CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001846

WSAS WATER STEWARDSHIP ASSURANCE SERVICES

SITE DETAILS

Site: **BAT Korea - Sacheon**
Address: Yucheon-ri 889, Sanam-myeon, 52530, Sacheon, KOREA, REPUBLIC OF
Contact Person: Dohyun Kim
AWS Reference Number: AWS-000419
Site Structure: Single Site

CERTIFICATION DETAILS

Certification status: Certified Platinum
Date of certification decision: 2025-Dec-11
Validity of certificate: 2028-Dec-10

AUDIT DETAILS

Audited Service(s): AWS Standard v2.0 (2019)
Audit Type(s): Re-Evaluation Audit
Audit Start Date: 2025-Nov-03
Audit End Date: 2025-Nov-06
Lead Auditor: Sa-Myeong Gim

Site Participants:
Taejin Park, Sustainability Manager
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WSAS
2 Quality StreetNorth Berwick, EH39 4HW, UNITED KINGDOM

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AUDIT TIMES

Dates	Audit from	Duration	Auditor	Description
2025-Nov-03	09:00:00 - 17:00:00	08:00	Sa-Myeong Gim	Opening Meeting, Site&Catchment Tour, Stakeholder Interview, Document Review
2025-Nov-04	09:00:00 - 17:00:00	08:00	Sa-Myeong Gim	Document Review
2025-Nov-05	09:00:00 - 17:00:00	08:00	Sa-Myeong Gim	Document Review
2025-Nov-06	09:00:00 - 17:00:00	08:00	Sa-Myeong Gim	Document Review, Closing Meeting

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ADDITIONAL INFO

Summary of Audit Findings: During the re-evaluation audit, no non-conformity and 7 observations were raised.

The audit team recommends certification of BAT Korea at Platinum level.

Scope of Assessment: The scope of services covers the recertification audit for assessing conformity of BAT Korea - Sacheon (BAT Korea) against the AWS International Water Stewardship Standard Version 2.

The Sacheon factory, operated by BAT Korea, is situated within the Sacheon Industrial Complex at 141, Gongdan 1-ro, Sanam-myeon, Sacheon-si, Gyeongsangnam-do, Republic of Korea, 52530. It is one of the factories owned by British American Tobacco.
Commencing operations in 2002, the factory spans an area of 106,047.6 m², with a floor area ratio of 54.35%, and a total building area of 50,956.16 m². Approximately 713 employees and staff work at this facility. The majority of employees travel to the factory from Sacheon-si and Jinju-si, which are located approximately 4.4 km and 17 km away from the factory, respectively.
The factory operates its own wastewater treatment facility, water purification facility, water reusing system, Cooling tower, Boiler, Fire water system, Canteen, etc. In September 2025, the site installed a new condensate water and waste-heat recovery system for steam reuse.
The site specializes in the production of both factory-made cigarettes (FMC) and new categories (NC), also known as heating products (HP). Recognized as a strategic export hub within BAT, the Sacheon factory plays a significant role in the company's operations. In 2024, BAT Sacheon Factory relocated the FMD to a space previously used as a warehouse to expand the production facilities for HP. Additionally, a single-story office building was newly constructed right next to it.

The BAT Korea is located within the Nakdong River catchment to a large extent, and within the Nam River Dam catchment, Nam River catchment, and Gahwa Stream catchment (three different sub-catchments) to a lesser extent. The Nam River is the first major tributary of the Nakdong River, originating from Mount Namdeogyu, Jiri, and flowing for a total length of 189.83 km before joining the Nakdong River. The river is referred to as the Nam River from Jinyang Lake, which is created by the Namgang Dam, to its confluence with the Nakdong River. The catchment area of the Nam River is 3,467.52 km², and Jinyang Lake serves as an important water source, providing an annual irrigation water volume of 60 million cubic meters to 7,500 ha of farmland in the lower reaches of the Nam River and 2,300 ha of farmland in the lower reaches of the Nakdong River, as well as supplying approximately 100,000 cubic meters of water per day to the water supply systems of Jinju and Sacheon City.

The audit was conducted on-site from November 03 to 06, 2025.
The site visit included the assessment of the on-site water-related infrastructures, reuse system, and WASH facilities. Also Duryang reservoir, the catchment IWRA was visited during this audit.

FINDINGS

NUMBER OF FINDINGS PER LEVEL

Observation	7

FINDING DETAILS

Finding No:	TNR-021813
Checklist Item No:	1.4.3
Status:	Open
Finding level:	Observation
Checklist item:	Advanced Indicator The embedded water use of primary inputs in catchment(s) of origin shall be quantified.
Findings:	Although the assessment has not yet quantified indirect water use at the catchment level based on the specific locations of tobacco leaf farms, it represents a meaningful first step in recognizing the need for improvement in indirect water management. The site is encouraged to obtain more detailed and localized data to support the planning and implementation of future actions aimed at improving indirect water use performance.

Finding No:	TNR-021816
Checklist Item No:	1.5.5
Status:	Open
Finding level:	Observation
Checklist item:	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.
Findings:	The site has made substantial progress in systematically identifying and assessing IWRAs. However, the current IWRA list excludes three ecologically significant areas — the endangered-species habitats identified by the National Institute of Ecology, Gwangpo Bay, and the Sacheon Bay tidal flats. The site is encouraged to consult with relevant scientific institutions and NGOs to verify and incorporate these areas into the IWRA mapping and assessment process.

Finding No:	TNR-021812
Checklist Item No:	1.5.9
Status:	Open
Finding level:	Observation
Checklist item:	Advanced Indicator The adequacy of WASH provision within the catchments of origin of primary inputs shall be identified.
Findings:	Although the assessment has not yet evaluated WASH adequacy at the catchment level based on the specific locations of tobacco leaf farms, it represents a meaningful first step in recognizing the need for WASH improvement within the site's supply chain. The site is encouraged to obtain more detailed and localized data to support future actions aimed at enhancing WASH conditions in its sourcing regions.

Finding No:	TNR-021817
Checklist Item No:	2.3.2
Status:	Open
Finding level:	Observation
Checklist item:	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.
Findings:	The Water Stewardship Plan shows notable improvement in clarity and target measurability; however, the exclusion of tobacco leaf cultivation from the supplier water reduction target undermines its effectiveness. The site is encouraged to reassess its indirect water use targets to cover the full scope of its supply chain water footprint to set a meaningful reduction goal in the next update of the WSP.

Finding No:	TNR-021814
Checklist Item No:	2.4.2
Status:	Open
Finding level:	Observation
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 has taken commendable steps to coordinate with K-water and local authorities to address flood-related risks linked to climate change projections. Nevertheless, the current engagement remains ad-hoc and lacks an established adaptation plan with defined actions, monitoring indicators, and evaluation criteria.

Finding No:	TNR-022404
Checklist Item No:	3.5.2
Status:	Open
Finding level:	Observation
Checklist item:	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.
Findings:	The site has progressed on the 2025 interim targets such as removing 10% of invasive species coverage and achieving a 5% improvement in water quality and aquatic ecosystem conditions, by carrying out one invasive species removal activity. As restoration efforts have not been completed yet, evidence is not yet available to demonstrate measurable improvements in water quality or ecological conditions.

Finding No:	TNR-021818
Checklist Item No:	4.1.2
Status:	Open
Finding level:	Observation
Checklist item:	Value creation resulting from the water stewardship plan shall be evaluated.
Findings:	While the site has identified and quantified the value generated from water-related investments and operational savings, the financial assessment remains incomplete. The assessment does not yet include initial investment costs for the water reuse facility, nor does it evaluate the reduction in discharge fees resulting from the decreased effluent volume to the public wastewater treatment plant.

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Report Details

Report	Value
Report prepared by	Sa-Myeong Gim
Report approved by	Carla Schmidt Oberdiek
Report approved on (Date)	08 December 2025

Surveillance

Proposed date for next audit
2026-Nov-02

Stakeholder Announcements

Catchment Information

Site's Catchment Area.png

Catchment Information

1. Catchment Name
The site is located within the Nakdong River catchment on a larger scale and within the Nam River Dam catchment, Nam River catchment, and Gahwa Stream catchment (three different sub-catchments) on a smaller scale.

2. Water Supply & Discharge Catchment
The site uses water supplied by K-water from Jinyang Lake, which was formed by Namgang Dam. Treated water is discharged into Sacheon Bay through a public wastewater treatment plant, and Sacheon Bay is connected to the South Sea via Samcheonpo.

3. Groundwater Aquifers
Groundwater is not used.

4. Catchment Water Service Providers
The BAT facility receives its water supply from K-Water.
Water supply source: Namgang Dam (Jinyang Lake)
Water treatment facility: Sacheon Water Treatment Plant, operated by K-water (Korea Water Resources Corporation)
Wastewater treatment facility: Sacheon Public Wastewater Treatment Plant discharge its effluent into Sacheon Bay
Stormwater discharge: As stormwater is not utilised, it is discharged through the stormwater drainage system to Sacheon Bay

5. Catchment Features
Namgang Dam serves as the primary water source, providing relatively stable water resources; however, continuous monitoring is necessary.
Due to the limited storage capacity of Namgang Dam, there is a risk of flooding in nearby areas.
A wetland protection area (Gwangpo Bay) is located near Sacheon Bay.
Water from Namgang Dam is supplied to nearby areas and flows into local rivers.
This catchment falls under a temperate climate, experiencing high rainfall in summer and relatively low precipitation in winter.
Water resources in the catchment are primarily used for industrial (Jinsa industrial complex) and domestic.

