
	.....	- 1 -
1	.....	- 2 -
1.1	.....	- 2 -
1.2	.....	- 2 -
1.3	.....	- 4 -
1.4	.....	- 6 -
1.5	.....	- 9 -
1.6	.....	- 9 -
1.7	.....	- 10 -
2	.....	- 13 -
2.1	.....	- 13 -
3	.....	- 19 -
3.1	.....	- 19 -
3.2	.....	- 27 -
4	.....	- 30 -
4.1	.....	- 30 -
4.2	.....	- 31 -
4.3	.....	- 32 -
4.4	.....	- 33 -
5	.....	- 35 -
5.1	.....	- 35 -
5.2	.....	- 35 -
5.3	.....	- 39 -
6	.....	- 41 -
6.1	.....	- 41 -
6.2	.....	48
6.3	.....	48

7	.....	50
7.1	.....	51
7.2	.....	51
8	.....	53
8.1	.....	53
8.2	.....	56
9	.....	58
9.1	.....	58
9.2	.....	59
9.3	.....	59
9.4	.....	60
9.5	.....	60
9.6	.....	61
9.7	.....	61
9.8	.....	62
9.9	.....	63
9.10	.....	63
9.11	.....	64
10	.....	65
10.1	.....	65
10.2	.....	66
10.3	.....	69
10.4	.....	70
10.5	.....	70
11	.....	71
11.1	.....	71
11.2	.....	73

BT

2018 7 26

[2018]198

2018 9

2018 9 26

BT

[2018]90

2019 10

BT

37

BT

[2013]488

1

1.1

1.1.1

1

2

3

4

BT

1.1.2

BT

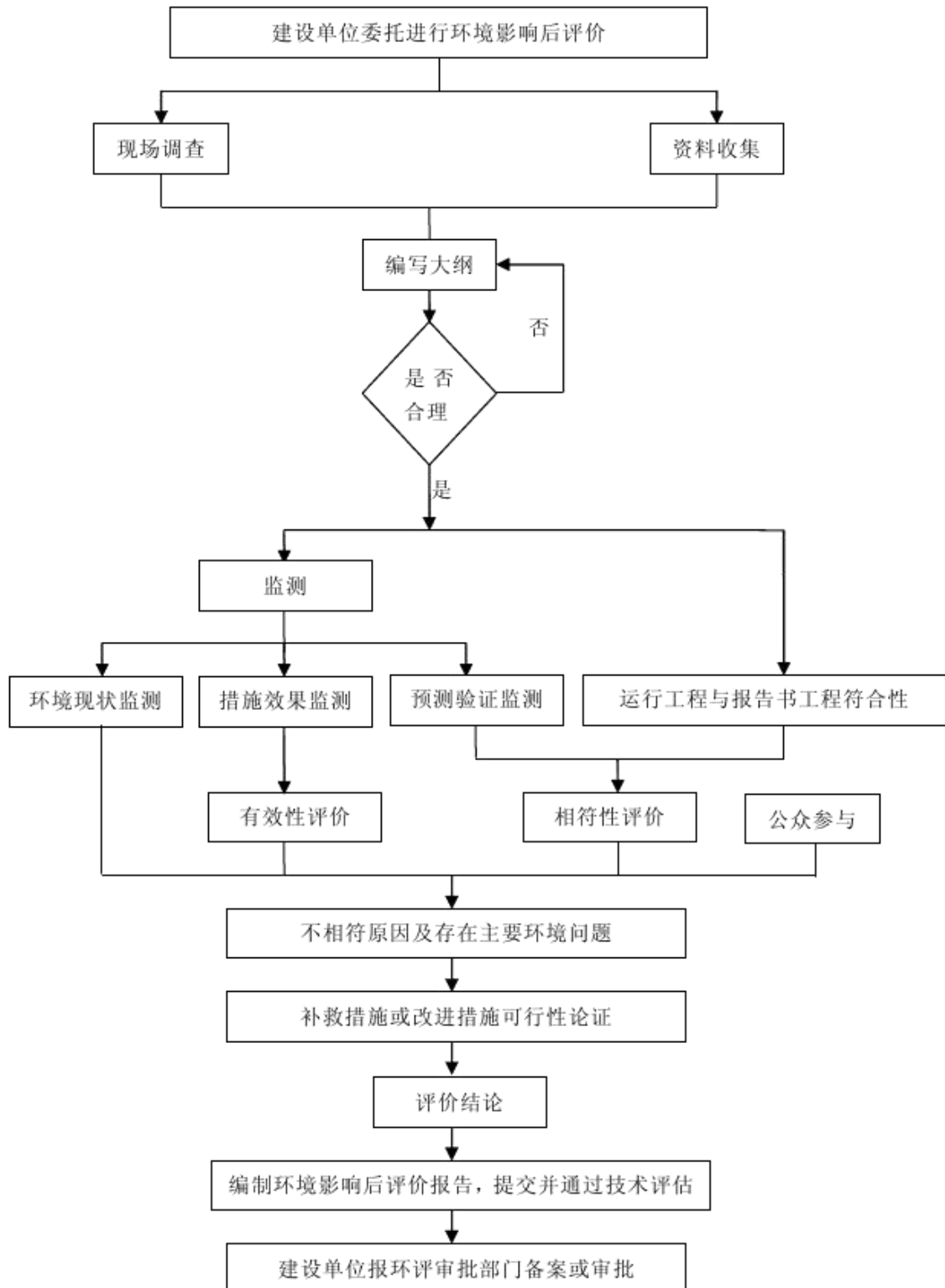
1

2

3

1.2

1



1.3

1.3.1

1		2014	2015.1.1
2		2018	2018.12.29
3		2018	2018.10.26
4		2017	2018.1.1
5		2018	2018.12.29
6			2019.6.5
7	2016	2016.9.1	
8		2012.7.1	
9	2016	2016.9.1	
10		2009.1.1	
11		682	2017.8.1
12		211	591
2011.12.1			
13			[2013]37
2013.9.10			
14			[2015]17
2015.4.2			
15			[2016]31
2016.5.28			
16	2003		[2004]73
2004.1.12			
17	2011		
21	2013.3.27		
18			
[2012]77	2012.7.3		
19			
[2012]98	2012.8.7		

20		4	2019.1.1
21		35	2015.9.1
22			[2015]162
2015.12.10			
23		2018.9.21	
24			2010.5.1
25			
2005.7.25			
26			
	[2014]35	2014.4.17	
27			
[2016]21	2016.1.29		
28			
[2017]25	2017.3.1		
29		2018 22	2018.7.3
1.3.2			
1		HJ2.1-2016	
2		DB65/T3016-2009	
3		HJ2.2-2018	
4		HJ/T2.3-2018	
5		HJ610-2016	
6		HJ2.4-2009	
7		HJ/T169-2018	
1.3.3			
1			
2			
3			BT
	2018		
4			

