AUDIT REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001275

WSAS WATER STEWARDSHIP ASSURANCE SERVICES

SITE DETAILS

Site: **Dynamic Electronics (Kunshan) Co., Ltd.**
Address: 1688 Jinshajiang North Road, 215335, Kunshan City, Jiangsu, P.R. CHINA
Contact Person: Joe Wang
AWS Reference Number: AWS-000228
Site Structure: Single Site

AUDIT DETAILS

Audited Service(s): AWS Standard v2.0 (2019)
Audit Type(s): Surveillance Audit2
Audit Start Date: 2024-Aug-21
Lead Auditor: Ian Jiang

Site Participants:
Zhou Chang Liang, Engineering Department
Yang Yi Tang, EHS department
Sha Jian Kun, EHS department
Yang Zhan Fang, EHS department
Zhang Deng Feng, Factory Affairs Office
He Qiang, Public Facilities Department

ADDITIONAL INFO

Summary of Audit Findings: A total of 5 findings were raised during the certification audit, 0 major non-conformities, 5 minor non-conformities, 0 observation.
The Client is requested to perform a root cause analysis and define corrective actions for each of the non-conformities and to submit these to WSAS within 30 days of receipt of the audit report. Minor non-conformities must be closed out by the time of the next annual audit.
The audit team recommends certification of Dynamic Electronics (Kunshan) Co., Ltd. at Core level pending approval of the corrective actions plan.

Scope of Assessment: The scope of services covers the 2nd surveillance audit for assessing conformity of Dynamic Electronics (Kunshan) Co., Ltd. against the AWS International Water Stewardship Standard Version 2.
The DE Electronics (Kunshan) Co., Ltd is a PCB manufacturer, producing PCB for broad industrial use. The main production process is cutting-drilling-exposure-etching- multiband-pressing-electronic plate-pattern transfer-etching-solder mask-surface treatment-molding-testing-packing. The facility is located in the
No. 1688, Jinshajiang North Rd, Hi-tech Industrial Zone, Kunshan, Jiangsu, China. It belongs to Wusong river catchment, which is a sub-catchment of Taihu Lake Catchment.The site only uses municipal water for production, and it owns and operates a wastewater treatment plant. The wastewater will be discharged into
the water body after treatment. Around the site are some factories and a small creek.

The audit was conducted onsite on August 21-23 2024.
The audit activities included the site visit covered production lines, wastewater treatment plant, chemical warehouse and IWRA, stakeholder interviews and documents review.

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AUDIT RESULT

Preliminary: AWS Core

FINDINGS

NUMBER OF FINDINGS PER LEVEL

Minor	5

FINDING DETAILS

Finding No:	TNR-012567
Checklist Item No:	1.2.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Checklist item:	Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall: - Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people; - Consider the physical scope identified, including stakeholders, representative of the site's ultimate water source and ultimate receiving water body or bodies; - Provide evidence of stakeholder consultation on water-related interests and challenges; - Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups; - Identify the degree of stakeholder engagement based on their level of interest and influence.
Findings:	Part of the stakeholder shared water challenge consultation was conducted in 2022 and has not been re-conducted in time.
Corrective action:	Root cause: Neglected to perform the shared water challenges consultation/ survey with some stakeholders. Corrective action: Established the stakeholder consultant/survey plans, to perform additional corresponding shared water challenge survey as per the plan, and keeps the records.
Finding No:	TNR-012568
Checklist Item No:	1.3.2
Status:	In Progress - CA plan approved
Finding level:	Minor
Checklist item:	Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped
Findings:	The water balance diagram does not include some non-production water, such as wastewater station water and greening water. Each incoming water has an unidentified loss, which is inconsistent with the reality.
Corrective action:	Root cause: Ignored some non-production water consumption. For unidentified water loss, currently does not develope a methodology to estimate. Corrective action: Improved the water balance diagram via 1.adding the non-production water consumption such as wastewater station water and greening water 2. develop the water loss estimation method to calculate the water loss.

Finding No:	TNR-012570
Checklist Item No:	1.7.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Checklist item:	Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.
Findings:	Potential costs and business impacts were not identified in the water risks.
Corrective action:	Root cause: Potential costs and business impacts were omitted during the identification. Corrective action: Add the items of potential costs and business impacts in the water risk identification sheet, and perform the evaluation.

Finding No:	TNR-012569
Checklist Item No:	1.7.2
Status:	In Progress - CA plan approved
Finding level:	Minor
Checklist item:	Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.
Findings:	Estimated potential savings and business opportunities were not identified in the water-related opportunities.
Corrective action:	Root cause: Estimate potential savings and business opportunities were omitted during the identification. Corrective action: Add the items of estimate potential savings and business opportunities in the identification sheet, and perform the evaluation.

Finding No:	TNR-012571
Checklist Item No:	3.6.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Checklist item:	Evidence of the site's provision of adequate access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers onsite shall be identified and where applicable, quantified.
Findings:	During site visit, it was found that soap was not replenished in time in a washroom.
Corrective action:	Root cause: The cleaning staff did not replenish the soap in time. Corrective action: Request the cleaning staff in the factory to shorten the frequency of spot inspection in the washroom, and also remind the staff to inform the administration department in time if they find a shortage of soap and other cleaning items (contact information posted on site).

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WSAS WATER STEWARDSHIP ASSURANCE SERVICES

Report Details

Report	Value
Report prepared by	Ian Jiang
Report approved by	Neringa Pumputyte
Report approved on (Date)	11 December 2024

Surveillance

Proposed date for next audit
2025-Aug-04

Comment The next audit is re-certification audit, and proposed to be performed at 2025.08.02.

Stakeholder Announcements

Comment The Stakeholder Announcement is not applicable for surveillance audit.