Client Description and Site Details

BAT Korea Site boundary.png

Client/Site Background

1. Site Location
Gongdan 1-ro 141, Samnam-myeon, Sacheon-si, Gyeongsangnam-do, South Korea

2. Briefly Describe Surroundings
The facility is located within the Jinsa industrial complex, with some residential areas nearby and close proximity to Sacheon Bay.

3. Describe What the Site Produces
The BAT facility produces tobacco products. Water is used in both the production processes and utility operations.

4. Describe the Water-Related Infrastructure
(1) Water Sources on Site: Water is supplied from the public water supply system (local water supply sourced from Namgang Dam) and stored in water tank. No wells or additional water sources are present on-site.
(2) Cooling Towers: Cooling towers are operated for production processes.
(3) Rainwater Harvesting Infrastructure: No rainwater harvesting facilities, as stormwater is not utilised.
(4) Fire Water: Water from the incoming water tank is directly used for firefighting, with no separate storage facility.
(5) Wastewater Treatment Facilities: The site operates its own wastewater treatment facility.
(6) Water reuse system: Ultra Filter (UF) and Reverse Osmosis (RO) being installed. UF-accepted water goes to scrubbers and cooling towers, while RO-accepted water is used for boiler feed.
(7) Boiler condensate return: Condensate water and waste-heat recovery system for steam reuse in operation.

5. Describe Where the Wastewater and Stormwater Are Discharged
(1) Process Wastewater: Wastewater generated from the production process is transported to a public wastewater treatment facility, treated, and then discharged into Sacheon Bay.
(2) Sanitary Sewage: Domestic sewage from employees is treated at the site's wastewater treatment facility before being sent to the public sewage treatment plant.
(3) Stormwater: Discharged through stormwater drainage pipes.

6. Provide a Short Description of the Site
(1) Number of Employees: Approximately 420 employees
(2) Number of On-Site Contractor Staff: Approximately 290 staff members
(3) Total Site Area: 106,047.6m²
(4) Building Area: 50,956.16m²
(5) Main Buildings: Production plant, warehouse, office buildings, wastewater treatment facility, etc.

Summary of Shared Water Challenges

Summary of Shared Water Challenges
The specific challenges within the catchment were identified through articles, stakeholder interviews, and reports. The site summarized these into five shared water challenges:
1. Flood risk and fisheries impacts caused by Nam River Dam discharge
2. Ecological changes and resulting environmental/social conflicts in aquatic ecosystems
3. Water-quality deterioration and aquatic ecosystem issues in Gahwa Stream
4. Marine pollution (waste and debris) in Sacheon Bay
5. Water-quality deterioration and invasive plant species issues in Duryang Reservoir

0.0.1	Water Source & Discharge Locations	
0.01	*Have any water source or discharge locations been visited during the audit, if so, which and where? If none were visited, please provide justification.*	No
Comment	The site's water source was visited during the previous audit in March 2025. Since it's only been 8 months since visiting those areas, Duryang reservoir, the catchment IWRA, was visited instead.	

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 maintained the same catchment boundary as identified during the March re-certification audit, encompassing the Nam River Dam catchment, Nam River catchment, and Gahwa Stream catchment (three different sub-catchments)—representing the hydrological areas the site both affects and depends upon. Within these catchments lie the site's water sources, including Jin-yang Lake, the Nam River and its upstream region in Jirisan Mountain, as well as the site's receiving water bodies, Sacheon Bay and the South Sea. Catchment-level water-related infrastructure remains consistent with previous assessments and includes Nam River Dam, Sacheon Water Treatment Plant, Yonghyeon-Shin Reservoir, and the Industrial Complex Wastewater Treatment Plant. Onsite water-related infrastructure such as the WWTP, piping network, water storage components, chemical storage areas, and WASH facilities also remain unchanged. However, in September 2025, the site installed a new condensate water and waste-heat recovery system for steam reuse, and mapping of the associated recovery pipelines was verified during the audit.	
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

Following the March audit, the site updated its stakeholder list and introduced a more structured five-point scoring system to evaluate stakeholder interest and influence. Newly identified stakeholders include Sacheon City Hall, PMI Korea, “A Better Sacheon”, the Nature Conservation Council, Gyeongsang National University (Prof. Lim Seung-joo), and two partner companies (Henkel and Yulchon Chemical). Their levels of interest and influence on catchment water resources were reassessed using the new criteria.

Most stakeholders were assigned an engagement level of “Keep Satisfied & Meet Needs.” Sacheon City Hall, however, has shown increasing involvement through joint activities and may shift toward a “Key Player” role. The site plans to review and update the stakeholder analysis annually.

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

To better understand mutual influence, the site introduced a detailed five-point scoring system with defined criteria for each score. This system was applied across all stakeholders to evaluate both the site’s influence on stakeholders and stakeholders’ influence on the site.

Stakeholders such as Sacheon City Hall, K-water, the Facility Management Corporation, and the Public Wastewater Treatment Plant were assessed as having the highest influence on the site (score of 5). Similarly, the site was assessed as having the greatest influence over its partner companies.

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

In response to the minor finding from the previous audit, the site updated its Emergency Response Procedure on 11 March. Existing scenarios—such as aircraft crash, earthquake, and chemical spill—were expanded to include water contamination and water leakage events.

The water-contamination response scenario outlines communication procedures with site personnel and K-water, securing alternative clean water through K-water tanker trucks, investigating contamination sources, and requesting support from the city and water-related infrastructure agencies where necessary. Key emergency contacts include Sacheon Fire Department, Sacheon Hospital, Sacheon City Hall, K-water Nam River Dam Office, and Gyeongsang National University’s Sustainability Center.

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

Yes

Comment

The site prepared a comprehensive flow map from K-water intake through storage tanks, boilers, cooling towers, process-use points, sanitary water use, scrubbers, WWTP, reuse facilities, and final discharge. Firefighting water pathways were mapped, showing that used water is discharged partly as wastewater and partly as stormwater.

The main raw water storage tank (900 tons) was identified, with the site noting that other storage components maintain level control and do not significantly affect the balance. Loss points were identified, including humidifier evaporation, boiler evaporation, cooling tower evaporation, and water used for tobacco leaf conditioning.

The reuse system is clearly mapped, showing UF and RO treatment prior to reuse in scrubbers, cooling towers, and boiler feedwater. The newly installed PMD condensate return system (introduced in September 2025) was also integrated into the mapping.

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 flow map presented under Indicator 1.3.2 has been quantified using January–June 2025 water data. Total intake over six months was 23,437 tons, total discharge 6,127 tons, and calculated losses 17,310 tons. Measured evaporative losses from the humidifier, boiler, and cooling tower totaled 17,550 tons, creating a small discrepancy likely due to measurement errors, boiler blowdown, and water use during equipment cleaning.

Monthly intake and discharge trends were graphed. Intake increased between July and October while discharge remained stable, consistent with higher seasonal evaporation in summer. Both intake and discharge showed a significant increase in February 2025 due to reduced microbial activity in the WWTP under low temperatures, which led to operational adjustments requiring additional water use.

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

The site continues to monitor water quality for its primary water source, Nam River Dam, through monthly public data updates, consistent with the previous audit.
Additionally, the site conducts monthly effluent quality testing for eight parameters: pH, TOC, BOD, SS, TN, TP, n-hexane extractable substances (mineral oils), and n-hexane extractable substances (animal/plant oils). Results confirm that the site's effluent consistently meets all legal requirements.

In response to the prior observation, the site began monthly water-quality monitoring at three points in Sacheon Bay (site's ultimate receiving water body) starting in July. Parameters include chlorophyll, DO, TOC, DIN, DIP, and 12 additional indicators. Assessment was conducted using the Ministry of Oceans and Fisheries' "Marine Water Quality Grade Standards".

Results indicate seasonal degradation of water quality:
- In July and August, Point 3 (downstream area of the bay) was graded as "Poor".
- In September, Points 1 and 2 also showed "Poor" conditions.

These fluctuations appear to be influenced by Nam River Dam discharge and prolonged rainfall events. However, further data accumulation is needed to determine the precise pollution sources and characterize long-term trends.

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

Yes

Comment

Consistent with the previous audit, six potential pollution sources within the site were identified and mapped: the hazardous chemical storage warehouse, wastewater treatment plant, emergency generator room, fire pump room, flavour mixing room, and chemical laboratory. Chemical inventories, MSDS records, responsible departments, and usage information are maintained for each location.

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 on-site Important Water-Related Areas (IWRAs) were identified.

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 site provided annual water-related cost data up to July 2025, including municipal water charges, water-quality testing fees, chemical costs, WWTP operating expenses, and energy use (electricity, gas, pellets). Additional expenditures were identified for stakeholder engagement activities, IWRA-related events, and installation or maintenance of on-site WASH facilities.

The site also identified social and environmental value generated through stakeholder engagement, water reuse efforts, and plogging activities. Examples include:

• Social value from stakeholder communication:
- Transparency in sustainable water management through regular dialogue
- Reduced information asymmetry and strengthened local collaboration
- Integration of diverse expertise from government, community groups, academia, and NGOs

• Environmental and social value from plogging events:
- Enhanced cooperation and strengthened relationships with stakeholders
- Increased awareness of environmental stewardship among employees and community participants
- Reduced environmental burden by preventing waste accumulation and improving recycling
- Contribution to ecological health in Jin-yang Lake and Sacheon Bay (both identified as IWRAs) through clean-up activities

1.3.8 *Levels of access and adequacy of WASH at the site shall be identified.*

Yes

Comment

Although staffing levels have slightly changed since the previous audit, WASH facilities across all buildings meet the U.S. NPC standards for toilets, urinals, washbasins, drinking fountains, and showers. Two accessible restrooms are available for both men and women. All facilities were visually inspected during the audit and found to be in good condition.

