Alliance for Water Stewardship Assessment Report for single site certification

Prepared for Philp Morris Korea Inc.

Single site certification

SITE: Philp Morris Korea Inc. Yangsan Factory

AWS REFERENCE: AWS-000406

Prepared by: SGS

SGS Ref.: 02-958-20165

Version: 1

Date: 20th December 2021

REPORT DETAILS

REFERENCE	AWS-000406
CLIENT REFERENCE	Mr. Jeff Shin
REPORT TITLE	**ALLIANCE FOR WATER STEWARDSHIP ASSESSMENT REPORT**
DATE SUBMITTED:	20th December 2021
CLIENT:	Philp Morris Korea Inc. Yangsan Factory 67, Sanmakgongdannam 12 gil,Yangsan si,Gyeongsangnam do
PREPARED BY:	Ms. Kasamol Phaibul 100 Nanglinchee Road Chongnonsee Yannawa Bangkok 10120 Tel: 02 6781 813 E-mail: Kasamol.phaibul@sgs.com
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TECHNICAL SIGNATORY	Signed: 09337126T PAULA SOFIA GOMEZ (C:A28345577) Digitally signed by 09337126T PAULA SOFIA GOMEZ (C:A28345577) Date: 2022.01.24 08:54:01 +01'00' Paula Gómez Geras
STATUS	FINAL
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1 EXECUTIVE SUMMARY

The scope of services covers the conformity assessment of water use in compliance with the AWS International Water Stewardship Standard Standard Version 2 for Philp Morris Korea Inc. Yangsan Factory (hereinafter referred to as “the site”) located at 67, Sanmakgongdannam 12 gil,Yangsan si,Gyeongsangnam do. The assessment has been completed in compliance with the AWS Certification requirements, Version 2 dated March 03rd 2019.

Philp Morris Korea Inc. is an affiliate of Philip Morris International (PMI). Philp Morris Korea Inc. acquired the tobacco production license in Auguest 2002 and Yangsan factory was established in October 2002 and in 2015 won the Tower of Excellence for achieving $ 100 million export. Year 2018, Philp Morris Korea started to produce HEETS (specially designed heated tobacco units intended for exclusive use with IQOS blade heated tobacco device) and have completed building capability to manufacture all HEETS variants in Korea market in 2019.

On November 23rd and 24th 2021, SGS Thailand (hereinafter referred to as “SGS”) conducted the conformity assessment for the site’s facilities and activities with regard to certification to the AWS Standard on site by Kevin Ku and on remote by Kasamol Phaibul. A total of five findings were raised during the course of the audit process, and they were all categorized as observations.

Given the review of evidence produced and the site visit inspection , SGS recommends Philp Morris Korea Inc. Yangsan Factory is awarded the AWS Core Certified status with surveillance audit interval of annual frequency.

2 SCOPE OF ASSESSMENT

The scope of services covers the conformity assessment of water use in compliance with the AWS Standard (Version 2.0) for the Philp Morris Korea Inc. Yangsan Factory (hereinafter referred to as “the site”) located at 67, Sanmakgongdannam 12 gil,Yangsan si,Gyeongsangnam do.

The assessment has been completed in compliance with the AWS Certification requirements, Version 2.0 dated March 03rd 2019.

On November 23rd and 24th 2021, SGS conducted the conformity assessment of site’s facilities and activities with regard to certification to the AWS Standard on site by Kevin Ku and on remote by Kasamol Phaibul. Table 2.1 includes details of SGS audit team. The audit plan is attached as a separate document.

Table 2.1 SGS Audit Team

Audit Team	Qualifications/Experience	
Kasamol Phaibul	Lead Auditor	AWS certified auditor with about 10 years of environmental experience with focus on GHGs emission and due diligence.
Kevin Ku	Local Expert	Korea auditor with about 6 years lead auditor in ISO 9000 and ISO 14001
Paula Gómez Geras	Technical Reviewer	AWS certified auditor, with more than 15 years experience in pollution control, environmental impact assessment, ISO14001 audit and training.

The site was represented at the audit by:

Mr. Jeff Shin EHS specialist

Mr. Andy Yoo

Ms. Subin Kim

The 2 days audit covered documentary review, interview of the installations and activities in tobacco manufacturing plant and personnel interviews. One hour on slot had also been reserved for the stakeholders’ consultation meeting on November 23rd 2021.

The site provided most of the requested supporting documentation as evidence whilst before and during the audit. The outstanding information was provided in the aftermath of the site audit via access to the site sharepoint.

SGS provided initial feedback on the level required by the Standard during the closing meeting on November 24th 2021.

3 STAKEHOLDERS' ANNOUNCEMENT AND CONSULTATION

In compliance with the AWS Certification Requirements, public stakeholders' announcements were published at least 30 days before the audit on:

1. AWS website link https://a4ws.org/certification/certification-consultations/;
2. Local newspaper.
3. Factory's media post


얼어붙은 IPO 시장
신규상장 도전 감소 기미
살얼음판 국내 증시…"연말 앞두고 대형주 유리"
"개인 투자시대, 은퇴 전문가 찾아 TDF로 온다"
공시

Photo 3.1 Information Disclosure on local news paper on 10th/10/2021

Photo 3.1 Information Disclosure in factory

During the consulation period, SGS did not receive comments from stakeholder.

3.1 Local stakeholder consultation

The AWS certification audit was carried out in remote and on site. The site provided the stakeholder's mapping on advance of the audit to enable communication witht a selected sample and replace the on-site stakeholders' consultation meeting. The stakeholders are classified into government agency, researcher, neighbourhood, NGO, university, employee, wastewater treatment operator, contractor and visitor and outsourced water user.

According to COVID-19 situation, the following stakeholders were interviewed by phone called during 13.00 to 14.00 on November 23rd 2021. The interviwed was conducted in Korea language by Mr. Kevin Ku, SGS local expert.

