Japan Display environmental measurement data (FY2017)

Environmental measurement data of the plant have been partly published in page 20 of the Environmental Report 2018.If you want to see all the data, including other plants, please refer to the following.

Wastewater Management

Living environment items

Plant name	Discharge destination	BOD*1 (mg/L)					COD*2 (mg/L)					SS*3 (mg/L)					Hydrogen ion concentration (pH)				
		Legal limits	JDI standards	Minimum value	Average	Maximum value	Legal limits	JDI standards	Minimum value	Average	Maximum value	Legal limits	JDI standards	Minimum value	Average	Maximum value	Legal limits	JDI standards	Minimum value	Average	Maximum value
Mobara①	River	10	8	<0.5	1.4	3.3	25	20	2.7	2.6	4.5	20	15	0.6	1	2	5.8～8.6	6.0～8.4	7.2	7.5	8.0
Mobara②	River	10	8	<0.5	1.1	2.5	25	20	2.8	3.1	3.5	20	15	<0.5	1	1	5.8～8.6	6.0～8.4	7.0	6.8	7.7
Tottori	Sewage system	600	450	100	176	280	–	–	–	–	–	600	300	8	17	29	5.0～9.0	6.0～8.7	6.9	7.1	7.3
Higashiura	River	15	12	<0.5	0.6	0.8	10	8	2.3	3.1	5.1	15	12	<1	1	1	5.8～8.6	6.0～8.3	7.2	7.4	7.5
Ishikawa	River	30	29	1.9	5.6	9.1	160	125	1.8	2.6	3.1	80	60	1	2	3	5.8～8.6	6.1～8.2	7.2	7.3	7.4
Nomi	River	30	29	1.4	8.0	18.0	160	125	1.6	2.7	5.8	90	70	2	4	5	5.8～8.6	6.1～8.2	6.9	7.1	7.3
Hakusan	River	80	29	<1.0	1.6	2.8	160	125	1.8	2.9	4.2	120	70	1	3	7	5.8～8.6	6.1～8.2	7.1	7.4	7.6

Plant name	Discharge destination	Normal hexane extractable material(mg/L)					Phenols (mg/L)					Phosphorus(mg/L)					Nitrogen(mg/L)				
		Legal limits	JDI standards	Minimum value	Average	Maximum value	Legal limits	JDI standards	Minimum value	Average	Maximum value	Legal limits	JDI standards	Minimum value	Average	Maximum value	Legal limits	JDI standards	Minimum value	Average	Maximum value
Mobara①	River	2	1.6	<0.5	0.5	<0.5	0.50	0.40	<0.05	0.05	<0.05	16	6.4	<0.1	0.10	<0.1	120	80	5.1	8.9	14
Mobara②	River	2	1.6	<0.5	0.5	<0.5	0.50	0.40	<0.05	0.05	<0.05	16	6.4	<0.1	0.10	<0.1	120	80	15	20.8	30
Tottori	Sewage system	5	2.5	<1.0	<1.0	<1.0	5	2.5	<0.1	<0.1	<0.1	–	–	–	–	–	–	–	–	–	–
Higashiura	River	2	1.6	<0.5	<0.5	<0.5	5	4	<0.05	<0.05	<0.05	1	0.8	0.09	0.20	0.44	10	8	2.8	4.2	6.5
Ishikawa	River	5	4	<1.0	<1.0	<1.0	5	4	<0.05	<0.05	<0.05	16	14.9	0.19	1.2	3.2	120	95	5	5	8
Nomi	River	5	4	<1.0	<1.0	<1.0	5	4	<0.05	<0.05	<0.05	16	14.9	0.07	0.13	0.21	120	95	28	48	67
Hakusan	River	5	4	<1.0	<1.0	<1.0	5	4	<0.05	<0.05	<0.05	16	14.9	<0.06	0.11	0.30	120	95	10	13	16

