CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001491

WSAS WATER STEWARDSHIP ASSURANCE SERVICES

SITE DETAILS

Site: **BioFunction, Shanghai BioTech Group**
Address: No. 989, Jin Ge Rd., Jinshan Industrial Park, 201500, Shanghai, P.R. CHINA
Contact Person: Jian Li
AWS Reference Number: AWS-000778
Site Structure: Single Site

CERTIFICATION DETAILS

Certification status: Certified Gold
Date of certification decision: 2025-Jul-09
Validity of certificate: 2028-Jul-08

AUDIT DETAILS

Audited Service(s): AWS Standard v2.0 (2019)
Audit Type(s): Initial Audit
Audit Start Date: 2025-Feb-24
Audit End Date: 2025-Feb-26
Lead Auditor: Lorry Long

Audit team participants:
Nemo Fang

Site Participants:
Mr. Li, Sr. EHS Specialist
Ms. Chen, Administration Manager
Ms. Huang, Human Resources
Mr. Liu, Production Supervisor
Mr. Lin, Factory Manager
Mr. Guo, Sr. Director, EHS, Security and Facilities
Ms. Shi, Quality Controller
Ms. Du, Purchase manager

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ADDITIONAL INFO

Summary of Audit Findings: Non-conformities were raised during the certification audit, 20 major non-conformities, 1 minor non-conformities. The major non-conformities were of sufficient concern to warrant the categorisation of the non-conformity as major and related to good water governance and IWRA.

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 by 28/03/2025.

The major non-conformities must be closed within 90 days of receipt of the report. In order to meet this timeline evidence is to be submitted to WSAS (within75 days) by 12/05/2025].

Minor non-conformities must be closed out by the time of the next annual audit.

The audit team recommends certification of BioFunction at Gold level pending approval of the corrective actions plan and closure of the major non-conformities.

Scope of Assessment: The scope of services covers the Initial certification audit for assessing conformity of BioFunction, Shanghai BioTech Group against the AWS International Water Stewardship Standard Version 2.
BioFunction, Shanghai BioTech Group (hereinafter referred to as " BioFunction") is located at No.989 Jinge Road, Jinshan District, Shanghai City, China. BioFunction is manufacturing of nutritional foods, health foods, fruit and vegetable juices. The annual production capacity is about 3,830 tons. It was established in May 2012 and covers an area of 7,312 square meters, currently it has about 120 employees. The main production process included: mixing- stirring- sterilizing-filling-packing.
The water sources used in BioFunction's site area is municipal water. The municipal water is supplied by Shanghai Jinshan Haichuan Water Supply Co., Ltd.
The industrial wastewater in BioFunction's site area is treated by its internal wastewater station, then mixed with domestic sewage and discharged to Shanghai Jinshan Paihai Engineering Co., Ltd. for further treatment. Afterwards, it was discharged into the Donghai Sea.

The audit was conducted onsite on February 24-26, 2025.
The onsite visit included the assessment of all facilities in the site, including production building, warehouse, wastewater treatment plant, water purification system and canteen.

FINDINGS

Minor	1
Major	20

FINDING DETAILS

Finding No:	TNR-016921
Checklist Item No:	1.3.3
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	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.
Findings:	The site only had data on water usage and had not installed wastewater meters to quantify wastewater data. Therefore, it was unable to quantify the water balance.
Corrective action:	The site has installed sewage meter, collected the data, and updated the quantified data.

Finding No:	TNR-016922
Checklist Item No:	1.4.1
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
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 site had identified main raw material and packaging suppliers within the site's catchment but had not yet fully obtained data on indirect water use. Currently only two suppliers within the site's catchment had been investigated.
Corrective action:	The plant will develop a comprehensive survey plan to collect water use information from all relevant suppliers in the basin. The site has screened the suppliers list, and identified 4 major suppliers within catchment, and investigate the water quantity, water quality and water risk of them.

Finding No:	TNR-016923
Checklist Item No:	1.4.2
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.
Findings:	The embedded water uses quantity of outsourced service providers, such as solid waste and hazardous waste disposal units and catering service unit, had not yet been confirmed/quantified.
Corrective action:	The factory will communicate with the outsourcing service provider to collect and confirm its water usage information. The site has obtained the water use of outsourced service.

Finding No:	TNR-016924
Checklist Item No:	1.4.3
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	Advanced Indicator The embedded water use of primary inputs in catchment(s) of origin shall be quantified.
Findings:	A list of raw materials accounting for over 5% of the total weight or cost of the final product had not yet been determined, and embedded water use at the catchment of origin had not been calculated.
Corrective action:	The site will determine the total weight or total cost of more than 5% of the bill of raw materials, calculate its water use at the catchment of origin. However, the site does not investigate all supplier's water data.

Finding No:	TNR-016925
Checklist Item No:	1.5.9
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	Advanced Indicator The adequacy of WASH provision within the catchments of origin of primary inputs shall be identified.
Findings:	The adequacy of WASH provision within the catchments of origin of primary inputs had not yet been confirmed.
Corrective action:	The site will investigate the WASH situation in the watershed of the place of origin to confirm its adequacy. However, the site failed to provide the WASH data of all suppliers' catchment.

Finding No:	TNR-016926
Checklist Item No:	1.6.1
Status:	Closed
Finding level:	Minor
Due date:	2025-May-27
Checklist item:	Shared water challenges shall be identified and prioritized from the information gathered.
Findings:	The shared water challenge is more based on the site's own investigation and analysis, and the site did not fully consult with stakeholders.
Corrective action:	The site has consulted with the stakeholders, collected their feedback, and used as supplementary of the shared water challenge.

Finding No:	TNR-016927
Checklist Item No:	1.6.3
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	Advanced Indicator Future water issues shall be identified, including anticipated impacts and trends
Findings:	The site did not identify future water issues, and their impacts and trends had not been predicted.
Corrective action:	The site will consult experts to analyze the trend of water problems and predict future water problems. The site has provided the water future trend analysis report for review.

Finding No:	TNR-016928
Checklist Item No:	1.6.4
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	Advanced Indicator Potential water-related social impacts from the site shall be identified, resulting in a social impact assessment with a particular focus on water.
Findings:	The site did not identify its potential water-related social impacts or conduct a social impact assessment with a particular focus on water.
Corrective action:	The site will conduct a water resources social impact assessment to identify potential social impacts. The site has provided the social impact assessment of water resources analysis for review.

Finding No:	TNR-016929
Checklist Item No:	1.8.2
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified.
Findings:	The site did not identify the relevant sector and/or catchment best practice for water balance. The site has provided the list of best practices of water balance for review. Refer to attachment
Corrective action:	The site will study relevant industries and watersheds to identify best practices in water balance.

Finding No:	TNR-016930
Checklist Item No:	1.8.3
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.
Findings:	The site did not identify relevant sector and/or catchment best practice for water quality.
Corrective action:	The site will study relevant industries and watersheds to identify best practices in water quality. The site has provided the list of best practices of water quality for review. Refer to attachment

Finding No:	TNR-016931
Checklist Item No:	1.8.4
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.
Findings:	The site did not identify relevant catchment best practice for site maintenance of Important Water-Related Areas.
Corrective action:	The Site will investigate relevant watersheds and identify site best practices for maintaining critical water-related areas. The site has provided the list of best practices of IWRAs for review. Refer to attachment.

