relevant for the world at large rather than just for the scientific experts themselves. Technology assessment in reference to

prevention, control and mitigation of air pollution assumes a global perspective. Technology assessments, which are a form of cost–benefit analysis needs to assume an interdisciplinary approach to solving the problem of air pollution so as to prevent potential damage caused by the commercialization of new technologies. Technology Assessment Cell is being envisaged to evaluate the technologies having significance in reference to prevention, control and abatement of pollution. The cell is expected to focus on both indigenous and international technologies. It is also expected to contribute towards evaluating the technology and devising the mechanism of technology transfer under various bilateral and multilateral agreements.

7.1.13 International Cooperation including sharing of International Best Practices on Air Pollution- The issue of management of air pollution in developing countries and countries with economy in transition is impacted by lack of expertise, technology and adequate related information. With reference to developing countries and countries with economy in transition as India, technological and expertise limitations are considered as major hindrance in achieving our obligations under various international conventions and in meeting the national commitments with reference to prevention, control and abatement of pollution; and protection of environment. Accordingly, technology transfer and information sharing is the way forward for any collaboration on environment. Technology transfer does not just relate to equipment or "hardware", but also to total systems and their component parts, including know-how, goods and services, equipment, and organisational and managerial procedures. Accordingly, multilateral and bilateral cooperation on air pollution including in related demonstration/pilot Projects, including prototype development for Best Available Technologies and Best Environmental Practices for pollution prevention, minimization and mitigation strategies and for control and abatement of pollution specifically air pollution is being proposed. All such international cooperation including Externally Aided Project necessitate national contribution in cash or kind in various ratios.

7.1.14 Extending source apportionment studies to all non-attainment cities Source apportionment study, which is primarily based on measurements and tracking down the sources through receptor modelling, helps in identifying the sources and extent of their contribution. Source apportionment studies which have been initiated in six major cities viz. (i) Delhi; (ii) Mumbai; (iii) Chennai; (iv) Bangalore; (v) Pune; and (vi) Kanpur at present is planned to be extended to all 94 non-attainments. Details are at para 5.8 above.

7.1.15 Review of ambient air quality standards and emission standards - Ambient air standards which sets limits on pollutants with reference to quality

of air surrounding us in the outdoors and Emission standards which set quantitative limits on the permissible amount of specific air pollutants that may be released from specific sources over specific timeframes have already been notified barring for some of the sources. However, the existing standards need to be strengthened periodically and new standards need to be formulated for the sources where standards are not available, based on extensive scientific evidence with reference to protection of public health and environment.

7.1.16 Institutional Framework- An effective Institutional framework which basically refers to formal organisational structures is the precondition for the successful implementation of pollution specifically air pollution related intervention tools and therefore needs to be considered in particular. In the field of air pollution institutional framework involves creation of specific organizational structure and outlining the responsibilities. Institutional structure may vary as per the requirement, however the purpose is to have mechanisms for focused dialogue and coordination on air pollution issues. Accordingly, it is proposed to have following organizational structure to give impetus to the issue of air pollution in time bound manner as required under this mission:

i. Apex Committee under Hon'ble MEF&CC

ii. Steering Committee under Secretary(EF&CC)

iii. Monitoring Committee under Joint Secretary

iv. National Level PMU at MoEF&CC with manpower of 5 personal

v. State Level PMU state environment department with manpower of 2 personal

******

F. No.Q-16011/01/2017- CPA
Ministry of Environment, Forest and Climate Change
C.P. Division
****

Prithvi Wing, 2nd Floor,
Indira Paryavaran Bhawan,
Jor Bagh Road, New Delhi-110003.

Date: 06th September, 2017

MEETING NOTICE

Subject: Launching of National Clean Air Programme (NCAP) - Follow up meeting - reg.

A follow up meeting has been convened under the Chairmanship of Joint Secretary (CP), EF&CC on **11th September, 2017 at 11.00 AM** in his chamber, 1st Floor, Prithvi Wing, Indira Paryavaran Bhawan, MoEF&CC, Jorbagh Road, New Delhi on implementation of National Clean Air Programme (NCAP) and strategy for expediting the action plans for 100 non-attainment cities. I am directed to request you to attend the afore-said meeting along with updated information.

A line of confirmation will be highly appreciated.