Hazardous substances

Plant name	Discharge destination	Nitrate nitrogen, nitrite nitrogen, and ammoniac nitrogen(mg/L)					Boron and its compounds(mg/L)					Fluorine and its compounds(mg/L)				
		Legal limits	JDI standards	Minimum value	Average	Maximum value	Legal limits	JDI standards	Minimum value	Average	Maximum value	Legal limits	JDI standards	Minimum value	Average	Maximum value
Mobara①	River	100	80	3.7	7	12	10	8	0.06	0.08	0.11	8	6.4	0.3	0.5	0.7
Mobara②	River	100	80	10	16	22	10	8	0.39	0.70	1.30	8	6.4	1.2	1.8	3.1
Tottori	Sewage system	380	190	3.1	6.2	10.3	10	5	<0.2	<0.2	<0.2	8	5	1.1	1.6	1.9
Higashiura	River	100	80	2.6	3.9	6.1	10	8	<1.0	<1.0	<1.0	8	6.5	2.0	2.6	3.2
Ishikawa	River	100	80	3.1	3.8	4.7	10	8	<0.1	<0.1	<0.1	8	6	0.5	0.65	0.8
Nomi	River	100	80	21	38.3	48	10	8	<0.1	0.40	0.50	8	6	1.2	2.0	2.8
Hakusan	River	100	80	1.0	8.2	13.0	10	8	<0.1	0.20	0.40	8	6	1.2	1.7	2.9

*1 Bochemical Oxygen Demand *2 Chemical Oxygen Demand *3 Suspended Solids

Air Emissions Management

Plant name	Target facilities	Number of units	Particulate matter (g/Nm^3)*4			Nitrogen oxides (vol ppm)*5			Sulfur oxide(Nm^3/h)*6		
			Legal limits	JDI standards	Results	Legal limits	JDI standards	Results	Legal limits	JDI standards	Results
Mobara	Once-through boilers	20	–	–	–	150	120	26	–	–	–
Tottori	Once-through boilers	7	0.1	0.05	<0.001	150	75	33	–	–	–
	Absorption coolin	2	0.1	0.05	0.001	150	75	36	–	–	–
Higashiura	Flue and smoke tube boilers	5	0.1	0.08	0.004	150	120	45	–	–	–
	Multitubular once-through boilers	6	0.1	0.08	<0.003	150	120	32	–	–	–
Ishikawa	Once-through boilers	3	0.3	0.15	<0.01	180	105	57.8	2.05	0.28	0.004
	Flue and smoke tube boilers	2	0.3	0.15	<0.01	180	164	69.5	6.4	3.21	0.08
	Gas turbines	4	0.05	0.025	<0.01	70	56	39.3	9.53	5	0.04
Nomi	Once-through boilers	6	0.3	0.15	<0.001	180	105	32	2.05	0.28	0.0007
Hakusan	Once-through boilers	5	0.3	0.15	<0.001	180	105	31.5	2.05	0.28	0.0003

*4 Particulate matter" refers to soot and other solid particulate matter resulting from combustion.
*5 Nitrogen oxides" is a generic term that refers to compounds that arise from a combination of nitrogen atoms (N) and oxygen atoms (O).
*6 Sulfur oxides: a compound of sulfur and oxygen as the main sulfur dioxide (sulfur dioxide),Collectively, including sulfur trioxide.

