CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-000239

WSAS WATER STEWARDSHIP ASSURANCE SERVICES

SITE DETAILS

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

CERTIFICATION DETAILS

Certification status: Certified Core
Date of certification decision: 2022-Aug-09
Validity of certificate: 2025-Aug-09

AUDIT DETAILS

Audited Service(s): AWS Standard v2.0 (2019)
Audit Type(s): Initial Audit
Audit Start Date: 2022-Mar-23
Lead Auditor: Layla Chen (TUV Rheinland)

Audit team participants:
Ike Xu (TUV Rheinland)
Ian Jiang (TUV Rheinland)

Site Participants:
CAI ZONG LONG, Director
LIN YIN QUAN, Operations manager
WANG PAI LIN, Site Engineer
CHEN YAN XIA, Operations manager
HOU HONG JIE, Site Engineer
SHA JIAN KUN, SSHE Officer
XU DUO DUO, SSHE Officer
SONG BIAN XIA, SSHE Officer
HU YU GUANG, Factory H&S Manager
SHEN JING, Source Specialist

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ADDITIONAL INFO

Summary of Audit Findings: A total of eleven findings were raised during the certification audit, two major non-conformities, eight minor non-conformities, 1 observations.

The facility provided a root cause analysis and corrective action for each of the non-conformities. The implementation of the corrective action plan for all minor non-conformities will be assessed at the next surveillance.

The major non-conformities were successfully addressed and evidence submitted confirming closure of the findings.

The audit team recommends certification of Dynamic Electronics (Kunshan) Co, Ltd. to Core level.

Scope of Assessment: The scope of services covers the Initial certification audit for assessing conformity of Dynamic Electronic (Kun Shan) Co., Ltd (hereinafter referred to as 'DE') 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 river. The nearest residence is about 400 meters away from the factory.

On March 23-25 2022, TÜV Rheinland conducted the on-site conformity assessment for DE's facilities and activities as per requirement of the AWS Standard (Version 2.0) on behalf of WSAS. During the audit, a half-day stakeholder meeting was held on 24 March 2022. 9 stakeholders participated in the meeting covering suppliers, employee, resident etc.. The lead auditor was onsite and the auditor was online to complete the remote audit.

FINDINGS

Observation	1
Minor	8
Major	2

FINDING DETAILS

Finding No:	TNR-000685
Checklist Item No:	1.1.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-Mar-23
Checklist item:	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.
Findings:	The locations of water service providers including water supply and domestic wastewater treatment are not specified in the catchment map.
Corrective action:	Cause analysis: The understanding of clause 1.1.1 is insufficient. Corrective action: Clearly marked the location of water service providers such as municipal water providers and domestic sewage treatment plant on the watershed map according to AWS criteria.

Finding No:	TNR-000686
Checklist Item No:	1.2.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-Mar-23
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:	The shared water challenges were not further communicated with stakeholders in the technical communication meeting.
Corrective action:	Cause analysis: Water challenges are not discussed and confirmed per AWS criteria. Corrective action: Continuously collect and replenish water-related challenges to achieve better communication with various stakeholders and identify water-related challenges.

Finding No:	TNR-000684
Checklist Item No:	1.4.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-Mar-23
Checklist item:	The embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment, shall be identified.
Findings:	The indirect water use was investigated for only four out of eight suppliers.
Corrective action:	Cause analysis: Did not fully understand requirement of indicator 1.4.1, and due to the pandemic, currently only suppliers with frequent business are selected for investigation. Corrective Action plan: According to the relevant principles of AWS standards, suppliers will be screened, and suppliers located in the Taihu Lake Basin will be preferentially selected, and more suppliers will be investigated for indirect water use.

Finding No:	TNR-000708
Checklist Item No:	1.4.2
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-Mar-23
Checklist item:	The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.
Findings:	It is recommended to establish a process to check the water risks of the service providers of the site (such as: waste treatment providers, etc.)

Finding No:	TNR-000928
Checklist Item No:	1.6.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-Mar-23
Checklist item:	Shared water challenges shall be identified and prioritized from the information gathered.
Findings:	The shared water challenges were not further communicated with stakeholders in the technical communication meeting.
Corrective action:	Root cause analysis: Water challenges are not discussed and confirmed per AWS standards related content. Corrective action: Continuously collect and replenish water-related challenges to achieve better communication with various stakeholders and identify water-related challenges.

Finding No:	TNR-000683
Checklist Item No:	2.4.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-Mar-23
Checklist item:	A plan to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.
Findings:	The factory does not prepare a risk mitigation plan towards some regulatory water risks identified in indicator 1.7.
Corrective action:	Cause analysis: Water risks are identified, but the corresponding risk mitigation plans are only rough plans Corrective Action plan: Supplement corresponding risk mitigation plans for various medium and high risks corresponding to 1.7.