BT

[2018]198 2018 7 26

5

BT

[2018] XHC 044 2018 9

6

BT

[2018]90 2018 9 26

1.4**1.4.1**

1

GB3095-2012

1-1		$\mu\text{g}/\text{m}^3$	
SO ₂		60	(GB3095-2012)
	24	150	
	1	500	
NO ₂		40	
	24	80	
	1	200	
PM ₁₀		70	
	24	150	

HJ2.2-2018

D

50 $\mu\text{g}/\text{m}^3$

2

GB/T14848-2017 III

1-2	mg/L	pH	
pH	6.5	8.5	GB/T14848-2017
	15		
	3		

	450	
	1000	
	3.0	
	0.002	
	0.3	
	0.50	
	0.05	
	1.0	
	0.02	
	0.08	
	25	
	250	
	20.0	
	1.00	
	100	
	3.0	
	60	
	2.0	
	0.05	
	0.01	
	0.005	
	0.01	
	0.001	
	0.01	
	0.20	
	0.3	
	0.10	
	1.00	
	1.00	
	200	
	10.0	
	700	
	0.5	
	1.0	

3

GB3096-2008

3

1-3

dB(A)

3	65	55

1.4.2

1

SO₂ NO₂

GB 16171-2012

6

7

1-4

			mg/m ³	
1			15	GB 16171-2012 6
2		SO ₂	30	
3		NO _x	150	
4			0.2	GB 16171-2012 7

2

GB16171-2012

2

3

GB12348-2008 3

1-5

1-5**dB[A]**

	65	55	3

4

GB18599-2001

2013

36

I

1.5

1

2

3

4

5

1.6

1

GB3095-2012

GB3095-2012

2

GB/T14848-2017

GB5749-2006

3

GBT15190-2014

GB3096-2008

3

GB3096-2008 3

4

II

II5

27

1.7**1.7.1****1.7.2**

1#

N43°51'15.03" E87°19'38.63" 2#

N43°51'16.43"

E87°19'49.72" 3#

N43°51'12.51" E87°20'0.73" 1#

1

2#

1 2

3#

4

1-6 2

1-6

			1.5km	30		GB3095-2012
			1.3km	500		
			2.3km	300		
	200m		/	/	3	

						GB3096-2008 3
				/		GB T14848-2017

1

GB3095-2012

2

GB/T14848-2017

3

GB3096-2008 3

4

2

2.1

2.1.1

86°37'33" 88°58'24" 42°45'32" 44°08'00"

275.59km² 87°16' 87°37' 3°49'

44°03'

29km

12km

7km

1#

N43°51'15.03" E87°19'38.63" 2#

N43°51'16.43"

E87°19'49.72" 3#

N43°51'12.51" E87°20'0.73" 1#

1

2#

1 2

3#

4

2.1.2

NEE (F1)

75 80 75

600m

2.1.3

6m 15m

2.1.4

2-1

2-1

	7.6		2813.5h
	40.8		200.9mm
	-27.1		363.6mm
	23.9 (7)		131.3 mm
			58%
	11		2619.9mm
	2.4m/s		141cm
	24.8m/s		20cm

2.1.5

1

46

5

190km

2885km²7.35m³/s47m³/s9.98m³/s2.0m³/s377 m³

6.5km

2030 m³1050 m³

5km

3600

m³

2

()

F1

0.021m/d 0.03m/d

3

100m

F1

200m 250m

8m 12m

1m 3m

872.05m

849.80m

951.90m

835m

F1

300m

2.1.6

1

3000m

3000-4000m

2

40

50

29

140

240

100

60

390

3

212

201

24

4

20

2.1.7

29

129

30

100 t

2.5 t

1.1 t

1.2

t

2.2 t

3

3.1

3.1.1

1

BT

2

3

600000Nm³/h 1# 2#

3# 4#

3

3

3

A B

CSCR

4

1#

N43°51'15.03" E87°19'38.63" 2#

N43°51'16.43" E87°19'49.72" 3#

N43°51'12.51" E87°20'0.73" 1#

125m 2#

132m

3#

145m 1#

1

2#

1

2

3#

4

3

4

5

5

9

8

8760h

365

6

23600

3.1.2

3-1

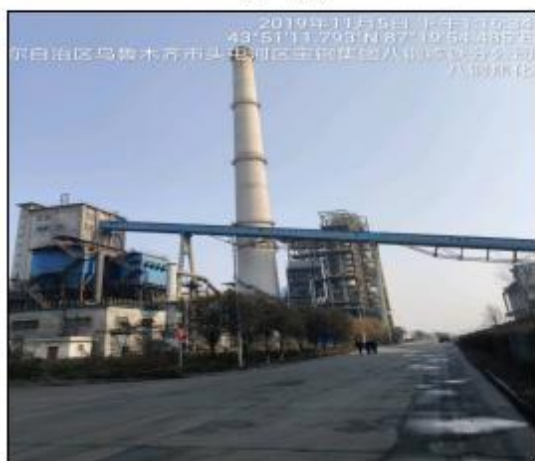




1#排气筒



2#排气筒



3#排气筒



逆流活性炭脱硫脱硝装置



余热锅炉



在线监测室

5		4000		2	
6				2	
1				2	
2	AC			12	
3	AC			3	
4	AC			3	
5				2	
1		18t/h 3200 1800mm		2	
2				2	
3				2	
4				2	
5		680 450		2	
6		66m /h		2	
7		DEM-F1027		2	
8		QF-450x680		2	
9		PSLS2046-00		2	
10		9000Nm /h		2	
11		8000N/h		2	
12		12000Nm /h 250~350		2	
13	SRG	1000Nm /h 450		2	
14				2	
15				1	
				2	
1		10t/h		2	
2		0.2t/h		2	
3		10t/h		1	
4				1	
5	AC AC			1	
6				1	
7	AC AC			1	
8				1	
9	AC	Z		1	
10				1	
11	AC AC			1	
12				1	
13				1	

	AC				
14				1	
15	AC			1	
16				1	
17				1	
18				1	
19	AC			8	
20	AC	=6500 H=14300mm		2	
1		250m ²		2	
	1# 2#				
1		V=60m ³		1	
2		Q=30m ³ /h H=26m		2	
3		Q=1m ³ /h H=26m		2	
4		0.3~0.6t/h		1	
5		Q=2000Nm ³ /h P=6.5kPa		2	
				2	
3#					
1		Q=30 Nm ³ /h T=140 H=5800Pa N=1100kW		1	
2		3000 2800mm		1	
3		3000 2800mm		1	
4		3000 2800mm		1	
5				1	
6				1	
1		2400mm 3000mm		1	
2				12	
3				3	
4				3	
5				1	
1				1	
2				1	
3				1	