Finding No:	TNR-016932
Checklist Item No:	1.8.5
Status:	Closed
Finding level:	Major
Due date:	2025-May-27
Checklist item:	Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.
Findings:	The site did not identify relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services. The site has provided the list of best practices of WASH for review. Refer to attachment.
Corrective action:	The site will study relevant industries and watersheds to identify best practices in WASH at the site.

Finding No:	TNR-016897
Checklist Item No:	2.3.5
Status:	Closed
Finding level:	Major
Due date:	2025-Apr-30
Checklist item:	Advanced Indicator Stakeholder consensus shall be sought on the site's water stewardship plan. Consensus should be achieved on at least one target. A list of targets that have consensus and in which stakeholders are involved shall be identified.
Findings:	The site did not communicate to stakeholders on its water stewardship plan to sought consensus.
Corrective action:	The site would communicate to stakeholders on its water stewardship plan and achieve consensus. The site has communicated with the stakeholder about the water stewardship plan. Most of the stakeholders agreed the plan and have no further input.

Finding No:	TNR-016898
Checklist Item No:	2.4.2
Status:	Closed
Finding level:	Major
Due date:	2025-Apr-30
Checklist item:	Advanced Indicator A plan to mitigate or adapt to water risks associated with climate change projections developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.
Findings:	The site did not identify a plan to mitigate or adapt to water risks associated with climate change projections developed in co-ordination with relevant public-sector and infrastructure agencies.
Corrective action:	The site would develop in co-ordination with relevant public-sector and infrastructure agencies, establish related plan. The site has provided the communication record for contingency plans.

Finding No:	TNR-016911
Checklist Item No:	3.7.1
Status:	Closed
Finding level:	Major
Due date:	2025-Apr-30
Checklist item:	Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.
Findings:	The site only investigates the water risk of part supplier’s location, did not set indirect water use targets.
Corrective action:	The site would investigate the water risk of supplier’s location, and set indirect water use targets. The site set target to work with one supplier and aiming to improve their water stewardship. The site has performed an AWS cooperation meeting with them, aiming to improve their water stewardship like water saving and wastewater monitoring.

Finding No:	TNR-016912
Checklist Item No:	3.7.2
Status:	Closed
Finding level:	Major
Due date:	2025-Apr-30
Checklist item:	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.
Findings:	The site did not take actions in the catchment with suppliers and service providers
Corrective action:	Collaborate with suppliers and service providers to take joint actions within the watershed. The site performed an AWS cooperation meeting with one supplier, aiming to improve their water stewardship like water saving and wastewater monitoring.

Finding No:	TNR-016913
Checklist Item No:	3.9.2
Status:	Closed
Finding level:	Major
Due date:	2025-Apr-30
Checklist item:	Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.
Findings:	The site had not identified relevant sector and/or catchment best practice for water balance, and no evidence of actions implementation towards achieving best practice.
Corrective action:	Conduct research on relevant industries and catchment to identify best practices in water balance and implement them. The site has implemented following actions to achieve the best practices for water balance. 1. Optimization of the CIP process to reduce water usage. 2. Reuse the wastewater of water purification process. 3. Reuse the condensation water.

Finding No:	TNR-016914
Checklist Item No:	3.9.3
Status:	Closed
Finding level:	Major
Due date:	2025-Apr-30
Checklist item:	Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.
Findings:	The site had not identified relevant sector and/or catchment best practice for water quality, and no evidence of actions implementation towards achieving best practice.
Corrective action:	Conduct research on relevant industries and catchment to identify best practices in water quality and implement them. The site has implemented following actions to achieve the best practices for water quality. 1. BioFunction has developed a water quality monitoring plan and commissioned third-party laboratories to test the water quality of downstream of river near the site, which beyond the legal requirements. 2. BioFunction set internal wastewater quality control targets that are 90% lower than discharge standards (BOD5, SS, NH3-N, TN, TP), and achieving 100% of the internal control targets by 2024.

Finding No:	TNR-016915
Checklist Item No:	3.9.4
Status:	Closed
Finding level:	Major
Due date:	2025-Apr-30
Checklist item:	Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented.
Findings:	The site had not identified relevant sector and/or catchment best practice for site maintenance of Important Water-Related Areas, and no evidence of actions implementation towards achieving best practices.
Corrective action:	Conduct research on relevant catchment to identify best practices in IWRAs and implement them. The site has implemented following actions to achieve the best practices for IWRAs. BioFunction has developed a yearly river patrol program and organizes staff to patrol the river. BioFunction also test the surface water quality at downstream in Laochanglouxiang River twice a year. On December 20, 2024, BioFunction organized clean beach and river patrol activity in Huanjinshui Lake, totally 14 persons attended the activity, patrolled 350 meters river and cleaned 17.97 kg garbage.

Finding No:	TNR-016916
Checklist Item No:	4.1.2
Status:	Closed
Finding level:	Major
Due date:	2025-Apr-30
Checklist item:	Value creation resulting from the water stewardship plan shall be evaluated.
Findings:	The site did not evaluate its value creation resulting from the implementation of water stewardship plan.
Corrective action:	The site would evaluate its value creation resulting from the implementation of water stewardship plan of 2024. The site has re-evaluated the value creation resulting from the implementation of water implementation of water stewardship plan and updated in AWS management review report.

Finding No:	TNR-016917
Checklist Item No:	4.1.3
Status:	Closed
Finding level:	Major
Due date:	2025-Apr-30
Checklist item:	The shared value benefits in the catchment shall be identified and where applicable, quantified.
Findings:	The site did not identify the shared value benefits in the catchment.
Corrective action:	The site would investigate and quantify the shared value benefits in the catchment The site has identified the shared value benefits in the catchment and updated in the AWS management review report.

Report Details

Report	Value
Report prepared by	Lorry Long
Report approved by	S. M. Leong
Report approved on (Date)	9 July 2025

Surveillance

Proposed date for next audit
2026-Feb-23

Stakeholder Announcements

Date of publication	Location
18/10/2024	https://a4ws.org/wp-content/uploads/2024/10/AWS-000778_BioFunctionShanghaiBioTechGroup_StakeholderAnnouncement_102024_V3.0-billingual.pdf
18/12/2024	https://www.tci-bio.com.cn/wp-content/uploads/2024/12/%E5%9B%BD%E9%99%85%E5%8F%AF%E6%8C%81%E7%BB%AD%E6%B0%B4%E7%AE%A1%E7%90%86%E6%A0%87%E5%87%86%E5%AE%A1%E6%A0%B8-%E5%88%A9%E7%9B%8A%E7%9B%B8%E5%85%B3%E6%96%B9%E6%84%8F%E8%A7%81%E5%BE%81%E6%B1%82%E5%85%AC%E5%91%8A.pdf
18/12/2024	https://www.tuv.com/content-media-files/greater-china/about-us/downloads/terms-and-conditions-and-certification-regulations/aws-000778_biofunction-shanghai-biotech-group_stakeholderannouncement_10-2024_v3.0-billingual.pdf

Catchment Information

Catchment Information

Shanghai is located in the eastern coastal region of China, at the forefront of the Yangtze River Delta and the estuary of the Yangtze River. The Taihu Basin is the most downstream sub-basin of the Yangtze River system, centered around Taihu Lake and divided into upstream and downstream water systems.

