

GRADED RESPONSE ACTION PLAN

Ambient Air Quality Monitoring Status

The Board is monitoring ambient air quality of Nangal area for which two no. stations were installed at M/s Punjab Alkalies and Chemicals Ltd., Naya Nangal and M/s National Fertilizers Ltd., Nangal under the National Ambient Air Quality Scheme. Now, the machine which was installed at M/s National Fertilizers Ltd., Naya Nangal has been shifted to M/s Ambuja Cements Ltd., Village Daburji, Tehsil Ropar, in the month of January 2018.

Station Name: M/s NFL, Naya Nangal

Month	RSPM ($\mu\text{g}/\text{m}^3$)					NO _x ($\mu\text{g}/\text{m}^3$)					SO ₂ ($\mu\text{g}/\text{m}^3$)				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
January	90	79	96	96	95	19	14	11	12	12	5	4	5	5	6
February	88	84	69	78	83	17	6	11	11	11	6	4	4	4	6
March	96	70	64	94	85	21	11	10	11	11	7	4	4	4	5
April	95	86	60	101	85	17	12	11	12	11	6	4	4	5	5
May	90	98	76	97	86	16	11	12	12	11	6	4	4	5	5
June	80	110	89	96	84	14	12	14	12	11	4	5	4	5	5
July	71	84	64	78	73	19	12	10	11	12	5	4	4	5	5
August	73	69	69	82	67	11	11	15	12	10	4	4	4	5	6
September	82	83	61	76	74	13	12	12	12	11	4	5	4	5	5
October	88	113	114	88	131	14	13	13	12	16	4	5	4	6	7
November	88	100	120	100		15	16	16	11		5	5	5	6	
December	90	71	127	89		12	13	14	12		5	4	5	5	
Annual Avg.	86	87	84	90		16	12	12	12		5	4	4	5	

Station Name: M/s PACL, Naya Nangal

Month	RSPM ($\mu\text{g}/\text{m}^3$)					NO _x ($\mu\text{g}/\text{m}^3$)					SO ₂ ($\mu\text{g}/\text{m}^3$)				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
January	91	72	95	97	98	17	16	11	12	12	5	4	4	5	6
February	86	97	77	96	81	17	10	11	12	11	6	5	4	5	5
March	92	74	60	95	84	23	11	10	12	11	7	4	4	5	5
April	96	89	70	102	87	16	11	11	12	11	10	4	4	5	5
May	98	81	73	106	83	15	11	12	12	11	5	4	4	5	6
June	81	76	82	-	86	13	12	13	-	11	4	4	4	-	6
July	71	80	58	79	83	18	12	10	12	11	5	5	4	5	5
August	74	76	59	78	61	12	11	10	12	10	4	4	4	5	6
September	74	75	71	74	61	12	12	13	12	10	4	4	5	5	5
October	90	81	88	90	129	15	11	12	12	16	4	4	5	7	7
November	96	103	121	100		16	14	15	11		5	4	5	6	
December	96	88	115	88		13	11	14	12		4	4	5	5	
Annual Avg.	87	83	81	91		16	12	12	12		5	4	4	5	

The ambient air quality data for the last one & half year shows that the AQI for SO₂ & NO_x parameter falls in good category, as such no action is required as far as improvement ambient air quality with respect of both these parameters are concerned. However, the annual average value of PM₁₀ in the ambient air quality of Nangal falls in the range of 61-129 $\mu\text{g}/\text{m}^3$ for most of the months, as such, the graded response action plan to eradicate the problem is given as under: -

1. Name of the city : **Nangal**
2. Air Pollution concern: **PM₁₀, SO₂ & NO_x**

3. Air pollution levels: Range of 24-hourly average concentration values of PM₁₀, SO₂ & NO_x for the period 2016-17
4. Months with high air pollution levels: During paddy harvesting season i.e. October.
5. Action plan:

Source group**	Action	Implementation period(short/ mid/ long-term)	Time target for implementation *	Responsible agency(ies)	Any other information
Vehicles	1. Launch campaign against polluting vehicles for ensuring better air quality in the area.	Short Term	Continuous and regular activity	RTA, Traffic Police	As far as Punjab Pollution Control Board is concerned, Pollution check centers are being monitored from time to time by the officers of the Board and action is being recommended to State Transport Authority, if any pollution check center is found not proper conducting emission sampling of vehicles.
	2. Public awareness campaign should be carried out for air pollution control, vehicle maintenance, minimizing use of personal vehicle, vehicle pooling, etc.	Mid Term	Continuous and regular activity	STA & Traffic Police	
	3. Prevent parking of vehicles at non designated areas	Short Term	Continuous as regular activity	Municipal council & Traffic Police	
	4. Initiate steps for retrofitting of particulate filters in diesel vehicles,	Mid Term	---	RTA	

	when BS-V fuels are available.				
	5. Prepare action plan to check fuel adulteration and random monitoring of fuel quality data.	Short Term	Continuous and regular activity	Deptt. of Food & Civil Supplies.	
	6. Prepare plan for widening of road and improvement of Infrastructure for decongestion of road.	Long Term	Continuous and regular activity	Public works Deptt.,(PWD, Mandi Board & municipal committee/council	
	7. Prepare plan for construction of expressways/bypass to avoid congestion due to non-destined vehicles.	Long term	---	NHAI/PWD	Chandigarh-Ambala National Highway Road has already been widened.
	8. Install weigh in motion bridges at the borders of cities/towns and states to prevent overloading of vehicles.	Long Term	Continuous and regular activity	RTA, Traffic Police	
	9. Synchronize traffic movements /introduce intelligent traffic systems for lane-driving.	Long Term	Continuous and regular activity	Traffic Police	
	10. Steps for promoting battery operated vehicles.	Long Term		State Transport Authority(STA)	Policy matter
	11. Installation of remote censor based PUC system	Long term	Continuous and regular activity	State Transport Authority(STA)/ RTA	Policy matter
Road Dust	1. Preparation plan for green buffers along the traffic corridors.	Mid Term	Regular activity	NHAI, PWD, & Municipal Council	
	2.Maintain potholes free roads for free roads for free flow of traffic	Mid Term	Regular activity	NHAI, PWD, & Municipal Council	
	3.Greening of open areas, gardens, community places, schools and housing societies.	Mid Term	Regular activity	Municipal Council/Forest department/ Horticulture/PWD	
	4. Blacktopping metaled road including pavement of road shoulders.	Mid Term	Regular activity	NHAI, PWD, Mandi Board & Municipal Council	