4				1	
5		380 450mm		1	
6		5m ³ /h		1	
7		DEM-F1027		1	
8		QF-450x680		1	
9		PSLS2046-00		1	
10		9000Nm ³ /h		1	
11		8000Nm ³ /h		1	
12		10000Nm ³ /h 250~350		1	
13	SRG	800Nm ³ /h 450		1	
14				1	
15				1	
1				1	
2				1	
3				1	
4				1	
5				1	
6				1	
7				1	
8				1	
9				1	
10				1	
11				1	
12		=6500 H=14300mm		1	
1		350m ²		1	
1		V=60m ³		1	
2		Q=30m ³ /h H=26m		2	
3		Q=1m ³ /h H=26m		2	
4		0.3~0.6t/h		1	
5		Q=2000Nm ³ /h P=6.5kPa		2	
				1	
				1	
1				1	
2				2	
3				2	
4				2	
5				1	
6				1	

3.1.4

3-3

3-3

1		t/a	1402	525	525	
2		t/a	11521	1096	1096	
3		kW h/a	24808320	1984000	1984000	
4		t/a	192160	140160	140160	
5		Nm ³ /a	5256000	1829220	1829220	
6		Nm ³ /a	359000	224000	224000	
7		Nm ³ /a	3580000	2102400	2102400	
8		t/a	41780	41580	41580	