Location in site	Company name	Position	Name
Wastewater Treatment plant	Yuduk environmental service	Manager	Gwangchun, Jang
Facility	Doing	Manager	Wansik, Kim
Canteen	Pulmuone	Nutritionist	Jinyoung, Yang
N/A	Korea Water Resources Corporation (K-water) Catchment Research Institute	Researcher	Dr. Ok jeong Lee

The site had conducted the individual stakeholder consultation. The consultation result was provided and showed in document name “PMK Yangsan - List Stakeholders 2021”.

4 DESCRIPTION OF CATCHMENT

The site is located in Gyeongsangnam-do Province. The major basin is North and South Korea, and Kumho-gang is minor basin. Referring from Aqueduct Water Risk Atlas, water stress of the factory is medium-high.

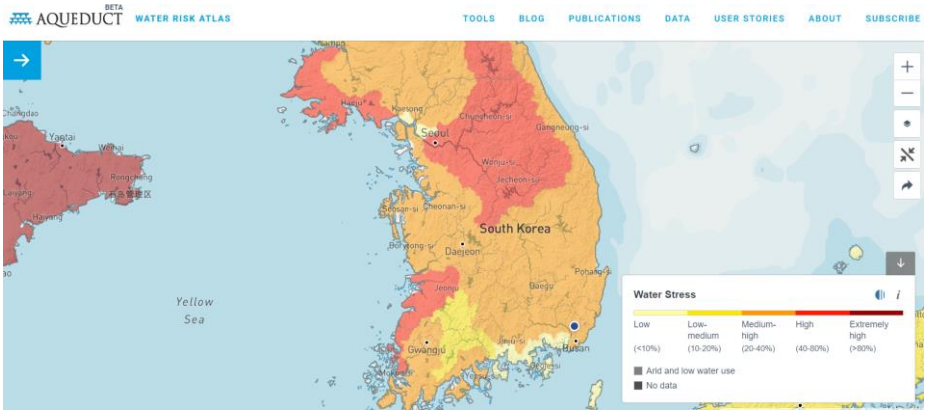


Figure 1: Water Stress result, Aqueduct Water Risk Atlas (wri.org)

The Nakdong River basin (Kumho-gang) or Nakdonggang is the longest river in South Korea, flows from the Taebaek Mountains to the South Sea or Korean Strait. The river originates from the junction of the Cheolamcheon and Hwangjicheon streams in Dongjeom-dong, Taebaek city, Gangwon province. From there to its mouth it winds for about 506 kilometres (314 mi). The width of the river ranges from only a few metres in its upper reaches, to several hundred metres towards its estuary.

Major tributaries include the Yeong, Geumho, and Nam rivers. Together with its tributaries, the Nakdong drains most of North Gyeongsang and South Gyeongsang provinces, along with small portions of North Jeolla, South Jeolla, and Gangwon. The total watershed is 23,384 square kilometres (9,029 sq mi).

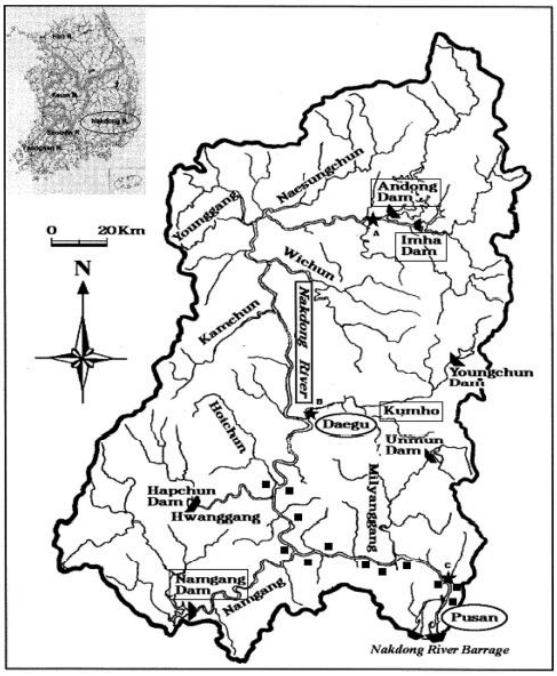


Figure 2. The Nakdong River basin

Water utility in the site is served by K-water, which is a government-owned corporation that is responsible for water resources man- agement in Korea.

Figure 3: The distribution map of multi-regional water supply system

The multi-regional water supply system is a facility designed to provide water to more than two local governments. It is equipped with large-scale pipelines and water treatment facilities. This facility is recognized as the most efficient way of allowing the whole nation to evenly enjoy the benefits of water, to achieve balanced regional development, and to help remove the problem of water shortage even during relatively long droughts. An integrated management system has been established to provide water for drinking/industry/agriculture by dividing the nation into 9 areas. The site is located in Nakdonggang Area, which 2 water supply systems;

Milyang Dam Multi-regional water supply system is an eco-friendly facility including a natural ecology park and woods in an inclined area of the dam. Newly built Milyang Lake has a graceful landscape and is used as a sightseeing resort and recreation area linked with Gaji Mountain and Pyochung temple. The water supply system intakes 150,000 ㎥ per day of water from Milyang Dam, and purifies and provides water to Milyang, Yangsan and Changnyeong. It has 91㎞ of water pipes and two filtration facilities.

The Ulsan industrial water supply system was built in 1964 to provide industrial water to Ulsan industrial complex. After several extentions and new construction of Ulsan multi-regional water supply system, it now supplies 220,000 ㎥ per day of drinking water and 1,325,000 m3 per day of industrial water to Ulsan, Yangsan and industrial complexes around the cities.

The system comprises 3 dams, 2 water intakes, a water treatment plant in Onsan and water pipes with a total length of 227 km.

5 SUMMARY OF SHARED WATER CHALLENGES

The site has developed a list of main shared water challenges. Resons for ranking was provided together with resons why the challenges are considered priorities for both the site and stakeholders.