	5. Road design improvement	Long term	---	NHAI, PWD, Mandi Board & Municipal Council	
	6. Introduce water fountain at major traffic intersection wherever feasible	Mid Term	---	Municipal council	
	7. Wall to wall stabilization	Mid term	---	PWD, Mandi Board & Municipal Council	Continue activity
Biomass and garbage burning	1. Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	Short Term	Continuous and regular activity	Distt. Administration, police, Agriculture department, Municipal Council and PPCB	Continuous activity
	2. Regular check and control of burning of municipal solid waste.	Short Term	Continuous and regular activity	Punjab Pollution Control Board, & Municipal Council	Regular inspections are being carried out by the PPCB from time to time to check & control of open burning of municipal solid waste in different areas of the city. In the past where the MSW was found under fire, fine has been imposed on the M.C. in light of NGT order dated 10.12.2015.
	3. Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening.	Short Term	Continuous and regular activity	Municipal Council	
	4. Construction of advanced waste management Site.	Long Term	---	Municipal Council	Policy matter

Industries	1. Identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Mid Term	Continuous as regular activity	Punjab Pollution Control Board	The Punjab Pollution Control Board are carrying regular visits to the brick kilns to check the compliance of consent conditions and to pursue them to shift to high draft technology upto 31.3.2019 as per CPCB directions.
	2. Conversion of natural draft brick kilns to induced draft.	Long Term	450 Days	Punjab Pollution Control Board	To pursue them to shift to high draft technology upto 31.3.2019 as per CPCB directions.
	3. Action against non-complying industrial units	Short Term	Continuous and regular activity	Punjab Pollution Control Board	The industrial units are being visited from time to time to check the compliance of various pollution control laws and if found violating action initiated under the relevant acts..
	4. Promoting cleaner production in industries.	Long Term	Continuous and regular activity	Punjab Pollution Control Board and Department of industries	The industries are already utilizing the best available technologies for respective production, however, as and when the industry is visited the manufacturing process is studied in

					depth and the industry is guided to improve the process as and when required.
	5. Fugitive emission control	Mid Term	Continuous and regular activity	Punjab Pollution Control Board	The industries are mandated to install proper APCDs, for eg. Wet scrubbers/ alkali scrubbers/ bag filter house for the control of fugitive emissions.
	6. Installation/ upgradation of air pollution control system	Mid Term	Continuous and regular activity	Punjab Pollution Control Board	The industrial units falling in Derabassi area have installed adequate air pollution control devices. However, if any unit is found not meeting with the emission standards, the same is being pursued to upgrade the APCD or to switch over cleaner technology.
Mining	1. Efforts for good mining practices	Short Term	Continuous and regular activity to keep regular check	District Administration, Police and GM DIC	
	2. Green Belt for activity zone and the buffer zone for each mining area	Short Term	Continuous and regular activity to keep regular check	District Administration, Police and GM DIC	
Construction and Demolition activities	1. Enforcement of Construction and Demolition Waste Rules	Mid Term	Continuous and regular activity	Municipal Council/ PWD	In Dera Bassi area, construction activity is

					being carried out which is being checked by the Municipal Council to ensure the compliance of these rules.
	2. Control measures for fugitive emissions from material handling-conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units.	Mid Term	Continuous and regular activity	Municipal Council/ PWD	-do-
	3. Ensure Carriage of construction material in closed / covered vessels.	Mid Term	Continuous and regular activity	Municipal Council/ PWD	-do-
Other Steps	1. Air Quality Index to be calculated and disseminated to the people through website and other media.	Mid Term	Continuous and regular activity	Punjab Pollution Control Board	As per air quality being monitored by the PPCB at one station at Nangal for air quality index
	2. Engage with concerned authorities on continual basis for maximizing coverage of LPG /PNG for domestic and commercial cooking with target of 100% coverage.	Long Term	----	District administration/ Municipal Council/PWD	Policy Matter
	3. Monitoring of DG sets and action against violations.	Short Term	Continuous and regular activity	Punjab Pollution Control Board, District Administration & Municipal Council	

* Time target for implementation taken from action plan submitted by another non-attainment city, for your reference. Kindly modify according to your city in consultation with respective stakeholders.

** Source group is based on local understanding, in future this may be strengthened with emission inventory/source apportionment

8. Monitoring mechanism for implementation

Institutional arrangement for implementation of action plan

An implementation committee shall be formed as follow: -

- Deputy Commissioner, Roopnagar – Chairman
- SSP, Department of Police- Member
- SDM, Nangal-Member
- Punjab Pollution Control Board – Convener
- Executive Officer, Municipal council, Nangal- Member
- Department of PWD and B & R, NHAI – Member
- Department of Mandi Board - Member
- Department of Transport – Member
- GM, DIC- Member
- Department of food and civil supplies - Member
- Department of Forest - Member