3.1.5

1#

1

2#

1

2

3#

4

6

3.2

3.2.1

3.2.2

3.2.3

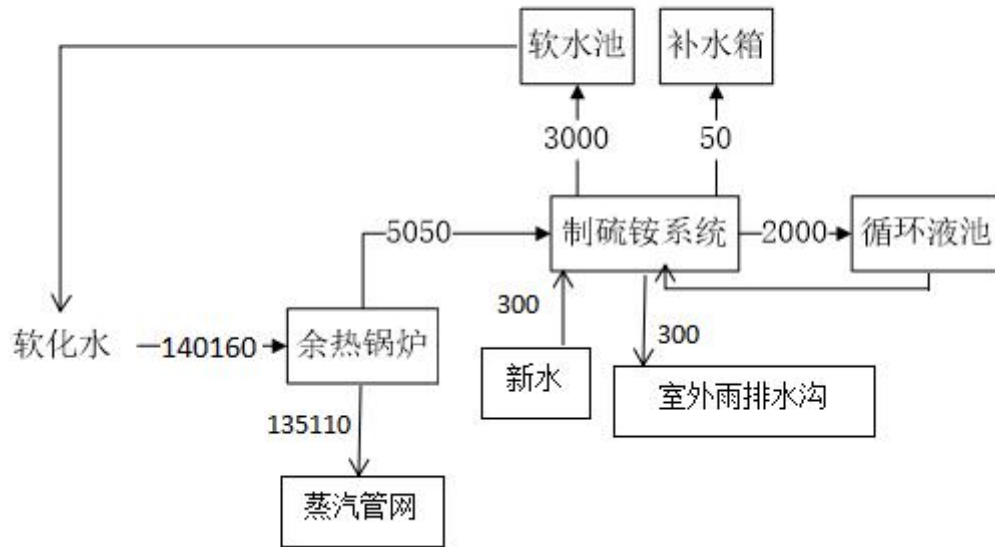
3-4

3-4

		m ³ /a	m ³ /a	
		3050	1000	
			2000	

			50	
		300	300	
		2000	2000	
		5350	5350	

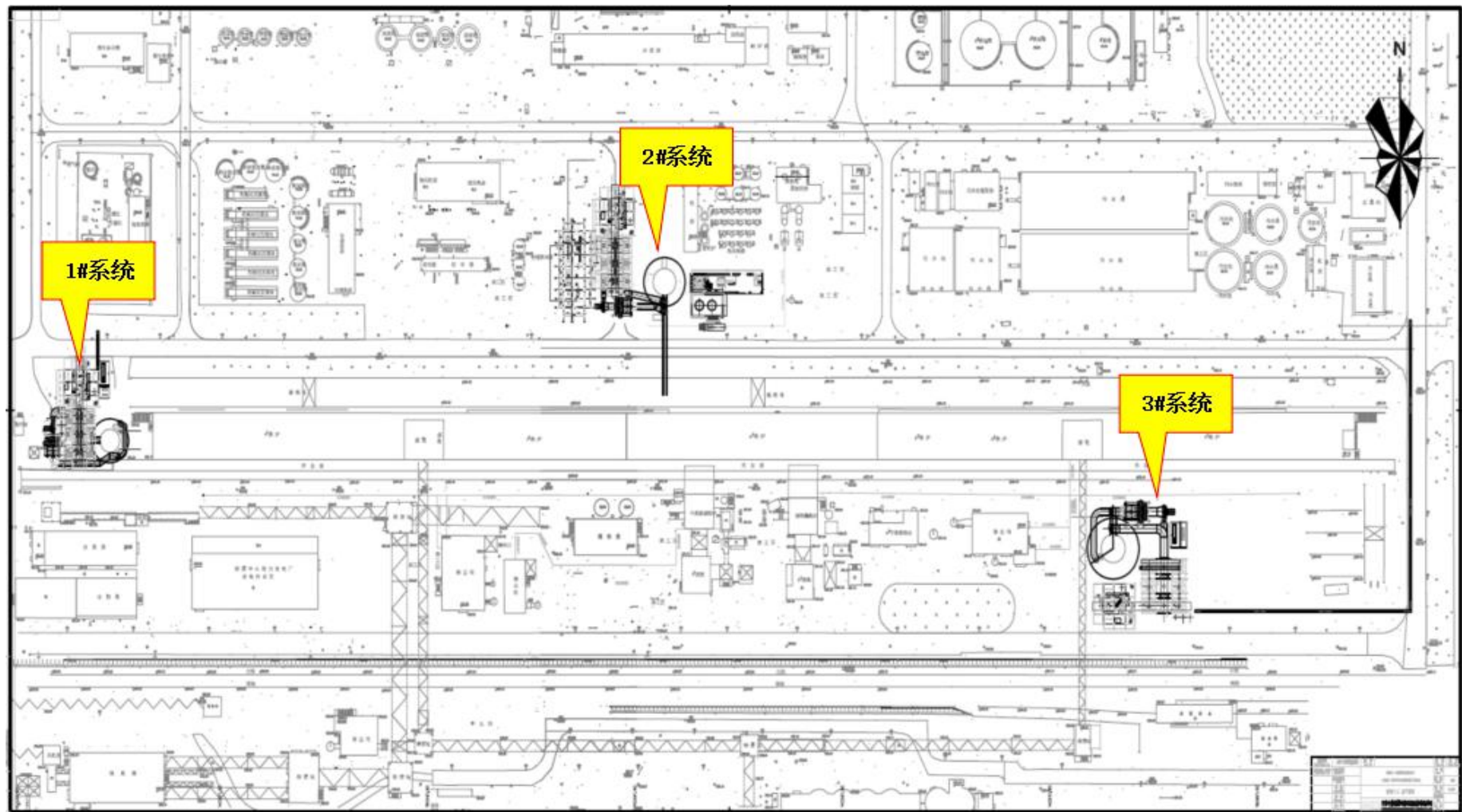
7



7

m³/a

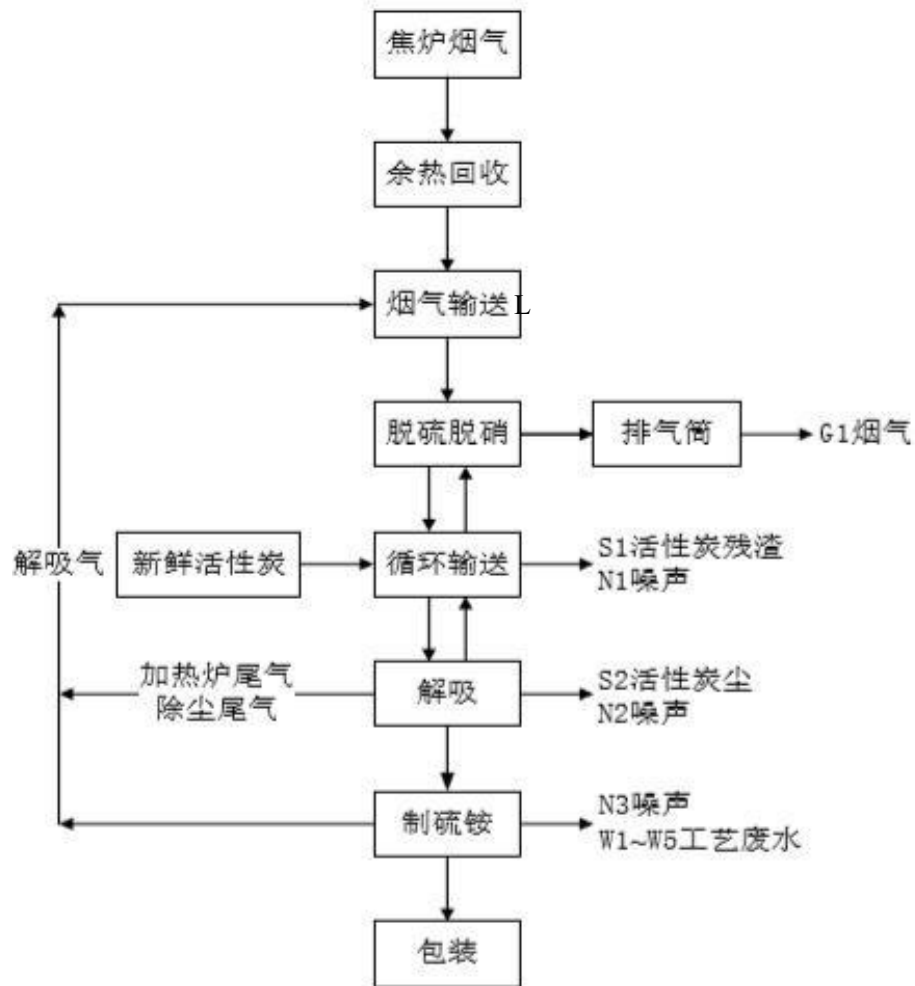
3.2.4



4

4.1

8



8

→

→

→

→

230~280℃

230~280℃

160℃~165℃

130℃

SO₂ 5mg/m³

NO_xSO₂

4-1

4-1

		SO ₂ NO ₂		
		SS		

4.2

1

PM₁₀ SO₂ NO_x G1

G2

PM₁₀ SO₂ NO_x

G3

2

3

4-2

4-2

			dB(A)	
1			60~80	
2			60~80	
3			60~80	

4

1314t/a

87.6t/a

4.3

4.3.1

4-3

4-3

1		1#			mg/m ³	kg/h	GB16171-2 012
					10.5-11.1	/	
				SO ₂	19-22	/	
				NO _x	169-178	/	
					8.2-10.1	2.26-2.79	
				SO ₂	6-8	1.66-2.21	
				NO _x	62-78	17.00-21.60	
		2#			11.0-13.4	/	
				SO ₂	27-30	/	
				NO _x	181-184	/	
					8.2-8.6	2.11-2.17	
				SO ₂	7-10	1.51-2.57	
				NO _x	109-143	27.79-35.92	
		3# 4#			12.43-13.36	/	
				SO ₂	23-27	/	
				NO _x	172-187	/	
					9.08-10.01	2.26-3.59	
				SO ₂	11-14	3.75-4.81	

				NO _x	108-117	36.84-40.50	150	
					<0.01-0.043	/	0.2	
3								
					52-56dB	A	GB12348-2	GB12348-2
					47-50dB	A	008 3	008 3
4								

4.3.2

1	1#	2#	3#	4#
SO ₂ NO _x				
GB16171-2012	6			
GB16171-2012	7			
2				
3				
	GB12348-2008	3		65dB A
55dB A				
4				

4.4

4.4.1

SO₂
NO_x

GB 16171-2012 6

4.4.2

4.4.3

1

2

4.4.4

5

5.1

5.1.1

2018 8

2017

TSP SO₂ NO_x

5-1

5-1

mg/m³

		SO ₂	NO ₂	PM ₁₀
1#	mg/m ³	<0.011~0.018	0.021~0.029	0.059~0.096
		0.12	0.36	0.64
		0	0	0

NO₂ SO₂ PM₁₀

GB3095-2012

5.1.2

2018

2018

72.9%

6.3

PM_{2.5}

22.9%

PM₁₀ PM_{2.5}SO₂NO₂

CO

O₃

5.1.3

PM₁₀ SO₂ NO₂

GB3095-2012

5.2

5.2.1

2017

5-2

5-2

mg/L

		mg/L		S _i
1	pH	7.83	6.5~8.5	0.61
2	mg/L	0.047	0.2	0.02

3	mg/L	0.7	3	0.23
4	mg/L	ND	0.002	-
5	mg/L	ND	0.05	-
6	mg/L	444	450	0.99
7	mg/L	0.42	1	0.42
8	mg/L	60.2	250	0.24
9	mg/L	8.5	20	0.43
10	mg/L	166	250	0.66
11	mg/L	782	1000	0.78
12	µg/L	ND	0.05	-
13	MPN/100mL	ND	3	-