The site's internal procedures require water-quality testing of both municipal water and purified drinking water once per year. Test parameters follow national standards: approximately 60 parameters for municipal water and 53 for drinking-water purifiers. The July 2025 results showed no abnormalities.

The cafeteria also conducts annual testing for E. coli, Salmonella, and Yersinia enterocolitica, with June 2025 results showing no issues.
In line with internal rules, monthly inspections of water storage tanks are conducted, with the August 2025 inspection record confirming satisfactory conditions.

1.4 *Gather data on the site's indirect water use, including: its primary inputs; the water use embedded in the production of those primary inputs the status of the waters at the origin of the inputs (where they can be identified); and water used in out-sourced water-related services.*

1.4.1 *The embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment, shall be identified.*

Yes

Comment

The site identified its primary inputs as filter rods, inner frames, tipping paper, adhesive, board packs, cigarette paper, and film. Out of 40 suppliers, four suppliers were identified as accounting for more than 5% of the site's total procurement value: three domestic partner companies and tobacco leaf suppliers (as one category). Only one supplier—Amcor—is located within the same catchment as the site.

The site conducted a survey to obtain water-use data from key suppliers. Amcor reported an annual water consumption of 10,000 tons for the production of goods sold to the site. Because Amcor shares the same water source (Jin-yang Lake / Nam River) and receiving water body (Sacheon Bay) as the site, associated water-quality conditions and water-stress characteristics are considered equivalent to those assessed for the site.

1.4.2 *The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.*

Yes

Comment

Consistent with the previous audit, the site identified eight outsourced service providers. Among these, only one—the logistics company (Lotte Logistics)—uses water outside the site boundary.

The site communicated with the provider and quantified water use for truck washing by combining fleet size, number of annual wash cycles, and water consumption per wash. Total off-site water use attributable to the site's logistics service was calculated as 36 tons per year.

1.4.3 *Advanced Indicator*
The embedded water use of primary inputs in catchment(s) of origin shall be quantified.

Obs.

Comment

The site quantified embedded water use for its primary inputs identified under Indicator 1.4.1. Water use data were collected from three suppliers representing over 5% of total procurement value, whose combined consumption accounts for approximately 0.07% of the site's total indirect water use.

For tobacco leaf sourcing, where supplier farms are not individually traceable, the site tracked country of origin by import volume (kg) for each batch purchased. Using data from the World Water Footprint Network and FAO/UN databases, the site calculated the estimated water required to produce its total imported tobacco leaves. The result indicates approximately 65.78 million tons of water embedded in the site's annual tobacco leaf purchases, representing 99.88% of total indirect water use.

Countries accounting for more than 5% of procurement value or indirect water contribution include Indonesia, Brazil, India, China, the United States, France, Turkey, and Bulgaria. The site analyzed national-level water stress and water quality data for each country, based on UN Water and WEPA sources:
* Water stress: India, China, and Turkey – 'High'; Indonesia, USA, France, Bulgaria – 'Medium–High'.
* Water quality:
- Indonesia – 75% of rivers severely polluted; 118 of 450 basins classified as "critical" (WEPA).
- Brazil – 73% of monitored rivers of moderate quality, 17% poor, 10% good; notable regional disparities and management gaps.
- India – 70% of 390 sites polluted in 2015, improving to 46% in 2022.

Although the assessment has not yet quantified indirect water use at the catchment level based on the specific locations of tobacco leaf farms, it represents a meaningful first step in recognizing the need for improvement in indirect water management. The site is encouraged to obtain more detailed and localized data to support the planning and implementation of future actions aimed at improving indirect water use performance.

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

Since the previous audit, the site updated its list of water governance initiatives through media review and stakeholder interviews. Newly identified initiatives include:
• Environmental clean-up activities at Wansa Wetland (a water-source protection zone) led by Sacheon City
• Oil spill emergency drills in Sacheon Bay
• Ecological restoration project for Songji Stream

Additional initiatives identified through NGO and K-water engagement include invasive species removal activities, emergency support for wildfire-affected communities (e.g., laundry vehicles), and inspections of livestock farms to prevent algal bloom–related pollution.

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

Consistent with the previous audit, the site presented an updated legal compliance checklist covering all applicable regulations, including the Fire Services Act, Soil Environment Conservation Act, Water Supply and Waterworks Installation Act, Water Environment Conservation Act, Drinking Water Quality Standards, Dangerous Goods Safety Control Act, and Chemical Control Act.

The site also continues to recognize customary water right issues identified previously—such as marine litter affecting fisheries and coastal ecosystems following dam discharge—and engages through plogging activities as part of its response.

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 site updated water-balance data for the catchment through October 2025. Using inflow, precipitation, reservoir level, and discharge data for Nam River Dam, the site analyzed annual trends. Net storage increased in 2023 and 2024 but decreased in 2025 as outflow exceeded inflow.

A scientific publication indicates that flood-season discharge in the Nam River Basin may increase by approximately 7.4% between 2011–2040. According to the Ministry of Environment's Nakdong River Basin Water Resource Plan, drought-related water shortages in the Nam River Dam basin are estimated at 2.4%, classified as Water Security Grade 2. The Nam River and Gahwa Stream basins show 0% water shortage risk.

The 2050 Water Supply Master Plan predicts a future daily water shortage of approximately 22,300 tons for six municipalities within the site's catchment due to demand increases.

Daily rainfall, inflow, reservoir level, and discharge data from 2022–2025 show clear seasonal variance, including more than double the usual precipitation in July 2025, which significantly increased inflow and discharge and contributed to marine litter accumulation along Sacheon Bay (validated through news reports).

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 site provided updated water-quality data (Jan 2024–May 2025) for the Nam River Dam, Nam River, and Gahwa Stream catchments. Monthly measurements included temperature, DO, BOD, COD, TN, TP, TOC, and SS.

Key observations:
• Upstream Yangcheon showed “Slightly Bad” levels for BOD and TP.
• Duryang Reservoir and Songwon Reservoir exhibited “Very Bad” TOC levels.
• At Nam River Dam, summer trends included:
– DO decreasing to “Slightly Bad–Very Bad”
– Sharp increases in E. coli exceeding typical values
– TOC rising seasonally but remaining within “Slightly Good”

To address the previous observation, the site began monthly water-quality monitoring at three points in Sacheon Bay, measuring chlorophyll, DO, TOC, DIN, DIP, and 12 additional parameters.
• July–August: Point 3 rated “Poor”
• September: Points 1 and 2 rated “Poor”
Seasonal deterioration appears linked to dam discharge and prolonged rainfall, though additional long-term data are needed to confirm pollution sources.

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.*

Obs.

Comment

The site identified rivers and reservoirs across the Nam River Dam, Nam River, and Gahwa Stream catchments and assessed each water body for ecological, social, and water-environmental importance. Criteria included:
- Ecological importance: presence of endangered or ecologically significant species and risk of habitat degradation;
- Social importance: use of the water body for drinking or community supply and related conflicts or complaints;
- Water-environmental importance: drought, flooding, or water-quality deterioration issues.

As a result, Imcheon Stream, Duryang Reservoir, and Daega Reservoir were newly identified as IWRAs. Their status was evaluated based on water-quality parameters (BOD, TOC), all rated as “poor.” The identification process is well-structured and based on credible local data sources.

However, three additional potential IWRAs were identified through scientific sources and stakeholder engagement:
- Habitats of endangered species within the site’s catchment, documented by the National Institute of Ecology;
- Gwangpo Bay, a key ecological area and major focus of the Sacheon Environmental Movement Union (local NGO); and
- Sacheon Bay tidal flats, recognized for their ecological and socio-environmental value.
These three water bodies were not yet included in the IWRA inventory, though each demonstrates high ecological or community relevance warranting consideration for inclusion in future assessments.

1.5.6 *Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.*

Yes

Comment

The site identified key water-related infrastructure within the catchment, including wastewater treatment plants, sewage treatment plants, water treatment plants, intake stations, booster stations, and distribution reservoirs. Among these, six facilities were highlighted as directly relevant to the site.

According to K-water data, Nam River Dam was completed in 1970. Its performance and safety were evaluated in 2021–2022, receiving grades of C (performance – average) and B (safety inspection – good). A major weakness identified is the dam's limited storage capacity and associated vulnerability in flood control, requiring additional mitigation measures.

Of the 122.9 km of Nam River Dam transmission pipelines, approximately 73.3% are over 30 years old. A replacement program for aging pipelines is underway (2021–2027). Sacheon Public Wastewater Treatment Plant, commissioned in 2007, is now 18 years old, while Sacheon Water Treatment Plant, commissioned in 1989, is 36 years old.

The proportion of river embankment sections in the Nam River Dam, Nam River, and Gahwa Stream basins requiring reinforcement or new construction is 20.5% and 21.9% respectively—slightly higher than the Nakdong River basin average. The Nakdong River Basin Water Resource Management Plan indicates that 5–13% of flood-control zones within the site's catchment do not yet meet flood-management standards, a level similar to the basin-wide average.

Sacheon City's Climate Change Adaptation Plan identifies the city as highly vulnerable to sea-level rise and flood inundation. Provincial data rank Sacheon 4th among all municipalities for infrastructure vulnerability to sea-level rise and 2nd for vulnerability of rivers, reservoirs, and dams to heavy rainfall. WRI data also classify the coastal flood risk in the Sacheon area as medium–high.

1.5.7 *The adequacy of available WASH services within the catchment shall be identified.*

Yes

Comment

Based on 2023 WASH statistics, the coverage of large-scale (regional) water supply systems in Jinju and Sacheon—both within the site's catchment—exceeds 98%. In Sancheong County, regional water supply coverage is lower at 55%, but when village water systems and small groundwater-based facilities are included, overall access to safe drinking water still exceeds 98%, indicating that most of the catchment population has access to clean water.

