



Q1. Number of Personnel

- Number of Personnel in charge of Environmental pollution in Kawasaki City is about 60
- Number of Personnel in charge of Water Quality Management in Kawasaki City is about 13



Q2. Major Pollution Source & the Monitoring

(1) Major Pollution Source

- Pollution sources except for factories are monitored by Kanagawa Prefecture
- More than half of the COD, N & P load From business establishments (BEs) designed by [the Total Pollution Load Regulation](#) was from the WWTPs
- 20 out of 207 BEs exceeded the standards (2013 inspection results)

(2) Number of Establishments that need Monitoring

- 137 BEs are monitored by Kawasaki City with effluent testing without notice

• [The Water Pollution Control Law](#) and the [Kawasaki City Ordinance](#) design Certain types of facilities for water quality management. Those establishments have the facilities discharging wastewater into public water



Q2. Major Pollution Source & the Monitoring (Cont.)

[Water Pollution Control Law](#) (by the GoJ)

- Designing 300 types of facilities as “Designed Facility”.
- BEs with designed facilities need to comply with the wastewater standards & to submit ‘Notification’ to Kawasaki City
- The wastewater standards established by the GoJ can be strengthened by local authorities. Kawasaki City applies stricter standards by the ordinance established by Kanagawa Prefecture.

[The Kawasaki City Ordinance](#) (by Kawasaki City)

- Covers not only wastewater but wide range of environmental issues
- The wastewater standards are applied to all the BEs in the City

[Total Pollutant Load Regulation](#)

- One of regulations in the Water Pollution Control Law
- applied to factories with more than 50m³/day effluent to the public water body



Q3. Methodology to Check Illegal Discharge

(1) Wastewater sampling & testing for inspection without notice

- 137 (total 223) BEs in 2014

(2) Obligation of Self-Measurement and recording in compliance with laws and regulations.

- Inspection for implementation status of the self-measurements obligation
- Questionnaire on the self-measurement.
Once a year: Comprehensive Water Pollutants Survey, 91 BEs (2014)
- Penalties for breach of the self-monitoring obligation.

(3) Reporting on Pollution Load

- Once a month: 60 BEs designated by the Total Pollutant Load Regulation.

(4) Continuous monitoring by using telemeters.

- Once per hour, major 17 BEs with a lot of wastewater discharge/load



Q4. Emergency Response Case

- Fish Kill
 - Oil spill
 - Polluted-water discharge (discolored water, Odor, abnormal pH).
- Emergency level depends on the Volume and degree of pollution.
- In case actual health damage is reported, immediate action is required ⇒ No such a case found in recent years.



Q5. Identify the pollution source in the case of emergency

Upon receipt of report, investigation is to be conducted immediately with relevant departments...

- Conduct testing of polluted water with pH meter and Test-Kits and visual observation (color , odor, etc.)
- Trace the route of polluted water based on the characteristics of the polluted water and information from the informants and other sources.
- Investigate the area around suspicious factories in upstream and, if needed, conduct hearings if the route of polluted water is unknown.
- Once the polluter was found, confirm the site together with the polluter and instruct it to recover the pollutants and take corrective actions to prevent pollution.



Q6. Emergency response cases in the past

(1) Strong Acid Spill from a metal plating factory (2007)

- Hazardous substance was detected in the annual measurement of public water bodies
- Strong acid had been leaking in a metal plating factory into the ground. The strong acid was going further into the storm water drainage system melting the pipe
- The work in the factory was suspended until the polluter repaired the facility and the storm water pipe. The polluter submitted a report on it.

(2) Fish Kill in the river in Kawasaki City (2013)

- Reported by a citizen that many fish are floating in the river
- As many as 300 fish were picked up, the investigation and the collection were conducted
- Multiple pesticides were detected by the analysis. It was assumed that the undiluted pesticides were dumped into the river, but the cause was left unknown since the trace was lost as the river washed it away.

(3) Fish Kill due to wastewater from construction site (2012)

- Reported by a citizen that many fish are floating in a river with white turbid water
- By tracing back the white turbid water, it was found that a construction site was the source.
- The polluter was discharging wastewater while casting concrete. The wastewater was highly alkaline and that was the cause of the Fish Kill
- The polluter was instructed to clean up the ditch connected to the river. The polluter was instructed to submit a report on it.