(R. N. Pankaj)
Scientist 'D'
Tele.: 011-24695443

To

1. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi – 110 032

2. Dr. Prashant Gargava, Sc. E & Divisional Head (AQM), Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi – 110 032

Copy to:

1. JS (RKS), MoEF&CC
2. JD(SRB), MoEF&CC

6/9/2017

MINUTES OF THE MEETING HELD ON 5TH SEPTEMBER 2017 UNDER THE CHAIRMANSHIP OF HON'BLE MINISTER OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE REGARDING THE NATIONAL CLEAN AIR PROGRAMME

A meeting was held under the chairmanship of Dr. Harsh Vardhan, Hon'ble Union Minister for Environment, Forest and Climate Change (MoEF&CC) on 5th September, 2017 at Indira Paryavaran Bhawan Bhawan, New Delhi to discuss the National Clean Air Programme (NCAP). Shri A. K. Mehta, Additional Secretary, Shri Ritesh Kumar Singh, Joint Secretary and other officials of Ministry as well as Dr. Prashant Gargava, Head, AQM Division, Central Pollution Control Board were present in the meeting. List of participants is enclosed.

2. Dr. Shruti Rai Bhardwaj, Joint Director gave a presentation on the National Clean Air Programme and elaborated the various legislative steps taken by the ministry so far for control of air pollution. She informed that presently the air quality in the country is assessed under National Air Quality Monitoring Programme (NAMP) through a network comprising 683 manual monitoring stations located in 302 cities/towns all across the country and 55 Continuous Ambient Air Quality Monitoring (CAAQM) stations. Under NAMP, four air pollutants viz., Sulphur Dioxide (SO_2), Oxides of Nitrogen as NO_2, Respirable Suspended Particulate Matter (RSPM / PM_{10}) and Fine Particulate Matter ($PM_{2.5}$) have been identified for regular monitoring at all the locations. The monitoring of pollutants is carried out for 24 hours (4-hourly sampling for gaseous pollutants and 8-hourly sampling for particulate matter) with a frequency of twice a week. She further informed that CPCB has coordinated Source Apportionment Study in six major cities and emission inventories have been prepared. The National Air Quality Index (AQI) launched by Hon'ble Prime Minister is now extended to 40 cities. Various steps viz. notification of National Ambient Air Quality Standards (NAAQS), Environment Pollution (Prevention & Control) Authority (EPCA), as separate authority for management of air pollution in Delhi NCR region; issuance of Directions containing 42 action points under Air Act and EP Act; notification of Graded Response Action Plan for Delhi and NCR; introduction of cleaner / alternate fuels; universalization of BS-IV by 2017; leapfrogging from BS-IV to BS-VI fuel standards by 1st April, 2020; promotion of public transport and network of metro, e-rickshaws, promotion of car pooling, Pollution Under Control Certificate, lane discipline, vehicle maintenance, notification of five Waste Management Rules; banning of burning of biomass etc. were presented before the Hon'ble Minister. A copy of the presentation is annexed.

3. It was stated that based on the analysis of five years ambient air quality data (2011-2015), 94 polluting cities in 22 States have been identified as non-attainment cities in which the prescribed National Ambient Air Quality Standards (NAAQS) are violated. It was informed that there is a need of comprehensive time bound action programme at national level for reduction of air pollution level both at regional and urban scales at 1000 non-attainment cities. Accordingly, a concept note on National Clean Air

Programme has been formulated at a total cost of Rs. 538 crores and needs Hon'ble Minister's consent so that the program could be launched.

4. Shri A. K. Menta, Additional Secretary further briefed that the National Clean Air Programme is to be governed by an Apex Committee under Hon'ble MoEF&CC and Steering Committee under Secretary, EF&CC. He informed that the programme is formulated with a target to reduce 35% pollution levels within next 3 years and 50% pollution levels in next 5 years. The programme would include augmentation of air quality monitoring network i.e. from 680 to 1000 manual monitoring stations and from 55 to 268 CAAQMS real time monitoring station within 2 years. The $PM_{2.5}$ monitoring will also be increased to 100 from present 67 stations. The network will be expanded to rural areas by setting up of 50 stations. It is also proposed to set up 10 city Super Network. It is desirable that air quality management plans for 100 non-attainment cities is made ready in the next 3 months. The programme will also include air pollution health impact studies, setting up of air information system, certification of monitoring instruments, air quality forecasting system, intensive awareness and capacity building drive, networking of technical institution knowledge partners etc. The issue of International Co-operation and learning from best practices abroad was also raised.

5. Dr. Prashant Gargava informed that CPCB has already taken up the task of identifying the non-attainment cities and workshops are being held at regional level for formulation of Action Plan for all 100 non-attainment cities/towns with various stakeholders.

