

Japan Display environmental measurement data (FY2016)

Environmental measurement data of the plant have been partly published in page 16 of the Environmental Report 2017.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	2.2	2.9	25	20	2.5	4.2	6.3	20	15	<1	1	1	5.8~8.6	6.0~8.4	7.3	7.5	7.9
Mobara②	River	10	8	<0.5	1.1	2.2	25	20	4.7	5.8	7.4	20	15	<1	1	1	5.8~8.6	6.0~8.4	7.1	7.3	7.9
Tottori	Sewage system	600	450	110	197	365	-	-	-	-	-	600	300	20	30	54	5.0~9.0	6.0~8.7	6.9	7.1	7.2
Higashiura	River	15	12	0.5	0.8	1.4	10	8	2.9	3.7	5.1	15	12	1	1	2	5.8~8.6	6.0~8.3	7.1	7.3	7.6
Ishikawa	River	30	29	1.0	5.3	8.2	160	125	1.2	2.4	4.0	200	60	1	2	5	5.8~8.6	6.1~8.2	7.1	7.3	7.4
Nomi	River	30	29	1.0	1.9	5.0	160	125	1.6	2.5	3.4	200	60	1	1	2	5.8~8.6	6.1~8.2	7.1	7.2	7.3
Hakusan	River	30	29	1.0	2.3	5.2	160	125	1.1	2.7	4.2	200	60	1	1	2	5.8~8.6	6.1~8.2	7.2	7.4	7.8

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	0.13	0.20	120	80	13	16	21
Mobara②	River	2	1.6	<0.5	0.5	0.6	0.50	0.40	<0.05	0.05	<0.05	16	6.4	<0.03	0.11	0.30	120	80	20	26	37
Tottori	Sewage system	5	2.5	0.5	0.96	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	0.02	0.14	0.32	10	8	2.7	4.5	6.0
Ishikawa	River	5	4	1.0	1.0	1.0	5	4	0.05	0.05	0.05	16	14.9	0.32	4.1	7.6	120	95	4	5	6
Nomi	River	5	4	1.0	1.0	1.0	5	4	0.05	0.05	0.05	16	14.9	0.06	0.09	0.12	120	95	45	50	55
Hakusan	River	5	4	1.0	1.0	1.0	5	4	0.1	0.1	0.1	16	14.9	0.13	0.40	0.94	120	95	5	7	10

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	9.0	15	19	10	8	0.05	0.08	0.09	8	6.4	0.70	1.4	3.2
Mobara②	River	100	80	13	17	23	10	8	0.53	0.80	0.96	8	6.4	2.4	2.9	4.4
Tottori	Sewage system	380	190	0.9	2.7	7.4	10	5	0.20	0.20	0.20	8	5	0.60	1.5	2.3
Higashiura	River	100	80	2.1	3.8	5.0	10	8	1.0	1.0	1.0	8	6.5	1.9	2.8	3.3
Ishikawa	River	100	80	2.6	3.3	3.7	10	8	0.10	0.10	0.10	8	6	0.50	0.80	1.0
Nomi	River	100	80	32	40.2	45	10	8	0.30	0.60	1.00	8	6	1.8	2.4	3.1
Hakusan	River	100	80	3.8	6.0	8.3	10	8	0.10	0.12	0.20	8	6	0.50	1.3	2.0

*1 Biochemical 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	24	-	-	-
Tottori	Once-through boilers	8	0.1	0.05	0.001	150	75	29	-	-	-
	Absorption coolin	3	0.1	0.05	0.001	150	75	42	-	-	-
Higashiura	Flue and smoke tube boilers	5	0.1	0.08	0.004	150	120	41	-	-	-
	Multitubular once-through boilers	6	0.1	0.08	0.003	150	120	27	-	-	-
Ishikawa	Once-through boilers	3	0.3	0.15	0.01	180	105	76	2.05	0.28	0.01
	Flue and smoke tube boilers	2	0.3	0.15	0.01	180	164	88	6.4	3.21	0.13
	Gas turbines	4	0.05	0.025	0.01	70	56	52	9.53	5	0.15
Nomi	Once-through boilers	6	0.3	0.15	0.001	180	105	46	2.05	0.28	0.1900
Hakusan	Once-through boilers	5	0.3	0.15	0.001	180	105	40	2.05	0.28	0.0001