Based on the location of the water source and final discharge destination, the identified physical boundary for BioFunction to carry out sustainable water management is mainly the Wusong River Basin, with a focus on the relevant areas within a physical radius of 20 kilometers of Wusong River Basin.

The Wusong River Basin is a sub-basin of the Taihu Lake Basin, located downstream of Taihu Lake and named after the main river within the basin, the Wusong River. The basin covers parts of Suzhou City in Jiangsu Province, Shanghai, and Jiaxing City in Zhejiang Province, with a total area of 855 square kilometers. The Wusong River belongs to the Taihu Lake system. It originates from the Gua Jingkou of Taihu Lake, located south of Songling Town in Wujiang District, Suzhou City. It flows from west to east through Wujiang, Suzhou, Kunshan, and several districts of Shanghai, before discharging into the Huangpu River at Waibaidu Bridge. With Beixinjing as the boundary, the upstream section is called the Wusong River by locals, while the downstream section, after entering the urban area of Shanghai, is known as the Suzhou River.
The Wusong River is 125 kilometers long, with a section of 53.1 kilometers within Shanghai. The river has an average width of 40 to 50 meters and a discharge flow of approximately 10 cubic meters per second at its mouth, making it the largest tributary of the Huangpu River. The Wusong River serves multiple functions, including flood control, drainage, water supply, navigation, and landscape, playing a significant role in the regional economy, society, and ecological environment.

The municipal water is supplied by Shanghai Jinshan Haichuan Water Supply Co., Ltd, whose water source is Jinze Water Reservoir. The water is originated from Taipu River. Taipu River is another important river within the Wusong River Basin, one of the largest man-made rivers in the Taihu Basin. Named for its connection between Taihu Lake and the Huangpu River, the Taipu River spans Suzhou City in Jiangsu Province, Jiaxing City in Zhejiang Province, and Shanghai. It originates from Shijia Gang in Hengshan Town, Wujiang District, Suzhou City, at the edge of East Taihu Lake, intersects with the South Jiangsu Canal at Pingwang North, and then flows through Fen Lake to Nanda Port, entering the Ximao River and connecting to the Huangpu River. The river is 57.6 kilometers long and serves as one of the main channels for discharging floodwaters from Taihu Lake.

Catchment boundary.png

Summary of Shared Water Challenges

Summary of Shared Water Challenges
BioFunction faces the following Shared Water Challenges:
1. Water resource stress and increasing water costs. Level 2;
2. Deterioration of water quality (including surface and groundwater). Level 3;
3. Fragile ecosystems and poor overall regional ecological conditions. Level 3;
4. Increasing environmental protection standards and stricter requirements for wastewater treatment and discharge. Level 4;
5. Potential for sudden environmental incidents that may restrict or interrupt business operations. Level 3;
6. Intensified climate change may lead to more frequent extreme weather events. Level 3.
The site has prioritized these shared challenges. The risk levels range from low (Level 1) to high (Level 4). The risk level is determined by the degree of attention, impact, and consequences.

Client Description and Site Details

Site boundaries.jpg

Client/Site Background
BioFunction, Shanghai BioTech Group (hereinafter referred to as " BioFunction ") is located at No.989 Jinge Road, Jinshan District, Shanghai City, China. The site located in an industrial park, surrounded by factories. BioFunction is manufacturing of nutritional foods, health foods, fruit and vegetable juices. The annual production capacity is about 3,830 tons. It was established in May 2012 and covers an area of 7,312 square meters, currently it has about 120 employees. The main production process included: mixing- stirring-sterilizing-filling-packing.
The water sources used in BioFunction's site area is municipal water. The municipal water is supplied by Shanghai Jinshan Haichuan Water Supply Co., Ltd, whose water source is Jinze Water Reservoir.
The industrial wastewater in BioFunction's site area is treated by its internal wastewater station, then mixed with domestic sewage and discharged to Shanghai Jinshan Paihai Engineering Co., Ltd. for further treatment. Afterwards, it was discharged into the Donghai Sea.

0.1	**General Requirements for Single Sites, Multi-Sites and Groups**	
0.1.1	*Eligibility Criteria*	
0.1.2		
0.1.2.1	*Have any water source locations and water-related discharge locations been visited during the audit, if so, which and where? If none were visited please provide justification.*	No
Comment	Due to the water sources and the final wastewater discharge points being controlled by water supply and wastewater treatment infrastructure, which are located at a considerable distance from the site, and constrained by the audit schedule, the audit team is unable to visit these external areas.	
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	The site has developed a Background Investigation Report, and it contains the physical scope of the site. It contains: • Map of site boundaries with the source of water supply and discharge points of wastewater and rainwater. • Map of water-related infrastructures at the site such as pipeline, wastewater treatment plant. • Map of water supply (Jinze reservoir, Jinshan Haichuan Water Plant) • Map of municipal WWTP (Jinshan Drainage Engineering Co., LTD. Xinjiang Sewage Treatment Plant) and its ultimate receiving water body (the East China Sea). • Map of catchment that the site affects and is reliant upon for water.	
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.*	✓ Yes
Comment	The site has identified stakeholders such as the government, employees, NGOs, surrounding residents, suppliers, infrastructures, and surrounding companies. The site has developed an analysis table of stakeholders and has established diversified communication channels with different stakeholders, such as phone calls, e-mails, meetings, questionnaires, visits, etc.	
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 site have developed an analysis table of stakeholders, 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 BioFunction has developed a comprehensive response plan for environmental emergencies, including special emergency response plans for chemical and hazardous waste leakage and its decontamination wastewater treatment, wastewater pipeline leakage, which are all related to water. The plan was registered with Shanghai Jinshan District Ecological Environment Bureau.
BioFunction has prepared a comprehensive emergency plan for production safety, including response procedures for natural disasters (such as flood, rainstorm, typhoon and earthquake).
BioFunction has also developed a water cut-off emergency plan, identified the response process for sudden water supply anomalies such as water quality abnormalities, power outages, water supply pipeline leaks, water supply facility failures, and water storage facility leaks at the site.
BioFunction prepares an emergency drill plan every year, which includes all the drill needs planned for the year (including water-related emergency drills), and the drill topics, participants, drill time, etc. are defined.

1.3.2 *Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped* Yes

Comment BioFunction tracked the readings of each water meter every month and carries out water balance analysis every quarter.
The site has recorded the income and input and output data via meter or estimation and developed a water balance map based on the data. The water balance map reflected the water inflows, losses, reuses, and outflows.