6. Hon'ble Minister acknowledged that initial task of identification of non-attainment cities is already accomplished by CPCB and stakeholders training through regional workshops are underway. He suggested that the proposed programme needs to be carried out in an aggressive mission mode in the year 2017-2019. It should be conducted as mass movement with extensive public participation. The action plans formulated for non-attainment cities requires to be placed in the public domain for easy access of public. After deliberations, Hon'ble Minister directed the following:

i) The proposed National Clean Air Programme may be taken up for implementation with immediate effect.

ii) MoEF&CC to convene the first stakeholders meeting for all the 100 non-attainment towns within one month to ensure that action plans are formulated expeditiously.

iii) MoEF&CC to arrange a national level meeting involving all the stakeholders within a month preferably in Vigyan Bhawan, New Delhi for launching of National Clean Air Programme by Hon'ble Prime Minister / Hon'ble President / Hon'ble Vice President. All the stakeholders from 100 non-attainment cities should be present for

LIST OF PARTICIPANTS FOR THE MEETING HELD ON 5TH SEPTEMBER 2017 UNDER THE CHAIRMANSHIP OF HON'BLE MINISTER OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE REGARDING THE NATIONAL CLEAN AIR PROGRAMME

Sr. No.	Name	Office & Organization
1.	Hon' ble MEF&CC	
2.	Shri ARUN KUMAR MEHTA	Additional Secretary, MoEF&CC
3.	Shri Ritesh Kumar Singh	Joint Secretary, MoEF&CC
2.	Shri Prasant Gargava	Additional Director, MoEF&CC
3.	Dr. Shruti Rai Bhardwaj	Joint Director, MoEF&CC
4.	Dr. Susan George	Joint Director, MoEF&CC
5.	Dr. Harendra Kharakwal	Joint Director, MoEF&CC
6.	Shri Yogendra Pal Singh	Joint Director, MoEF&CC
7.	Shri Rajesh Makkar	Under Secretary, MoEF&CC
8.	Shri R. N. Pankaj	Deputy Director, MoEF&CC
9.	Dr. Priti Singh	Deputy Director, MoEF&CC

No. Q-16011/01/2017-CPA
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE
(CP Division)
*****

Subject: Concept Note on Clean Air Mission [or Air Improvement Mission (AIM)]-regarding.

S.No.1 (PUC) p.1-5/c

Draft note received from Central Pollution Control Board, New Delhi regarding Concept Note on Clean Air Mission [or Air Improvement Mission (AIM)].

Submitted please.

Pandey
17/5/17

SO(CPA)

17/5/17

DD(R.P.)

A draft Concept Note on Clean Air Mission submitted by CPCB is put up pl.

Rupanka
17/5/17

SD(SRD)

743/1/CPA/17
17/5

interventions which *inter-alia* include setting up of monitoring network for assessment of ambient air quality under National Air Quality Monitoring Programme (NAMP); introduction of cleaner / alternate fuels like gaseous fuel (CNG, LPG etc.) and ethanol blending; launching of National Air Quality Index (AQI); universalization of BS-IV by 2017; leapfrogging from BS-IV to BS-VI fuel standards by 1st April, 2020; notification of Construction and Demolition Waste Management Rules; banning of burning of biomass; promotion of public transport network; Pollution Under Control Certificate; issuance of directions under Section 18(1)(b) of Air (Prevention and Control of Pollution) Act, 1981 comprising of 42 action points to counter air pollution in major cities which include control and mitigation measures related to vehicular emissions, re-suspension of road dust and other fugitive emissions, bio-mass/municipal solid waste burning, industrial pollution, construction and demolition activities, and other general steps; installation of on-line continuous (24x7) monitoring devices by 17 highly polluting industrial sectors; ban on bursting of sound emitting crackers between 10 PM to 6 AM; notification of Graded Response Action Plan (GRAP) for Delhi and NCR identifying source wise actions for various levels of air pollution, etc. With these recent policy interventions, air quality has reported to show some minor improvement in recent time in some major cities. However, this is not sufficient and higher level of focused time bound actions are now required at city level to address the issue in comprehensive manner at national level.

6 Various international reports in recent time has also claimed significant rise in health issues in the country including death due to rising air pollution. These reports suggest that since 1990, developed countries like the U.S. and much of Europe have made continued strides in cleaning up their air. And while China has been the poster child for foul air for years, strong government regulation has levelled off its overall deaths attributable to air pollution over the last five years, while the death rate has been on a steady downward trend.