GB/T 14848-2017

5.2.2

2019 2 28

5km

9

1

pH

18

2

3

GB/T14848-2017 III

4



$$P_i = \frac{C_i}{C_{si}}$$

P_i — i

C_i — i mg/L

C_{si} — i mg/L

pH

$$P_{pH} = \frac{7.0 - pH}{7.0 - pH_{sd}} \quad pH \leq 7$$

$$P_{pH} = \frac{pH - 7.0}{pH_{su} - 7.0} \quad pH > 7$$

P_{pH} — pH

pH — pH

pH_{sd} — pH

pH_{su} — pH

5

5-3

5-3

				P_i	
	pH	7.6	6.5 8.5	0.400	0
		339	450	0.753	0
		0.54	3.0	0.180	0
		0.126	0.5	0.252	0
		0.40	1.0	0.400	0
		0.004L	0.05	0.080	0
		158	250	0.632	0
		70.4	250	0.280	0
		5.6	20	0.280	0
		0.003L	1.00	0.003	0
		0.0003L	0.002	0.150	0
		0.004L	0.05	0.080	0
		7.6	1000	0.008	0
		0.00004L	0.001	0.040	0

		0.0003L	0.01	0.030	0
		0.001L	0.01	0.100	0
		0.0001	0.005	0.020	0
		0.01L	0.1	0.100	0

GB/T14848-2017 III

5.2.3

GB/T14848-2017

III

5.3

2019 11 15 -11 16

1

4

1

2

GB3096-2008

3

GB3096-2008 3

65dB A 55dB A

4

5

5-4

5-4

dB(A)

1m	52.4	51.7	65	55
1m	60.6	53.0		
1m	62.0	52.0		
1m	58.0	52.0		

GB3096-2008 3

6

6.1

6.1.1

1

1

6-1

6-1 2019 9 1

A1 1#													
				SO ₂			NO _x						
	mg/m ³	mg/m ³	t/d	mg/m ³	mg/m ³	t/d	mg/m ³	mg/m ³	t/d	10000m ³ /h	%	°C	%
1	6.90	5.92	0.03	0.19	0.16	0.00	55.96	47.94	0.22	392.59	8.61	128.04	8.28
2	6.99	5.93	0.03	0.17	0.14	0.00	67.47	57.02	0.26	384.57	8.51	127.40	8.35
3	6.99	7.75	0.02	0.34	0.48	0.00	42.79	41.96	0.15	341.38	10.71	128.23	7.89
4	6.92	7.73	0.02	0.22	0.25	0.00	54.85	61.92	0.18	325.43	7.69	121.91	8.84
5	7.20	6.49	0.03	0.18	0.15	0.00	68.97	60.87	0.27	393.61	7.61	125.58	8.74
6	7.21	6.77	0.03	0.20	0.18	0.00	60.25	56.00	0.24	402.98	7.91	124.04	8.67
7	7.22	6.27	0.03	0.17	0.14	0.00	65.79	56.42	0.27	408.48	7.66	124.39	8.75
8	7.13	5.67	0.03	0.16	0.13	0.00	61.24	48.42	0.24	392.74	7.54	124.81	8.65
9	7.14	5.90	0.03	0.14	0.12	0.00	87.92	71.06	0.34	385.90	7.39	125.78	8.67
10	7.51	6.17	0.03	0.17	0.14	0.00	87.49	71.44	0.35	397.13	7.93	124.43	8.14
11	7.38	5.98	0.03	0.16	0.14	0.00	119.49	96.04	0.50	418.58	7.71	122.14	8.30
12	7.36	6.27	0.03	0.15	0.14	0.00	122.97	99.60	0.51	413.13	7.82	123.45	7.96
13	7.33	6.15	0.03	0.16	0.14	0.00	90.74	75.16	0.39	427.93	7.92	123.66	8.13
14	7.26	6.21	0.03	0.15	0.13	0.00	95.69	81.75	0.40	420.25	7.79	124.80	9.09
15	7.22	5.83	0.03	0.15	0.13	0.00	102.71	81.34	0.44	423.81	7.37	124.91	9.12
16	7.25	6.16	0.03	0.15	0.13	0.00	106.64	90.68	0.43	406.35	7.73	125.94	9.00
17	2.70	2.21	0.00	0.06	0.05	0.00	45.91	37.17	0.07	156.76	2.85	46.81	3.38
18	7.22	6.08	0.03	0.16	0.13	0.00	119.54	100.27	0.48	403.75	7.83	123.88	8.90
19	7.21	6.70	0.03	3.19	2.58	0.01	115.35	91.16	0.48	417.36	8.16	124.35	9.06
20	7.15	5.69	0.03	0.17	0.15	0.00	106.58	83.96	0.43	402.21	7.24	125.47	8.89

21	7.11	6.38	0.03	0.17	0.14	0.00	113.82	100.46	0.44	382.94	7.71	127.59	9.36
22	7.09	6.15	0.03	0.16	0.13	0.00	105.58	84.86	0.41	384.62	7.66	126.54	8.85
23	7.08	5.92	0.02	0.21	0.17	0.00	93.68	77.99	0.33	352.70	7.68	127.59	9.56
24	7.18	7.26	0.02	0.15	0.14	0.00	114.33	100.76	0.36	310.70	8.90	129.83	9.71
25	7.24	5.72	0.03	0.18	0.14	0.00	89.09	68.36	0.35	387.86	6.86	126.91	9.68
26	7.29	6.41	0.03	0.16	0.16	0.00	74.22	61.88	0.29	389.60	7.90	128.37	10.00
27	7.20	5.71	0.03	0.18	0.14	0.00	93.67	73.64	0.37	389.80	7.35	127.74	9.43
28	7.24	6.27	0.03	0.16	0.14	0.00	69.29	58.75	0.27	382.67	8.26	127.78	8.91
29	7.15	6.04	0.03	0.17	0.15	0.00	72.53	60.38	0.28	388.60	8.11	127.66	8.91
30	7.41	6.25	0.03	0.16	0.14	0.00	70.43	59.37	0.29	406.94	8.07	126.96	8.76
	7.04	6.13	0.03	0.27	0.24	0.00	85.83	71.89	0.33	383.05	7.75	123.23	8.67
	7.51	7.75	0.03	3.19	2.58	0.01	122.97	100.76	0.51	427.93	10.71	129.83	10.00
	2.70	2.21	0.00	0.06	0.05	0.00	42.79	37.17	0.07	156.76	2.85	46.81	3.38
	30	30	30	30	30	30	30	30	30	30	30	30	30
	——		0.83	——		0.01	——		10.04	11491.37	——		
A2 2#													
				SO ₂			NO _x						
	mg/m ³	mg/m ³	t/d	mg/m ³	mg/m ³	t/d	mg/m ³	mg/m ³	t/d	10000m ³ /h	%	°C	%
1	3.90	3.83	0.01	0.56	0.51	0.00	99.38	87.23	0.36	362.13	7.27	132.16	18.52
2	3.41	8.86	0.01	2.77	2.85	0.01	85.74	73.32	0.32	368.28	7.29	131.55	19.06
3	3.14	3.29	0.01	0.71	0.78	0.00	45.49	44.18	0.14	316.30	9.23	130.11	15.97
4	4.91	4.51	0.02	0.70	0.63	0.00	74.18	65.37	0.25	330.36	7.65	132.31	18.80
5	3.47	3.21	0.01	0.56	0.51	0.00	72.55	64.19	0.23	315.19	7.56	131.19	19.05
6	3.71	3.34	0.01	0.58	0.52	0.00	63.98	57.42	0.21	336.03	7.64	130.89	18.87