Stakeholder interviews

Name	Organisation/Role/Relationship
Mr.Wu	Employee
Mr.Zhong	Employee
Mr.Lv	Neighbour resident
Mr.Lu	Neighbour enterprise
Mr.Li	Supplier
Mr.Zhang	Supplier

Main Outcome of Stakeholder Interviews
The neighbor enterprise stated that they worked with Dynamic to perform some water protection activities like riverbank cleaning and knowledge promotion activities. They will have regular communication, to discuss about the water stewardship actions and shared experience.

The neighbor resident mainly focus on whether the factory affects the local water environment. He mentioned that Dynamic had performed an Environmental Protection Promotion activity in his resident quarter. He feels OK what Dynamic has done and have no further request.

For employee, their mentioned that the company had set water consumption targets, and requested them to submit one or two cases annually, to contribute water conservation like process optimization, and regularly monitor the progress of the cases. The company will organize some training on water stewardship. They also satisfied the WASH of the site, like potable water and cleanness of the washroom.

The suppliers stated that Dynamic will request them to save water during operation, and provide some training on water stewardship for them. They knew that Dynamic had performed AWS system, but did not know quite deep on this.

Catchment Information

wusong river catchment.jpg

water source and discharge point.jpg

Catchment Information

DE only used municipal water and the recycle water. The municipal water is for domestic and production use, and the recycle water is for production used. The municipal water plant has two sources. One is Kuilei Lake, which is small branch of the Lake Taihu, and the other one is from Yangtze River Diversion Project.
For discharged water, the factory adopts the principle of 'Separation of rainwater and wastewater', and the different discharged water flows into different pipeline. The rainwater is discharged into the municipal rainwater pipeline and then finally flows to Tongxin River. The industrial wastewater is treated by onsite wastewater treatment plant only, and then emitted into the Taicangtang River, and flow into Lou River, a tributary of Wusong River.
The domestic wastewater is discharged into municipal wastewater treatment plant, and then finally flows to Taicangtang River.
All of the above places are located in the Wusong River catchment.

Wusong River, known as Songjiang or Wujiang in ancient times, also known as Songling River and Lize River, originates in the south of Songling Town, Wujiang District, Suzhou City. From west to east, it passes through the Jiangnan Canal and flows into the Huangpu River to the east of Garden Bridge of Shanghai on the north side of today's Huangpu Park in Shanghai. The Wusong River was originally the last tributary of the Yangtze River before it entered the sea. The Wusong River flows through Wujiang, Suzhou, Kunshan, Jiading, Qingpu, and the urban area of Shanghai. Taking Beixinjing as the boundary, the upper reaches of the Wusong River are known as the Wusong River by the people, while the lower reaches of the Wusong River are to the east of Beixinjing.
The Wusong River has a total length of 125 kilometers, 54 kilometers within Shanghai, with an average river width of about 40 to 50 meters. The total drainage area is 855 square kilometers. The discharge from the estuary is about 10 cubic meters per second.

(1) Situation of the Main Stream of Wusong River Basin
Wusong River belongs to the Taihu Lake water system, originates from the Guajing Estuary of the Taihu Lake, flows through Wujiang, Suzhou, Kunshan, Qingpu, Jiading, Minhang, Putuo, Changning, Jing'an, Hongkou, Huangpu District of Shanghai, and enters the Huangpu River at Garden Bridge of Shanghai. It is the main water transportation line and important waterway for Shanghai and Suzhou in the Jiangnan region. Wusong River has the advantages of navigation, irrigation, flood discharge and waterlogging drainage. It is an important inland waterway between Shanghai and the the Taihu Lake Lake basin. The annual cargo volume is more than 17 million tons, and the middle and upper reaches can irrigate more than 66000 hectares of farmland.

(2) Hydrological characteristics
The average flow rate is only 10 cubic meters per second, while it is close to zero during the dry season. At low water levels, the water depth is about 2 meters.
Wusong River is a moderately tidal river, with the tidal boundary at Huangdu in Jiading District and the tidal boundary at Zhaotun in Qingpu County. The annual average high tide level at Hekou (Huangpu Park Station) is 3.12 meters, and the annual average tide is 1.83 meters; The annual average high tide level in Beixinjing is 2.78 meters, the annual average tidal range is 0.72 meters. The speed of tidal rivers in plain areas is very slow, usually ranging from 0.1 to 0.2 meters per second, and the maximum tidal current only reaches 0.58 meters per second.

Client Description and Site Details

site map and surrounding.jpg

Client/Site Background

Dingying Electronics (Kunshan) Co., Ltd. is a foreign-invested enterprise located at 1688 Jinshajiang North Road, Kunshan Economic and Technological Development Zone, Suzhou City, Jiangsu Province, China. The total area of the factory building is 58485 square meters, and the company currently has approximately 1400 employees.

The site mainly produces single-sided, double-sided, and multi-layer printed circuit boards (including flexible circuit boards), as well as various new electronic components and electronic specialized equipment such as BGA, MCM, FLIPCHIP, and IC packaging boards, and sells self-produced products. It is a professional printed circuit board (PCB) manufacturer. The main production process is cutting-drilling-exposure-etching-multiband-pressing-electronic
plate-pattern transfer-etching-solder mask-surface treatment-molding-testing-packing.

DE only used municipal water and the recycle water. The municipal water is for domestic and production use, and the recycle water is for production used. The municipal water plant has two sources Kuilei Lake which is small branch of the Lake Taihu and the Yangtze River Diversion Project.
For discharged water, the factory adopts the principle of 'Separation of rainwater and wastewater', and the different discharged water flows into different pipeline. The rainwater is discharged into the municipal rainwater pipeline and then finally flows to Tongxin River. The industrial wastewater is treated by onsite wastewater treatment plant only, and then emitted into the Taicangtang River, and flow into Lou River, a tributary of Wusong River.
The domestic wastewater is discharged into municipal wastewater treatment plant, and then finally flows to Taicangtang River.