7. In view of foregoing, the level of commitment required to make for breathable air is to launch "National Clean Air Mission" on the lines of Swachh Bharat Abhiyan. The component of this mission shall be on following line:

i This Clean Air Mission should have mandate to implement government policies for air pollution mitigation across the concerned ministries dealing with transport, power, construction, agriculture, rural development and environment as well as across city and state jurisdiction.

ii. the Mission should be target oriented with specific timelines

iii. Target should be focused on specific pollutants of concern in the country as particulate matters (PM 2.5 and 10), NOx etc.

iv. The activities and corresponding targets under the Mission shall be revolving around following three complementary program of work:

v. Since Graded Response Action Plan and 42 action points are already there, which identify the source based initiatives, those can be used as part of Mission with specific timelines

   a. Air Quality Monitoring;
   b. Awareness, Data analysis and information dissemination to help the urban dwellers to reduce their exposure to

interventions which *inter-alia* include setting up of monitoring network for assessment of ambient air quality under National Air Quality Monitoring Programme (NAMP); introduction of cleaner / alternate fuels like gaseous fuel (CNG, LPG etc.) and ethanol blending; launching of National Air Quality Index (AQI); universalization of BS-IV by 2017; leapfrogging from BS-IV to BS-VI fuel standards by 1st April, 2020; notification of Construction and Demolition Waste Management Rules; banning of burning of biomass; promotion of public transport network; Pollution Under Control Certificate; issuance of directions under Section 18(1)(b) of Air (Prevention and Control of Pollution) Act, 1981 comprising of 42 action points to counter air pollution in major cities which include control and mitigation measures related to vehicular emissions, re-suspension of road dust and other fugitive emissions, bio-mass/municipal solid waste burning, industrial pollution, construction and demolition activities, and other general steps; installation of on-line continuous (24x7) monitoring devices by 17 highly polluting industrial sectors; ban on bursting of sound emitting crackers between 10 PM to 6 AM; notification of Graded Response Action Plan (GRAP) for Delhi and NCR identifying source wise actions for various levels of air pollution, etc. With these recent policy interventions, air quality has reported to show some minor improvement in recent time in some major cities. However, this is not sufficient and higher level of focused time bound actions are now required at city level to address the issue in comprehensive manner at national level.

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    a. Air Quality Monitoring;
    b. Awareness, Data analysis and information dissemination

c. Air quality management [AQM] or corrective strategies for improving Ambient Air Quality keeping in view health and climate change co-benefits of these strategies

8. A draft concept on Clean Air Mission has been submitted by CPCB (F/X). The same has been perused and views are as given below:

i. The concept is indicative of some the activities that can be part of the mission.
ii. However, it lacks specificity, timeline and direction for implementation.
iii. In fact, there is no reference of specific management activities and source based initiatives for implementation of air quality management.
iv. The focus in the concept note is on monitoring and formulation of plans without reference to implementation also.
v. Formulation of specific city based Action Plans for 94 non-attainment cities can be targeted.
vi. However, the aim of the Mission shall be moving ahead from formulation to simultaneous implementation of existing plans and activities.

9. In view of foregoing, specifically in reference to para 7 and 8, following is for consideration:

i. We may have a stakeholder meeting comprising of related ministries, CPCB, TERI, IIT, some major related industry association etc under the chairmanship of JS(AKM) to evolve a framework on above line.
ii. The draft shall be formulated in-house on the basis of discussion which can be discussed in subsequent stakeholder meeting(s) under the chairmanahip of SS(RRR) or Secretary(EF&CC).
iii. The final draft shall be either launch in an international workshop or it can be finalized on the basis of input for international workshop.

10. State-wise list of Continuous Air Quality Monitoring stations, Manual stations and list of non-attainment cities are at **F/A**, **F/B** and **F/C**, respectively.

Submitted for approval of proposition at para 9 above please.

Dr. Shruti Rai Bhardwaj
Jt. Director/ Scientist 'D'
19.05.2017

JS(AKM)

'A' can be organised. We may first now discuss with HMEF&CC.
23/5/17

→ DC/SRB
Submitted for approval of Hon'ble MEF&CC please.
23/5/2017

JS(AKM) After discussion
23/5/17

→ DC(SRB) DD(DAP)

Retain photocopy of noteshet for organising the meeting.
23/5/17

O/o Scientist-D(SRB)
Dy. No. 24371
Date 23/5/17

O/o J.S. (AKM)
Dy. No. 714
Date 23/5/17

Air Quality Index (AQI); universalization of BS-IV for vehicles by 2017; leapfrogging from BS-IV to BS-VI fuel standards by 1st April, 2020; banning of burning of biomass; promotion of public transport network; Pollution Under Control Certificate; issuance of directions under Air (Prevention and Control of Pollution) Act, 1981; installation of on-line continuous (24x7) monitoring devices by 17 highly polluting industrial sectors; ban on bursting of sound emitting crackers between 10 PM to 6 AM; notification of graded response action plan for Delhi and NCR identifying source wise actions for various levels of air pollution, etc.