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.* No

Comment The site only had data on water usage and had not installed wastewater meters to quantify wastewater data. Therefore, it was unable to quantify the water balance.

Finding No: TNR-016921

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	BioFunction has developed a water quality monitoring inventory, which includes monitoring requirements for sewage, incoming water, drinking water, recycled water, and pure water for production, including monitoring points, monitoring methods, pollutant names, monitoring frequency, and control standards. For example: - Wastewater (industrial and domestic wastewater discharged together): • According to the requirements of EIA, the site regularly entrusts a third-party laboratory to test the discharged wastewater • The site has installed online monitoring facilities at the wastewater discharge outlet to monitor pH and COD in real-time • Internal laboratory conducts daily testing of industrial wastewater discharge outlet and wastewater treatment processes - Rainwater: • The site entrusts a third-party laboratory to test the water quality of rainwater outlets twice a year. - Drinking water • The site entrusts a third-party laboratory once a year to test the water quality of the municipal water supply for domestic use. • The site provides employees with free drinking water, equipped with 20 water dispensers, and entrusts a third-party laboratory once a year to test the quality of drinking water, monitoring the main parameters of the sanitary standards for domestic drinking water (GB5749-2022), such as total coliforms, color, turbidity, odor and taste, visible matter to the naked eye, and total hardness. • The site conducts annual water quality testing on the nearby River. The site entrusts third-party laboratories for testing every year. The testing standards are based on the Surface Water Environmental Quality Standard GB3838-2002, and the testing parameters include COD, total number of colonies, coliform, etc.

1.3.5 *Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.* — Yes

Comment	The site has established a chemical inventory, which includes information on the names, suppliers, uses, quantities, storage locations, quantities, and compatibility of the chemicals used on the site. And a map was drawn, identifying and marking the storage and use areas of chemicals. The site has compiled a inventory of rainwater pollution sources, identified potential sources of rainwater pollution, including sewage treatment stations, hazardous waste warehouses, chemical warehouses, chemical storage areas, wastewater storage tanks, and exhaust gas treatment facilities, and drew a distribution map of potential pollution sources. In addition, the site has also drawn diagrams of domestic and industrial wastewater pipelines, including the layout of the wastewater pipeline network, the location of septic tanks, wastewater treatment facilities, and the location of wastewater tanks.

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	As per the site tour, document review, and interview, no IWRA is within 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	The water-related costs sheet was provided for review, including 1. Water supply invoice 2. Cost of wastewater discharge rights 3. Cost of Water/Wastewater Treatment (including electricity of pumps, consumables, depreciation and maintenance of facilities, etc.) 4. Water/wastewater/rainwater quality testing, peripheral water testing. Operation and maintenance of onsite WWTP and wastewater online testing facilities 5.AWS related expenses The water-related revenues included: Income from frugal projects	
1.3.8	*Levels of access and adequacy of WASH at the site shall be identified.*	Yes
Comment	BioFunction provides canteen for employees. Sanitation and hygiene installations and water purifiers are also installed at office buildings and all workshops. The WASH installations fully comply with the national “Hygienic Standards for the Design of Industrial Enterprises” (GBZ 1-2010). The site also conducts WBCSD self-assessment to evaluate the level of onsite WASH. The result is satisfied.	
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	The site had identified main raw material and packaging suppliers within the site's catchment but had not yet fully obtained data on indirect water use. Currently only two suppliers within the site's catchment had been investigated. ***Finding No: TNR-016922***	
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	The embedded water uses quantity of outsourced service providers, such as solid waste and hazardous waste disposal units and catering service unit, had not yet been confirmed/quantified. ***Finding No: TNR-016923***	
1.4.3	*Advanced Indicator* *The embedded water use of primary inputs in catchment(s) of origin shall be quantified.*	No
Comment	A list of raw materials accounting for over 5% of the total weight or cost of the final product had not yet been determined, and embedded water use at the catchment of origin had not been calculated. ***Finding No: TNR-016924***	
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	Water governance initiatives was identified in Catchment Background Survey Report by BioFunction; The initiatives included national, provincial and local level, including the catchment development plan, industrial development plan, environmental and ecological conservation plan etc.	

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 The site presents a laws and regulations list that contains all legal actions.
The document is used by the site to monitor the status of each of the site's legal obligations.

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 water balance of the catchment is not available.
The Catchment Background Survey Report uses the water balance data of Shanghai City as a simulation and provides a detailed analysis of water balance from 2013 to 2022.
The water balance is analyzed based on the rainfall (mm), precipitation (m3), surface water resources (m3), groundwater resources(m3), water diversion (m3), displacement(m3), storage(m3), consumption(m3), total water supply (m3) and total water consumption(m3). All the data is collected from government website and publishing report.
According to existing data, in 2023, the average annual precipitation in Shanghai was 1,280.6 millimeters, which is considered an above-average year. The annual surface runoff was 3.48 billion cubic meters, with 670 million cubic meters of non-renewable groundwater and surface water resources, totaling 4.15 billion cubic meters of local water resources. In 2023, the inflow from the Taihu Basin was 19.54 billion cubic meters, and the inflow from the mainstream of the Yangtze River was 696.5 billion cubic meters.
In 2023, the total water extraction (utilization) volume for the whole city was 7.327 billion cubic meters. By water source, surface water extraction was 7.308 billion cubic meters, groundwater extraction was 0.01 billion cubic meters, and water extraction from other sources was 0.19 billion cubic meters; by type of water use, agricultural water use was 1.368 billion cubic meters, industrial water use was 3.462 billion cubic meters, domestic water use was 2.418 billion cubic meters, and ecological environment water use was 0.079 billion cubic meters.
In 2023, the per capita annual water use in the city was 295 cubic meters, water use per ten thousand yuan of GDP was 16 cubic meters, water use per ten thousand yuan of industrial added value was 32 cubic meters, and the effective utilization coefficient of agricultural irrigation water was 0.739.
Therefore, the local water resources in the areas of Shanghai covered by the Wusong River Basin were insufficient and rely on the passing water sources such as the Yangtze River and Taihu Lake.

The site implemented some actions to achieve water balance, such as
1. Optimization of the CIP process to reduce water usage.
2. Reuse the wastewater of water purification process.
3. Reuse the condensation water.

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 Background Survey Report provides a detailed analysis of water quality for the Shanghai City, (covered the nearby area of the catchment). The site obtained the relate information from the government website. (Mainly from the Environmental and Ecological Bureau).
The data includes the water quality of the water source, the final discharged water body, the water from municipal water plant.
The data will be published monthly or annually; therefore, the annual variances could be identified.
In recent years, the surface water environment quality in Shanghai City has continued to improve. However, according to monthly monitoring data in 2023, the surface water quality in Shanghai City is still unstable, with some sections reaching Class III water quality in some months and severely deteriorating during the flood season.