Finding No:	TNR-000702
Checklist Item No:	3.2.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-Mar-23
Checklist item:	A process to verify full legal and regulatory compliance shall be implemented.
Findings:	The liquid alkali tank truck stops outside of the secondary containment to unload. The wastewater from one eye washing facility next to the chemical warehouse was not collected.
Corrective action:	Cause analysis: The potential leakage and contamination risks of liquid caustic tankers are ignored. Due to other construction and other factors, the drain pipe of the eyewash at this place was cut off from the industrial drain pipe that was originally connected to it, resulting in the direct draining ground not being recovered. Corrective Action plan: Formulate the "Tank Truck Safety Operation Checklist" , the incoming liquid caustic soda tank trucks are operated and inspected according to the content of the checklist, and small barrels and large barrels are prepared to collect the liquid caustic soda that may drip, preventing possible leakage and pollution. Restore access to industrial wastewater drainage pipes, and require all departments to carry out spot inspections of the company's eyewashes as required.

Finding No:	TNR-000707
Checklist Item No:	4.4.1
Status:	Open
Finding level:	Observation
Checklist item:	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.
Findings:	DE did not define evaluation and update time and frequency in the water stewardship plan.

Finding No:	TNR-000703
Checklist Item No:	5.1.1
Status:	Closed
Finding level:	Major
Checklist item:	The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.
Findings:	The outcomes related to internal governance were disclosed within the company but not yet disclosed to public or relevant stakeholders
Corrective action:	Cause analysis: Understanding of the relevant provisions of AWS standards is not in-depth, and the output of AWS projects is only disclosed within the company.
Evidence of implementation:	The facility has uploaded the disclosure information on its company website in 2022.3.29, link: http://www.dynamicpcb.cn/news/AWS%E7%9B%B8%E9%97%9C%E8%B3%87%E6%96%99.pdf

Finding No:	TNR-000704
Checklist Item No:	5.3.1
Status:	Closed
Finding level:	Major
Checklist item:	A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.
Findings:	The site water stewardship summary were disclosed within the company but not yet disclosed to public or relevant stakeholders.
Corrective action:	Cause analysis: Understanding of the relevant provisions of AWS standards is not in-depth, and the output of AWS projects is only disclosed within the company. Corrective Action plan: Disclose the output of the AWS project in company website. http://www.dynamicpcb.cn/news/AWS%E7%9B%B8%E9%97%9C%E8%B3%87%E6%96%99.pdf
Evidence of implementation:	The facility has uploaded the AWS water stewardship performance to company's website. http://www.dynamicpcb.cn/news/AWS%E7%9B%B8%E9%97%9C%E8%B3%87%E6%96%99.pdf

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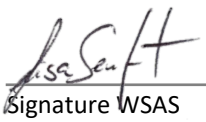
Finding No:	TNR-000705
Checklist Item No:	5.4.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2023-Mar-23
Checklist item:	The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.
Findings:	The efforts to collectively address shared water challenges were disclosed within the company but not yet disclosed to public or relevant stakeholders.
Corrective action:	Cause analysis: Understanding of the relevant provisions of AWS standards is not in-depth, and the output of AWS projects is only disclosed within the company. Corrective Action plan: Disclose the output of the AWS project in public channels (company website, etc.), and check and update the relevant content in the next annual review.



Signature WSAS

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Report Details

Report	Value
Report prepared by	Ike Xu and Ian Jiang
Report approved by	Lisa Seufert
Report approved on (Date)	15/06/2022

Surveillance

Proposed date for next audit
2023-Mar-23

Stakeholder Announcements

Date of publication	Location
2022-Feb-14	https://watersas.org/stakeholder-announcements/
2022-Feb-14	https://a4ws.org/certification/stakeholder-announcements/

Catchment Information

Catchment Information
The Wusong river is an important river in the Jiangsu Province, which originates from the Lake Taihu and flows to the Shanghai then into the sea.
It is 125 kilometre long, with 54km in the Shanghai region, and about 40 to 50 metre width. The occupied area of the catchment is about 855 km2, covers several regions including Wujiang, Suzhou, Kunshan, Jiading, Qingpu and Shanghai. Wusong river is a sub-catchment of Taihu Lake Catchment.

catchment map.jpg

baidu map.JPG

	Client Description and Site Details

Client/Site Background
DE only uses municipal water and the recycled water. The municipal water is for domestic and production usage, and the recycle water is for production. The municipal water plant has two sources, Kuilei Lake which is a 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, the then emitted into the Lou River, flows to Taicangtang River, and finally flows into Yangzte river. The domestic wastewater is discharged into municipal sewage pipeline and then finally flows to Wusong River.