Water Challenge	Associated public-sector agency/initiative	Relevance/rationale for stakeholders	Relevance/rationale for site	Priority	Site's effort
Extreme events - Typhoon , heavy rain, flooding, droughts,	Korea Meterological Administration Yangsan Cityhall Ministry of the Interior and Safety	Threat to safety of manufacturing and commuting of workers	-Production delay or incident during commute -According to Ministry of the Interior and Safety(행안부) statistcis data, PMK Yangsan area is not classified as flood prone area or frequent flood damage area , droughts risk area	LOW	- increasing awareness during flood prone season - conduct risk assessment upon weather forecast warning at Yangsan - conduct Typhoon preparedness control
Water pollutants occurrences in water system - Accidental detection of water contaminants in the local river system	Yangsan Cityhall, Nakdong river environmental office, neighboring company, local residents	Potential hazards to local resident's health Water supply issue	-Frequent inspection or visit by local authorities to business entities Enhanced regulations actvation Civil complaint	MEDIUM	- Water quality analysis: Full sweep of water quality analysis in every 6 month, monthly and daily water analysis by on-site WWTP - multi-stakeholder workshop to discuss about regulatory risks -Frequent visting for National water monitoring system -Recive warnning text from local authority
Water soucre quality Green algal blooms (녹조)	Yangsan Cityhall, Nakdong river environmental office, neighboring company, local residents	Water supply issue Advanced and additional treatment are required to secure standard Water quaility	Saving water use is morally and economically reasonable	MEDIUM	Nature cleaning project with Communities and government - Green tiger & WWTP - Waste water disposal - regular waste water inspection - Rain drainage contorl
Littering : Waste contaminating the surface rivers	National scale interest	Awareness growth of cleaning environment and prevention of littering	Opportunity to join effort for a awareness raising campaign on preventing littering the rivers	MEDIUM	- Nature cleaning project with Communities and government - anti-littering campaign internally - Green tiger
Deficient water resources and increasing water cost	Yangsan city hall	Water resources becomes generally scarce and cost is increasing for clean water	Saving water use is morally and economically reasonable	MEDIUM	- Water saving programs across the Site - Green tiger
Enforcement of water regulations	Ministry of environment	legal non compliance and Reputation decrease	compliace issue and reputation decrease fine and legal action	High	- Annual Legal register update - Legal tracker project - WWTP monitoring - permit management - point source contorl - Emergency preperation plan
WASH right for employee and communities	Yangan city hall office, general public of yangsan citizens	Potential contaminants to municipal water and threat to end-user	Municipal water containinant risk is low. Yangsan city water is treated in the government managed waterwork facilities and periodically tested as per local water regulation. Test results are publically available ant recent results are all qualified as portable water.	LOW	-Good WASH implementation inside Yangsan Plant - Periodic water storage cleaning - Regualr inspection - Regular drinking water inspection
Abnormality of Water balance due to climate change	NGO , K-water , Ministry of environment, city hall	Water supply issue Overall impact on environmental aspects	Demanding of high responsibility	High	carbon neutrality project / ESG-P / Green tiger
					Last Updated : OCT 2021

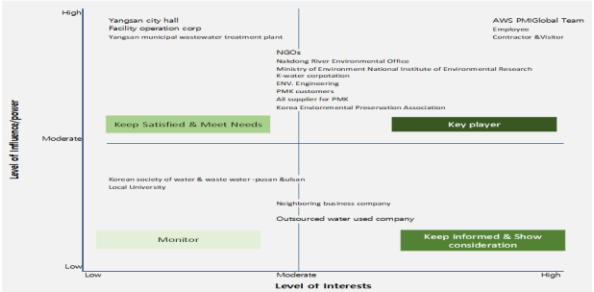
6 INDICATORS CHECKLIST

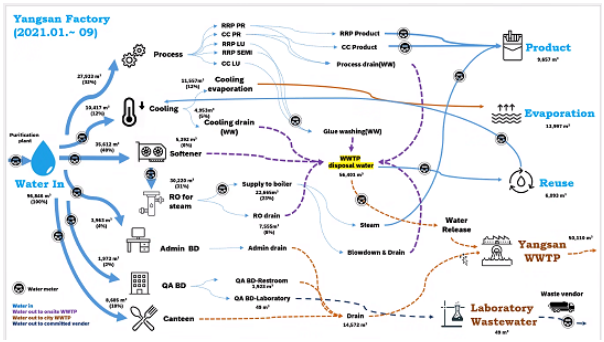
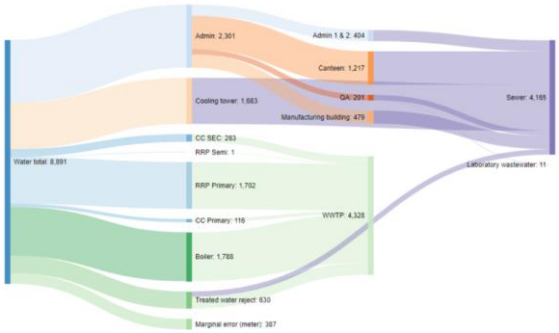
As per the requirement set out in the AWS certification requirements Section 2.11.3.1 below is a checklist of all the CORE AWS indicators with the relevant reviewed evidence provided by the site. and the indicator with which it is associated.

Table 5.1 Evidence reviewed by SGS against each CORE AWS indicator

Clause	Details	Yes	No	Comments/Evidence
1	Gather and Understand (core)			
1.1	site's physical scope for water stewardship purposes			
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.	☒	☐	- Site boundary from googlemap was provided. Discharge pint was indicated on map. - Water source come from municipal water - 2 discharge points for raining and treated water. Treated water is sent to local government agency wastewater treatment plant before discharging to Yangsan Stream - Municipal water provider: Korea government - Related catchment is Nakdong River and Yansan Downstream 

Clause	Details	Yes	No	Comments/Evidence
				 Source: Google Maps and local EIA report
1.2	Understand relevant stakeholders, their waterrelated 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;	☒	☐	The site has defined the following categories of internal and external stakeholders by mixing age, gender and group of people: • Who impact the site • Who may receive impact from the site activity • Who live/locate nearby the site • Who may interested in the site activity • Who the site have contracted to The degree of their influence/power and interest are classified in high, moderate and low. The the stakeholders have been defined the engagement strategu as evaluating these stakeholders • Keep informed and show consideration • Keep satisfied and meet needs • Key Player Manage Closely • Monitor