Sewerage coverage is over 96% in Sacheon and 65.5% in Sancheong. When household septic tanks and other individual wastewater treatment systems are included, 99.8% of the population is estimated to have access to wastewater treatment services.

Water-quality test results for Sacheon's municipal water (including E. coli, chlorine, ammonia, and general bacteria) confirm that drinking water meets potable standards, supporting the conclusion that high service coverage is matched by acceptable drinking-water quality.

1.5.8 *Advanced Indicator*
Efforts by the site to support and undertake catchment level water-related data collection shall be identified.

Yes

Comment

To enhance understanding of water quality in its receiving environment, the site reviewed public marine water-quality data for Jinju Bay (downstream of Sacheon Bay) in March 2025, including monitored parameters, frequency, and seasonal trends. Using this as a reference, the site selected three monitoring points in Sacheon Bay and, with input from a consulting firm and a professor from Gyeongsang National University, developed a monitoring plan through a commissioned research project.

Since July, the site has conducted monthly measurements at three locations and three depths in Sacheon Bay. Parameters include chlorophyll, DO, TOC, DIN, DIP, and 12 additional indicators, evaluated against the national “Marine Water Quality Grade Standards”. Results show:
- July–August: Point 3 (downstream area) rated “Poor”
- September: Points 1 and 2 rated “Poor”

These results suggest potential influence from Nam River Dam discharge and prolonged rainfall, though continued data collection is needed to clarify pollution sources and longer-term trends.

The site shares the collected data monthly via email with key stakeholders, including Sacheon City Hall, K-water, Gyeongsang National University, Sacheon Environmental Movement Union, and the Sacheon Chamber of Commerce, thereby contributing to catchment-level data availability and awareness.

1.5.9 *Advanced Indicator*
The adequacy of WASH provision within the catchments of origin of primary inputs shall be identified.

Obs.

Comment

The site reviewed WASH data for three suppliers that represent more than 5% of its procurement value, as identified under Indicator 1.4.1. For the two domestic suppliers, national data show that nearly the entire population has access to safe drinking water and that wastewater is treated through established municipal systems.

For overseas suppliers, the site referred to UN Water (2024) data to assess national WASH conditions:
- Thailand: safely managed drinking water service 100%, sanitation and hygiene service 27 %
- Indonesia: 30% and 78%, respectively
- Brazil: 89% and 55%
- India: 76% and 63%

Although the assessment has not yet evaluated WASH adequacy at the catchment level based on the specific locations of tobacco leaf farms, it represents a meaningful first step in recognizing the need for WASH improvement within the site’s supply chain. The site is encouraged to obtain more detailed and localized data to support future actions aimed at enhancing WASH conditions in its sourcing regions.

1.6 *Understand current and future shared water challenges in the catchment, by linking the water challenges identified by stakeholders with the site’s water challenges.*

1.6.1 *Shared water challenges shall be identified and prioritized from the information gathered.*

Yes

Comment

Since the previous audit, the site has updated its assessment and newly identified one additional shared water challenge through interviews with the Nature Conservation Council (Sacheon) and faculty members from Gyeongsang National University. The newly identified challenge relates to water-quality deterioration and the spread of invasive plant species in Duryang Reservoir, which is consistent with findings under Indicator 1.5.5.

A total of five shared water challenges are now identified:
1. Flood risk and fisheries impacts caused by Nam River Dam discharge
2. Ecological changes and resulting environmental/social conflicts in aquatic ecosystems
3. Water-quality deterioration and aquatic ecosystem issues in Gahwa Stream
4. Marine pollution (waste and debris) in Sacheon Bay
5. Water-quality deterioration and invasive plant species issues in Duryang Reservoir

The site evaluated each challenge using criteria such as environmental impact, social significance, economic implications, and the site's ability to engage. Based on this analysis, the Duryang Reservoir issue was prioritized as the most significant challenge, followed by marine litter issues in Sacheon Bay.

1.6.2 *Initiatives to address shared water challenges shall be identified.*

Yes

Comment

The site updated its list of initiatives to address the shared water challenges identified in the previous audit—such as marine debris collection, marine forest restoration, and support for waste oil/wastewater recovery from fishing vessels. In addition, a new initiative related to the recently identified challenge at Duryang Reservoir has been added.

The Nature Conservation Council (Sacheon) has been conducting annual activities since 2014 to remove invasive species (e.g., Gasi-bak) in the Duryang Reservoir and Gonnyang Stream areas during summer. The site began participating in this initiative in 2025, demonstrating alignment between newly identified challenges and corresponding actions.

1.6.3 *Advanced Indicator*
Future water issues shall be identified, including anticipated impacts and trends

Yes

Comment

The site reviewed demographic, agricultural, industrial, and climate-related trends using data from Sacheon City, Statistics Korea, the Ministry of Environment, KEI, and KMA climate analysis reports.

Agricultural trends indicate a steady decline: the number of farms, farm population, and cultivated land area decreased by 19% between 2015–2020, and agricultural water use in the Nakdong–South Coast basin decreased by 31% between 2012–2021. Sacheon's population has also been declining since 2022 and is projected to decrease by approximately 8.48% by 2042.

Industrial activity is expected to increase with the establishment of the Gyeongnam Aerospace National Industrial Complex in 2024 and the entry of KAI and related companies. Although industrial water demand is expected to rise, specific future water-use projections are not yet available. Residential population increases are not anticipated, as most employees commute from nearby larger cities.

Climate-change projections show the most significant future issue for the site and catchment. KMA data indicate substantial increases in total precipitation, rainfall intensity, and the number of heavy-rain days in Sacheon (from 3.3 to 5.6 days, a 69.7% increase). Nam River Dam, characterized by relatively low storage capacity, has been assessed as vulnerable to flood-related impacts.

Based on these assessments, the site identified flooding and inundation risks as key future water issues, with anticipated consequences including:
• Increased dam-discharge volumes leading to enhanced flood risk
• Greater likelihood of fisheries impacts and marine debris inflow in Sacheon Bay
• Expansion of flood-prone areas from the current 33% to an estimated 41% of total land area
• Significant business impacts, estimated at approximately KRW 900 million annually based on projected future heavy-rain frequency

In addition, the national flood-hazard map indicates that the site is not currently located within an official flood-prone zone; however, with increased rainfall and expanding inundation boundaries, the site could fall within a future flood-vulnerable area if flood extents continue to broaden.

These findings demonstrate that the site has identified the primary future water issues likely to affect its operations and the broader catchment, particularly those related to flooding, inundation, and climate-driven hydrological variability.

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.

Yes

Comment

The site conducted an Environmental and Social Impact Assessment (ESIA) through an external consultant. The assessment covered the following activities:
• Effluent discharge
• Raw water intake
• Employee water-related education
• Environmental awareness activities (e.g., plogging)
• Stakeholder collaboration, including:
– MOU with Gyeongsang National University
– AWS Committee facilitation
– Technical sharing sessions with partner companies

The ESIA evaluated potential negative and positive water-related social impacts across four categories:
• Negative impacts:
– Water-quality pollution (low impact)
– Water-resource depletion (medium impact)

• Positive impacts:
– Increased community awareness of water protection (medium impact)
– Strengthened collective action for water stewardship (high impact)

Impact ratings were based on scale, extent, and likelihood criteria.

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 revised its water-risk assessment following the previous audit, closing some risks and newly identifying one additional risk, resulting in a total of six risks analyzed:
1. Flood damage caused by Nam River Dam discharge
2. Restrictions in municipal water supply
3. Negative public perception of the tobacco industry
4. Water-quality deterioration in the receiving water body
5. Increase in wastewater service fees
6. Water-use restrictions for partner suppliers (high water-stress regions)

Each risk was evaluated for likelihood, severity of impact, timeframe, and potential financial loss. To address the previous finding, the site calculated actual damage costs under assumed risk occurrence rather than using preventive-measure costs.

Based on these criteria, the risk of water-quality degradation in the receiving environment (Sacheon Bay) was assessed as the highest-priority risk for the site.

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	Since the previous audit, the site added one new opportunity to the four previously identified, resulting in five water-related opportunities: 1. Improving stakeholder perception through AWS certification 2. Cost savings through reduced water use 3. Participation in Sacheon Bay water-quality monitoring and city-led emergency response drills 4. Participation in catchment-level forums and seminars 5. Enhanced external credibility through achieving AWS Platinum certification For each opportunity, the site assessed feasibility, potential impact, timeframe, and estimated financial value. Potential financial benefits were calculated by estimating brand value enhancement associated with each opportunity. Prioritization was conducted based on these parameters.
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	The site reviewed water-governance best practices from major companies operating within the region and sector, including Samsung Electronics, Haesung DS, and PMI. Key practices reviewed include: • Operation of board-level sustainability committees and CEO-led environmental decision-making bodies (Samsung Electronics) • Structured communication channels for each stakeholder group and participation in municipal sustainability councils (Haesung DS) • Strategic planning through sustainability performance groups and publication of water stewardship reports (PMI) Based on the identified best practices, the site has established two governance-related improvement targets: • Conducting monthly stakeholder interviews (once per month) • Publishing periodic water-resource management performance reports
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	The site reviewed best practices related to water reuse and water-efficiency improvements from key industry peers: • Lotte Fine Chemical: – Recycles approximately 3,900 tons of wastewater per day using biological reclaimed water and RO concentrate. – Conducted UF and RO pilot tests to expand discharge-water recycling as industrial water. – Investing in a three-phase wastewater reuse project (total capacity 12,500 t/day) scheduled for completion in 2026. • Haesung DS: – Operates a WWTP capable of treating 10,000 t/day and a reuse facility supplying 5,400 t/day of recycled water. – Achieved a reuse rate of 41.5% in 2024 and targets 50% reuse across all sites by 2030. After benchmarking these practices, the site has raised its own water reuse targets accordingly.
1.8.3	*Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.* ✓ Yes

Comment

The site benchmarked water-quality management best practices from Samsung Electronics and KIA Motors:

• Samsung Electronics:
– Implements internal chemical regulations aligned with RoHS, REACH, and TSCA.
– Operates internal effluent standards and monitors river water quality more than six times per year.