All of the above places are located in the Wusong River catchment.

Summary of Shared Water Challenges

Summary of Shared Water Challenges

The site has identified the following Shared Water Challenges, from the highest priority to the lowest:
1. Strict wastewater discharge standard;
2. Temporary limit of water discharge within the catchment;
3.Regional PCB industry rectification;
4. Illegally discharge of small number of factories
5. Restriction of annual water use Wusong River Catchment
6. Extreme event (natural disaster like earthquake, storm)
7. High water cost and environmental tax

0.1	General Requirements for Single Sites, Multi-Sites and Groups	
0.1.1	*Eligibility Criteria*	
0.1.1.1	*The site(s) occupy one catchment OR an exception has been granted.*	Yes
Comment	The site occupies one catchment.	
0.1.1.2	*The scope of the proposed certification shall be under the control of a single management system.*	Yes
Comment	The scope of the proposed certification is under the control of a single management system.	
0.1.1.3	*The scope of the proposed certification shall be homogeneous with respect to primary production system, water management, product or service range, and the main market structures.*	Yes
Comment	The scope of the proposed certification is homogeneous with respect to primary production system, water management, product or service range, and the main market structures.	

1	STEP 1: GATHER AND UNDERSTAND	
1.1	*Gather information to define the site's physical scope for water stewardship purposes, including: its operational boundaries; the water sources from which the site draws; the locations to which the site returns its discharges; and the catchment(s) that the site affect(s) and upon which it is reliant.*	
1.1.1	*The physical scope of the site shall be mapped, considering the regulatory landscape and zone of stakeholder interests, including:* *- Site boundaries;* *- Water-related infrastructure, including piping network, owned or managed by the site or its parent organization;* *- Any water sources providing water to the site that are owned or managed by the site or its parent organization;* *- Water service provider (if applicable) and its ultimate water source;* *- Discharge points and waste water service provider (if applicable) and ultimate receiving water body or bodies;* *- Catchment(s) that the site affect(s) and is reliant upon for water.*	Yes
Comment	DE only used municipal water and the recycle water. The municipal water is for domestic and production use, and the recycle water is for production used. The municipal water plant has two sources Kuilei Lake which is small branch of the Lake Taihu and the Yangtze River Diversion Project. The rainwater is discharged into the municipal rainwater pipeline and then finally flows to Tongxin River. The industrial wastewater is treated by onsite wastewater treatment plant, the site emits the wastewater into the Lou River, and then flow to Taicangtang River, and flow into Yangzte river. The domestic wastewater is discharged into municipal sewage pipeline and then finally flows to Wusong River. DE developed a site boundary map, which identifies the site boundary information and the layout within the site. DE also collected information on the location of the on-site ETP, industrial and domestic wastewater outlet and rainwater outlet, chemical warehouse, hazardous waste warehouse, etc. The rainwater and sewage pipeline network diagram are available, and the transportation pipelines for rainwater, domestic wastewater, and industrial wastewater are all identified and mapped. DE also developed its catchment report including the location of the receiving water body, the location of water service providers and their water sources.	
1.2	*Understand relevant stakeholders, their water related challenges, and the site's ability to influence beyond its boundaries.*	
1.2.1	*Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall:* *- Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people;* *- Consider the physical scope identified, including stakeholders, representative of the site's ultimate water source and ultimate receiving water body or bodies;* *- Provide evidence of stakeholder consultation on water-related interests and challenges;* *- Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups;* *- Identify the degree of stakeholder engagement based on their level of interest and influence.*	No

Comment	DE established a stakeholder identification procedure, and identified key stakeholders such as government, suppliers, employees, clients, infrastructures, NGOs, surrounding residents, universities, etc. The key contacts of different stakeholders were also specified. DE communicated with stakeholder via stakeholder meetings, seminars, trainings, emails, hotlines, etc. ***Finding No: TNR-012567***	
1.2.2	*Current and potential degree of influence between site and stakeholder shall be identified, within the catchment and considering the site's ultimate water source and ultimate receiving water body for wastewater.*	Yes
Comment	The degree of influence between site and stakeholder has been identified of each stakeholder.	
1.3	*Gather water-related data for the site, including: water balance; water quality, Important Water-Related Areas, water governance, WASH; water-related costs, revenues, and shared value creation.*	
1.3.1	*Existing water-related incident response plans shall be identified.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.3.2	*Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped*	No
Comment	DE draws the water balance diagram with meter recording and estimation, which identifies water inflows, losses, storage, and outflows. The diagram includes production water, domestic water, reuse water, etc. DE conducts annual internal water balance analysis. Water balance analysis diagrams for 2022 and 2023 were provided for review during the surveillance audit. ***Finding No: TNR-012568***	
1.3.3	*Site water balance, inflows, losses, storage, and outflows, including indication of annual variance in water usage rates, shall be quantified. Where there is a water-related challenge that would be a threat to good water balance for people or environment, an indication of annual high and low variances shall be quantified.*	Yes
Comment	DE also analyses the water consumption every month and conducts performance evaluation on it. So the variance could be identified.	
1.3.4	*Water quality of the site's water source(s), provided waters, effluent and receiving water bodies shall be quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be quantified.*	Yes