*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

Plant name	Item	Time zone	Legal limits	JDI standards	Results (Maximum value)	
					Legal limits	JDI standards
Mobara	Noise	Morning 06:00~08:00	65	60	60	
		Daytime 08:00~19:00	70	65	63	
		Evening 19:00~22:00	65	60	57	
		Night 22:00~06:00	60	57	55	
	Vibration	Daytime 07:00~22:00	65	60	46	
		Night 22:00~07:00	60	55	38	
Tottori*7	Noise	Morning 06:00~08:00	70	70	50	
		Daytime 08:00~19:00	65	65	42	
		Evening 19:00~22:00	70	70	50	
		Night 22:00~06:00	65	65	47	
		Daytime 08:00~19:00	65	65	51	
		Evening 19:00~22:00	70	70	50	
		Night 22:00~06:00	65	65	49	
		Daytime 07:00~22:00	50	50	42	
	Vibration	Daytime 08:00~19:00	65	65	37	
		Night 19:00~08:00	60	60	36	
Higashiura	Noise	Morning 06:00~08:00	55	55	54	
		Daytime 08:00~19:00	60	60	54	
		Evening 19:00~22:00	55	55	55	
		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	48	
		Night 22:00~06:00	50	50	48	
	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	52	
		Daytime 08:00~19:00	70	70	50	
		Evening 19:00~22:00	65	65	47	
		Night 22:00~06:00	60	60	47	
	Vibration	Daytime 07:00~22:00	70	30	<30	
		Night 22:00~07:00	65	30	<30	
Hakusan	Noise	Morning 06:00~08:00	65	65	56	
		Daytime 08:00~19:00	70	70	57	
		Evening 19:00~22:00	65	65	56	
		Night 22:00~06:00	60	60	56	
	Vibration	Daytime 07:00~22:00	70	70	<30	
		Night 22:00~07:00	65	65	<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	13	-					-						
Tottori	No. 1 regulation (site boundar	Ammonia	ppm	5	5	0.1	Hydrogen sulfide					Xylene						
		Toluene	ppm	10	10	1	-					-						
	No. 2 regulation (gas outlet)	Ammonia	m ³ /h	720	720	0.38	Toluene	Exhaust tower for organic abatement	m ³ /h	1200	1200	0.0044	Xylene	Exhaust tower for organic abatement	m ³ /h	120	120	0.0004
								Air release port for organic abatement	m ³ /h	890	890	0.013		Air release port for organic abatement	m ³ /h	89	89	0.0013
						Purge gas outlet for organic abatement		m ³ /h	1100	1100	0.014	Purge gas outlet for organic abatement		m ³ /h	110	110	0.0014	
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. 2 regulation (gas outlet)	Ammonia	ppm	2	0.1	< 0.1	Methyl mercaptan	ppm	0.004	0.0012	< 0.0001	Hydrogen sulfide	ppm	0.06	0.018	0.0008		
		Methyl sulfide	ppm	0.05	0.01	< 0.0001	Methyl disulfide	ppm	0.03	0.009	< 0.0003	Trimethylamine	ppm	0.02	0.006	< 0.0001		
		Propionic acid	ppm	0.07	0.03	< 0.003	n-Butyric acid	ppm	0.002	< 0.0005	< 0.0005	n-Valeric acid	ppm	0.002	0.0009	< 0.0004		
		Isovaleric acid	ppm	0.004	0.001	< 0.0004	Acetaldehyde	ppm	0.1	0.03	0.01	Propionaldehyde	ppm	0.1	0.03	< 0.0008		