7	3.31	3.03	0.01	0.56	0.51	0.00	70.94	63.04	0.25	357.75	7.52	129.43	18.55
8	3.28	2.88	0.01	0.88	0.77	0.00	72.79	63.48	0.27	367.03	7.28	130.96	18.57
9	3.16	2.76	0.01	0.57	0.49	0.00	92.93	78.81	0.29	316.00	6.94	130.36	18.64
10	2.52	2.26	0.01	0.41	0.37	0.00	64.25	57.15	0.15	227.44	5.32	88.88	12.73
11	3.72	3.39	0.01	0.69	0.62	0.00	114.27	100.00	0.42	367.05	7.36	124.78	18.12
12	3.70	3.41	0.01	0.56	0.51	0.00	118.01	102.09	0.47	396.97	7.25	129.35	17.72
13	3.75	4.42	0.01	1.40	1.39	0.00	99.17	89.01	0.27	275.71	8.10	129.73	16.93
14	3.51	3.18	0.01	2.55	2.31	0.01	85.93	77.10	0.30	347.83	7.66	130.68	17.10
15	3.58	3.41	0.01	1.39	1.22	0.01	113.23	97.83	0.43	382.43	7.33	130.97	17.46
16	3.44	3.34	0.01	0.81	0.77	0.00	108.34	95.39	0.38	346.33	7.53	131.47	17.07
17	3.32	2.99	0.01	0.42	0.38	0.00	116.94	103.16	0.37	320.67	7.41	131.29	17.76
18	3.52	3.18	0.01	1.16	1.08	0.00	120.27	107.93	0.42	351.27	7.67	131.79	17.12
19	3.38	3.09	0.01	0.70	0.65	0.00	111.55	102.10	0.42	373.95	7.89	131.38	16.49
20	3.42	2.97	0.01	0.90	0.78	0.00	104.59	90.85	0.35	332.16	6.37	117.86	15.36
21	3.93	3.39	0.01	1.23	1.06	0.00	107.92	92.94	0.37	343.94	7.09	132.95	17.47
22	4.01	3.46	0.01	0.54	0.46	0.00	109.87	94.21	0.41	369.56	7.02	132.19	17.63
23	3.89	3.64	0.01	0.87	0.85	0.00	90.73	80.25	0.28	314.02	7.49	133.13	16.93
24	3.67	3.14	0.01	0.99	0.85	0.00	106.25	90.73	0.39	367.02	6.96	133.45	18.02
25	3.44	3.05	0.01	1.13	1.00	0.00	115.34	102.13	0.42	361.17	7.47	132.62	17.20
26	3.64	3.22	0.01	1.06	0.94	0.00	107.28	94.86	0.40	369.85	7.45	132.23	16.42
27	4.36	4.09	0.02	1.96	1.69	0.01	119.29	105.47	0.46	383.19	7.48	132.67	16.62
28	4.65	4.94	0.02	1.34	1.24	0.01	113.16	101.02	0.48	425.61	7.74	134.13	15.83
29	4.51	3.94	0.02	2.30	1.98	0.01	119.43	102.74	0.53	440.60	7.07	132.59	16.58
30	5.22	4.90	0.02	1.62	1.58	0.01	121.88	111.04	0.44	362.87	7.87	127.15	15.81

	3.72	3.64	0.01	1.06	0.98	0.00	98.19	86.50	0.35	350.96	7.40	129.34	17.28
	5.22	8.86	0.02	2.77	2.85	0.01	121.88	111.04	0.53	440.60	9.23	134.13	19.06
	2.52	2.26	0.01	0.41	0.37	0.00	45.49	44.18	0.14	227.44	5.32	88.88	12.73
	30	30	30	30	30	30	30	30	30	30	30	30	30
	——		0.35	——		0.07	——		10.48	10528.71	——		
3# 4#													
				SO ₂			NO _x						
	mg/m ³	mg/m ³	t/d	mg/m ³	mg/m ³	t/d	mg/m ³	mg/m ³	t/d	10000m ³ /h	%	°C	%
1	3.03	2.82	0.02	0.10	0.09	0.00	125.70	116.72	0.99	785.17	8.08	119.86	10.39
2	3.10	2.89	0.03	0.10	0.09	0.00	123.21	114.48	1.01	823.38	8.09	119.24	10.04
3	3.13	2.88	0.03	0.10	0.09	0.00	121.49	111.51	0.98	803.73	7.93	118.58	9.54
4	3.11	2.88	0.03	0.10	0.09	0.00	115.93	107.10	0.94	815.00	8.01	119.00	9.86
5	2.94	4.01	0.02	0.33	0.36	0.00	98.51	107.61	0.82	832.90	9.18	118.04	9.39
6	2.88	2.75	0.02	1.97	2.05	0.02	120.56	115.64	0.94	780.98	8.45	116.62	9.56
7	2.90	2.79	0.02	0.10	0.10	0.00	105.49	101.37	0.88	831.65	8.53	117.10	9.55
8	2.89	2.78	0.02	0.45	0.44	0.00	109.47	105.29	0.86	786.32	8.54	117.69	9.60
9	3.00	2.82	0.02	0.10	0.09	0.00	109.77	102.63	0.89	814.26	8.19	119.02	9.94
10	3.11	2.95	0.03	0.11	0.10	0.00	101.56	95.77	0.83	812.68	8.31	114.89	10.13
11	3.10	2.95	0.02	0.10	0.09	0.00	112.06	106.40	0.89	794.23	8.35	113.90	9.77
12	3.07	2.97	0.03	0.14	0.14	0.00	120.08	114.00	0.98	818.01	8.42	116.48	10.43
13	2.90	2.71	0.03	1.07	0.98	0.01	120.31	111.94	1.05	869.29	8.13	115.51	10.22
14	2.86	2.67	0.02	0.10	0.09	0.00	119.46	111.71	1.00	833.83	8.18	116.62	9.59
15	2.87	2.76	0.02	2.33	2.26	0.02	127.35	122.18	1.06	829.53	8.51	117.08	9.35
16	2.85	2.67	0.02	1.48	1.39	0.01	130.31	121.89	1.11	848.90	8.15	118.73	9.14