Comment	1.For critical pollutants, such as silver and nickel, DE conducts daily sampling and testing at the workshop wastewater outlet. 2. DE has installed an online monitoring system for wastewater at the main discharge outlet to monitor the COD, ammonia nitrogen, total phosphorus, pH, total nickel, and total copper content in the discharged wastewater in real-time; In addition, DE also conducts wastewater testing every 6 hours internally; And monthly commission a third-party laboratory to monitor the discharge of wastewater in accordance with the requirements of the pollution discharge permit; 3. DE provides employees with direct drinking water and entrusts a third-party laboratory to monitor the water quality of each water dispenser on a quarterly basis. The monitoring results are posted at each drinking point; 4. DE entrusts a third-party laboratory to monitor the rainwater discharge outlet every month and installs a real-time online pH monitoring device to monitor the quality of rainwater in real time; And during each rainy period, monitor the copper and nickel content before the rainwater is discharged; 5. DE also pays attention to the water quality through the official website of the water supply company; 6. DE monitors the soil and groundwater within the site every year. According to the testing report, all the testing results were complied with the related standard. The total discharged pollutant was less than 10% of the permit volume.	
1.3.5	*Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit. For previous non-conformity, the site has updated the map of potential sources of pollution, included the missing underground diesel storage tank waste water tank. The non-conformity could be closed.	
1.3.6	*On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.3.7	*Annual water-related costs, revenues, and a description or quantification of the social, cultural, environmental, or economic water-related value generated by the site shall be identified and used to inform the evaluation of the plan in 4.1.2.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit. For previous non-conformity, the site has updated the water cost and revenues list, which included water and wastewater testing fees and other water related expenses. The non-conformity could be closed.	
1.3.8	*Levels of access and adequacy of WASH at the site shall be identified.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.4	*Gather data on the site's indirect water use, including: its primary inputs; the water use embedded in the production of those primary inputs the status of the waters at the origin of the inputs (where they can be identified); and water used in out-sourced water-related services.*	
1.4.1	*The embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment, shall be identified.*	Yes

Comment	DE has screened the major raw materials suppliers within or outside the site's catchment covering main materials, accessories and chemicals. For these suppliers, DE has sent the questionaries to investigate their water information including quantity, quality and level of water risk. DE has summarized and analyzed these information. Therefore, the previous non-conformity is closed.	
1.4.2	*The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.*	Yes
Comment	A list of outsourced services within the site's catchment has been established by the site. The outsourced services mainly include the treatment and disposal of solid waste. The site sent the questionaries to investigate the water consumption and water pollution information of the service providers. The site analyzed based on their feedback on water quantity and quality.	
1.5	*Gather water-related data for the catchment, including water governance, water balance, water quality, Important Water-Related Areas, infrastructure, and WASH*	
1.5.1	*Water governance initiatives shall be identified, including catchment plan(s), water-related public policies, major publicly-led initiatives under way, and relevant goals to help inform site of possible opportunities for water stewardship collective action.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.5.2	*Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.5.3	*The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.5.4	*Water quality, including physical, chemical, and biological status, of the catchment shall be identified, and where possible, quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be identified.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.5.5	*Important Water-Related Areas shall be identified, and where appropriate, mapped,and their status assessed including any threats to people or the natural environment, using scientific information and through stakeholder engagement.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.5.6	*Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.5.7	*The adequacy of available WASH services within the catchment shall be identified.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	

1.6	*Understand current and future shared water challenges in the catchment, by linking the water challenges identified by stakeholders with the site's water challenges.*	
1.6.1	*Shared water challenges shall be identified and prioritized from the information gathered.*	Yes
Comment	Through stakeholder participation such as questionnaire surveys, site visits, and consultant. The shared water challenges within the catchment have been identified. Meanwhile, based on the analysis of relevance/rationale for stakeholders and relevance/rational for the site, the site has prioritized the shared challenges. From the highest priority to the lowest: the shared water challenges includes: 1. Strict wastewater discharge standard; 2. Temporary limit of water discharge within the catchment; 3.Regional PCB industry rectification; 4. Illegally discharge of small number of factories 5. Restriction of annual water use Wusong River Catchment 6. Extreme event (natural disaster like earthquake, storm) 7. High water cost and environmental tax	
1.6.2	*Initiatives to address shared water challenges shall be identified.*	Yes
Comment	In response to the aforementioned shared water challenges, the site has identified measures to address them, including the public initiatives and site's action plan.	
1.7	*Understand the site's water risks and opportunities: Assess and prioritize the water risks and opportunities affecting the site based upon the status of the site, existing risk management plans and/or the issues and future risk trends identified in 1.6.*	
1.7.1	*Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.*	No
Comment	DE has identified its water risks covering physical risk, supervision risk and reputation risks. For each type of risk, the details of the risk, impact and severity, and the possibility within short term and long term period were identified. ***Finding No: TNR-012570***	
1.7.2	*Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.*	No
Comment	The water related opportunities were identified, including regulatory incentive, reputation, cooperation within universities, NGO and other facilities. ***Finding No: TNR-012569***	
1.8	*Understand best practice towards achieving AWS outcomes: Determining sectoral best practices having a local/catchment, regional, or national relevance.*	
1.8.1	*Relevant catchment best practice for water governance shall be identified.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.8.2	*Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	

1.8.3	*Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.8.4	*Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	
1.8.5	*Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.*	N/A
Comment	This indicator is not assessed in the 2nd surveillance audit.	