	Summary of Shared Water Challenges

Summary of Shared Water Challenges
The site has identified the following Shared Water Challenges:

1. High wastewater discharge standard;
2. Temporary limit on discharge;
3.Regional PCB industry inspection;
4. A few factory discharge illegally
5. Restriction of annual water use of the factory in 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
0.1.1.2	*The scope of the proposed certification shall be under the control of a single management system.*	Yes
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

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.*	No
Comment	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 water source was also identified in the catchment report. ***Finding No: TNR-000685***	
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. The degree of influence between site and stakeholder has also been identified of each stakeholder. ***Finding No: TNR-000686***	
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.*	Yes
Comment	DE established an environmental emergency response plan, covering special emergency plans for chemical leakage, ETP and wastewater pipeline accidents, etc.	
1.3.2	*Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped*	Yes
Comment	DE developed the water balance maps in 2020 and 2021 to record the conditions of water gains, loss, storage and comparison among years.	
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	The water balance is not a shared water challenge.	
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	DE developed a reclaimed water system to treat and reuse wastewater. DE also installed an online monitoring system to monitor the industrial wastewater, including the parameters of COD and ammonia-Nitrogen, and conduct routine internal and external test of the rest parameters to control the industrial wastewater quality. The quality of rainwater and domestic wastewater was also monitored.	
1.3.5	*Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.*	Yes
Comment	DE maps potential pollution sources.	
1.3.6	*On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.*	Yes
Comment	No IWRAS were identified in the site.	
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.*	Yes
Comment	DE has identified water-related costs, including cost water consumption, purification, wastewater treatment, sludge treatment and reclaimed water treatment. It also qualitative the social, cultural, environmental and economic water-related value generated by the site.	
1.3.8	*Levels of access and adequacy of WASH at the site shall be identified.*	Yes
Comment	DE installed water purification facilities in workshops, office areas and dormitories, providing direct drinking water to employees. All the outlets of drinking water were tested by third party laboratory every month. The water purification facilities were regularly maintained by both DE and the supplier. DE provided sufficient toilets to workers, and regulary cleaning was conducted. Necessary equipment like handwash and tissue were also provided.	

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.*	✗ No
Comment	DE has screened and identified the main suppliers and outsourced services, but only sent the questionnaires to investigate their indirect water consumption for 4 suppliers. ***Finding No: TNR-000684***	
1.4.2	*The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.*	✗ No
Comment	DE has screened and identified the main suppliers and outsourced services, but only sent the questionnaires to investigate their indirect water consumption for 4 out of 8 suppliers. ***Finding No: TNR-000708***	
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.*	✓ Yes
Comment	The water-governance initiatives were collected via public available source, including catchment plan.	
1.5.2	*Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.*	✓ Yes
Comment	Applicable water-related legal and regulatory requirements were collected.	
1.5.3	*The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.*	✓ Yes
Comment	The catchment water balance and quality were collected via the published resource and material.	
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.*	✓ Yes
Comment	The catchment water balance and quality were collected via the published resource and material.	
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.*	✓ Yes
Comment	Important water-related areas were identified, including the wetland; the species special protect region and ecological park.	
1.5.6	*Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.*	🔍 Obs.
Comment	Existing and planned water-related infrastructure were identified. But the condition of infrastructure and potential exposure to extreme events shall also be identified	

1.5.7	*The adequacy of available WASH services within the catchment shall be identified.*	Yes
Comment	The level of WASH of the catchment has been collected from the public report.	
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.*	No
Comment	The water challenges were listed and prioritized, based on the stakeholder's feedback and internal assessment, such as government restriction and the improvement of the local water environment. ***Finding No: TNR-000928***	
1.6.2	*Initiatives to address shared water challenges shall be identified.*	Yes
Comment	The initatives to address shared water challenges was identified.	
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.*	Yes
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.	
1.7.2	*Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.*	Yes
Comment	The water related opportunities were identified, including regulatory incentive, reputation, cooperation within universities, NGO and other facilities.	
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.*	Yes
Comment	DE has identified relevant catchment best practice for water governance, water balance, water quality, IWRAS and WASH.	
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.*	Yes
Comment	DE has identified relevant catchment best practice for water governance, water balance, water quality, IWRAS and WASH. Best practice for water balance identified by DE: - DE collected the water stewardship and water balance best practices in PCBs industry as well as special action plan in Kunshan.	
1.8.3	*Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.*	Yes

Comment	DE has identified relevant catchment best practice for water governance, water balance, water quality, IWRAS and WASH. Best practice for water quality identified by DE: - Using 90% of the COD concentration in the permitted wastewater discharge standard as the internal standard.	
1.8.4	*Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.*	Yes
Comment	DE has identified relevant catchment best practice for water governance, water balance, water quality, IWRAS and WASH. Best practice for IWRAS were included in the catchment plan, which was collected by DE:	
1.8.5	*Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.*	Yes
Comment	DE has identified relevant catchment best practice for water governance, water balance, water quality, IWRAS and WASH. Best practice for WASH identified by DE: - DE applied two WASH identification tools, one was based on domestic standard requirements, and the other used WBSCD self-assessment. Both results show the site's WASH level was satisfied.	