• KIA Motors:
– Evaluates Zero-Liquid Discharge (ZLD) systems and develops advanced water-recycling technologies in anticipation of reduced long-term rainfall.

Based on these examples, the site established additional best-practice–aligned targets, including:
• Enhanced water-quality monitoring in Sacheon Bay
• Introduction of advanced water-quality technologies
• A review of ZLD systems, which was ultimately dropped due to low feasibility

1.8.4 *Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.*

Yes

Comment

The site benchmarked best practices related to ecological restoration and IWRA maintenance from leading organizations such as KIA Motors and KT&G.

• KIA Motors – Tidal Flat Vegetation Restoration
– Implemented halophyte planting projects in domestic tidal flats to enhance biodiversity and carbon absorption.
– Formalized cooperation through an MOU with the Ministry of Oceans and Fisheries, followed by site selection, restoration planning, planting activities, and environmental impact studies.

• KT&G – Mid- to Long-Term Ecological Restoration Programs
– Signed an MOU with the National Institute of Ecology for ecosystem conservation and biodiversity enhancement.
– Restored the Janggung Catfish Wetland (approx. 38,000 m²) by repairing habitats damaged by sediment inflow and erosion.
– Initiated a restoration project for the endangered Oriental Stork in collaboration with national ecological research institutes.

Based on these benchmark cases, the site initiated IWRA-related activities in 2025, focusing on:
• Water-quality and ecological monitoring
• Removal of invasive species at the identified IWRA (Duryang Reservoir)

1.8.5 *Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.*

Yes

Comment	The site reviewed best-practice examples related to provision of WASH services and support for vulnerable groups from organizations such as KAI and SK hynix. • Korea Aerospace Industries (KAI) – Sponsors a “Free Laundry Service for Low-Income Households” in Jinju, supporting elderly individuals living alone and households with severe disabilities. – Supports nearby senior centers through the Rural Co-prosperity Cooperation Fund, providing appliances such as water purifiers, air conditioners, and refrigerators. • SK hynix – “Happy Lunchbox” Program – Since 2012, has provided weekly lunchboxes and drinking water to children facing food insecurity. – Supported 810 children in 2023 through regular distribution. Using these benchmark insights, the site has established best-practice–aligned improvement goals focused on: • Supporting drinking water access for vulnerable groups within the catchment • Implementing at least one WASH improvement initiative in vulnerable global regions

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	- BATK's AWS (Alliance for Water Stewardship) policy document, containing the four required elements outlined in indicator 2.1.1, has been publicly disclosed through the Sacheon Chamber of Commerce website bulletin board. The full version of the document can be found in the 2021 post, while summarized versions are uploaded for the year 2025. Full version: https://sacheoncci.korcham.net/file/dext5uploaddata/2021/03.%20BATKM%20AWS%20%EC%84%B1%EB%AA%85%EC%84%9C.pdf Summary version: https://sacheoncci.korcham.net/front/board/boardContentsListPage.do?boardId=10435&menuId=2623 - Furthermore, it has been observed during site tours that the same document is posted at the entrance of the factory's office and cafeteria, consistent with its presence in the previous year.	
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	The site's AWS water stewardship statement has been updated and is signed by the senior-most executive at the facility (Head of Manufacturing). The statement addresses all requirements of Indicator 2.1.1 and has been publicly disclosed.	
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	The site updated its water-related organizational structure since the previous audit. Responsibility for legal submissions and regulatory reporting has shifted from the corporate legal team to the site's certified water-quality engineer. This individual is now responsible for all water-related reporting, including the national pollutant discharge survey and external disclosure of environmental and water-related information. Aside from the change in responsible personnel, the site continues to follow the established compliance process, including regular monitoring of regulatory updates with support from legal counsel. No new regulatory changes have been identified since the last audit.	

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

To address the previous audit finding, the site updated its water stewardship strategy, including a revised mission and vision:

• Mission:
Proactively respond to catchment-level water-related risks through responsible business operations.

• Vision:
Enhance the company's environmental leadership by contributing positively to the community and environment through sustainable water management.

In addition, the site-defined goals aligned with the AWS Outcomes:
• Governance: Strengthen capability and gather stakeholder feedback through regular internal and external meetings
• Water balance: Establish a robust water balance assessment system for optimized water management
• Water quality: Strengthen water-quality controls and compliance
• IWRA: Promote collaboration for the management and improvement of Important Water-Related Areas
• WASH: Enhance water access and WASH conditions internally and externally
• Indirect water use: Reduce partner companies' water use and establish a sustainable management system

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.
Obs.

Comment

The site maintains an updated Water Stewardship Plan (WSP) that addresses findings raised in the previous audit by improving measurement methods and clarifying performance indicators for several targets. Key enhancements include:
- Governance formation effectiveness: Target revised to measure the percentage of stakeholder proposals and feedback that are actually incorporated into site decision-making.
- Water balance: Additional quantitative water-saving target set based on condensate recovery system installation and operation.
- IWRA improvement (Duryang Reservoir): Target to remove 10% of the area occupied by invasive species and achieve a 5% improvement in water quality and aquatic ecosystem condition.
- Social contribution: Annual target of supplying 750 L of drinking water to vulnerable communities.
- Indirect water use – suppliers: Target to achieve a 3% reduction in water use among partner companies.

The plan defines timeframes, responsible departments, and budget allocations for each target and demonstrates improved alignment with the AWS outcomes.

However, the target for supplier water use reduction currently excludes water used for tobacco leaf cultivation, which accounts for approximately 99.8% of the site's total indirect water use. Excluding this portion significantly limits the target's material impact.

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	The site has engaged in multiple collaborative activities with organizations located within the same catchment: • In partnership with Gyeongsang National University, the site initiated a water-quality monitoring project in Sacheon Bay in May 2025, which continues to operate. • In July 2025, the site participated with the Sacheon City Nature Conservation Council in removing invasive species (bur cucumber) at Duryang Reservoir, with five site employees joining the activity. • Also in July 2025, the site collaborated with K-water to conduct vegetation-removal activities along tributaries of Gahwa Stream to help prevent flood damage caused by concentrated summer rainfall. Twelve participants joined in total, including four from 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	The site conducted the following cross-catchment partnership activities: • In July 2025, the site conducted an online technical exchange session with three suppliers (Taeyoung Industry, Amcor, and Henkel Korea), sharing water-management processes and water-saving technologies. • In June 2025, the site visited PMI Korea, an AWS-certified site located in the Nakdong River Basin, to discuss potential collective actions. Meeting minutes confirm that this was an exploratory collaboration effort. Although no joint activities have yet been implemented, this represents an important first step in fostering AWS collaborations among Korean sites.	
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.*	Yes
Comment	The site received positive feedback on its Sacheon Bay water-quality monitoring project from two key stakeholders: • Gyeongsang National University's environmental engineering faculty emphasized the importance of the initiative, noting that despite the ecological significance of Sacheon Bay, publicly available water-quality data had been lacking. • Sacheon City officials confirmed that the data shared by the site is useful for municipal water-quality management. This feedback indicates that consensus has been achieved on the site's target and corresponding action to monitor water quality in Sacheon Bay.	
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

The site identified historical flood-damage cases caused by Nam River Dam discharge and engaged with K-water (Nam River Dam Office) to discuss preventive measures. K-water recommended vegetation removal along specific stream sections ahead of heavy-rain periods to reduce flood risk. The site, together with K-water, Sacheon City, and partner companies, carried out vegetation-removal activities in flood-affected areas.

Additionally, due to the site's proximity to an airport, aviation-fuel spill risks were identified. In October 2025, the site participated in a multi-stakeholder emergency-response planning process led by Sacheon City, involving the Air Force, Sacheon Airport, the industrial complex, and the public wastewater treatment facility. The plan assigns the site responsibilities such as installing oil booms, deploying absorbent pads, and implementing containment and response measures in the event of an aviation-fuel release.

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.

Obs.

Comment

According to the Sacheon City Climate Change Adaptation Action Plan, the city has been identified as highly vulnerable to both sea-level rise and flood inundation, representing the two most significant climate-related water risks for the catchment (refer to Indicator 1.5.6).

In response, the site initiated coordination with the K-water Nam River Dam Office, the entity responsible for Namgang Dam operations, to discuss flood-prevention measures. During these consultations, K-water proposed pre-monsoon vegetation clearance along key river sections to reduce the risk of overflow during heavy rainfall in late July. The site subsequently participated in planning and resource discussions—covering priority areas, manpower, and equipment—and later joined K-water, Sacheon City Hall, and partner companies in carrying out vegetation-removal activities in flood-affected river sections.

These actions demonstrate active engagement with relevant public agencies and a preliminary adaptive response to projected flood risks. However, the initiative currently represents a one-off activity rather than a structured, measurable adaptation plan. It remains unclear whether the site intends to evaluate the effectiveness of these flood-mitigation activities or formalize them within a long-term climate-risk management framework.