Clause	Details	Yes	No	Comments/Evidence
	- 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.			
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.	☒	☐	The degree of influence has been identified as high moderate and low. The ranking is separated into the influence of stakeholder to site and site to stakeholder.
1.3	Gather water-related data for the site, including: water balance; water quality, Important Water-Related Areas, water governance, WASH; water-related costs, revenues, and shared value creation.			
1.3.1	Existing water-related incident response plans shall be identified.	☒	☐	The site provided • Emergency Prepareness procedure, version 2.0, effective date 07/11/2018, • PSM Emergency Response Plan, effective date 05/2020 • Moreover, the site provided spill response flow diagram and wastewater treatment manual. They describe the Emergency Programme which is intended to prepare, in the broadest sense, workers at the premises of the site, in the event of an extensive chemical leakage
1.3.2	Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped.	☒	☐	Water balance, which inclide volume of inflow, losses, storage and outflows was provided.

Clause	Details	Yes	No	Comments/Evidence
				 
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.	☒	☐	Water usage come from municipal water. It uses for sanitary and engineering. Water usage and discharge are monitored and recorded in monthly. Water balance between year 2020 to February 2021 were provided.
1.3.4	Water quality of the site's water source(s), provided waters, effluent and receiving water bodies shall be	☒	☐	The site has performed the qualitative monitoring in accordance with the legal requirements in force: • Wastewater quality after treated at discharge point to municipal wastewater treatment plant. Moreover, the site has monitored quality of income water, wastewater quality at Yangsan city

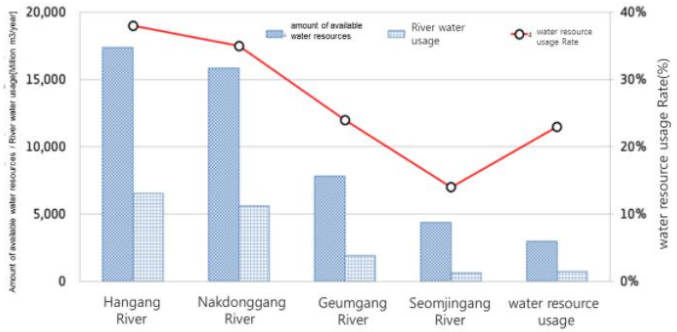
Clause	Details	Yes	No	Comments/Evidence
	quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be quantified.			All the water quality have submitted to government agency. The result is in line with the requirement standard.
1.3.5	Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.	☒	☐	The factory has identified potential sources of water pollution in both point sources and non point sources which are the following: • Waste storage • On – site wastewater treatment plant and chemical tank • Harzardous material/substance and chemical storage, laboratory • Storm water pipeline • Boiler • On – site load and atmosphere PMR keeps track of sensitive points with pollution potentia
1.3.6	On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.	☒	☐	Reffering from site representative interview and local auditor confirmation, no on-site water-related areas.
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.	☒	☐	Water-related costs are provided. The site has monitor cost; • Costs related to the water consumption/used • Costs qualitative analysis of wastewater, in order to comply with legal requirements and other requirements • Costs related to the maintenance of the entire existing infrastructure for water used on site • Costs related to on-site treatment of waste water
1.3.8	Levels of access and adequacy of WASH at the site shall be identified.	☒	☐	The site has applied WASH to provide clean drinking water, to all employees.

Clause	Details	Yes	No	Comments/Evidence
				
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.	☒	☐	The primary input material is leaf which import from outside Korea. Leaf suppiers are complied with leaf sustainable agriculture of PMI global. Moreover, the site has sent an email with a questionnaire to 68 major suppliers even though they are located outside Korea and not locate in the site's catchment during October 2020. 62% are responsed to questionnaire.
1.4.2	The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.	☒	☐	List of 6 outsourced services were provided. 4 of them locate in the site and 2 services locate within the site's catchment. Water used quantity is estimated in annually.
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),	☒	☐	Evidence of PMK – Water Governance 2018 – 2021 was provided. The document identify 23 government site program.