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	The Catchment Background Survey Report lists the Important Water-Related Area of the catchment. The Important Water-Related Areas are collected from government published documents, including 'Ecological protection red line of Shanghai', Drinking water resource protection areas list'. The status of the IWRAs are collected from the manage authorities and descripted in the list.	
1.5.6	*Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.*	Yes
Comment	The Catchment Background Survey Report lists the existing and planned water-related infrastructure including water supply, flood control, and drainage, wastewater treatment, emergency response at provincial, catchment, and city levels, and water-related objectives. Based on the available information, the water-related infrastructure in the catchment is relatively good.	
1.5.7	*The adequacy of available WASH services within the catchment shall be identified.*	Yes
Comment	The site obtained the WASH status in Shanghai City from Shanghai Statistical Yearbook for 2023, including the tap water penetration rate, wastewater treatment rate and other data. Overall, the WASH services is good in Shanghai City.	
1.5.8	*Advanced Indicator* *Efforts by the site to support and undertake catchment level water-related data collection shall be identified.*	Yes
Comment	The site conducts annual water quality testing on the nearby River. The site entrusts third-party laboratories for testing every year. The testing standards are based on the Surface Water Environmental Quality Standard GB3838-2002, and the testing parameters include COD, total number of colonies, coliform, etc. The test report is shared with stakeholders such as municipal wastewater treatment infrastructure and surrounding enterprises.	
1.5.9	*Advanced Indicator* *The adequacy of WASH provision within the catchments of origin of primary inputs shall be identified.*	No
Comment	The adequacy of WASH provision within the catchments of origin of primary inputs had not yet been confirmed. ***Finding No: TNR-016925***	
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 shared water challenge is more based on the site's own investigation and analysis, and the site did not fully consult with stakeholders. ***Finding No: TNR-016926***	
1.6.2	*Initiatives to address shared water challenges shall be identified.*	Yes
Comment	Initiatives to address shared water challenges are included in the Catchment Background Report identifies the shared challenges within the catchment.	

1.6.3	*Advanced Indicator* *Future water issues shall be identified, including anticipated impacts and trends*	No
Comment	The site did not identify future water issues, and their impacts and trends had not been predicted. ***Finding No: TNR-016927***	
1.6.4	*Advanced Indicator* *Potential water-related social impacts from the site shall be identified, resulting in a social impact assessment with a particular focus on water.*	No
Comment	The site did not identify its potential water-related social impacts or conduct a social impact assessment with a particular focus on water. ***Finding No: TNR-016928***	
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	The site identified its water risks and summarized in a spreadsheet. They categorized the water risk into physical risk, regulatory risk and reputation risk. The spreadsheet that lists the water risks faced by the site. The site scored the frequency of the risk and severity of the impact, and then multiple two scores to evaluate the level of the risk. The potential impact and control measures are also included in the spreadsheet.	
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 site has identified five major business opportunities considering how the site may participate. The potential value includes cost saving, image enhancement, sustainability of enterprise operation, and customer trust, and ranked their importance.	
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	BioFunction has identified relevant catchment best practice for water governance including: • Regularly review and update a comprehensive water management plan. • Assign responsibility for sustainable water management to senior staff. • Collaborate with peer organizations and stakeholders to promote sustainable water management. • Demonstrate to the relevant authorities the organization's commitment to good water governance and sustainable management. • Promote the organization's own sustainable water management practices and serve as a role model for others. • Implement AWS (Alliance for Water Stewardship) standard certification and strive for continuous improvement. https://www.tci-bio.com.cn/wp-content/uploads/2025/02/%E5%8F%AF%E6%8C%81%E7%BB%AD%E6%B0%B4%E7%AE%A1%E7%90%86%E5%A7%94%E5%91%98%E4%BC%9A%E7%BB%84%E7%BB%87%E6%9E%B6%E6%9E%84.pdf	

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.*	No
Comment	The site did not identify the relevant sector and/or catchment best practice for water balance. ***Finding No: TNR-016929***	
1.8.3	*Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.*	No
Comment	The site did not identify relevant sector and/or catchment best practice for water quality. ***Finding No: TNR-016930***	
1.8.4	*Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.*	No
Comment	The site did not identify relevant catchment best practice for site maintenance of Important Water-Related Areas. ***Finding No: TNR-016931***	
1.8.5	*Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.*	No
Comment	The site did not identify relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services. ***Finding No: TNR-016932***	

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 top manager of BioFunction. The commitment includes all the necessary element and has been displayed on TCI Group's Website.	
2.1.2	*Advanced Indicator* *A statement that explicitly covers all requirements set out in Indicator 2.1.1 and is signed by the organization's senior-most executive or governance body and publicly disclosed shall be identified.*	✓ Yes
Comment	A water stewardship commitment to follow all the AWS core criteria has been signed by the top manager of BioFunction. The commitment includes all the necessary element and has been displayed on TCI Group's Website. https://www.tci-bio.com.cn/wp-content/uploads/2024/10/AWS%E6%89%BF%E8%AF%BA%E4%B9%A6.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	BioFunction disclosed the information of its water management organizational structure and members of the compliance responsible team on its website. BioFunction has prepared its own Sustainable Water Management Manual, which defines the water management responsibilities of each department. BioFunction has also established a procedure to ensure the operation of BioFunction meet the provisions of Laws and Regulations Identification, acquisition and evaluation Control Procedure (BIOS8-P-QA-022). https://www.tci-bio.com.cn/wp-content/uploads/2025/02/%E5%8F%AF%E6%8C%81%E7%BB%AD%E6%B0%B4%E7%AE%A1%E7%90%86%E5%A7%94%E5%91%98%E4%BC%9A%E7%BB%84%E7%BB%87%E6%9E%B6%E6%9E%84.pdf	
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	BioFunction has developed a water stewardship strategy and announced it on its official website. The strategy expounds BioFunction's long-term plan for water stewardship in terms of standardized management, corporate social responsibility and implementation of best practices, including: BioFunction Commitment: • Respect the right of every employee to healthy water usage; • Promote water conservation and sustainable development awareness among employees through continuous communication and education; • Encourage employees to actively contribute ideas and suggestions for energy and water conservation and sustainable development, support and recognize everyone's best practices in sustainable water management, and continuously optimize company operations; • Implement a sustainable water resource management plan with good water resource management, sustainable water balance, and good water quality management by reasonably allocating resources in an open and transparent manner; • Work with external stakeholders to focus on sustainable planning, water basin risks, and opportunities within the basin, cooperate efficiently, carry out meaningful actions, embrace opportunities, and respond to challenges and risks, thereby building a healthy ecological culture and a good water management system; • Publicize the implementation progress of the sustainable water resource management plan to relevant personnel in an appropriate manner; • Aim to achieve sustainable water management outcomes defined by AWS standards and maintain a leading position in sustainable water management through continuous improvement.	
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	BioFunction has developed a Water Stewardship Plan (Year 2024), which specifies targets, required actions, measurement, status, effectiveness evaluation, accountable and deadline, etc. The Water Stewardship Plan is associated with five main outcomes of AWS, including good water governance, sustainable water balance, good water quality status, IWRA and WASH, such as: • Arrange staff to attend AWS training and obtain the certificate. • Investigate the water risk of suppliers' location. • Through continuous process improvement, water consumption of ten thousand yuan output value in 2024 was less than 0.15 m3/ ten thousand yuan output value. •The quality of the discharged wastewater meets 100% of the internal control requirements of the site, and the wastewater internal control index of BIOFUNCTION is lower than the local wastewater discharge requirements. • Use WBCSD to evaluate the WASH of the site and the final result received 80%. • Monitor the water quality of surface water near BioFunction twice every year. • Organized clean beach and river patrol activity at least once a year.	
2.3.3	*Advanced Indicator* *The site's partnership/water stewardship activities with other sites within the same catchment (which may or may not be under the same organisational ownership) shall be identified and described.*	Yes