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

The site has actively contributed to strengthening catchment-level water governance through multiple initiatives and engagements:
• In October 2025, the site's World Water Day plogging event at Gahwa Stream was shared with BAT global stakeholders, and the site received a Gold Award from the global headquarters.
• In June 2025, the site hosted an AWS Committee meeting with Gyeongsang National University, the Sustainable Development Center, Sacheon Environmental Federation, Sacheon City, and K-water to discuss catchment issues and potential responses.
• The site conducts monthly meetings with local stakeholders to gather feedback, obtain suggestions, and share progress. Meeting minutes were verified.
• As part of its governance best-practice targets, the site published its first annual Water Stewardship Report in September 2025 (covering 2024–2025 activities) and shared it with stakeholders via email.
• To strengthen internal water governance capacity, the site conducted AWS-related training with an external consulting firm in January and April 2025, and holds monthly TF team meetings to monitor issues and review progress. The meeting minute was confirmed.

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

Based on Indicator 1.5.2, the site identified customary water rights concerns, including difficulties faced by local fishers due to debris entering Sacheon Bay following Nam River Dam discharge. Stakeholder interviews also revealed that insufficient water quantity in Gahwa Stream causes odor issues for nearby residents.

In response, the site has taken tangible measures:
• In March 2025, approximately 50 participants—including local stakeholders and site employees—collaborated in a plogging activity along Gahwa Stream.
• The site continues to monitor Sacheon Bay issues through the AWS Committee and collects monthly water-quality data in partnership with Gyeongsang National University.

3.1.3 *Advanced Indicator*
Evidence of improvements in water governance capacity from a site-selected baseline date shall be identified. ✓ Yes

Comment

The site selected April 2024, the start of its re-certification preparation, as the baseline year. Since then, several improvements have been made:
• In December 2024, BAT corporate delivered an environmental training program covering AWS certification and water stewardship, attended by 60 employees.
• To strengthen internal expertise, the site conducted two rounds of AWS-specific training with an external consulting firm in January and April 2025.
• Monthly Water Stewardship TF meetings have been held since January 2025 to monitor issues and develop responses.
• In May 2025, the site assigned one full-time staff member dedicated exclusively to AWS and water stewardship activities.

These actions demonstrate measurable improvement in the site's water governance capacity compared to the baseline.

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	Multiple stakeholders provided positive evaluations of the site's contribution to catchment governance: • The Sacheon Environmental Federation submitted written feedback in October 2025 following the release of the site's Water Stewardship Report, thanking the site for its continuous efforts in water management and ecological conservation. They praised the AWS Committee as a model example of corporate ESG engagement and encouraged expansion of the governance network. During the audit interview, they emphasized that no other local companies demonstrate similar governance leadership. • Environmental experts from Gyeongsang National University commended the site for facilitating dialogue among stakeholders and contributing to shared understanding of local water issues. They also encouraged expanding the committee's membership. • K-water representatives stated that the site's community-centered activities and ongoing contributions are viewed positively. This collective feedback indicates strong stakeholder consensus that the site has contributed meaningfully to improved catchment governance.	
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	The site is subject to the Water Supply Act, the Water Environment Conservation Act, and the Drinking Water Management Act. Compliance responsibilities are assigned to designated managers who conduct self-assessments twice per year in accordance with the internal SOP. The 2025 July self-assessment report was reviewed and confirmed with no issues, and results are reviewed and approved by the Head of Manufacturing before being shared among responsible personnel. Water-quality data—including reservoir cleaning records, drinking-water test results, and effluent-quality monitoring—demonstrate full compliance with legal requirements. In July 2025, Sacheon City requested documentation related to reservoir cleaning and water-quality testing; the site submitted the required information, and no concerns were noted. The public wastewater treatment facility conducts unannounced effluent sampling three times per month. Results from August 2025 indicate that all tested effluent parameters met regulatory limits. The site also annually submits water-related data to national systems, including the National Pollutant Discharge Survey and Environmental Information Disclosure platform. The 2024 submission is currently under review by the Ministry of Environment; the 2023 data is already publicly accessible.	
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	The site is located within an industrial complex and uses municipal water supply and wastewater treatment systems under formal agreements with national and local authorities. The site does not extract water directly from natural sources, nor does it discharge untreated effluent. As such, the legal and customary water rights of other users are not infringed, and the site remains compliant with all applicable regulatory requirements.	
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 set long-term water-balance targets of reducing water withdrawal by 50% by 2030 (compared to 2017) and achieving a 57% reuse rate. Several measures have been implemented to support these targets: • In September 2025, the site installed a condensate-return system for the PMD (tobacco leaf processing) boiler steam line. Although engineering calculations indicate a potential recovery of 523 tons per year, the site conservatively estimates approximately 300 tons annually. • The UF and RO filtration systems installed in 2022 continue to support wastewater reuse, with routine maintenance ongoing. • In 2024, the site installed water-saving fixtures and performed piping modifications in restrooms, showers, and the cafeteria to reduce domestic water use. • A rainwater-utilization plan was previously included in the WSP; however, the idea was dropped during planning because rainwater use would increase reliance on catchment abstraction rather than reduce it.	
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	As indicated in 1.5.3, the site's catchment is not currently experiencing water scarcity, and water scarcity has not been identified as a shared challenge. However, climate projections show that future water stress may increase. In alignment with precautionary planning, the site set long-term water-efficiency targets of reducing withdrawal by 50% by 2030 compared to 2017 levels and achieving a 57% reuse rate. As of 2024, the site has achieved a 50.19% reduction, and similar or higher reductions are expected in 2025.	
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	The site does not currently undertake any re-allocation of water for social, cultural, or environmental purposes. No legally binding arrangements apply.	
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
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

The site updated its WSP to move beyond basic regulatory compliance—which represents the minimum requirement of the AWS Standard—and established new water-quality–related targets focused on Sacheon Bay monitoring, participation in marine pollution emergency-response training, and exploration of advanced treatment technologies such as Zero Liquid Discharge (ZLD).

• Sacheon Bay Water-Quality Monitoring
– Since July 2025, the site and experts from Gyeongsang National University have monitored three points in Sacheon Bay, measuring chlorophyll, DO, TOC, DIN, DIP, and 12 additional parameters.
– Results are assessed using the national “Coastal Water Quality Grading Standards.”
– Continued data accumulation is needed to better understand seasonal patterns and identify specific pollution sources.

• Marine Pollution Emergency-Response Training
– Due to the site's proximity to an airport, the risk of aviation-fuel spills was identified.
– In October 2025, the site, Sacheon City, the Air Force, Sacheon Airport, industrial-complex companies, and the public WWTP jointly developed an emergency-response plan.
– The plan assigns the site responsibilities for installing oil booms and deploying absorbent materials to prevent marine pollution.
– The November 2025 training plan was verified.

• Evaluation of Advanced Water-Quality Technologies
– The site met with domestic ZLD technology suppliers in April 2025 and conducted sample tests in May.
– Results in August 2025 indicated that ZLD was not feasible due to technical and economic limitations, and the plan was discontinued.
– The site intends to continue exchanging expertise with specialists to evaluate new water-quality technologies where applicable.

3.4.2 *Where water quality is a shared water challenge, continual improvement to achieve best practice for the site’s effluent shall be identified and where applicable, quantified.*

Yes

Comment

Water-quality degradation in Gahwa Stream has been identified as a shared water challenge; however, the issue is primarily due to hydrological conditions—the artificially constructed stream becomes dry outside dam-release periods, resulting in stagnant water and odor issues.

The site’s effluent does not contribute to this problem. Effluent is fully treated at the industrial complex’s public wastewater treatment plant, and sampling results confirm consistent compliance with legal standards. Given the site’s limited direct impact on catchment water quality, the site meets the minimum requirement for this indicator.

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

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

Yes

Comment

The site assessed the key issues associated with the IWRAs identified in Indicator 1.5.5 and prioritized activities for Sacheon Bay and Duryang Reservoir.

• Sacheon Bay
– As public water-quality data were lacking despite the ecological importance of the Bay, the site partnered with Gyeongsang National University to conduct monthly monitoring at three points, measuring 12+ parameters and evaluating conditions against national standards.
– Continued long-term monitoring is needed to identify root causes of observed seasonal variation.

• Duryang Reservoir
– Issues identified include water-quality deterioration (algal bloom) and invasive species.
– Aeration system installation was explored but postponed due to budget constraints.
– The site participated in an invasive-species removal event with the Sacheon Nature Conservation Council in July 2025 (five employees participated).
– The site is planning an eco-mapping project with environmental experts from Gyeongsang National University to support long-term ecosystem restoration.

• Support for Stakeholder IWRA Initiatives
– In May 2025, the site participated in cleaning activities in the Wansa wetland (a designated water-source protection area) with 10 employees joining among 70 total participants.

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.

Obs.

Comment

The site has developed a 2030 master plan for the restoration of Duryang Reservoir, addressing water quality issues and invasive species. The plan includes 2025 interim targets such as removing 10% of invasive species coverage and achieving a 5% improvement in water quality and aquatic ecosystem conditions.
To date, the site has carried out one invasive species removal activity. As restoration efforts have not been completed yet, evidence is not yet available to demonstrate measurable improvements in water quality or ecological conditions.

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.

Yes

Comment

Stakeholders provided positive feedback regarding the site's IWRA-related activities:
• An environmental engineering professor from Gyeongsang National University stated that the site's plogging, ecological monitoring, and improvement activities contribute positively to ecosystem conservation. The expert encouraged continued monitoring of invasive species to achieve measurable improvements.
• The Mayor of Sacheon publicly recognized the site's participation in invasive-species removal at Duryang Reservoir as an exemplary case of public–private collaboration, highlighting the site's positive influence on local ecological health.

This feedback demonstrates clear stakeholder consensus that the site is making a meaningful contribution to the health of Important Water-Related Areas.

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

As described in Indicator 1.3.8, all on-site WASH facilities are maintained in line with international and national standards. Toilets, handwashing facilities, drinking-water stations, and showers are available across all buildings and were visually verified to be in good condition during the audit.