<table>
<tr><th>Clause</th><th>Details</th><th>Yes</th><th>No</th><th>Comments/Evidence</th></tr>
<tr><td></td><td>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.</td><td></td><td></td><td>
<table>
<tr><th>No.</th><th>Governance issue</th><th>Program(Government site) Program</th><th>PMK's effort related</th></tr>
<tr><td>1</td><td>Pubilc Water interests
(Cirgarett but contamination)</td><td>Expanded Producer responsiability
Cigarette butt Control</td><td>바다사랑캠페인
전국 6개 해변에서 바다사랑 캠페인의 일환으로 플라스틱 쓰레기등
자원봉사자들에 의한 쓰레기 줍기 활동 후원</td></tr>
<tr><td>2</td><td rowspan="2">Pubilc Water interests
(Other contamination)</td><td>MOE - pointNon-point socure control</td><td>나꽁치 캠페인</td></tr>
<tr><td>3</td><td>MOE - awareness increase campaign on preventing littering the water source</td><td>나꽁치 캠페인 / 바다사랑 / Green tiger / EarthDam Campaign</td></tr>
<tr><td>4</td><td>extreme event</td><td>Ministry of the interior and safety - Disaster and Safety Management</td><td>Site Emergency plan</td></tr>
<tr><td>5</td><td rowspan="13">Water-related regulation\Law</td><td rowspan="4">물환경보전법
Water Environment Conservation Act</td><td>폐수배출시설 설치 및 신고 관리, 폐수 배출시설 관리기준, 위탁폐수탱크 관리
WWTP permit, internal management based on legal expectation</td></tr>
<tr><td>6</td><td>배출 폐수 수질 관리
WWTP Water quality control</td></tr>
<tr><td>7</td><td>위탁폐수 관리 및 위탁폐수배출보고서
Generation report for cityhall</td></tr>
<tr><td>8</td><td>특정수질유해물질배출보고서 작성
Water contamination report submission for City hall</td></tr>
<tr><td>9</td><td>수질오염물질 전항목 조사
inspection for water contamination material</td></tr>
<tr><td>10</td><td>하수도법
Sewerage Act</td><td>양산시 공공처리 시설 사용 및 하수도 요금 지불
Use Yangsan WWTP and pay the cost</td></tr>
<tr><td>11</td><td rowspan="3">토양환경보전법
Soil Environment Conservation Act</td><td>특정토양오염관리대상시설 설치신고 Submission of Facility for the prevention of soil pollution</td></tr>
<tr><td>12</td><td>특정토양오염 토양오염 방지 설비 관리 Management of Facility for the prevention of soil pollution</td></tr>
<tr><td>13</td><td>특정토양오염 토양오염도 면제 보고서 작성
Application for the exception of special soil contamination substance</td></tr>
<tr><td>14</td><td>지하수법
Groundwater Act</td><td>지하수 사용허가 및 수질검사 (과거 지하수 개발시 해당, 현재 관계 없음)
ground water permit(not applicable)</td></tr>
<tr><td>15</td><td rowspan="2">환경오염피해 배상책임 및 구제법
Act On Liability For Environmental Damage And Relief Thereof</td><td>환경책임보험 가입 Environmental liability insurance application</td></tr>
<tr><td>16</td><td>환경책임보험 현장 위험성 실사 조사 Onsite inspection for Environmental liability insurance</td></tr>
<tr><td>17</td><td>수도법
Water Supply And Waterworks Installation Act</td><td>현장 저수조 청소 및 수질 검사 실시
Water tank cleaning and water quiality test</td></tr>
<tr><td>19</td><td rowspan="6">Water related Goal
(KSDGs)</td><td>6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all
모두를 위한 안전한 식수를 공평하게 공급한다.</td><td>Water suppply management/ potable water management / personal hygein care
Green tiger campaign</td></tr>
<tr><td>20</td><td>6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
모두에게 편리한 하수도 서비스를 제공한다.</td><td>On-site WWTP management</td></tr>
<tr><td>21</td><td>6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
수질오염 물질의 수계 유입을 최소화하여 수질개선을 담보한다."</td><td>AWS, Emergency Response plan, WWTP,Green tiger campaign</td></tr>
<tr><td>22</td><td>6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity 물공급 안정성 도모를 위해
수자원을 효율적으로 사용한다</td><td>Water KPI mananagment, AWS , water saving project ,Green tiger campaign</td></tr>
<tr><td>23</td><td>6.5 By 2030, implement integrated water resources management at all l evels, including through transboundary cooperation as appropriate
수생태계의 건강성을 회복하고 다양성을 확대한다.</td><td>AWS , Green tiger campaign</td></tr>
<tr><td>24</td><td>6.6 Support and strengthen the participation of local communities in improving water and sanitation management 건강하고 안전한 물관리를 위해 지역공동체 참여를
지원하고 강화한다</td><td>AWS , Clearbeach , GOGO ! , Sustainability activity , Green tiger campaign</td></tr>
</table>
</td></tr>
<tr><td>1.5.2</td><td>Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.</td><td>☒</td><td>☐</td><td>Evidence of PM Korea Register of Environment Legal Requirements and Compliance Evaluation was provided. 34 legislation have been identified with requirements name (publication, reference No.), type of regulation, effective date, related topic/aspect, summary of requirement.</td></tr>
</table>

<table>
<tr><th>Clause</th><th>Details</th><th>Yes</th><th>No</th><th>Comments/Evidence</th></tr>
<tr><td></td><td></td><td></td><td></td><td>
<table>
<tr><th colspan="6">REGISTER - GENERAL INFO</th></tr>
<tr><th>Leg. No.</th><th>Legislation, Requirements (Publication, Reference No)</th><th>Type of regulation</th><th>Effective date</th><th>Identification of new/changed/ pending requirement done by</th><th>Identification/ update date</th></tr>
<tr><td>1</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>2</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>3</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>4</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>5</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>6</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>7</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>8</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>9</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>10</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
<tr><td>11</td><td>물환경보전법</td><td>법</td><td>[시행 2020. 1. 1.] [환경부령 제829호, 2019. 10. 17., 일부개정]</td><td>Nate Kim</td><td>Sep. 2020</td></tr>
</table>
</td></tr>
<tr><td>1.5.3</td><td>The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.</td><td>☒</td><td>☐</td><td>Evidence of risk in flooding (coastal and riverine flood), drought, baseline water strss assessment was provided. The overall risk is in low-medium. The site accessed to government agency website to tracking water balance of Nakdonggang river water, which is site’s catchcment.</td></tr>
</table>

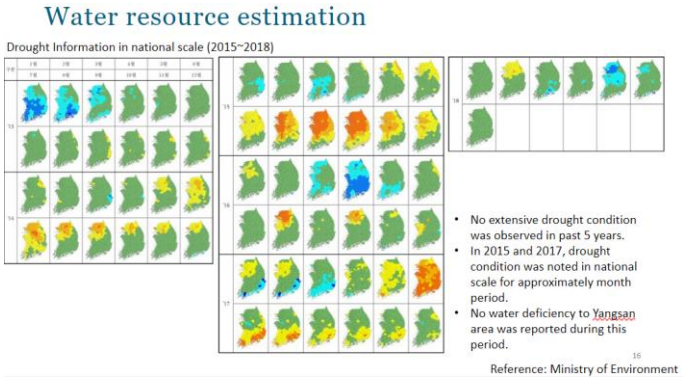
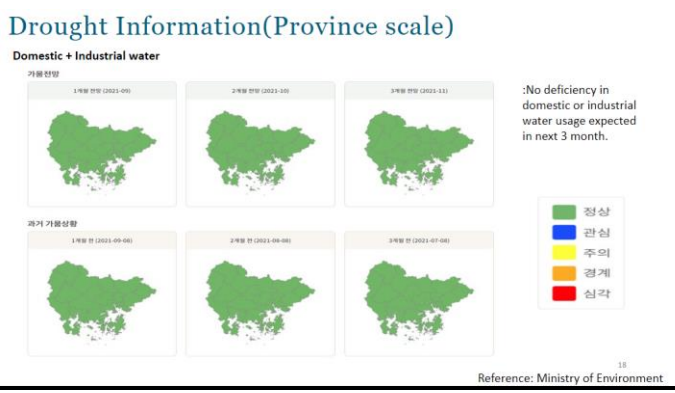
Clause	Details	Yes	No	Comments/Evidence