Comment	On June 24, 2024, BioFunction cooperated with the Jinshan District Ecological and Environmental Bureau to carry out environmental protection publicity activities aimed at primary and secondary school students. BioFunction invited the students to visit the site and introduce the wastewater, waste gas, noise and etc. in the site.	
2.3.4	*Advanced Indicator* *The site's partnership/water stewardship activities with other sites in another catchment(s) (either under same corporate structure or with another corporate site) shall be identified.*	Yes
Comment	BioFunction jointly promote AWS projects with Taiwan subsidiary, including training and experience sharing.	
2.3.5	*Advanced Indicator* *Stakeholder consensus shall be sought on the site's water stewardship plan. Consensus should be achieved on at least one target. A list of targets that have consensus and in which stakeholders are involved shall be identified.*	No
Comment	The site did not communicate to stakeholders on its water stewardship plan to sought consensus.	
	Finding No: TNR-016897	
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	BioFunction has established Emergency environmental emergency plan, it states the emergency environmental emergency process and business continuity strategy, the content covers chemical leakage, wastewater, solid waste, emergency shutdown, water shutdown, power outage, gas shutdown, storm weather emergency environment, etc. The emergency plan had been registered in Shanghai City Jinshan District Ecological and Environmental Bureau. BioFunction has identified its water risks, and corresponding strategies to mitigate water risks are developed. The site developed these via study of the government's water-related plan or consultation with the government.	
2.4.2	*Advanced Indicator* *A plan to mitigate or adapt to water risks associated with climate change projections developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.*	No
Comment	The site did not identify a plan to mitigate or adapt to water risks associated with climate change projections developed in co-ordination with relevant public-sector and infrastructure agencies.	
	Finding No: TNR-016898	

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	1. BioFunction actively cooperates with the government supervision department to conduct supervisory inspections and visits and attend the meetings organized by government. 2. BioFunction has established a procedure to ensure the operation of BioFunction to meet the provisions of relevant laws, regulations and other requirements. And conducts compliance evaluation on laws and regulations every six month and keeps records. 3. On February 29-March 1, 2024, 2 employees were invited to participated in a two-days' AWS Standard System Training and obtained the completion certificate.	
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	BioFunction collects local law and regulation requirements, industry norms, customer requirements and other compliance requirements, from which it identifies the applicable provisions and compiles them into an Environmental Compliance Obligation Checklist. BioFunction evaluates itself based on the compliance requirements it collects, and from the results of the evaluation, BioFunction meets the compliance requirements. The water rights are respected under legal and regulatory mechanisms, and there is no indigenous people in the catchment area.	
3.1.3	*Advanced Indicator* *Evidence of improvements in water governance capacity from a site-selected baseline date shall be identified.*	Yes
Comment	Compared with 2023, the site improved its water governance capacity in 2024 via following approaches: 1. BioFunction has developed the AWS Management Manual, to standardize the water stewardship activities. 2. BioFunction has established an Environment and Water Stewardship Committee to coordinate its environmental and water stewardship related affairs. An organization chart of the environment and water stewardship management team established, including the manager representative of the water stewardship and the responsible department. 3. On February 29-March 1, 2024, 2 employees were invited to participated in a two-days' AWS Standard System Training and obtained the completion certificate.	
3.1.4	*Advanced Indicator* *Evidence from a representative range of stakeholders showing consensus that the site is seen as positively contributing to the good water governance of the catchment shall be identified.*	Yes
Comment	BioFunction has made positive contributions to its own water management and the water management of the watersheds in which it operates and has received many awards. In 2023, BioFunction was awarded the honor of "2022 Shanghai City Water Conservation Enterprise" by Shanghai Water Affair Bureau and Shanghai City Economic and Information Committee. In October 2020, BioFunction was awarded the honor of " National-level Green Factory" by PRC Industry and Information Technology Department.	
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	BioFunction collects local law and regulation requirements and other compliance requirements, from which it identifies the applicable provisions and compiles them into an laws, regulations and other requirements Checklist. BioFunction has established a Laws and Regulations Identification, acquisition and evaluation Control Procedure (BIOS8-P-QA-022), which provides for the evaluation of compliance on a semi-annually basis and provides updated assessment forms and assessment reports. According to IPE and monitoring reports, the facility operated in accordance with laws and regulations.

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	BioFunction has established a procedure to ensure the operation of BioFunction meet the provisions of relevant laws, regulations and other requirements. BioFunction checked weekly and timely obtains updated information on laws and regulations and conducts compliance evaluation on laws and regulations every year and keeps records. The site has developed a water quality monitoring plan, including discharged wastewater, surface water to ensure that the drainage water quality meet the requirements of laws and regulations. A brief summary of monitoring point information and monitoring frequency is as follows: • Discharged wastewater 1. BioFunction has established water quality pollution management regulations, which include outsourced monitoring requirements for discharged water quality, including parameters and frequency; 2. BioFunction has installed online monitoring facilities at the wastewater discharge outlet to monitor the parameters of the discharged wastewater in real time. (COD, pH, □□) •Environmental water quality 2. River monitoring: One monitoring point at downstream in Laochanglouxiang River are monitored twice a year.

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	The site has developed a Water Stewardship Plan (Year 2024) improvement action list, which specifies targets, required actions, measurement, status, effectiveness evaluation, accountable and deadline, etc. 1. The government set 2024 water consumption limits for the site, which is 27,400 tons in first quarter, 26,900 tons in second quarter, 28,200 tons in third quarter and 23,300 in fourth quarter. Biofunction set an annual target of water usage is less than the government limit in its WSP and tracks the progress of its water usage target on a monthly basis. 2. BioFunction has set targets for water consumption of ten thousand yuan output value in 2024 was less than 0.15 m3/ ten thousand yuan output value in its WSP. The site tracks its water consumption of ten thousand yuan output value on a monthly basis. According to the data statistics and analysis records provided by the site, 1. Total water use amount: 19,486 tons in first quarter, 20,722 tons in second quarter, 16,292 tons in third quarter and 20,670 in fourth quarter for 2024. 2. Water use of ten thousand yuan output value: 0.107 m3/ ten thousand yuan output value in 2024.