Drinking water and water-storage hygiene are regularly tested according to internal SOPs. The site improved its internal WASH monitoring criteria by increasing cafeteria drinking-water quality testing from once every two years to once per year beginning in 2025. Recent test results show full compliance with national drinking-water standards.

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

The site's water use and wastewater management fully comply with legal and regulatory requirements (see Indicator 3.2.1). Given the high water-supply and wastewater-service coverage in the catchment (Indicator 1.5.7), there is no evidence that the site's operations restrict community access to safe drinking water or sanitation.

Furthermore, stakeholder-verified customary rights—such as fishing rights in Sacheon Bay and local residents' use of Gahwa Stream—are not adversely impacted by the site. Effluent is treated at the public wastewater treatment plant, consistently meets legal standards, and has minimal impact on downstream water quality.

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.

Yes

Comment

In April 2025, in recognition of Korea's National Day for Persons with Disabilities, the site supported local stakeholders by donating 750 liters of bottled drinking water to the Sacheon City Disability Welfare Promotion Event. Official request letters and photographic evidence of the donation were verified.

3.6.4 *Voluntary 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

3.7 *Implement plan to maintain or improve indirect water use within the catchment:*

3.7.1 *Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.*

Yes

Comment

The site has set a long-term target to reduce indirect water use by 3% by 2050 compared to 2024 levels. Three suppliers—Taeyoung Industry, Henkel Korea, and Amcor—have been identified as priority partners due to their relevance to indirect water consumption.

In July 2025, the site held an online technical exchange session with these three suppliers, sharing key water-management practices including RO and UF filtration technologies and condensate recovery systems.

To establish a comprehensive indirect water-use database, the site set a goal of collecting water-related information from 50% of all suppliers (20 out of 40). As of the audit, 12 suppliers (33%) had submitted data, including facility locations, water-use volumes, and the presence of water-related targets. This represents continued progress toward the site's indirect water use tracking and reduction efforts.

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

Internally, the site engaged with its cafeteria service provider to reduce domestic water use by installing a main water valve, water-saving pedals, outlet valves, and flow meters in 2024. Monthly monitoring for 2025 shows water-use reductions ranging from 3% to 42% compared to the same months in the previous year.

Externally, the site conducted a supplier-wide water-use survey from April to June 2025, receiving responses from 12 out of 40 suppliers. In July 2025, the site held an online technical exchange session with priority suppliers (Amcor, Taeyoung Industry, Henkel Korea), sharing water-management processes and technologies.

No supplier-led water-saving actions have been reported yet as a result of this engagement; however, these initiatives represent an important first step in establishing collaboration and progressing toward the site's indirect water-use targets.

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.

Yes

Comment

To support the indirect water reduction target (3% reduction by 2050), the site selected three priority suppliers located in different major basins:
• Amcor – same sub-catchment
• Taeyoung Industry – Nakdong River Basin
• Henkel Korea – Geum River Basin

In July 2025, an online technical-sharing session was held with all three suppliers, covering key technologies such as RO/UF systems and boiler condensate recovery. While suppliers have not yet implemented specific water-saving actions, this marks the site's first coordinated effort to address indirect water-related risks across different catchments.

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 engaged K-water to discuss measures to prevent recurrent flooding in areas near Gahwa Stream caused by Nam River Dam discharge. Initial proposals from the site included facility inspections (drainage channels, stormwater inlets, sandbags) and review of response manuals. K-water advised prioritizing vegetation removal in previously flooded areas to prevent obstruction of water flow during high-intensity rainfall events. These discussions were confirmed through meeting materials.

The matter was further discussed during the AWS Committee meeting in June 2025, which included participation from K-water, Gyeongsang National University, Sacheon City Hall, local NGOs, and the site. Meeting minutes confirm that stakeholders received and understood the site's key messages and contributed additional perspectives regarding flood mitigation practices.

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

The site identified two governance-related best practice targets based on benchmark case studies:
• Conducting monthly stakeholder interviews
• Publishing an annual water-resource management performance report

To implement these, the site carried out several governance-enhancing actions:
• In June 2025, the site convened an AWS Committee meeting with Gyeongsang National University, the Sustainable Development Center, the Sacheon Environmental Federation, Sacheon City Hall, and K-water to discuss catchment water issues and possible responses.
• The site conducts monthly stakeholder meetings to gather feedback on its water-related activities and to review stakeholder suggestions. Meeting minutes were confirmed.
• The site published its first annual Water Stewardship Report in September 2025, covering water risks, shared water challenges, the WSP, and performance data, and shared it with stakeholders via email.

3.9.2 *Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.*

Yes

Comment

Following best practice reviews, the site increased its water reuse target to 54%. From December 2024 to July 2025, the site achieved a reuse rate of approximately 57%, and the rate is expected to remain at this level through year-end.

To enhance water reuse, the site:
• Installed an HXD condensate-recovery system in September 2025 for the primary tobacco-processing boiler line and began test runs in October. While theoretical recovery is estimated at 523 tons/year, the site conservatively applies 300 tons/year in performance tracking.
• Continues to maintain the RO and UF systems installed in 2022 as core components of its reuse strategy.

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

Yes

Comment

The site incorporated new best practice targets after reviewing sector examples, including enhanced monitoring of Sacheon Bay and exploration of advanced treatment technologies.

Actions taken include:
• Monthly water-quality monitoring of three points in Sacheon Bay since July 2025, in collaboration with Gyeongsang National University, covering chlorophyll, DO, TOC, DIN, DIP, and 12 additional indicators assessed against national coastal water-quality standards. Continued monitoring is expected to support long-term analysis of pollution sources.
• Meetings with domestic ZLD technology providers in April 2025 and sample testing in May. Although feasibility tests in August concluded that ZLD was not suitable for the site, engagement with experts on emerging water-quality technologies continues.

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

Benchmarking results informed the site's best practice target to improve Duryang Reservoir, addressing both water-quality deterioration (algal blooms) and invasive species.

Actions implemented include:
• Consultation with environmental experts (Gyeongsang National University) and development of a master plan through 2030.
• Initial review of aeration systems to address algal blooms, paused due to budget constraints.
• Prioritization of invasive-species removal as the first step. In July 2025, the site and the Sacheon Nature Conservation Council jointly removed bur cucumber, with five site employees participating.
• Ongoing planning of an eco-mapping project of the reservoir area with university experts to support long-term restoration.

3.9.5	*Actions towards achieving best practice related to targets in terms of WASH shall be implemented.*	Yes
Comment	The site adopted best practice targets for WASH support by committing to: • Providing drinking-water assistance to vulnerable populations within the catchment • Implementing at least one WASH improvement initiative in a vulnerable global region Actions implemented include: • Donation of 750 liters of bottled water in April 2025 to support the Sacheon City Disability Welfare Promotion Event. Official request documentation and photos were confirmed. • Planning of a global WASH-improvement initiative remains in progress.	
3.9.6	*Voluntary Advanced Indicator* *Achievement of identified best practice related to targets in terms of good water governance shall be quantified.*	N/A
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
3.9.8	*Voluntary Advanced Indicator* *Achievement of identified best practices related to targets in terms of water quality shall be quantified*	N/A
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
3.9.10	*Voluntary Advanced Indicator* *Achievement of identified best practice related to targets in terms of WASH shall be quantified.*	N/A
3.9.11	*Voluntary Advanced Indicator* *A list of efforts to spread best practices shall be identified.*	N/A
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
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

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 has evaluated its performance against all WSP targets across governance, water balance, water quality, IWRA management, WASH, and indirect water use. The evaluation reflects both achievement levels and contributions to the AWS outcomes.

Governance
The site revised its governance-performance indicators to measure the percentage of stakeholder suggestions that are incorporated into site actions.
• Expansion of AWS Committee participation: Target met (three new institutions added).
• Incorporation of stakeholder suggestions: Target ≥10%; performance 62% (exceeded).
• Internal AWS capacity-building and communication (employee training, best-practice sharing, publication of the Water Stewardship Report): 100% achieved.

Water Balance
The site updated its targets following the introduction of the condensate-recovery system.
• Withdrawal reduction: 31% (target 35%)
• Reuse rate: 54% (target 30%)
• HXD condensate recovery: 25 tons achieved (target 300 tons; first year of operation under test conditions)
• Rainwater-use plan was discontinued due to low feasibility

Water Quality
• Sacheon Bay monitoring: Monthly monitoring from July through October completed, with year-end monitoring expected to be fully achieved.
• Participation in one marine pollution emergency-response drill: Planned for November (on track).
• Review of advanced water-quality technologies: One target complete (ZLD feasibility review), although implementation was discontinued due to technical limitations.

Important Water-Related Areas (IWRA)
• Duryang Reservoir invasive-species removal: Target exceeded.
• Master plan for IWRA improvement: Completed.
• Flood-mitigation vegetation removal near Nam River Dam: One activity completed.
• Participation in IWRA-related community initiatives (Gwangpo Bay, Wansan Wetland): Completed.

WASH
• Support for vulnerable groups: Annual target of 750 L of drinking-water support achieved.

Indirect Water Use
• Long-term target: 3% improvement by 2050. Since it is in the baseline-establishment stage, no quantified reduction achieved yet.
• Technical-sharing sessions with key suppliers: Two sessions completed.
• Supplier water-data collection: Target 50%; performance 33% to date.

Overall, the site has demonstrated meaningful progress across most target areas, with several targets exceeded and foundational steps taken for long-term objectives such as indirect water use improvements.

4.1.2 *Value creation resulting from the water stewardship plan shall be evaluated.*

🔍 Obs.