Noise and Vibration Management

Unit:dB

Plant name	Item	Time zone		Legal limits	JDI standards	Results (Maximum value)
Mobara	Noise	Morning	06:00～08:00	65	60	55
		Daytime	08:00～19:00	70	65	53
		Evening	19:00～22:00	65	60	57
		Night	22:00～06:00	60	57	53
	Vibration	Daytime	07:00～22:00	65	60	44
		Night	22:00～07:00	60	55	44
Tottori*7	Noise	Morning	06:00～08:00	70	70	48
				65	65	44
		Daytime	08:00～19:00	70	70	48
				65	65	48
		Evening	19:00～22:00	70	70	50
				65	65	45
		Night	22:00～06:00	65	65	46
				50	50	45
	Vibration	Daytime	08:00～19:00	65	65	35
		Night	19:00～08:00	60	60	35
Higashiura	Noise	Morning	06:00～08:00	55	55	55
		Daytime	08:00～19:00	60	60	54
		Evening	19:00～22:00	55	55	54
		Night	22:00～06:00	50	50	50
	Vibration	Daytime	07:00～22:00	60	40	24
		Night	22:00～07:00	55	40	26
Ishikawa	Noise	Morning	06:00～08:00	60	60	50
		Daytime	08:00～19:00	65	65	51
		Evening	19:00～22:00	60	60	50
		Night	22:00～06:00	50	50	46
	Vibration	Daytime	07:00～22:00	65	30	– *8
		Night	22:00～07:00	60	30	– *8
Nomi	Noise	Morning	06:00～08:00	65	65	48
		Daytime	08:00～19:00	70	70	50
		Evening	19:00～22:00	65	65	48
		Night	22:00～06:00	60	60	48
	Vibration	Daytime	07:00～22:00	65	30	<30
		Night	22:00～07:00	60	30	<30
Hakusan	Noise	Morning	06:00～08:00	65	65	52
		Daytime	08:00～19:00	70	70	55
		Evening	19:00～22:00	65	65	54
		Night	22:00～06:00	60	60	51
	Vibration	Daytime	07:00～22:00	65	30	<30
		Night	22:00～07:00	60	30	<30

*7 Noise regulation zone is different at the location of the plant site boundary, there are two ways.

*8 There was no corresponding facility.