2	STEP 2: COMMIT & PLAN - Commit to be a responsible water steward and develop a Water Stewardship Plan	
2.1	*Commit to water stewardship by having the senior-most manager in charge of water at the site, or if necessary, a suitable individual within the organization head office, sign and publicly disclose a commitment to water stewardship, the implementation of the AWS Standard and achieving its five outcomes, and the allocation of required resources.*	
2.1.1	*A signed and publicly disclosed site statement OR organizational document shall be identified. The statement or document shall include the following commitments:* *- That the site will implement and disclose progress on water stewardship program(s) to achieve improvements in AWS water stewardship outcomes* *- That the site implementation will be aligned to and in support of existing catchment sustainability plans* *- That the site's stakeholders will be engaged in an open and transparent way* *- That the site will allocate resources to implement the Standard.*	Yes
Comment	A water stewardship commitment to follow all the AWS core criteria has been signed by the general manager of DE. The commitment has been displayed on DE's website. "http://www.dynamicpcb.cn/news/AWS%E7%9B%B8%E9%97%9C%E8%B3%87%E6%96%992022.pdf"	
2.2	*Develop and document a process to achieve and maintain legal and regulatory compliance.*	
2.2.1	*The system to maintain compliance obligations for water and wastewater management shall be identified, including:* *- Identification of responsible persons/positions within facility organizational structure* *- Process for submissions to regulatory agencies.*	Yes
Comment	DE has established a procedure to ensure the operation of DE to meet the provisions of relevant laws, regulations and other requirements. The laws and regulations list is updated quarterly.	
2.3	*Create a water stewardship strategy and plan including addressing risks (to and from the site), shared catchment water challenges, and opportunities.*	
2.3.1	*A water stewardship strategy shall be identified that defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with this AWS Standard.*	Yes
Comment	DE developed a water stewardship strategy signed by general manager, including the mission, vision, goals and general requirements according to AWS standard requirements. The key elements in the strategies include: 1. Comply with national and local law, regulation and other requirements; 2. Communicate with management team and all employees and enhance their awareness of water stewardship; 3. Any key decisions should take water environment into consideration before execution; 4. Take responsibilities of water stewardship in catchment by actively implementing water stewardship plans and actions which made by local government; 5. Maintain high water utilization efficiency and reduce water loss; 6. increase reuse and recycling of water by applying advanced technologies; 7. Waste prevention, reuse, recycling and proper handling; 8. Provide clean drinking water and working and living environment to employees based on WASH requirements; 9. Communicate with stakeholders and improve their sustainable water stewardship.	

2.3.2	*A water stewardship plan shall be identified, including for each target:* *- How it will be measured and monitored* *- Actions to achieve and maintain (or exceed) it* *- Planned timeframes to achieve it* *- Financial budgets allocated for actions* *- Positions of persons responsible for actions and achieving targets* *- Where available, note the link between each target and the achievement of best practice to help address shared water challenges and the AWS outcomes.*	Yes
Comment	The Water Stewardship Plan is formulated and updated annually based on the strategy, specifying targets, required actions, measurements, estimated cost, accountable and responsible person, deadline, etc. WSP of 2023 and 2024 are reviewed during the audit. Some actions: Alkaline etching solution disposal and recovery Welding resistant super roughening brush mill with water modification Adjust the chemicals used for wastewater treatment to improve water quality Monitor some suppliers and propose water saving and emission reduction plan to them to reduce water risk Perform a test of the water quality of Taicangtang near Taicangtang Waterfront Park to support the monitoring IWRAs.	
2.4	*Demonstrate the site's responsiveness and resilience to respond to water risks*	
2.4.1	*A plan to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.*	Yes
Comment	DE has identified its water risks including physical risk, supervision risk and reputation risks. Based on risk analysis, DE has prioritized its water risks according to potential impact, likelihood within a given time and difficulty of detection. Meanwhile, corresponding response strategies to mitigate water risks are developed. DE has develop an emergency plan for environmental emergencies, water related topics were also included, and the plan was registered with the local environmental protection department with the registration number of 320583-2023-1639-M.	

3	**STEP 3: IMPLEMENT - Implement the site's stewardship plan and improve impacts**	
3.1	*Implement plan to participate positively in catchment governance.*	
3.1.1	*Evidence that the site has supported good catchment governance shall be identified.*	Yes
Comment	DE actively cooperated with the government supervision department to conduct supervisory inspections and visits. DE provided evidences to join environmental protection meetings, seminars and trainings provided by local environmental bureau in 2023 and 2024.	
3.1.2	*Measures identified to respect the water rights of others including Indigenous peoples, that are not part of 3.2 shall be implemented.*	Yes
Comment	The water rights are respected under legal and regulatory mechanisms, and there is no indigenous people in the catchment area.	
3.2	*Implement system to comply with water-related legal and regulatory requirements and respect water rights.*	
3.2.1	*A process to verify full legal and regulatory compliance shall be implemented.*	Yes
Comment	DE established a procedure to ensure the operation of DE to meet the provisions of relevant laws, regulations and other requirements. The laws and regulations are updated quarterly. Water related regulations are identified separately.	
3.2.2	*Where water rights are part of legal and regulatory requirements, measures identified to respect the water rights of others including Indigenous peoples, shall be implemented.*	Yes
Comment	Water right is not part of legal and regulatory requirements for this site.	
3.3	*Implement plan to achieve site water balance targets.*	
3.3.1	*Status of progress towards meeting water balance targets set in the water stewardship plan shall be identified.*	Yes
Comment	DE develops water stewardship plans every year. By reviewing the water stewardship of 2023 provided by the site, we found separate targets, required actions, measurement, status, effectiveness evaluation, accountable and deadline, etc. has been defined. Several projects to improve water balance have been implemented which were linked to the targets in the water stewardship plan, such as: Alkaline etching solution disposal and recovery Welding resistant super roughening brush mill with water modification DE has set the target of water consumption per unit product and evaluated its performance every month. At the same time, the site also continues to track the progress of water balance targets in its water stewardship plan. The total water consumption of tap water in 2022 is 1.766 million tons, and the total water consumption of tap water in 2023 is 1.14 million tons. The water consumption is significantly reduced due to the reduction of the production volume. In 2022, the unit consumption of water withdrawal per unit standard board is 0.70 t/ m2; In 2023, the unit consumption of water withdrawal per unit standard board is 0.70 t/ m2, it maintain the previous performance.	