Q7. Methodology to take corrective actions

- Because of the application of sticker standards by Kawasaki City, Kawasaki City can instruct polluters based on its own ordinance even if they don't violate the Water Pollution Control Law.
- Since currently administrative guidance is enough to make them take corrective actions, administrative guidance is now the mainstream to instruct polluters.

<Administrative guidance given to polluters>

(1) When not meeting standards

- Instruct the polluter to take emergency response such as suspension of discharge and recovery of pollutants
- Instruct the polluter to report the cause, the amount of polluted water discharged, emergency response and corrective actions in writing.

(2) In the case of Accident

- Emergency measures in accordance with the law and the ordinance are taken and instructions are given to the polluter to report the cause, the amount of polluted water discharged, emergency response and corrective actions in writing.
- In case any damage is confirmed in public water body due to the polluted water, the management body of the public water body is to instruct the polluter to recover it to the original condition.

(3) Response to Complaints

- When complaints are raised from citizens, interview with the polluter is to be done after the site investigation. The above mentioned actions in (1)&(2) are taken and some verbal instructions might be given when necessary.



Q8. Water Quality Monitoring Equipment and its Cost

(1) Source Monitoring System (Target BEs: 27 BE)

- Approx. 200million JPY (2million USD) for a 10 year lease

(2) Continuous monitoring based on the Water Pollution Control Law

- Water quality analysis
- Each parameter has its unit price (1 Parameter costs from 1,000 JPY(10USD) to 36,000JPY(360USD). The total yearly cost is about 26million JPY (260 thousand USD))

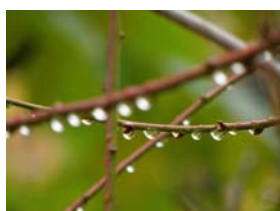
(3) Rapid Testing (for accidents and complaints)

- pH meter : 150,000JPY(1,500USD)
- Testing Kit: some thousand yen per parameter (for 50 testing kits)



Q9. Overflow caused by heavy rain

- Even storm water discharge from BEs is subject to the standards
- Storm water run-off drainage and wastewater pipes should be separately designed and installed. BEs that need notification procedure are instructed the separation in the process of preliminary document review.
- If necessary, the BE is instructed to design and install treatment facilities to catch SS before discharging storm water.
(ex))BEs handling coke piled up on the ground)



Q10. How the public water quality was improved

1940's	<ul style="list-style-type: none"> • Commencement of development of legal system for Pollution Control. Industrial pollution was getting worse without compulsory measures.
1960's	<ul style="list-style-type: none"> • Regulatory approach for industrial pollution control measures was strengthened. • Tokyo Metropolitan Government and Kanagawa Prefecture established Ordinances for pollution control. • Construction of the first waste treatment plant in Kawasaki City
1970's	<ul style="list-style-type: none"> • Environmental standards were established. • Water Pollution Control Law was enacted →Improvements made in the industrial sector • domestic wastewater from households causing river pollution became an issue. • Sewage coverage in Kawasaki City at the end of 1970's: 30-40%
1980's	<ul style="list-style-type: none"> • Water Pollution Control Law: Total Pollutant Load Regulation was enacted, and Regulation on underground seepage was added. • Tri-chloroethylene and Tetra-chloroethylene were added to Hazardous substances • New environmental concerns such as global warming arose. • Sewage coverage in Kawasaki City at the end of 1980's: 60-70%
1990's	<ul style="list-style-type: none"> • Water Pollution Control Law: Institutional Framework to promote Domestic wastewater control measures was set up. • Volatile Organic Compounds including dichloromethane and organophosphorous pesticides and selenium were added to Hazardous Substances • Sewage coverage in Kawasaki City at the end of 1990's: 90% or more.
2000's	<ul style="list-style-type: none"> • Boron, fluorine and Ammonium were added to Hazardous Substances • Sewage coverage in Kawasaki City at the end of 1990's: 99% or more.
2010's	<ul style="list-style-type: none"> • 1,4 dioxane and vinyl chloride monomer were added to Hazardous Substances

*The sewage coverage didn't consider the area outside the designated sewage-treatment area (Water front zone).