		n-	ppm	0.03	0.009	< 0.0007	Isobutyraldehyde	ppm	0.07	0.021	< 0.0007	n-Valeraldehyde	ppm	0.02	0.006	< 0.0006		
		Isovaleraldehyd	ppm	0.006	0.0018	< 0.0006	Isobutyl alcohol	ppm	4	1.2	< 0.03	Ethyl acetate	ppm	7	2.1	< 0.06		
		Methyl isobutyl ketone	ppm	3	0.9	< 0.03	Toluene	ppm	30	9	< 0.08	Styrene	ppm	0.8	0.24	< 0.03		
		Xylene	ppm	2	0.6	0.6	-					-						
	No. 3 regulation (effluent)	Methyl mercaptan	mg/L	0.003	0.003	< 0.0002	Hydrogen sulfide	mg/L	0.02	0.02	< 0.0005	Methyl sulfide	mg/L	0.07	0.07	< 0.002		
		Methyl disulfide	mg/L	0.09	0.09	< 0.003												
Nomi	No. 2 regulation (gas outlet)	Ammonia	ppm	2	2	< 0.1	Methyl mercaptan	ppm	0.004	0.004	0.0002	Hydrogen sulfide	ppm	0.06	0.06	< 0.0005		
		Methyl sulfide	ppm	0.05	0.05	< 0.0001	Methyl disulfide	ppm	0.03	0.03	< 0.0003	Trimethylamine	ppm	0.02	0.02	< 0.0001		
		Propionic acid	ppm	0.07	0.07	< 0.003	n-Butyric acid	ppm	0.002	0.002	< 0.0005	n-Valeric acid	ppm	0.002	0.002	< 0.0004		
		Isovaleric acid	ppm	0.004	0.004	< 0.0004	Acetaldehyde	ppm	0.1	0.1	0.01	Propionaldehyde	ppm	0.1	0.1	< 0.0008		
		n-	ppm	0.03	0.03	< 0.0007	Isobutyraldehyde	ppm	0.07	0.07	< 0.0007	n-Valeraldehyde	ppm	0.02	0.02	< 0.0006		
		Isovaleraldehyd	ppm	0.006	0.006	< 0.0006	Isobutyl alcohol	ppm	4	4	< 0.03	Ethyl acetate	ppm	7	7	< 0.06		
		Methyl isobutyl Ketone	ppm	3	3	< 0.03	Toluene	ppm	30	30	< 0.08	Styrene	ppm	0.8	0.8	< 0.03		
		Xylene	ppm	2	2	< 0.03	-					-						
	No. 3 regulation (effluent)	Methyl mercaptan	mg/L	0.003	0.003	< 0.0002	Hydrogen sulfide	mg/L	0.02	0.02	< 0.0005	Methyl sulfide	mg/L	0.07	0.07	< 0.001		
		Methyl disulfide	mg/L	0.09	0.09	< 0.003												
Hakusan	No. 2 regulation (gas outlet)	Ammonia	ppm	2	2	0.1	Methyl mercaptan	ppm	0.004	0.004	< 0.0001	Hydrogen sulfide	ppm	0.06	0.06	< 0.0005		
		Methyl sulfide	ppm	0.05	0.05	< 0.0001	Methyl disulfide	ppm	0.03	0.03	< 0.0003	Trimethylamine	ppm	0.02	0.02	< 0.0001		
		Propionic acid	ppm	0.07	0.07	< 0.003	n-Butyric acid	ppm	0.002	0.002	< 0.0001	n-Valeric acid	ppm	0.002	0.002	< 0.0009		
		Isovaleric acid	ppm	0.004	0.004	< 0.0001	Acetaldehyde	ppm	0.1	0.1	< 0.005	Propionaldehyde	ppm	0.1	0.1	< 0.005		
		n-	ppm	0.03	0.03	< 0.0009	Isobutyraldehyde	ppm	0.07	0.07	< 0.002	n-Valeraldehyde	ppm	0.02	0.02	< 0.0009		
		Isovaleraldehyd	ppm	0.006	0.006	< 0.0003	Isobutyl alcohol	ppm	4	4	< 0.03	Ethyl acetate	ppm	7	7	< 0.06		
		Methyl isobutyl ketone	ppm	3	3	< 0.03	Toluene	ppm	30	30	< 0.08	Styrene	ppm	0.8	0.8	< 0.03		
		Xylene	ppm	2	2	< 0.03	-					-						
	No. 3 regulation (effluent)	Methyl mercaptan	mg/L	0.003	0.003	< 0.0002	Hydrogen sulfide	mg/L	0.02	0.02	< 0.0005	Methyl sulfide	mg/L	0.07	0.07	< 0.001		
		Methyl disulfide	mg/L	0.09	0.09	< 0.003												