3.3.2	*Where water scarcity is a shared water challenge, annual targets to improve the site's water use efficiency, or if practical and applicable, reduce volumetric total use shall be implemented.*	Yes
Comment	DE develops water stewardship plans every year. By reviewing the water stewardship of 2023 provided by the site, we found separate targets, required actions, measurement, status, effectiveness evaluation, accountable and deadline, etc. has been defined. Several projects to improve water balance have been implemented which were linked to the targets in the water stewardship plan, such as: Installing tertiary metering and track the water consumption of each production line on a daily basis. If there are any abnormalities, promptly analyze the root cause and make adjustments, continuous optimization of production processes, wastewater reuse, etc. DE has set the target of water consumption per unit product and evaluated its performance every month. At the same time, the site also continues to track the progress of water balance targets in its water stewardship plan. The total water consumption of tap water in 2022 is 1.766 million tons, and the total water consumption of tap water in 2023 is 1.14 million tons. The water consumption is significantly reduced due to the reduction of the production volume. In 2022, the unit consumption of water withdrawal per unit standard board is 0.70 t/ m2; In 2023, the unit consumption of water withdrawal per unit standard board is 0.70 t/ m2, it maintain the previous performance.	
3.3.3	*Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.*	Yes
Comment	No legally-binding documentation is issued by local government authorities to the site for the re-allocation of water to social, cultural or environmental needs.	
3.4	*Implement plan to achieve site water quality targets*	
3.4.1	*Status of progress towards meeting water quality targets set in the water stewardship plan shall be identified.*	Yes
Comment	Water quality targets are set in the water stewardship plan of the site, such as: - Test the wastewater according to the frequency and parameters specified in the wastewater self-monitoring plan, - And the wastewater quality meets the internal control objectives. A series of water stewardship plans are implemented to achieve its water quality targets: • The site has formulated wastewater treatment management specifications, EW1000-06-09, and operated and maintained wastewater treatment facilities as required. • DE checks the water quality of the ETP system every day to ensure the normal operation of the ETP, and has developed a monitoring plan for wastewater discharge to ensure that the quality of wastewater discharged meets the internal control requirements. • Install and regular maintain CCTV supervision system at the ETP and provide a more secured working environment as well as minimize violations of operation procedures. DE tracks the progress of its Water Stewardship targets every month. According to the discharge water quality testing data provided by the factory, the concentration of pollutants in the wastewater is far lower than the discharge permit and its internal control objectives. According to the overall result of the online monitoring system, the daily discharge volume was 3786 ton in 2022 and 2525 in 2023, with similar concentration of the parameters.	
3.4.2	*Where water quality is a shared water challenge, continual improvement to achieve best practice for the site's effluent shall be identified and where applicable, quantified.*	Yes

Comment

Water quality targets are set in the water stewardship plan of the site, such as:
- Test the wastewater according to the frequency and parameters specified in the wastewater self-monitoring plan,
- The drinking water quality 100% meets the requirements,
- And the wastewater quality meets the internal control objectives.
A series of water stewardship plans are implemented to achieve its water quality targets:
• The site has formulated wastewater treatment management specifications, EW1000-06-09, and operated and maintained wastewater treatment facilities as required.
• DE checks the water quality of the ETP system every day to ensure the normal operation of the ETP, and has developed a monitoring plan for wastewater discharge to ensure that the quality of wastewater discharged meets the internal control requirements.
• Install and regular maintain CCTV supervision system at the ETP and provide a more secured working environment as well as minimize violations of operation procedures.
DE tracks the progress of its Water Stewardship targets every month. According to the discharge water quality testing data provided by the factory, the concentration of pollutants in the wastewater is far lower than the discharge permit and its internal control objectives.

3.5 *Implement plan to maintain or improve the site's and/or catchment's Important Water-Related Areas.*

3.5.1 *Practices set in the water stewardship plan to maintain and/or enhance the site's Important Water-Related Areas shall be implemented.* Yes

Comment

The site entrusted a property management company to manage and maintain the greening in the site area, and signed a contract with it.
Industrial wastewater is transported through visual pipe network to avoid pollution of groundwater and soil.
The site regularly monitors the rainwater in the site (a third party laboratory is entrusted to sample and test the rainwater every month), and samples and tests the rainwater outlet on its own every time it rains.
Regularly monitor the soil and groundwater in the site (entrust a third party laboratory)
The site also tracks the status of IWRAs from public report or IWRA's website and analyzes the trend of water quality changes over the years.
The site also tests the water quality of Taicangtang, the final receiving body of its industrial wastewater, to track the trend of the impact of factory operation on it.
According to the testing report, the water quality of Taicangtang(one of IWRAs) maintain the same level as pervious year.

3.6 *Implement plan to provide access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers at all premises under the site's control.*

3.6.1 *Evidence of the site's provision of adequate access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers onsite shall be identified and where applicable, quantified.* No

Comment

DE provided sufficient drinking water machine at workshops, offices and dormitory areas.
DE investigated the distribution of drinking water points and toilet facilities within the site, and analyses the adequacy of these facilities based on the standards WBCSD and " GBZ 1-2010 Hygienic standards for the design of industrial enterprises".
DE conducted drinking water test quarterly and got satisfactory results.
DE also conducts WBCSD self-assessment to evaluate the level of onsite WASH. The results were satisfactory based on self-assessment.
The company does not receive any complaint related to safe drinking water and hygiene from surrounding communities.