Ref: https://www.water.go.kr/front/bbs/bbsView.do?bbsSn=11&nttSn=1295

Summary of risk from water risk filters for the catchment area

Risk	Low	Low-medium	Medium	Medium- hight	High	Extremely High
Overall Risk		V				
Flooding(Coastal)	V					
Flooding(Riverine flood)	V					
Drought			V			
Baseline Water Stress				V		
Regulatory and reputational risks	V					

Clause	Details	Yes	No	Comments/Evidence
				 

Clause	Details	Yes	No	Comments/Evidence
				Water Risk Filter(Flooding) Coastal flood 
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.	☒	☐	Water source quality and water pollutants occurrences in water system have been identified in a water-related challenge. The site has tracked water quality of the catchcment in parameters related to physical, chemical, and biological of National water monitoring system from link http://www.koreawqi.go.kr/index_web.jsp **Total water pollution load Tracking log** Point / Date / water temperature(℃) / Ph / conductivity(μS/㎝) / DO(㎎/L) / BOD(㎎/L) / COD(㎎/L) / SS(㎎/L) / 총질소(T-N)(㎎/L) / 총인(T-P)(㎎/L) / 총유기탄소(TOC)(㎎/L) / Flow rate(㎥/s) 낙본K / 2021.01.04 / 4.6 / 7.5 / 437 / 13.1 / 1.7 / 5.1 / 2.4 / 3.223 / 0.025 / 3.8 / 27.905 낙본K / 2021.01.11 / 2.8 / 7.3 / 461 / 14.3 / 2 / 5.4 / 4 / 3.268 / 0.031 / 4 / 27.499 낙본K / 2021.01.18 / 3.1 / 7.3 / 463 / 15.2 / 2.2 / 5.9 / 6.4 / 3.327 / 0.032 / 4.4 / 45.28 낙본K / 2021.01.26 / 5.1 / 7.2 / 470 / 15.6 / 2.1 / 6 / 7.6 / 3.416 / 0.026 / 4.6 / 71.747 낙본K / 2021.02.01 / 4.5 / 7.8 / 459 / 15 / 1.9 / 5.7 / 6.4 / 3.194 / 0.027 / 4.4 / 23.245 낙본K / 2021.02.08 / 5.1 / 7.6 / 451 / 14.5 / 2.2 / 6 / 6.4 / 3.349 / 0.034 / 4.6 / 18.989 낙본K / 2021.02.16 / 6.6 / 8.4 / 451 / 12.1 / 2.8 / 6.6 / 12.4 / 3.489 / 0.027 / 5 / 15.065 Date / 회차 / 측정 유형 / 수심(m) / water temperature(℃) / DO(㎎/L) / BOD(㎎/L) / COD(㎎/L) / SS(㎎/L) / TN(㎎/L) / TP(㎎/L) / TOC(㎎/L) / PH / phenols(㎎/L) / conductivity(μS/㎝) / 총대장균군수(총대장균군수/100ml) / Cd(㎎/L) / CN(㎎/L) / Pb(㎎/L) / Cr+6가크롬(㎎/L) / As(㎎/L) / Hg(㎎/L) 2021/01/11 / 1회차 / 3.7 / 14.5 / 1.2 / 3.4 / 1.8 / 2.266 / 0.039 / 1.4 / 7.3 / 정량한계미만 / 555 / 12 2021/02/02 / 1회차 / 7.4 / 11.4 / 2.5 / 2.8 / 4 / 2.668 / 0.062 / 1.9 / 7.2 / 345 / 6600 2021/03/03 / 1회차 / 7 / 11.8 / 0.8 / 2.1 / 3.6 / 2.292 / 0.038 / 2.2 / 7.3 / 정량한계미만 / 137 / 1020 / 정량한계미만 / 정량한계미만 / 정량한계미만 / 정량한계미만 / 정량한계미만 / 정량한계미만 2021/04/06 / 1회차 / 14.3 / 10.2 / 1 / 2.7 / 2.6 / 1.683 / 0.034 / 1.6 / 7.2 / 정량한계미만 / 218 / 730 2021/05/04 / 1회차 / 17.9 / 10.4 / 2.9 / 4.9 / 6 / 1.638 / 0.016 / 3.3 / 7.3 / 정량한계미만 / 383 / 6200 2021/06/04 / 1회차 / 23.1 / 7.8 / 2.4 / 4.5 / 3.4 / 1.429 / 0.026 / 3.1 / 7.7 / 정량한계미만 / 520 / 400 / 정량한계미만 / 정량한계미만 / 정량한계미만 / 정량한계미만 / 정량한계미만 / 정량한계미만 2021/07/08 / 1회차 / 21.1 / 8.6 / 0.9 / 1.4 / 11.6 / 1.596 / 0.024 / 2 / 7.3 / 0 / 86 / 8400 2021/08/03 / 1회차 / 30.4 / 7.9 / 3.3 / 4.2 / 5 / 1.989 / 0.018 / 2.9 / 8.2 / 정량한계미만 / 255 / 1050
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.	☒	☐	Imporant Water-Related Areas are identified. The criteria for assessment are; • Location and name of Imporant Water-Related Areas • Relationship with the site • Distance from site • Description of genral status and general status • Exposure to extream event • Commentary on futher trends

