Announcement of the Industrial Estate Authority of Thailand

No. 46/2541

Re: Stack emission standard for factory situated in the industrial estate

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By the virtue of section 10(4) and section 42 of the Industrial Estate Authority of Thailand Act B.E. 2522 (1979),

To ensure the compliance of stack emission from a factory situated in the industrial estate with the Environmental Impact Assessment of the industrial estate, the Industrial Estate Authority of Thailand hereby issues this Announcement, prescribing the stack emission standard for a factory situated in the industrial estate, as follows:

Article 1 In this Announcement,

"Stack emission standard" shall mean the allowable amount of prescribed air pollutant emitting from a factory's stack per area of the land that is permitted and granted by the Industrial Estate Authority of Thailand.

"Stack height" shall mean a height of a stack measured vertically from the ground level to the stack opening.

"IEAT" shall mean the Industrial Estate Authority of Thailand.

"Governor" shall mean the Governor of the Industrial Estate Authority of Thailand.

"Entrepreneur in the industrial estate" shall mean a natural person or juristic person who is permitted to operate industrial business in the industrial estate.

Article 2 for each industrial estate, the stack emission standard set for different stack height shall be as established in the table 1 annexed to this Announcement.

Article 3 In case where a stack height falls in between the prescribed height, the emission standard set for the lower stack height shall be applied.

Article 4 In case where a stack height is greater than the highest height being prescribed, the emission standard set for the highest stack height shall be applied.

Article 5 An entrepreneur in the industrial estate shall submit information regarding its stack emission using the form of table 2 annexed to this Announcement.

Article 6 An entrepreneur, who undertakes in air-pollutant-generating business shall monitor air quality from its stack emission during business operation as prescribed in the conditions issued in the Environmental Impact Assessment. A factory without requirement to conduct the Environmental Impact Assessment shall monitor air quality from its stack emission according to the criteria prescribed by the Governor or the appointee.

Article 7 An entrepreneur in the industrial estate shall submit the result of air quality monitoring to the manager of the industrial estate every 6-month (in May and in November).

Article 8 Analysis for determination of air quality shall be as follows:

Parameter	Analytical method
SO_2	US.EPA method 6 or US.EPA method 8
TSP	US.EPA method 5
No_x, NO_2	US.EPA method 7
CO	US.EPA method 10

Any matters concerning the compliance of this announcement, the Governor shall issue final judgment.

Other announcements or orders, issued by the Industrial Estate Authority of Thailand, in so far as they deal with matters governed by this announcement or are contrary to or inconsistent with the provisions of this announcement, shall be replaced by this announcement.

Effective from the 1st January B.E. 2542 (1999), onwards.

Announced on the 11th November B.E. 2541 (1998)

(signed)_____

(Mr. Somjet Thinnapong)

Governor of the Industrial Estate Authority of Thailand

Table annexed to the announcement of the Industrial Estate Authority of Thailand No. 46/2541 Re: Stack emission standard for factory situated in the industrial estate

Allowable stack emission rate (kg/rai/day) for factory situated in the industrial estate