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3.6.2	*Evidence that the site is not impinging on the human right to safe water and sanitation of communities through their operations, and that traditional access rights for indigenous and local communities are being respected, and that remedial actions are in place where this is not the case, and that these are effective.*	Yes
Comment	DE is not impinging on the human right to safe water and sanitation of communities through their operations. Moreover, there is no indigenous people in China. So no traditional access rights will be infringed.	
3.7	*Implement plan to maintain or improve indirect water use within the catchment:*	
3.7.1	*Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.*	Yes
Comment	The site has conducted the water use investigation on the supplier, like questionnaires filling, to get an overview of the suppliers. They also performed the training on AWS knowledge to suppliers. Currently, no indirect water use target is set.	
3.7.2	*Evidence of engagement with suppliers and service providers, as well as, when applicable, actions they have taken in the catchment as a result of the site's engagement related to indirect water use, shall be identified.*	Yes
Comment	The site has conducted the water use investigation on the supplier, like questionnaires filling, to get an overview of the suppliers. They also performed the training on AWS knowledge to suppliers.	
3.8	*Implement plan to engage with and notify the owners of any shared water-related infrastructure of any concerns the site may have.*	
3.8.1	*Evidence of engagement, and the key messages relayed with confirmation of receipt, shall be identified.*	Yes
Comment	DE kept contact with local water infrastructure owners such as water supply and domestic waste water treatment companies. DE also sent official communication letter to water supply company regarding the water supply concerns via infrastructure's Wechat platform.	
3.9	*Implement actions to achieve best practice towards AWS outcomes: continually improve towards achieving sectoral best practice having a local/catchment, regional, or national relevance.*	
3.9.1	*Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.*	Yes
Comment	DE collected the best practices for AWS outcomes, and established a plan to achieve these outcomes. In the plan, the actions, cost, benefit, responsible person, timeline and status are listed, and the progress will be reviewed regularly. For water governance, DE has developed a water assessment system to monitoring the water consumption.	
3.9.2	*Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.*	Yes

Comment	DE collected the best practices for AWS outcomes, and established a plan to achieve these outcomes. In the plan, the actions, cost, benefit, responsible person, timeline and status are listed, and the progress will be reviewed regularly. For water balance, DE uses reclaimed water and water-saving measures to reduce the consumption of tap water per unit product. For example 1) Reclaimed water reuse project, with design capacity of 2000 t/d, and daily production volume is about 450 t. The reclaimed water mainly used in the company's production use, reclaimed water It is mainly used to collect low-concentration wastewater on site, remove heavy metals through coagulation and precipitation, and then pass MCR ultrafiltration and security filter. 2) Replace the resin in the softening section of the water system: stabilize the water making system and increase the water production by 3.5%.

3.9.3 *Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.* ✓ Yes

Comment	DE collected the best practices for AWS outcomes, and established a plan to achieve these outcomes. In the plan, the actions, cost, benefit, responsible person, timeline and status are listed, and the progress will be reviewed regularly. For water quality, the site performed pretreatment of high ammonia nitrogen wastewater via evaporation and crystallization, and the low nitrogen wastewater was discharged into the later stage for treatment. 111 tons of ammonia nitrogen was removed annually.

3.9.4 *Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented.* ✓ Yes

Comment	DE collected the best practices for AWS outcomes, and established a plan to achieve these outcomes. In the plan, the actions, cost, benefit, responsible person, timeline and status are listed, and the progress will be reviewed regularly. For IWRAs, monitor the water body of Taicangtang river. Take water samples at the wastewater discharge outlet and upstream and downstream respectively for analysis, comparative analysis of data and continuous supervision

3.9.5 *Actions towards achieving best practice related to targets in terms of WASH shall be implemented.* ✓ Yes

Comment	DE collected the best practices for AWS outcomes, and established a plan to achieve these outcomes. In the plan, the actions, cost, benefit, responsible person, timeline and status are listed, and the progress will be reviewed regularly. For WASH 1) Continue to pay attention to the water quality of the supplied tap water, and conduct regular testing of the drinking fountains in the workshops, office areas and dormitory areas equipped by the company by third-party testing institutions to ensure the provision of safe drinking water. 2) Arrange special personnel to maintain the environmental health of the company's relevant areas.

4	STEP 4: EVALUATE - Evaluate the site's performance.	
4.1	*Evaluate the site's performance in light of its actions and targets from its water stewardship plan and demonstrate its contribution to achieving water stewardship outcomes.*	
4.1.1	*Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated.*	Yes
Comment	The site specifies the requirements of evaluating site performance and and its contribution to achieving water stewardship results based on the objectives of the water stewardship plan. The water management plan states that each objective can be associated with several main outcomes of the standard. Each objective has defined good practices, actions, targets, cost/benefit, desired outcomes, responsible party, partners, start date, end date, status and priority. This design makes it possible to identify the progress of each objective, and as it is updated every year, it is possible to identify its contribution and compare it with the established deadlines. The performance included: The water saving actions saved about 19,900 tons water in 2023. Dispose about 200 tons of alkaline etching waste liquid to reduce emission, and recycled about 9 tons of copper. The water quality of the wastewater far lower than the permit, and total emission is about 10% of the permit volume.	
4.1.2	*Value creation resulting from the water stewardship plan shall be evaluated.*	Yes
Comment	The achievements are evaluated in the annual review. For example, saving 16900 ton water via circulating water of copper powder recovery machine for solder shield Brush mill machine.	
4.1.3	*The shared value benefits in the catchment shall be identified and where applicable, quantified.*	Yes
Comment	The shared value benefits in the catchment are identified. For example, in 2023, the site reduced emission of following pollutants: COD 8946.66 kg and ammonia nitrogen 70.02 kg, total phosphorus 92 kg, total copper 27.29 kg, total nickel 7.85 kg.	
4.2	*Evaluate the impacts of water-related emergency incidents (including extreme events), if any occurred, and determine the effectiveness of corrective and preventative measures.*	
4.2.1	*A written annual review and (where appropriate) root-cause analysis of the year's emergency incident(s) shall be prepared and the site's response to the incident(s) shall be evaluated and proposed preventative and corrective actions and mitigations against future incidents shall be identified.*	Yes
Comment	The site presents its emergency response procedure and plan identifying proposed preventive and corrective actions, as well as measures to mitigate future incidents. No water-related emergencies and extreme events occurred at the site in recent years.	
4.3	*Evaluate stakeholders' consultation feedback regarding the site's water stewardship performance, including the effectiveness of the site's engagement process.*	
4.3.1	*Consultation efforts with stakeholders on the site's water stewardship performance shall be identified.*	Yes