6. With these recent policy interventions, air quality has purportedly shown some minor improvement in some major cities in recent time which as of now cannot be called as trend. This is not sufficient and higher level of focused time bound initiatives at both city and rural level now appear obligatory to address the issue in comprehensive manner at national level. It is in this context, the need for a Clean Air Mission at the National scale to draft and implement national level strategies for reduction in air pollution levels at both regional and urban scales is felt.

7. In view of foregoing, Concept Note on **National Clean Air Mission- India** has been formulated and is enclosed at **F/A.** List of non-attainment cities, 42 action point, graded response action plan, source apportionment study for Delhi, Air Quality Index(AQI) which also form part of the Concept Note are also enclosed.

8. Further, in reference to this Mission as was discussed during the meeting under the chairmanship of Hon'ble MEF&CC held on 5th July 2017, we may have a meeting under chairmanship Hon'ble MEF&CC involving Environment Minister, Chief Secretaries, Municipal Commissioners and other such stakeholders to share and plan execution of the Mission in intensive manner.

9. Submitted for:

(i) approval of Concept Note on **National Clean Air Mission-India;** and

(ii) soliciting suitable date and time from Hon'ble MEF&CC for convening the meeting under his chairmanship as proposed at para 8 above.

Submitted please.

Dr. Shruti Rai Bhardwaj
Jt. Director/ Scientist 'D'
13.07.2017

O/o Scientist-D(SRB)
Dy. No. P-74306
Date 13/07/17

JS(AKM)

Reference- Note above

With the launch of this National Clean Air Mission government is targeting to reduce 35% pollution within next 3 years and 50% of pollution level within next 5 years.

2. In addition to this National Mission, with ensuing Diwali associated with significant rise in episodic air pollution, various

Air Quality Index (AQI); universalization of BS-IV for vehicles by 2017; leapfrogging from BS-IV to BS-VI fuel standards by 1st April, 2020; banning of burning of biomass; promotion of public transport network; Pollution Under Control Certificate; issuance of directions under Air (Prevention and Control of Pollution) Act, 1981; installation of on-line continuous (24x7) monitoring devices by 17 highly polluting industrial sectors; ban on bursting of sound emitting crackers between 10 PM to 6 AM; notification of graded response action plan for Delhi and NCR identifying source wise actions for various levels of air pollution, etc.

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9. Submitted for:

(i) approval of Concept Note on **National Clean Air Mission-India;** and

(ii) soliciting suitable date and time from Hon'ble MEF&CC for convening the meeting under his chairmanship as proposed at para 8 above.

Submitted please.

Dr. Shruti Rai Bhardwaj
Jt. Director/ Scientist 'D'
13.07.2017

JS(AKM)

Reference- Note above

With the launch of this National Clean Air Mission government is targeting to reduce 35% pollution within next 3 years and 50% of pollution level within next 5 years.

2. In addition to this National Mission, with ensuing Diwali associated with significant rise in [illegible]

3. The launching of **National Clean Air Mission- India** is being planned on extensive platform with involvement of Environment ministers of states having 100 non-attainment cities; Chief Secretaries; Mayors; Municipal Commissioners; Deputy Commissioners; Chairman and Member Secretaries of SPCBs; Civil Societies, industry associations, experts, related universities and other stakeholders to be presided by Hon'ble MEF&CC.

4. Submitted for:

(i) approval of Concept Note on National Clean Air Mission- India **(F/A)** and Concept Note on Cracker Free Diwali **(F/B)**; and

(ii) soliciting suitable date and time from Hon'ble MEF&CC for organizing the conclave as referred at para 3 above.

Submitted please

Arun Kumar Mehta
Joint Secretary
14.7.17

Secretary(EF&CC)

Pl. present on 19th July at 3:30 pm.

17-7-17

PPS - Noted, Pl.