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	The site has developed a Water Stewardship Plan (Year 2024) improvement action list, which specifies targets, required actions, measurement, status, effectiveness evaluation, accountable and deadline, etc. 1. BioFunction has set an annual target of water usage is less than the government's water abstraction limits of 27,400 tons in first quarter, 26,900 tons in second quarter, 28,200 tons in third quarter and 23,300 in fourth quarter for 2024 in its WSP and tracks the progress of its water usage target on a monthly basis. 2. BioFunction has set targets for water consumption of ten thousand yuan output value in 2024 was less than 0.15 m3/ ten thousand yuan output value in its WSP. The site tracks its water consumption of ten thousand yuan output value on a monthly basis. BioFunction has developed a proposal for improving water balance in 2024, with a total of 8 improvement measures approved, involving topics such as optimizing production processes to save water consumption and improve wastewater utilization, such as: 1. Reuse condensate water in steam system; 2. Optimize filling machine cleaning process to reduce the washing time; 3. Optimize production scheduling process to keep centralized production.	
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.	
3.3.4	*Voluntary Advanced Indicator* *The total volume of water voluntarily re-allocated (from site water savings) for social, cultural and environmental needs shall be quantified.*	N/A
Comment	The site does not perform this indicator.	
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	A series of water stewardship plans are implemented to achieve the site's water quality targets. According to the water quality monitoring plan, the site entrusts a third-party laboratory to test its various water quality. According to the test report and analysis record provided by the site, the water quality is 100% in line with its internal control standard. 1. BioFunction has developed a water quality monitoring plan and commissioned third-party laboratories to test the water quality of various sources, including discharged water, downstream of river near the site. 2. BioFunction set internal wastewater quality control targets that are 90% lower than discharge standards (BOD5, SS, NH3-N, TN, TP), and achieving 100% of the internal control targets by 2024.	
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	BioFunction has formulated an enterprise self-monitoring program for 2024, and outsourced third-party testing of discharged wastewater, and according to the test results, the wastewater all meets the discharge standards. BioFunction has also set internal control standards, and according to the results, BioFunction's wastewater is lower than the internal control standards.	
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	There are no Important Water-Related Areas in the site. Although there are no IWRAs within the BioFunction site, there is a great deal of concern about the status of IWRAs in the catchment and some effort has been made. For example: BioFunction has developed a yearly river patrol program and organizes staff to patrol the river. BioFunction also test the surface water quality at downstream in Laochanglouxiang River twice a year. On December 20, 2024, BioFunction organized clean beach and river patrol activity in Huanjinshui Lake, totally 14 persons attended the activity, patrolled 350 meters river and cleaned 17.97 kg garbage.	
3.5.2	*Advanced Indicator* *Evidence of completed restoration of non-functioning or severely degraded Important Water-Related Areas including where appropriate cultural values from a site-selected baseline date shall be identified. Restored areas may be outside of the site, but within the catchment.*	N/A
Comment	The site does not perform this indicator.	
3.5.3	*Advanced Indicator* *Evidence from a representative range of stakeholders showing consensus that the site is seen as positively contributing to the healthy status of Important Water-Related Areas in the catchment shall be identified.*	N/A
Comment	The site does not perform this indicator.	
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	1. The WASH installations fully comply with the national "Hygienic Standards for the Design of Industrial Enterprises" (GBZ 1-2010). 2. The site conducts WBCSD self-assessment to evaluate the level of onsite WASH and the final result was 83%. 3. The site carried out a questionnaire survey on employee satisfaction regarding drinking water, sanitation, and facilities, and according to the survey results, the satisfaction was about 75%. 4. The site conducted regular testing of drinking water and secondary water supply to ensure safe drinking water. 5. Sanitation and hygiene installations were checked and cleaned daily, water purifiers were checked daily and maintained when needed.	
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	No evidence is showed that the site is impinging on the human right to safe water and sanitation of communities through their operations according to the interviews with the site's employees, local community and local government authorities.	
3.6.3	*Advanced Indicator* *A list of actions taken to support the provision to stakeholders in the catchment of access to safe drinking water, adequate sanitation and hygiene awareness shall be identified.*	N/A
Comment	The facility does not perform this indicator.	

3.6.4	*Advanced Indicator:* *In catchments where WASH has been identified as a shared water challenge, evidence of efforts taken with relevant public-sector agencies to share information and to advocate for change to address access to safe drinking water and sanitation shall be identified.*	N/A
Comment	The facility does not perform this indicator.	
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.*	No
Comment	The site only investigates the water risk of part supplier's location, did not set indirect water use targets. ***Finding No: TNR-016911***	
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.*	No
Comment	The site did not take actions in the catchment with suppliers and service providers. ***Finding No: TNR-016912***	
3.7.3	*Advanced Indicator* *Actions taken to address water related risks and challenges related to indirect water use outside the catchment shall be documented and evaluated.*	N/A
Comment	The site does not perform this indicator.	
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	The site actively cooperates with the government supervision department to conduct supervisory inspections and visits. The site keeps close contact with local water-related infrastructure owners through many ways such as WeChat or phone call.	
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
1. BioFunction has developed its own Sustainable Water Management Manual, to standardize its water management activities.
2. BioFunction has established an Environment and Water Stewardship Committee to coordinate its environmental and water management related affairs. An organization chart of the environment and water stewardship management team established, including the manager representative of the water stewardship and the responsible department.
3. On February 29-March 1, 2024, 2 employees were invited to participated in a two-days' AWS Standard System Training and obtained the completion certificate.
4. In 2023, BioFunction was awarded the honor of "2022 Shanghai City Water Conservation Enterprise" by Shanghai Water Affair Bureau and Shanghai City Economic and Information Committee.
5. In October 2020, BioFunction was awarded the honor of " National-level Green Factory" by PRC Industry and Information Technology Department.

3.9.2 *Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.* — No

Comment
The site had not identified relevant sector and/or catchment best practice for water balance, and no evidence of actions implementation towards achieving best practice.

Finding No: TNR-016913

3.9.3 *Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.* — No

Comment
The site had not identified relevant sector and/or catchment best practice for water quality, and no evidence of actions implementation towards achieving best practice.

Finding No: TNR-016914

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.* — No

Comment
The site had not identified relevant sector and/or catchment best practice for site maintenance of Important Water-Related Areas, and no evidence of actions implementation towards achieving best practices.

Finding No: TNR-016915

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

Comment
1. The WASH installations fully comply with the national "Hygienic Standards for the Design of Industrial Enterprises" (GBZ 1-2010).
2. The site conducts WBCSD self-assessment to evaluate the level of onsite WASH and the final result was 83%.
3. The site carried out a questionnaire survey on employee satisfaction regarding drinking water, sanitation, and facilities, and according to the survey results, the satisfaction was about 75%.
4. The site conducted regular testing of drinking water and secondary water supply to ensure safe drinking water.
5. Sanitation and hygiene installations were checked and cleaned daily, water purifiers were checked daily and maintained when needed.

3.9.6 *Voluntary Advanced Indicator*
Achievement of identified best practice related to targets in terms of good water governance shall be quantified. — Yes

Comment
BioFunction's good performance in water governance has received honors and recognition from governmental departments.
1. In 2023, BioFunction was awarded the honor of "2022 Shanghai City Water Conservation Enterprise" by Shanghai Water Affair Bureau and Shanghai City Economic and Information Committee.
2. In October 2020, BioFunction was awarded the honor of " National-level Green Factory" by PRC Industry and Information Technology Department.