17	2.91	2.77	0.03	2.71	2.57	0.02	127.23	120.22	1.12	877.66	8.30	118.27	9.61
18	2.90	2.79	0.02	0.12	0.11	0.00	121.16	116.71	1.00	828.78	8.55	119.33	9.72
19	2.80	2.70	0.02	0.95	0.93	0.01	122.22	117.58	1.08	881.66	8.48	119.75	9.37
20	2.76	2.65	0.02	1.40	1.34	0.01	113.05	108.23	0.95	840.47	8.47	121.81	9.44
21	2.81	2.68	0.02	0.10	0.10	0.00	106.25	101.21	0.90	848.09	8.41	122.94	9.62
22	2.97	2.83	0.03	0.10	0.09	0.00	119.56	113.48	1.03	857.40	8.37	121.28	9.38
23	3.18	3.09	0.03	0.10	0.10	0.00	108.01	104.78	0.91	840.74	8.64	121.29	9.57
24	2.79	2.66	0.02	0.12	0.12	0.00	118.00	112.30	1.00	848.73	8.40	123.69	9.36
25	2.37	2.27	0.02	0.20	0.19	0.00	117.29	111.94	1.00	855.73	8.44	123.52	9.68
26	2.34	2.26	0.02	1.51	1.44	0.01	104.15	100.04	0.90	863.92	8.54	121.88	9.38
27	2.19	2.08	0.02	2.72	2.65	0.02	117.93	112.00	1.02	864.93	8.35	121.75	8.87
28	2.19	2.08	0.02	0.29	0.27	0.00	114.23	108.22	0.98	854.85	8.34	122.02	9.08
29	2.17	2.11	0.02	2.37	2.26	0.02	117.64	113.82	1.00	846.93	8.58	121.56	9.35
30	2.25	2.14	0.02	2.66	2.56	0.02	117.62	111.38	1.01	860.33	8.33	120.75	9.71
	2.81	2.71	0.02	0.80	0.77	0.01	116.19	110.61	0.97	835.00	8.38	119.27	9.62
	3.18	4.01	0.03	2.72	2.65	0.02	130.31	122.18	1.12	881.66	9.18	123.69	10.43
	2.17	2.08	0.02	0.10	0.09	0.00	98.51	95.77	0.82	780.98	7.93	113.90	8.87
	30	30	30	30	30	30	30	30	30	30	30	30	30
	——		0.69	——		0.17	——		29.13	25050.08	——		

6-3			dB A	
1	2019.11.15~11.16	1m	52.4	51.7
2		1m	60.6	53.0
3		1m	62.0	52.0
4		1m	58.0	52.0

GB12348-2008 3

6.1.4

6.2

2011 2013

[2014]35 2014.4.17

6.3

1

2

1

2

GB15562.1 2-1995

3

4

5

6-4

6-4

1				
2				
3				
4				

7

2012 12

59 2880 1000

SO₂27613 / NO_x12414 / COD3107 / 200 /

120 / SS9000 / “

” 2017 11

41 33

5

1

2

3

4

5

6

7.1

1

BT

2

1984000kWh/a

24808320kWh/a

500000kWh/a

3

4

SO ₂	14.6t/a	NO _x	602.25t/a	SO ₂
131.40t/a	NO _x	683.28t/a	116.8t/a	81.03t/a

5

“ ”

7.2

8

8.1

8.1.1

11

8.1.2

1

2

8.1.3

1

2

3

1

1

4

8.1.4

1

2

3

4

	2014.5		2016.11
2013.4		2012.1	2012.3
	2018.10		

5

8.1.5

1	ISO14000	QHS3
2		
3		
4		
5		

8.1.6

23600

8.2**8.2.1****8.2.2**

8-1

		SO ₂ NO ₂	3	1 /
	1m	A	4	1 /
		-	-	1

9

9.1

9-1

9-1

			ammonium hydroxide ammonia water			
	NH ₄ OH	35.05	CAS	1336	21	6
	82503					
				1	0.91	
		MPa		1		
	KJ/mol	mJ		KPa	1.59	
			20			
		MPa				
	MAC mg/m ³		MAC mg/m ³			
	TVL TWA		TLV STEL			
				15		
				15		
	20	UN	2672			

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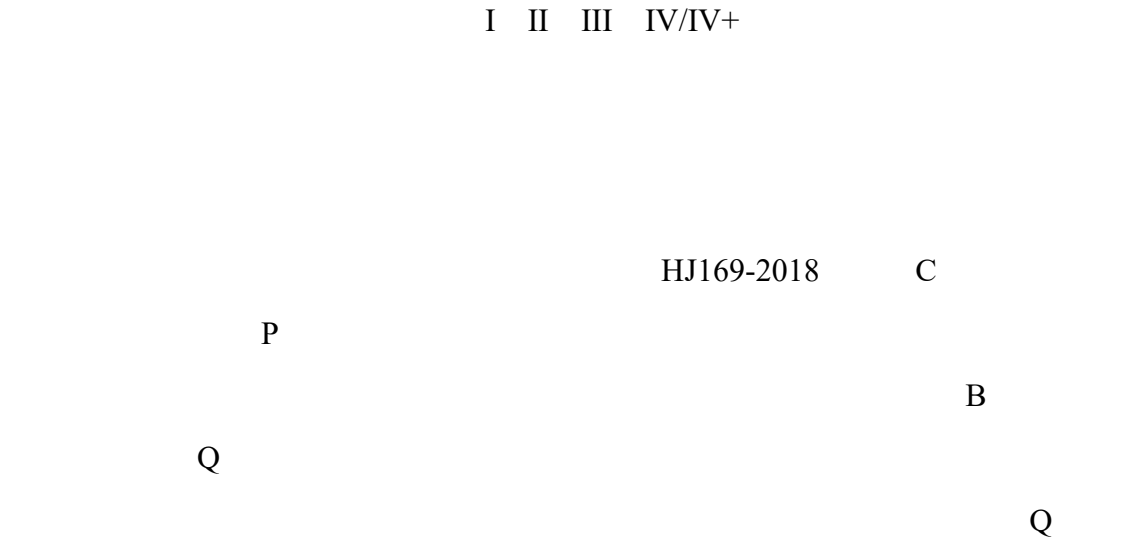
9.2