Clause	Details	Yes	No	Comments/Evidence
				All list of Imporant Water-Related Areas are in Excellent condition - requires no work and is an example of a well-preserved site of that type. Catchment: Important Water Related Area(with local catchment level)  Legends / Description / Distance (km) PMK Yangsan factory — 0km 1 Sanmak industrial region Water-Supply Reservoir 산막공단 물 공급배수지 — 2.8km 2 Yangsan-city Yusan waste landfill facilities 양산시 유산폐기물매립장 — 7.1km 3 Yangsan municipal water purification plant 양산 법어정수장 — 7.6km 4 Yangsan municipal wastewater treatment plant 양산시 폐수처리장 — 10.2km 5 Yangsan Muljuam water pump station 양산시 물공급을 위한 취수장 — 11.6km 6 화엄늪 Hwaeom Wetland — 14.9km 7 양산일반산업단지 공공폐수처리시설 WWTP for industrial area — 2.6km 8 Mt. Sinbul 1,4 high moor wetland 신불산 고산 1,4 습지 — 19.8km 9 Milyang Dam 밀양댐 — 28.6km 10 Nakdong River estuary 낙동강하구 — 35.7km Source: Google Maps and local EIA report
1.5.6	Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.	☒	☐	The site doesn´t have any extreme risk. Water come from municipality infrastructure.
1.5.7	The adequacy of available WASH services within the catchment shall be identified.	☒	☐	The Municipality provide by government agency at high level of water quality and effluent management to the community in general. Stakeholders and local people can access to clean water and public facilities.
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.	☒	☐	Shared water challenges has been identified and prioritized in account the following criteria; • List of water challenge • Associated public sector agency • Relevent actionable for stakeholders and site

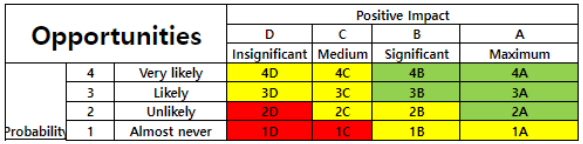
<table>
<tr><th>Clause</th><th>Details</th><th>Yes</th><th>No</th><th>Comments/Evidence</th></tr>
<tr><td></td><td></td><td></td><td></td><td>• Priority
• Site's effort</td></tr>
<tr><td>1.6.2</td><td>Initiatives to address shared water challenges shall be identified.</td><td>☒</td><td>☐</td><td>The Initiatives to address shared water challenges has been identified;
• Extreme events - Typhoon , heavy rain, flooding, droughts,
• Water pollutants occurrences in water system
• Water soucre quality
• Littering : Waste contaminating the surface rivers
• Deficient water resources and increasing water cost
• Enforcement of water regulations
• WASH right for employee and communities
• Abnormality of Water balance due to climate change</td></tr>
<tr><td>1.7</td><td>Understand the site's water risks and

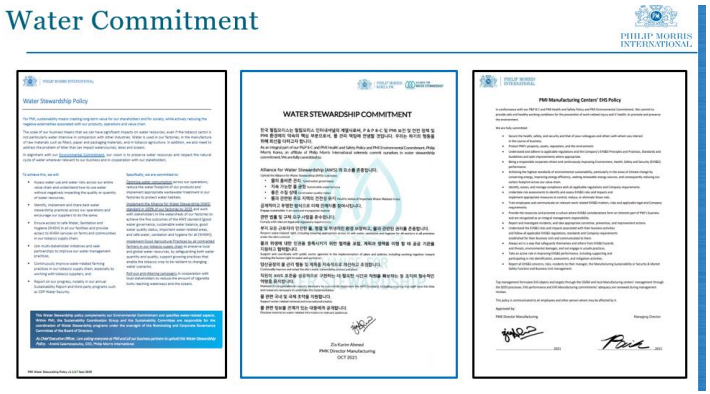
opportunities: Assess and prioritize the water risks and opportunities affecting the site based upon the status of the site, existing risk management plans and/or the issues and future risk trends identified in 1.6.</td><td></td><td></td><td></td></tr>
<tr><td>1.7.1</td><td>Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.</td><td>☒</td><td>☐</td><td>Document name PMK YS Water Risk and Opportunity was provided. 10 risk and 4 opportunity were identified with probability and severity analysis. Reasons and impact to the site and initiatives were identified.

Probability and severity are assessment follow the criteria;</td></tr>
<tr><td>1.7.2</td><td>Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.</td><td>☒</td><td>☐</td><td>
<table>
<tr><th colspan="3" rowspan="2">Risks</th><th colspan="4">Severity</th></tr>
<tr><th>D
Low</th><th>C
Medium</th><th>B
Serious</th><th>A
Catastrophic</th></tr>
<tr><td rowspan="4">Probability</td><td>4</td><td>Very likely</td><td>4D</td><td>4C</td><td>4B</td><td>4A</td></tr>
<tr><td>3</td><td>Likely</td><td>3D</td><td>3C</td><td>3B</td><td>3A</td></tr>
<tr><td>2</td><td>Unlikely</td><td>2D</td><td>2C</td><td>2B</td><td>2A</td></tr>
<tr><td>1</td><td>Almost never</td><td>1D</td><td>1C</td><td>1B</td><td>1A</td></tr>
</table>

Based on the criterion of the probability, impacts are classified as :
1. Almost never: Possible but it has not happened before
2. Unlikely: It could happen under normal conditions but it was not expected (e.g. it happened once over the past 10 years)
3. Likely: Logically, it is expected to happen (e.g. it happened twice over the past 5 years)
4. Very likely: Expected condition that will occur in the future (e.g. it happens almost every year)

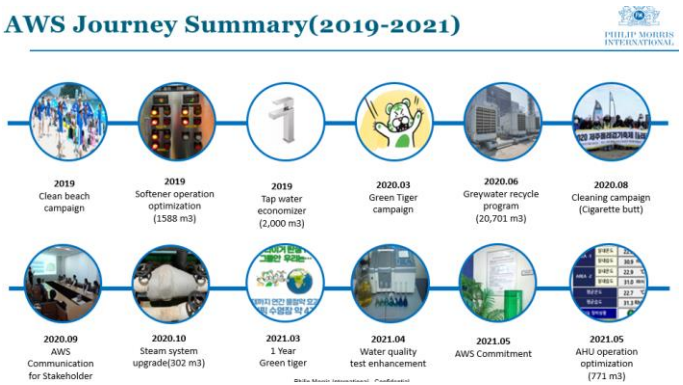
Based on the criterion of severity, impacts are classified as:
A. Catastrophic: Incident or impact that results in having significant quantitative environmental damage, damage to human and ecosystems due to high level contamination or due to damage of high duration. Economic damage above 1 M $.
B. Serious: Contamination with local effect of extended duration. Easily recognisable environmental impact. Economic damage between 100 K$ - 1 M $.
C. Medium: Simple contamination with local effect of small duration. Economical damage of 10 K$ - 100 K $.
D. Low: Small environmental incident. No contamination, recognised impacts that can be noticeable. Economic damage less than 10k $</td></tr>
</table>