3.9.7	*Voluntary Advanced Indicator* *Achievement of identified best practice related to targets in terms of sustainable water balance shall be quantified.*	N/A
Comment	The site does not perform this indicator.	
3.9.8	*Voluntary Advanced Indicator* *Achievement of identified best practices related to targets in terms of water quality shall be quantified*	N/A
Comment	The site does not perform this indicator.	
3.9.9	*Voluntary Advanced Indicator* *Achievement of identified best practices related to targets in terms of the site's maintenance of Important Water-Related Areas have been implemented.*	N/A
Comment	The site does not perform this indicator.	
3.9.10	*Voluntary Advanced Indicator* *Achievement of identified best practice related to targets in terms of WASH shall be quantified.*	Yes
Comment	1. The WASH installations fully comply with the national "Hygienic Standards for the Design of Industrial Enterprises" (GBZ 1-2010). 2. The site conducts WBCSD self-assessment to evaluate the level of onsite WASH and the final result was 83%. 3. The site carried out a questionnaire survey on employee satisfaction regarding drinking water, sanitation, and facilities, and according to the survey results, the satisfaction was about 75%. 4. The site conducted regular testing of drinking water and secondary water supply to ensure safe drinking water. 5. Sanitation and hygiene installations were checked and cleaned daily, water purifiers were checked daily and maintained when needed.	
3.9.11	*Voluntary Advanced Indicator* *A list of efforts to spread best practices shall be identified.*	N/A
Comment	The site does not perform this indicator.	
3.9.12	*Voluntary Advanced Indicator* *A list of collective action efforts, including the organizations involved, positions of responsible persons of other entities involved, and a description of the role played by the site shall be identified.*	N/A
Comment	The site does not perform this indicator.	
3.9.13	*Voluntary Advanced Indicator* *Evidence of the quantified improvement that has resulted from the collective action relative to a site-selected baseline date shall be identified and evidence from an appropriate range of stakeholders linked to the collective action (including both those implementing the action and those affected by the action) that the site is materially and positively contributing to the achievement of the collective action shall be identified.*	N/A
Comment	The site does not perform this indicator.	

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 evaluates the overall performance in 2024 according to the water stewardship plan. The site review water stewardship plan and check each performance of targets in the plan. The site implemented 4 water-saving projects in 2024, such as optimization of the CIP process to reduce water usage, reuse the wastewater of water purification process, in 2024, the site had reduced water cost about 80,0000 yuan RMB. The site also organized clean beach and river patrol activity in Huanjinshui Lake, improved the lake's environmental condition.	
4.1.2	*Value creation resulting from the water stewardship plan shall be evaluated.*	No
Comment	The site review water stewardship plan and check each performance of targets in the plan, but did not evaluate its value creation resulting from the implementation of water stewardship plan. ***Finding No: TNR-016916***	
4.1.3	*The shared value benefits in the catchment shall be identified and where applicable, quantified.*	No
Comment	The site evaluates the overall performance in 2024 according to the water stewardship plan. The site review water stewardship plan and check each performance of targets in the plan. However, the site did not identify the shared value benefits in the catchment. ***Finding No: TNR-016917***	
4.1.4	*Advanced Indicator* *A governance or executive-level review, including discussion of shared water challenges, water risks, and opportunities, and any water-related cost savings or benefits realized, and any relevant incidents shall be identified.*	N/A
Comment	The site does not perform this indicator.	
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	BioFunction communicates its sustainable water management performance with various stakeholders through questionnaires and disclosed on its official website. https://www.tci-bio.com.cn/wp-content/uploads/2025/02/24%E5%B9%B4%E5%8F%AF%E6%8C%81%E7%BB%AD%E6%B0%B4%E7%AE%A1%E7%90%86%E8%A1%8C%E5%8A%A8%E8%AE%A1%E5%88%92%E8%A1%A8.pdf The site also inserted the website link in the questionnaires and consult stakeholders' suggestion through questionnaires and phone call.	
4.3.2	*Voluntary Advanced Indicator* *The site's efforts to address shared water challenges shall be evaluated by stakeholders. This shall include stakeholder reviewing of the site's efforts across all five outcome areas, and their suggestions for continual improvement.*	N/A
Comment	The site does not perform this indicator.	
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	BioFunction has developed a 'AWS Management Manual', which specifies that its water stewardship plan shall be modified and adapted to incorporate any relevant information and lessons learned from the evaluations annual process, and once a year the AWS Leader meets with management to set goals for the upcoming year and evaluate the previous year's performance.	

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, and communication on sustainable water management issues on its official website. https://www.tci-bio.com.cn/esgs/aws/	
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 site has communicated its water stewardship plan with stakeholders through questionnaires, interviews, and other forms, including how the water stewardship plan contributes to the outcomes of the AWS Standard.	
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 of 2024, including quantified performance against targets on its official website. https://www.tci-bio.com.cn/esgs/aws/	
5.3.2	*Advanced Indicator* *The site's efforts to implement the AWS Standard shall be disclosed in the organization's annual report.*	N/A
Comment	The facility does not perform this indicator.	
5.3.3	*Voluntary Advanced Indicator* *Benefits to the site and stakeholders from implementation of the AWS Standard shall be quantified in the organization's annual report.*	N/A
Comment	The facility does not perform this indicator.	
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 shared water-related challenges and the effort to address shared water challenges on its official website. https://www.tci-bio.com.cn/esgs/aws/	
5.4.2	*Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.*	Yes

Comment	The site disclosed the effort to address shared water challenges, internal governance in relation to water, and communication on sustainable water management issues on its official website. The site advocates for stakeholder participation through various means, such as conducting surveys, visiting stakeholders, and initiating joint actions with stakeholders.	
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	Communication Management Procedure (Document No.: BIOS8-P-AD-004, Rev. 00, issue date: 10 March 2025) was developed to manage non-conformance and related corrective actions. There was no water-related compliance violation identified in past a few years.	
5.5.2	*Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable.*	Yes
Comment	Communication Management Procedure (Document No.: BIOS8-P-AD-004, Rev. 00, issue date: 10 March 2025) was developed to manage non-conformance and related corrective actions. There was no water-related compliance violation identified in past a few years.	
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	Communication Management Procedure (Document No.: BIOS8-P-AD-004, Rev. 00, issue date: 10 March 2025) was developed to manage non-conformance and related corrective actions. There was no water-related compliance violation identified in past a few years.	

Photographic Evidence from Audit

Yes

Emergency washing facility.JPG

Factory name.JPG

Wastewater treatment plant.JPG

Factory gate.JPG

Chemical storage.JPG

Stormwater discharge point.JPG

Pure water treatment plant.JPG

Wastewater discharge point.JPG

Hazardous waste warehouse.JPG

Wastewater treatment process onsite.JPG

Previous Findings		
	All non-conformities raised in the previous audit have been satisfactorily closed.	N/A
Comment	N/A due to this is an Initial Certification Audit	