9-2				
	t	t		
	10	5		



9.3



Q

$$Q = \frac{q_1}{Q_1} + \frac{q_2}{Q_2} + \dots \frac{q_n}{Q_n}$$

q₁ q₂ ... q_n---

t

Q₁ Q₂ ... Q₂---

t

Q<1

I

Q 1 Q 1 1 Q<10 2 10 Q<100 3 Q 100

Q=5/10=0.5

I

-

Q₀

9.4

9.5

A.2

$$Q_L = C_d A \rho \sqrt{\frac{2(P - P_0)}{\rho} + 2gh}$$

Q_L— kg/sC_d— 0.6 0.64 0.62A— m²ρ— 923kg/m³P P₀— Pag— 9.8m/s²

h— 3.2m

100%

0.06m

15min

10.36kg/s 15min

9.32t

9.6

X

X

9.7

1

2

3

4

5

9.8

1

2

()

9.9

2018 10 16

650106-2018-096-H

9.10

9-3

9-3

1		
1.1		
1.2		
1.3		
1.4		
2		
2.1		
2.2		
2.3		

2.4		
3		
3.1		
3.2		
4		
4.1		

1

2

3

4

9.11

10

4 2019.1.1

10.1

10.1.1

1

2

3

4

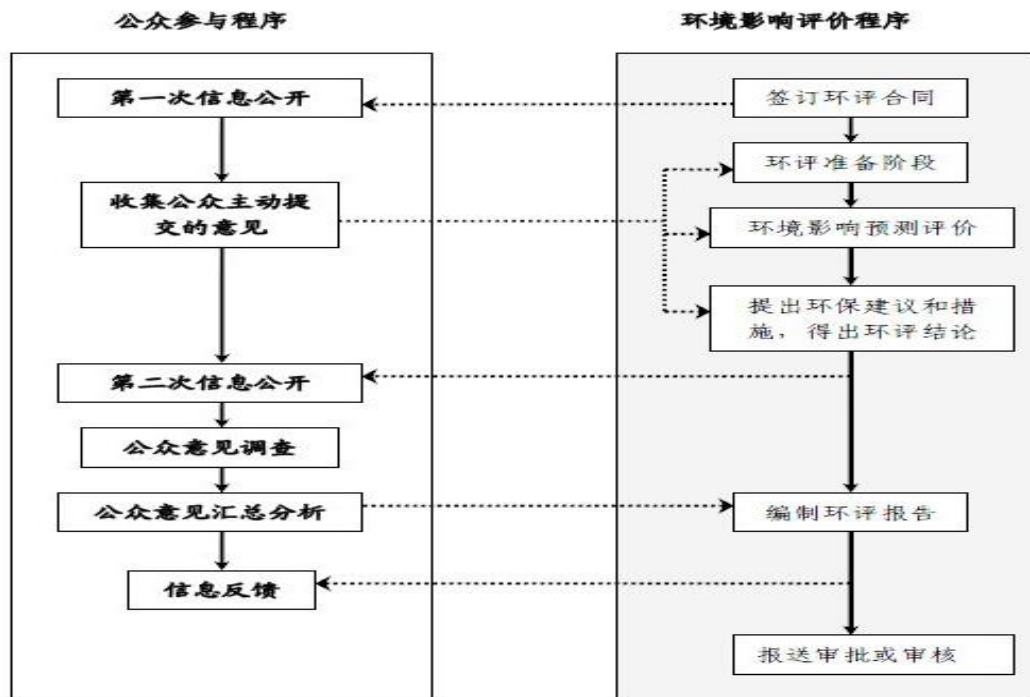
5

10.1.2

10.2

10.2.1

10



10

10.2.2

2019 9

100

10.2.3

10.2.4

10-1

10-1

	BT
1	BT
2	1#
	N43°51'15.03" E87°19'38.63" 2#
	N43°51'16.43" E87°19'49.72" 3#
	N43°51'12.51"
3	
	23600
	600000Nm ³ /h 1# 2#
	3# 4#
	3
	A B
	3 CSCR
1	
	SO ₂ NO _x
2	
3	
4	
1	

	1#	2#	3#	4#	SO ₂	NO _x
	2					
	3					
	4					
1						
☐	☐	☐	☐	☐	☐	☐
2						
☐	☐	☐	☐	☐	☐	☐
3						
☐	☐	☐	☐	☐	☐	☐
4						
☐	☐	☐	☐	☐	☐	☐
5						
☐	☐	☐	☐	☐	☐	☐
6						
☐	☐	☐	☐	☐	☐	☐
7						
☐	☐	☐	☐	☐	☐	☐
8						
☐	☐	☐	☐	☐	☐	☐
9						
☐	☐	☐	☐	☐	☐	☐
10						
☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐
13						

☐	☐	☐
14		

10.3

100

100

10-2

10-2

				%
1			82	82
			18	18
2			8	8
			92	92
			0	0
3			50	50
			0	0
			50	50
4			0	0
			1	1
			2	2
			97	97
5			2	2
			3	3
			15	15
			80	80
6			0	0
			5	5
			1	1
			94	94
7			0	0
			0	0
			10	10
			90	90
8			2	2
			2	2
			3	3
			93	93
9			0	0

			0	0
			50	50
			50	50
10			2	2
			3	3
			5	5
			90	90
11			40	40
			42	42
			18	18
			0	0
			0	0
			0	0
12			98	98
			2	2
			0	0
13			94	94
			0	0
			6	6
			0	0
14			95	95
			0	0
			5	5

10.4

10.5

11

11.1

11.1.1

BT

1#

N43°51'15.03" E87°19'38.63" 2#

N43°51'16.43"

E87°19'49.72" 3#

N43°51'12.51" E87°20'0.73" 1#

1

2#

1

2

3#

4

600000Nm³/h 1# 2#

3# 4#

3

3

3

A B

CSCR

23600

11.1.2

BT

1

GB3095-2012

2

GB/T14848-2017

3

GB3096-2008 3

11.1.3

1

GB28668-2012 6

1# 125m 2# 132m 3# 4#

145m

2

3

GB12348—2008 3

4

11.1.4**11.1.5**

1# 2# 3# 4#

SO₂ NO_x

GB16171-2012 6

11.1.6

2011

2013

21

2013.2.16

11.1.7

11.1.8

11.2

1

2