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 is displayed on DE's publicity boards within the site.	
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	According to the strategy, DE formulated a Water Stewardship Plan, specifying targets, required actions, measurements, estimated cost, accountable and responsible person, deadline, etc.	
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.*	No
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. ***Finding No: TNR-000683***	

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 2021.	
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	There is no indigenous people in China.	
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.*	No
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. ***Finding No: TNR-000702***	
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	There is no indigenous people in China.	
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 has formulated plans to reduce water consumption, improve water quality and keep water reuse systems stable, including: 1) Water saving labels and signage at important water usage areas; 2) Replace reclaimed water purification system resins to increase water generation rate; 3) Increase water input ratio while keep water quality.	
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 has formulated plans to reduce water consumption, improve water quality and keep water reuse systems stable, including: 1) Water saving labels and signage at important water usage areas; 2) Replace reclaimed water purification system resins to increase water generation rate; 3) Increase water input ratio while keep water quality.	
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 document for DE as per interview.	

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	DE developed several measures to ensure water quality and achieve water targets: 1. DE established a stricter internal control standard, which is 90% of the wastewater discharge limits for all key parameters such as COD, TP, TN, NH3N, etc. 2. DE installed a TN and an ammonia-nitrogen pre-treatment system to reduce the emission of pollutants annually. 3. Installed CCTV supervision system at the ETP and provide a more secured working environment as well as minimize violations of operation procedures.	
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	DE developed several measures to ensure water quality and achieve water targets: 1. DE established a stricter internal control standard, which is 90% of the wastewater discharge limits for all key parameters such as COD, TP, TN, NH3N, etc. 2. DE installed a TN and an ammonia-nitrogen pre-treatment system to reduce the emission of pollutants annually. 3. Installed CCTV supervision system at the ETP and provide a more secured working environment as well as minimize violations of operation procedures.	
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	De could not directly involved in the IWRA conservation, and they current track the status of IWRA from public report or IWRA's website.	
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.*	Yes
Comment	DE provided sufficient drinking water machine at workshops, offices and dormitory areas, fulfilling the GB standard requirements. 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 DE conducted soil and groundwater test in the site annually and ensure the surrounding area water hygiene. The company does not receive any complaint related to safe drinking water and hygiene from surrounding communities.	
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	No	
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.	
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.	
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.	
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.	
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.	

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	DE set up targets covering the water governance, water balance, water quality, WASH and etc. DE provided evidences on some of the achieved results: 1) DE reduce the average concentration of ammonia-nitrogen, TP and copper in 2021 compared to 2020; 2) The pollutant parameters and total discharge amount fulfill the local standard and Kunshan govern requirements in 2021 and contribute to the water quality of surrounding water bodies such as Wusong river.	
4.1.2	*Value creation resulting from the water stewardship plan shall be evaluated.*	Yes
Comment	The achievement was evaluated in the water stewardship plan.	
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 is identified.	
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	No water-related emergencies or extreme events occurred at the site in the year 2021. DE developed water-related incident response plans, which contained the analysis and improvement procedure.	
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 Jan 21, 2022. 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.*	Obs.
Comment	This is the initial assessment. The site has not developed the new water stewardship plan yet.	

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.* **Finding No: TNR-000703**	No
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.*	No
Comment	DE integrated the annual site water stewardship summary in the water stewardship outcomes list. **Finding No: TNR-000704**	
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.* **Finding No: TNR-000705**	No
5.4.2	*Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.*	Yes
Comment	Efforts to collectively address shared water challenges was collected in the water stewardship plan.	
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 compliance violations occurred at the site to date.	
5.5.2	*Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable.*	Yes
Comment	No water-related compliance violations occurred at the site to date.	

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 compliance violations occurred at the site to date.	

Photographic Evidence from Audit

Yes

water meter.jpg

Pure water station.jpg

Online wastewater monitoring system.jpg

Wastewater Treatment Plant.jpg

Chemical warehouse.jpg

Rainwater Drainage.jpg

Wastewater final discharge point.jpg

Domestic wastewater discharge point.jpg

Hazardous waste warehouse.jpg