JS (AKM) - On tour

JS (SRB)

As informed by Secretary (EF&CC)'s office, the presentation is to be held after 20th July 2017 now. The alternate date and time will be confirmed in due course. Submitted for information please.

18.7.17

JS(AKM) Pl. get it scheduled after 20th.

19/7/17

JDC/SRB Submitted for soliciting suitable date and time from Secretary EF&CC for presentation please.

24.7.17

JS(AKM)

O/o J.S. (AKM) Dy. No. 74394 Date 14/7/17

O/o Scientist-D(SRB) Dy. No. 74394 Date 18/07/17

O/o Secretary (EF&CC) 74394 14/7/17

O/o Scientist-D(SRB) Dy. No. 74394 Date 24/07/17

-: 8 :-

This is regarding scheduling a presentation on National Clean Air Mission.

May kindly like to indicate a suitable time for presentation.

(Arun Kumar Mehta)
Additional Secretary
24-7-2017

Secretary (EF&CC)

On 31-7-17 at 4:45 pm.

AS (Aghm)

25-7-17

O/o J.S. (AKM)
Dy. No. ...7434...
Date...25/7/17...

JD (SRK)

Presentation held today. As suggested by Secretary (EF&CC), the title has been amended to National Clean Air Programme (NCAP) and industry partnership has been incorporated as an additional component. Submitted for approval of Concept Note and soliciting date and time from Hon'ble MEF&CC for launch of the Programme at proposed at ___ page.

Submitted please.

31/7/17

O/o Secretary (EF&CC)
Dy. No. ...74394...
Date 25/7/17

AS (AKM)

May kindly like to approve the Concept Note and outline for the National Clean Air Programme. The budget shown against each item shall amounts

State Contribution, Industry Support, Savings etc. EFC document shall be developed accordingly.

Given the urgency in the matter particularly in view of FIFA Youth Games, Diwali and Crop burning likely in few months we may proceed with implementation of various activities. We may also request Hon'ble Minister to provide time to start a Campaign in Delhi where organisations such as CII, PHD Chamber of Commerce, FICCI, PHFI, etc. could be invited to participate, preferably around middle of this week. Necessary material/presentation can be done immediately.

May kindly like to approve.

[signature]
31.7.17

Sec, EF&CC

[signature]

MoEF&CC

We may initiate everything aggressively after the parliament session is over.

[signature]

Secy EF&CC

[signature]
3/8/17

AS(AKM)

2/8.

JD(SRB)

DD(RNP)

[signature]
8/8/17

—14/N—

F.No. Q-16011/01/2017-CPA

Sub: Launching compaign 'National Clean Air Programme (NCAP) – India - Meeting under the Chairmanship of Hon'ble MEF&CC - reg.

Kindly refer note pre-pages 5-9/N regarding approval of Concept Note and outline for the National Clean Air Programme (NCAP). In view of the urgency in the matter, particularly in view of FIFA Youth Games (under 17), Diwali and Crop Burning likely in few months, Hon'ble MEF&CC has noted at 9/N that *Ministry may initiate everything aggressively* ***after the parliament session is over.***

2. In view of approaching Diwali and possible air/noise pollution, CP Division alongwith National Museum of Natural History (NMNH) and Admin Div. has prepared Minute to Minute programme for launch of '**Harit Diwali Swasth Diwali Campaign**'. The aim of compaign is to create awareness among school children, college students about the harmful effects of fire- crackers on human health and environment and to control air and noise pollution. The duration of compaign is 17th August to 16th October, 2017. The compaign will be launched by Hon'ble MEF&CC on 17th August, 2017 and participated by 600 children from DPS, Ghaziabad, Kerala Public School, Bharti College, Blind School, R.K.Puram, Delhi Schools which will include scouts, guides eco clubs.

3. I. With regard to FIFA's concern on the levels of air pollution in Delhi after Diwali especially since Diwali falls on 19th October, 2017 which will be in the middle of the World Cup under-17 tournament being held during 6th October to 16th October, 2017 in India, Member Secretary, Central Pollution Control Board has been nominated as the nodal officer to coordination in case of emergency. CPCB has informed that the status of actions taken by concerned agencies is reviewed on monthly basis at Central Board and neighboring States are taking actions to control Stubble Burning. CPCB has deputed teams to identify localized sources of pollution in four hotspots of Delhi i.e. Anand Vihar, Punjabi Bagh, ITO and DTU. and to suggest required interventions. The report is likely to be ready in a week's time. The matter has been discussed with the Hon'ble Lieutenant Governor of Delhi so that implementing agencies in Delhi are in a state of readiness to face the upcoming challenge during October–December, 2017.