Odor Management

Plant name	Items	Compounds	Units	Legal limits	JDI standards	Results	Compounds		Units	Legal limits	JDI standards	Results	Compounds		Units	Legal limits	JDI standards	Results
Mobara	No. 1 regulation (site boundar	－	Odor index	14	14	＜10	－											
Tottori	No. 1 regulation (site boundar	Ammonia	ppm	5	5	<0.1	Hydrogen sulfide		ppm	0.2	0.2	<0.002	Xylene		ppm	1	1	<0.1
		Toluene	ppm	10	10	<1	－						－					
	No. 2 regulation (gas outlet)	Ammonia	m^3／h	720	720	<0.0021	Toluene	Exhaust tower for organic abatement	m^3／h	1200	1200	<0.0067	Xylene	Exhaust tower for organic abatement	m^3／h	120	120	<0.00067
		－						Air release port for organic abatement	m^3／h	890	890	<0.014		Air release port for organic abatement	m^3／h	89	89	<0.0014
								Purge gas outlet for organic abatement	m^3／h	1100	1100	<0.013		Purge gas outlet for organic abatement	m^3／h	110	110	<0.0013
	No. 3 regulation (effluent)	Hydrogen sulfide	mg／L	0.2	0.2	<0.0005												
Higashiura	No. 1 regulation (site boundar	－	Odor index	18	15	<10	－											
	No. 3 regulation (effluent)	－		34	27	<10												
Ishikawa	No. 1 regulation (site boundar	Ammonia	ppm	2	1	<0.1	Methyl mercaptan		ppm	0.004	0.0012	<0.0001	Hydrogen sulfide		ppm	0.06	0.018	<0.0001
		Methyl sulfide	ppm	0.05	0.01	<0.0001	Methyl disulfide		ppm	0.03	0.009	<0.0001	Trimethylamine		ppm	0.02	0.006	<0.002
		Propionic acid	ppm	0.07	0.03	<0.0007	n-Butyric acid		ppm	0.002	0.001	<0.0002	n-Valeric acid		ppm	0.002	0.0009	<0.0002
		Isovaleric acid	ppm	0.004	0.001	<0.0002	Acetaldehyde		ppm	0.1	0.03	<0.01	Propionaldehyde		ppm	0.1	0.03	<0.0007
		n-	ppm	0.03	0.009	<0.0004	Isobutyraldehyde		ppm	0.07	0.021	<0.0005	n-Valeraldehyde		ppm	0.02	0.006	<0.0004
		Isovaleraldehyd	ppm	0.006	0.0018	<0.0004	Isobutyl alcohol		ppm	4	1.2	<0.1	Ethyl acetate		ppm	7	2.1	<0.3
		Methyl isobutyl ketone	ppm	3	0.9	<0.1	Toluene		ppm	30	9	<1	Styrene		ppm	0.8	0.24	<0.04
		Xylene	ppm	2	0.6	<0.1	－						－					
	No. 3 regulation (effluent)	Methyl mercaptar	mg／L	0.003	0.003	<0.0004	Hydrogen sulfide		mg／L	0.02	0.02	<0.001	Methyl sulfide		mg／L	0.07	0.07	<0.003
		Methyl disulfide	mg／L	0.09	0.09	<0.01	－						－					
Nomi	No. 1 regulation (site boundar	Ammonia	ppm	2	2	<0.1	Methyl mercaptan		ppm	0.004	0.004	<0.0001	Hydrogen sulfide		ppm	0.06	0.06	<0.0001
		Methyl sulfide	ppm	0.05	0.05	<0.0001	Methyl disulfide		ppm	0.03	0.03	<0.0001	Trimethylamine		ppm	0.02	0.02	<0.002
		Propionic acid	ppm	0.07	0.07	<0.0007	n-Butyric acid		ppm	0.002	0.002	<0.0002	n-Valeric acid		ppm	0.002	0.002	<0.0002
		Isovaleric acid	ppm	0.004	0.004	<0.0002	Acetaldehyde		ppm	0.1	0.1	<0.01	Propionaldehyde		ppm	0.1	0.1	<0.0007
		n-	ppm	0.03	0.03	<0.0004	Isobutyraldehyde		ppm	0.07	0.07	<0.0005	n-Valeraldehyde		ppm	0.02	0.02	<0.0004
		Isovaleraldehyd	ppm	0.006	0.006	<0.0004	Isobutyl alcohol		ppm	4	4	<0.1	Ethyl acetate		ppm	7	7	<0.3
		Methyl isobutyl Ketone	ppm	3	3	<0.1	Toluene		ppm	30	30	<1	Styrene		ppm	0.8	0.8	<0.04
		Xylene	ppm	2	2	<0.1	－						－					
	No. 3 regulation (effluent)	Methyl mercaptar	mg／L	0.003	0.003	<0.0004	Hydrogen sulfide		mg／L	0.02	0.02	<0.001	Methyl sulfide		mg／L	0.07	0.07	<0.003
		Methyl disulfide	mg／L	0.09	0.09	<0.01	－						－					
Hakusan	No. 1 regulation (site boundar	Ammonia	ppm	2	2	<0.1	Methyl mercaptan		ppm	0.004	0.004	<0.0001	Hydrogen sulfide		ppm	0.06	0.06	<0.0001
		Methyl sulfide	ppm	0.05	0.05	<0.0001	Methyl disulfide		ppm	0.03	0.03	<0.0001	Trimethylamine		ppm	0.02	0.02	<0.002
		Propionic acid	ppm	0.07	0.07	<0.0007	n-Butyric acid		ppm	0.002	0.002	<0.0002	n-Valeric acid		ppm	0.002	0.002	<0.0002
		Isovaleric acid	ppm	0.004	0.004	<0.0002	Acetaldehyde		ppm	0.1	0.1	<0.01	Propionaldehyde		ppm	0.1	0.1	<0.0007
		n-	ppm	0.03	0.03	<0.0004	Isobutyraldehyde		ppm	0.07	0.07	<0.0005	n-Valeraldehyde		ppm	0.02	0.02	<0.0004
		Isovaleraldehyd	ppm	0.006	0.006	<0.0004	Isobutyl alcohol		ppm	4	4	<0.1	Ethyl acetate		ppm	7	7	<0.3
		Methyl isobutyl ketone	ppm	3	3	<0.1	Toluene		ppm	30	30	<1	Styrene		ppm	0.8	0.8	<0.04
		Xylene	ppm	2	2	<0.1	－						－					
	No. 3 regulation (effluent)	Methyl mercaptar	mg／L	0.003	0.003	<0.0004	Hydrogen sulfide		mg／L	0.02	0.02	<0.001	Methyl sulfide		mg／L	0.07	0.07	<0.003
		Methyl disulfide	mg／L	0.09	0.09	<0.01	－						－					