Comment	The site has quantified several measurable outcomes of its Water Stewardship Plan related to resource efficiency and cost reduction: - HXD Steam Recovery System: - Investment cost: KRW 59 million - Expected annual savings: steam 556.9 tons, water 523 tons, CO□ 6 tons - Estimated annual financial saving: KRW 28,218,702, with KRW 1.35 million achieved to date since installation in September. - RO and UF Filtration Reuse System: - Annual operation and maintenance cost: KRW 154 million - Water cost savings achieved (Jan–Jun 2025): KRW 34 million. The site has demonstrated the ability to quantify value creation in terms of resource savings and cost efficiency, aligning with the AWS intent to assess the benefits derived from water stewardship implementation. However, the assessment does not yet include initial investment costs for the water reuse facility, nor does it evaluate the reduction in discharge fees resulting from the decreased effluent volume to the public wastewater treatment plant. As a result, the current evaluation provides a partial financial picture of value creation, requiring further refinement for completeness.
4.1.3	*The shared value benefits in the catchment shall be identified and where applicable, quantified.*

Yes

Comment

The site identified a range of shared value benefits across social, environmental, and economic dimensions resulting from its governance efforts, monitoring programs, IWRA activities, flood-mitigation initiatives, and WASH support.

Governance – Social Value Creation
• Increased transparency in local water management through regular stakeholder communication
• Reduction of information asymmetry among stakeholders and strengthened collaboration structures
• Integration of diverse expertise (corporate, governmental, academic, NGO) into long-term water-management strategies

Sacheon Bay Water Quality Monitoring – Environmental & Social Value
• Improved understanding of real water-quality conditions and enhanced ability to respond to pollution issues
• Supplementation of limited public datasets through continuous monitoring
• Trust-building with local stakeholders via consistent data sharing

Plogging and Cleanup Activities – Environmental & Social Value
• Strengthened collaboration and improved corporate reputation through participatory activities
• Heightened environmental awareness among employees and stakeholders
• Prevention of waste accumulation and contribution to reduced marine and riverine debris through proper disposal
• Direct contributions to ecological health in IWRA sites such as Gahwa Stream

Flood-Mitigation Vegetation Removal – Environmental & Social Value
• Improved water flow conditions during heavy rainfall, reducing flood risk
• Contribution to lowering the likelihood of damage in historically flood-prone areas
• Establishment of a cooperative response framework with K-water, local authorities, and community partners

WASH Support for Vulnerable Groups – Social & Economic Value
• Enhanced social inclusion and equity through provision of drinking water to vulnerable populations
• Strengthening of local cooperation networks
• Positive contribution to corporate reputation and stakeholder trust

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.

Yes

Comment

A governance-level review was conducted on 1 September 2025 with participation from the Site Head of Manufacturing, the AWS TF Team, and the BAT APMEA North Operations Director. The meeting addressed key elements of the site's water stewardship performance, including:
1. Need to expand the scope of activities and stakeholder engagement
2. Importance of deeper collaboration and feedback exchange with local stakeholders
3. Confirmation of updates to emergency-response manuals (e.g., alternative water sources)
4. Necessity of building and regularly updating a supplier water-data database

Meeting minutes and the scheduling record were verified.

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	According to the site's Incident Reporting Manual (revised July 2023), severe environmental incidents must be reported within 24 hours to the Plant Manager and global corporate representatives. Reports include incident details, investigation team composition, root-cause analysis, and preventive actions. A 2023 incident report was reviewed; although the event was non-environmental, documentation aligned with the prescribed procedure. No environmental incidents have occurred in the past five 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	The site published its Water Stewardship Report in September 2025 (covering 2024–2025 performance) and shared it with stakeholders via email. Stakeholders provided documented feedback: • The Sacheon Environmental Federation (October 2025) commended the site's efforts but emphasized the need for broader networks and participation in existing catchment initiatives, noting that regional water challenges cannot be solved by the site alone. • Gyeongsang National University's environmental engineering professor (September 2025) encouraged the site to publicize its efforts more widely to encourage participation from other companies and highlighted the importance of sustained monitoring and repeated ecological restoration efforts. These exchanges confirm ongoing and meaningful consultation with a representative stakeholder group.	
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
4.4	*Evaluate and update the site's water stewardship plan, incorporating the information obtained from the evaluation process in the context of continual improvement.*	
4.4.1	*The site's water stewardship plan shall be modified and adapted to incorporate any relevant information and lessons learned from the evaluations in this step and these changes shall be identified.*	Yes
Comment	The site updated the 2024 WSP and issued an initial 2025 WSP version in January 2025. Following the recertification audit in March, measurable targets were revised and strengthened in April. Additional modifications were made in August and September to incorporate stakeholder recommendations regarding IWRA actions. All versions reviewed contained documented revision dates, reasons for changes, and approval records, demonstrating a clear process of continuous improvement.	

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's annual Water Stewardship Report includes the internal AWS governance structure, identifying key roles such as the Facility Manager and Water Owner. The position responsible for legal compliance (legal counsel/water environment technician) is also clearly described.

The report has been publicly disclosed through the Gyeongsang National University Sustainable Development Center website and the Sacheon Chamber of Commerce website.
https://www.gnu.ac.kr/sdgs/na/ntt/selectNttInfo.do?mi=16879&bbsId=4685&nttSn=3692501
https://sacheoncci.korcham.net/file/dext5uploaddata/2025/BAT%20Korea_Water%20Stewardship%20Report_v2.pdf

5.2 *Communicate the water stewardship plan with relevant stakeholders.*

5.2.1 *The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.*

Yes

Comment

In June 2025, the site hosted an AWS Committee meeting with Gyeongsang National University (Sustainability Center and Environmental Engineering), Sacheon Environmental Federation, Sacheon City Hall, and K-water. The site presented its AWS progress and 2025 WSP and facilitated discussion on catchment issues and joint actions. Meeting records and stakeholder comments were verified.

Additionally, the site conducts monthly visits to local stakeholders, sharing summaries of the WSP and collecting feedback. Meeting minutes were reviewed.

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 published its first annual Water Stewardship Report in September 2025, covering 2024–2025 performance. The report was shared via email with stakeholders and publicly disclosed on the Gyeongsang National University Sustainability Center and Sacheon Chamber of Commerce websites.

The report includes:
- Overview of AWS and the site
- Catchment water risks and shared water challenges
- WSP targets and performance
- 2024 intake reduction and reuse performance
- Progress on supplier water-data collection

The site's pollutant discharge data (BOD, TOC, SS, TN, TP) is disclosed through the national environmental information portal. 2023 data was verified; 2024 data has been submitted and is under review.

5.3.2	*Advanced Indicator* *The site's efforts to implement the AWS Standard shall be disclosed in the organization's annual report.*	Yes
Comment	BAT publishes a global Combined Annual and ESG Report annually. The report states that AWS is implemented across BAT's global manufacturing network and that 51 BAT sites are AWS certified. BAT Korea, as an AWS-certified site, is included in this disclosure.	
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
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's Water Stewardship Report (published September 2025) disclosed the five shared water challenges identified in Indicator 1.6.1 and summarized the site's corresponding response actions. The report is available on the Gyeongsang National University Sustainability Center and Sacheon Chamber of Commerce websites.	
5.4.2	*Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.*	Yes
Comment	Several engagement and coordination activities were verified: • Flood-mitigation coordination with K-water – The site discussed mitigation strategies with the K-water Namgang Dam office. – K-water requested prioritization of vegetation removal in areas where past flooding occurred. – Meeting records were reviewed. • Protection of drinking-water source area – In May 2025, six site employees joined the cleanup of Wansa Wetland (drinking-water protection zone) organized by Sacheon City. • Support for disaster-preparedness drills – The site is scheduled to participate in November emergency training led by Sacheon City to respond to aviation fuel spill incidents. These actions demonstrate strong engagement with public-sector agencies.	
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	The site stated that no water-related compliance violations have occurred since the previous audit. No issues were identified for more than five years, and no concerns were raised by stakeholders. A review of national disclosure systems—including the National Pollution Source Survey and the Environmental Information Disclosure platform—confirmed that no violations were recorded.	
5.5.2	*Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable.*	Yes

Comment	As no water-related compliance violations have occurred since the previous audit, no corrective actions were required.	
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 such violations have occurred since the previous audit; therefore, no reporting or disclosure actions were necessary.	

Upgrade or Downgrade of Certification

Justification for Upgrade or Downgrade

The site meets all core indicators and all indicators required for the Platinum level, with the addition of seven observations raised for continual improvement.
The site is recommended for an upgrade to Platinum certification.

Summary of Evidence which led to change

The site has demonstrated substantial improvements across all AWS outcomes since the previous audit cycle. Key advancements include:
- Strengthened governance capacity through expanded stakeholder engagement, monthly consultation meetings, and publication of the annual Water Stewardship Report.
- Significant enhancement in water balance performance, achieving over 57% water reuse and implementing condensate-recovery systems to further reduce freshwater withdrawal.
- Improved water quality management, including monthly monitoring of three points in Sacheon Bay, participation in spill-response exercises, and evaluation of advanced treatment technologies.
- Active contribution to IWRA protection, such as invasive-species removal and initiating long-term ecological restoration planning for Duryang Reservoir.
- Expanded WASH and indirect water use actions, including support for vulnerable groups, supplier engagement, and technical knowledge-sharing activities.
- Catchment-level collaboration involving coordinated activities with K-water, local government, universities, and NGOs to address shared water challenges.

These collective efforts represent clear progress toward best practice performance and justify the upgrade to Platinum certification.

Previous Findings

	All non-conformities raised in the previous audit have been satisfactorily closed.	Yes
Comment	Yes, all non-conformities raised in the previous audit have been satisfactorily closed.	