II. On the issue of Crop Burning likely in few months, it to submit that earlier, Hon'ble MEF&CC convened several meetings with Environment Ministers of NCR States including Punjab to formulate action plan on Air Pollution by the NCR States and on the implementation of directions issued on 29.12.2015 by CPCB. Secretary, EF&CC has also convening various meetings regularly apart from regular meetings convened by Chairman, CPCB on Stubble Burning.

4. In view of this, as desired by Hon'ble MEF&CC, a meeting with various stakeholders to implement National Clean Air Programme (NCAP) in mission mode is proposed. The stakeholders may include State Environment Ministers of NCR States and UT of Delhi, concerned Commissioners Municipal Corporations, Secretaries (Environment), SPCBs/PCC, CPCB etc.

Accordingly, file is put up for soliciting date and time for the meeting suitable for Hon'ble MEF&CC please.

(R.N. Pankaj)
Scientist 'C'
16.08.2017

17/8/17

JD(SRB)

Urgent.

AS(AKM)

Pl. speak.

JS(RK)(S) MS

JD(SRB)

S/o Discussed. Pl. put up as discussed

DD(RKP) 21/8/17

O/o Scientist-D(SRB) Dy. No. 74394 Date 25/08/17

O/o J.S.(RKS) Dy. No. 7439 Date 25/8/17

O/o Scientist-D(SRB) Dy. No. 74394 Date 19/08/17

F.No. Q-16011/01/2017-CPA

Sub: Launching compaign 'National Clean Air Programme (NCAP) – India - Meeting under the Chairmanship of Hon'ble MEF&CC - reg.

Kindly refer note pre-pages **5-9/N** regarding approval of Concept Note and outline for the National Clean Air Programme (NCAP) targeting to reduce 35% pollution within next 3 years and 50% of pollution level in next 5 years. Hon'ble MEF&CC has noted at **9/N** that *Ministry may initiate everything aggressively* ***after the parliament session is over.***

2. For launching of National Clean Air Programme (NCAP), it is proposed to convene a meeting under the Chairmanship of Hon'ble MEF&CC on extensive plateform with involvement of Environment Ministers of States having 100 non-attainment cities; Chief Secretaries; Mayors; Municipal Commissioners, Deputy Commissioners; Chairman and Member Secretaries of SPCBs/PCC; Civil Societies; industry associations, experts, related universities and other stakeholders.

3. Accordingly, file is put up for soliciting date and time suitable for Hon'ble MEF&CC for organizing the meeting as referred at para 2 please.

(R.N. Pankaj)
Scientist 'C'
25.08.2017

25/8/2017

JD(SRB)

JS(RKS)

29/9

AS(AKM)

The basic framework of National Clean Air Programme has been finalised. We need to launch this initiative at the earliest, for which convenience of HMEFCC may be sought as indicated at para 3 above.

29.8.17

Secy EF&CC

(X) May also consider holding a meeting with Min (Env) of the 5 states of NCR in addition.

29.8.17

MEF&CC

For (X) – 05/09/2017 at 12:00 hrs.
05/09/2017 at 14:30 hrs. ... NCR ...
For (Y) – 29/09/2017 at 10.30 hrs

PS ... 26/29 Secy EF&CC JD(SRB) ... 31.8.17

O/o J.S.(RKS) Dy. No. P-74394 Date 29/8/17

P-74394/RNP 25/8/2017

O/o Scientist-D(SRB) Dy. No. P-74394 Date 28/8/17

O/o AS (AKM) Dy. No. P-74394 Date 29/8/17 31/8/17

O/o J.S.(RKS) Dy. No. 74394 Date 31.8.17

O/o Secretary (EF&CC) 74394 29/8/17

Minister EF &CC
File Dy. No. 74394
Date 29 AUG 2017

-12-

7/P.

Meeting held. NCAD launch date will be decided separately. Put up the minutes.

6/9/17

JD(RNP) Draft minutes as above put up pl.

JD(SRAD)

6/9/2017

As amended.

7/9/2017

JD (RNP) Amended draft minutes put up pl.

JD(SRAD)

7/9/17

Q-16011/01/2017-CPA

Subject: Minutes of the Meeting held on 5th September 2017 under the Chairmanship of Hon'ble Minister of Environment, Forests and Climate Change Regarding the National Clean Air Programme.