Comment	DE organized the stakeholder communication meeting and introduced DE's water stewardship progress and performance on August, 2024. The feedback of the stakeholder was collected during the meeting. During onsite audit, the meeting with stakeholders also showed their satisfaction of DE's water stewardship.

4.4 *Evaluate and update the site's water stewardship plan, incorporating the information obtained from the evaluation process in the context of continual improvement.*

4.4.1 *The site's water stewardship plan shall be modified and adapted to incorporate any relevant information and lessons learned from the evaluations in this step and these changes shall be identified.* Yes

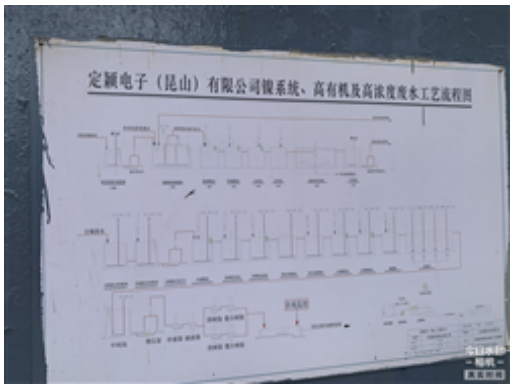
Comment	The site provided the 2023 and 2024 water stewardship plan. DE regularly tracks the progress of its WSP and conducts annual performance evaluations. The site organizes annual stakeholder communication meetings, where WSP is shared and discussed.

5	STEP 5: COMMUNICATE & DISCLOSE - Communicate about water stewardship and disclose the site's stewardship efforts	
5.1	*Disclose water-related internal governance of the site's management, including the positions of those accountable for legal compliance with water-related local laws and regulations.*	
5.1.1	*The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.*	Yes
Comment	The site disclosed the site's internal governance in relation to water, communication on sustainable water management issues on its company website. http://www.dynamicpcb.cn/news/AWS%E7%9B%B8%E5%85%B3%E8%B5%84%E6%96%992023.pdf	
5.2	*Communicate the water stewardship plan with relevant stakeholders.*	
5.2.1	*The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.*	Yes
Comment	The water stewardship plan was shared with relevant stakeholders in the communication meeting and was posted at the site's bulletin board.	
5.3	*Disclose annual site water stewardship summary, including: the relevant information about the site's annual water stewardship performance and results against the site's targets.*	
5.3.1	*A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.*	Yes
Comment	The site disclosed the water stewardship performance annually, including quantified performance against targets on the company website. http://www.dynamicpcb.cn/news/AWS%E7%9B%B8%E5%85%B3%E8%B5%84%E6%96%992023.pdf	
5.4	*Disclose efforts to collectively address shared water challenges, including: associated efforts to address the challenges;engagement with stakeholders; and co-ordination with public-sector agencies.*	
5.4.1	*The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.*	Yes
Comment	The site disclosed the effort to address shared water challenges on the company website. http://www.dynamicpcb.cn/news/AWS%E7%9B%B8%E5%85%B3%E8%B5%84%E6%96%992023.pdf	
5.4.2	*Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.*	Yes
Comment	DE organized the stakeholder communication meeting and introduced DE's water stewardship progress and performance on August, 2024. The feedback of the stakeholder was collected during the meeting.	
5.5	*Communicate transparency in water-related compliance: make any site water-related compliance violations available upon request as well as any corrective actions the site has taken to prevent future occurrences.*	

5.5.1	*Any site water-related compliance violations and associated corrections shall be disclosed.*	Yes
Comment	No water-related violations since 2022. A procedure to manage non-conformance and related corrective action is developed.	
5.5.2	*Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable.*	Yes
Comment	No water-related violations since 2022. A procedure to manage non-conformance and related corrective action is developed.	
5.5.3	*Any site water-related violation that may pose significant risk and threat to human or ecosystem health shall be immediately communicated to relevant public agencies and disclosed.*	Yes
Comment	No water-related violations since 2022. A procedure to manage non-conformance and related corrective action is developed.	

Photographic Evidence from Audit

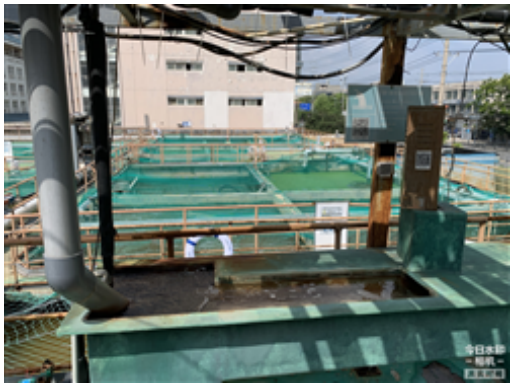
Yes



WWTP process.JPG

spary system.JPG

Gate.JPG



WWTP.JPG

HW warehouse.JPG

chemical warehouse.JPG

water purification.JPG

drinking water.JPG

discharge point.JPG

Previous Findings	
All non-conformities raised in the previous audit have been satisfactorily closed.	Yes