Industrial Estate	SO_2										NO_2										No_x				TSP										CO					
	Stack height (m)										Stack height (m)										Stack height (m)				Stack height (m)										Stack height (m)					
	●	15	18	20	22	25	30	40	50	60	●	15	18	20	22	25	30	40	50	60	●	20	25	30	●	15	18	20	22	25	30	40	50	60	●	15	18	20	22	25
1. Lhamchabang industrial estate																																								
- General industrial zone	3.52										3.36														2.72										505.60					
- Export industrial zone	5.44										5.12														4.00										768.00					
2. Maptaput industrial estate	2.16										2.08														1.20										412.64					
3. Ladkrabang industrial estate [1]				5.44										5.60														3.68										867.04		
4. Kangkoi industrial estate [1]				9.86			17.18	27.74	39.46	51.34				3.66			5.68	7.81	10.24	13.28								7.17			12.48	20.21	28.67	37.31						
5. Plangyao industrial estate [1]				2.84			7.11	11.73	16.71	21.33				1.33			3.20	5.13	7.07	8.67								2.56			7.04	11.20	16.00	20.80						
6. Baanwha industrial estate [1]				6.88										6.88														6.88										191.20		
7. Bangpa-in industrial estate [1]																																								
- First phase				1.38			1.38	2.76						0.69			1.04	2.07										1.38			1.38	2.76								
- Second phase				2.40										2.00														2.50												
8. Wellgrow industrial estate [1]				2.00		2.53	3.05							0.80		0.95	1.15											1.20		1.35	1.78									
9. Eastern industrial estate	3.36																								2.56															
10. Bo-win industrial estate	3.20																								2.40															
11. Nhongkae industrial estate	11.06																																							
12. Samutsakorn industrial estate [1]				7.89			11.66	16.26	21.63	27.95				3.76			4.86	6.19	7.84	9.84								7.63			11.28	15.70	20.93	26.94						
13. Saharattananakorn industrial estate [1]				2.70		3.64	4.63															0.41	0.55	0.71				2.06		2.78	3.51									
14. Eastern Sea Board industrial estate (Rayong) [1]																																								
- First section				2.78			4.40	6.29	8.47	10.24				0.99			1.33	1.84	2.23	3.03								3.18			4.70	6.93	9.33	11.27						
- Expansion				1.21			1.88	2.57	3.03	4.09				0.36			0.91	1.13	1.12	1.78								0.97			1.51	2.12	2.57	3.48						
15. Southern industrial estate [1]				6.91			12.67	24.77	47.23	56.45				1.03			1.73	2.25	2.71	3.23								8.06			13.82	25.34	46.08	61.06						
16. Bangpoo industrial estate [1]				1.50			2.62	3.78	5.49	7.40				0.96			1.44	2.13	3.14	4.32								1.31			2.30	3.31	4.82	6.50						
17. Pijitr industrial estate [1]				5.66			13.12	31.23	49.01	70.03				2.22			3.92	6.24	9.18	13.66								5.25			12.14	28.91	45.38	64.83						
18. Amata nakorn industrial estate [2]																																								
- Third phase		0.79	1.93		1.15							0.39	0.44		0.53											0.41	0.49		0.63											
- Fourth phase		1.32	1.47		1.73							0.36	0.46		0.61											0.40	0.44		0.51											
- Fifth and sixth phases		1.28	1.47		1.73							0.36	0.46		0.61											0.40	0.41		0.44											
19. Pinthong industrial estate [1]				6.41			10.96	21.01	29.86	58.61				6.32			10.78	20.46	29.45	57.92								5.11			8.74	16.59	23.78	31.24						
20. Amata city industrial estate [1]				3.73			4.78	6.03	6.03	10.47				1.10			1.70	2.05	2.38	2.83								1.90			1.99	3.15	7.38	9.86						

Note: ● at all stack height

[1] for a factory having stack height less than 20 meters, allowable stack emission rate shall not exceed 50 percent of allowable rate at 20-meter stack height.

[2] for a factory having stack height less than 15 meters, allowable stack emission rate shall not exceed 50 percent of allowable rate at 15-meter stack height.

Table annexed to the announcement of the Industrial Estate Authority of Thailand No. 46/2541 Re: Stack emission standard for factory situated in the industrial estate

Report on stack emission monitoring

Factory name: ……..…….. Permitted land area: ……rai Industrial estate: …… Block number: …… Telephone number: ……..

Source of air pollutants		Emitted air pollutants					Air pollutant emitting stack (3)				Air pollution control system		
Type of source (1)	Quantity	Type (2)	Concentration (mg/m^3)	Flowrate	Temperature (C)	Loading per day (kg/d)	Diameter at stack opening (m	Height (m)	Quantity	Horsepower of hood (if any	Type (4)	Quantity	Treatment efficiency (%)
1. Boiler		1. SO_2									1. Cyclone		
2.		2. NO_2									2. Bag Filter		
3.		3. TSP									3. Absorption Tower		
4.		4. CO									4. Electrostatic Precipitator		
5.		5. HC									5. Wet Scrubber		
6.		6.									6.		
7.		7.									7.		
8.		8.									8.		
9.		9.									9.		
10.		10.									10.		

Note: (1) means machinery/equipments used in each step of production process that generate air pollutants suc as boiler, grinder, oven, furnace.

(2) means type of air pollutants being generated such as SO_2, NO_2, CO, Benzene, Styrene, Xylene, Toluene.

(3) means a stack which is connected to source of air pollutants in order to transfer air polltants to the atmosphere.

(4) means type of air pollution control system such as cyclone, bag filter, absorption tower, etc.

signed ……. Data provider

Factory manager

Date of reporting: ……