A meeting was held under the chairmanship of Dr. Harsh Vardhan, Hon'ble Union Minister for Environment, Forest and Climate Change (MoEF&CC) on 5th September, 2017 at Indira Paryavaran Bhawan Bhawan, New Delhi to discuss the National Clean Air Programme (NCAP). Shri A. K. Mehta, Additional Secretary, Shri Ritesh Kumar Singh, Joint Secretary and other officials of Ministry as well as Dr. Prashant Gargava, Head, AQM Division, Central Pollution Control Board were present in the meeting. A presentation on NCAP was made.

2. While concluding the aforesaid discussions, Hon'ble Minister acknowledged that initial task of identification of non-attainment cities are already accomplished by CPCB and stakeholders training through regional workshops are underway. He suggested that the proposed programme needs to be carried out in aggressive mission mode in the year 2017-2019. It should be conducted as mass movement with extensive public participation. The action plans formulated for non-attainment cities requires to be placed in the public domain for easy access of public. Upon deliberation, Hon'ble Minister decided the following:

i) The proposed National Clean Air Programme may be taken up for the implementation with immediate effect.

ii) MoEF&CC representative to attended some of these ongoing training workshop w.r.t action plan for non-attainment cities. Some of the senior officials and Hon'ble MoEF&CC may also preside these workshops especially in North Eastern States.

iii) MoEF&CC to convene first stakeholders meeting for all the 100 non-attainment towns within one month to ensure that all the action plans are formulated.

iv) MoEF&CC to arrange a national level meeting involving all the stakeholders within a month preferably in Vigyan Bhawan, New Delhi for launching of National Clean Air Programme by Hon'ble Prime Minister / Hon'ble President / Hon'ble Vice President. All the stakeholders from 100 non-attainment cities to be essentially available for the launch so as to ensure timely formulation and implementation of these action plans.

-14/N-

PPP

v) After action plans for all 100 non-attainment cities are ready and other initiatives as proposed in NCAP are at stage to go for direct implementation, another national level meeting to be organized with all the stakeholders including those from 100 non-attainment cities.

Minutes of the meeting on above line are at DFA.

Submitted for approval please.

Dr. Shruti Rai Bhardwaj
Jt. Director/ Scientist 'D'
08.09.2017

Dio Scientist -D(SRB) Dy. No. R-74394 Date 08/9/17

JS(RKS) ** Corrected copy put. LP 8/9

Dio JS(RKS) Dy. No. R-74394 Date 11/9/17

JS(SRB) Amended draft for approval please.

11/9/2017

DS(RS) For kind approval.

LP 11/9

Dio Secretary (EF&CC) 74394 11/9/17

AS(AKM)

11/9/17

Sec, EF&CC

9/9/17

MEF&CC

Minister EF &CC
File Dy. No. 74394
Date 12 SEP 2017

Dio AS (AKM) Dy. No. 74394 Date 11-9-17

As discussed, at this stage, we may not include the CAAQMS and identify alternative cost effective technologies. We may also include that as a task in the NCAP and ask the CPCB to steer the process of identifying and/or developing / validating alternative cost effective technology for source and ambient air quality monitoring in consultation with the IIT and other CSIR [illegible] include only one each

We need to implement the NCAP in time bound manner and hence institutional arrangement for implementation, monitoring and review needs to be set up quickly. Put up the proposal soon for this purpose.

[Dr. Harsh Vardhan]

Minister EF &CC
File Dy. No. 74394
Date 14 SEP 2017

O/o J.S.(RKS)
Dy. No. P-74394
Date 19/9/17

Secy EF&CC — Secy on tour

AS(AKM)

19/9/17

JS(RKS)

O/o J.S.(RKS)
Dy. No. P-74394
Date 15/9/17

JD(SRB)

Put up DFA for CPCB immediately.

18/9/17

JD(RNP) DFA as above pl.

JD(SRB)

Letter re-written. Please put up after amendment.

18/9/17

JD(RNP) Amended letter put up pl.

O/o Scientist-D(SRB)
Dy. No. P-74394
Date 18/09/17

JD(SRB)

18/9/17

We may seek view of CPCB as per DFA and accordingly decide about amendment of NCAP.

DFA please.

19/9/17

JS(RKS) pl. discuss.

JD(SRB)

JS(RKS)

21/9/17

As discussed, submitted for approval of DPA please.

3/10/17

JS (RKS) - OL

AS (AKM)

Are we assigning entire responsibility to CPCB?..

3/10/17

JSC RKS) 5/10

JD (SRB)

As discussed file submitted please.

5/10/17

JS (RKS)