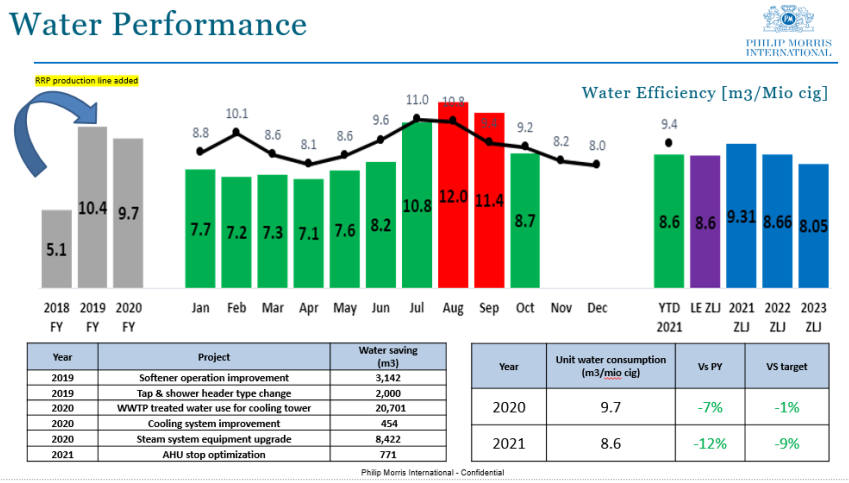
Clause	Details	Yes	No	Comments/Evidence
				
1.8	Understand best practice towards achieving AWS outcomes: Determining sectoral best practices having a local/catchment, regional, or national relevance.			
1.8.1	Relevant catchment best practice for water governance shall be identified.	☒	☐	The site has created Green Tiger Campaign which is sustainability performance tracking program. The achievement of water saving has been communicated to both internal and external stakeholders.
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.	☒	☐	The site has set up water reduction target. Moreover, water consumption effieciency has been set and tracked in monthly.
1.8.3	Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.	☒	☐	The results of wastewater quality at discharged point have been submitted to local authority as per regulation requested. The results of wastewater are compliance with national standard.
1.8.4	Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.	☒	☐	From the site survey and interviewed, no Important Water-Related Areas are present on-site.
1.8.5	Relevant sector and/or catchment best practice for site provision of equitable	☒	☐	The best practice for site provision of equitable and adequate WASH services is supplies safe drinking water for all workers.

Clause	Details	Yes	No	Comments/Evidence
	and adequate WASH services shall be identified.			
2	Commit and Plan (core)			Comments/Evidence
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.	☒	☐	• Water Stewardship Policy is publicly available on website: https://www.pmi.com/resources/docs/default-source/sustainability-policies-commitments-and-positions/pmi-water-stewardship-policy.pdf?sfvrsn=379272b4_2 • Site's water stewardship commitment signed by PMK Director Manufacturing, October 2021 
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	☒	☐	The site provided documents for review;

Clause	Details	Yes	No	Comments/Evidence
	management shall be identified, including: - Identification of responsible persons/positions within facility organizational structure - Process for submissions to regulatory agencies.			• Water management standard operation procedure verion 1, effective date 03/02/0217 • EHS Legislation and Operational Permit standard operating procedure version 2, date 07/11/2018 • PM Korea of Environment Legal requirements and compliance evaluation The procedures identify the products process overview and description with rols and responsibilities. **Observation** The regulation of discharged wastewater quality has been updated, parameter of COD has been changed to TOC and will effective in January 2022. As per interviewed, it is on process to improve wastewater monitoring system.
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.	☒	☐	Site's water stewardship strategy objectives follow water stewardship policy and site's water stewardship commitment. The goals, mission and vision towards are compliance with AWS stand at; Good AWS management practices • Good water goverance • Suatainable water balalnce • Good water quality status • Importany water-related areas • Safe water, sanitation and hygiene for all (WASH)
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	☒	☐	PMK Yang – AWS Stewardship plan year 2019 – 2021 was provided. The plan was identified the measurement and monitoring status tracking, the achievement results, due date, budget/cost allocation, name of responsible person and the expected AWS outcome and expected environmental, social and economic value created.

Clause	Details	Yes	No	Comments/Evidence
	practice to help address shared water challenges and the AWS outcomes.			 **Observation** Target to achieve/ measurable results should be identified. For example, goal is 7% water reduction, the evaluation should indicate the final achievement.
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.	☒	☐	At document PMK YS Water Risk and Opportunity, risks were created. Precausions/ actions and initiatives were identified to mitigate risks. The site contacted to relevant public sertor by sending questionnaire via E-mail. 62% from sending E-mail feedback with comments and suggestion.
3	Implement (core)			Comments/Evidence
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.	☒	☐	The site has introduced and educated to relevant external and internal stakeholders (i.e. authorities, governance groups, water-demanding companies, service providers etc.) regarding to concept and principals of AWS and Catchment governance in order to express support for improved water governance Green Tiger campaign, which is sustainability activity has been performed in order to improve governance strategies within the catchment territory, raise awareness on shared water-related risks/challenges as well as implement mitigation measures.

Clause	Details	Yes	No	Comments/Evidence
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.	☒	☐	N/A the regulation does not mention about water right
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.	☒	☐	The site has implemented a process to verify full legal and regulatory compliance. The legal compliance is confirmed and no legal compliance deviations have been detected.
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.	☒	☐	N/A the regulation does not mention about water right.
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.	☒	☐	From the site's stewardship goal, 7% in water used recuction is identified. Evidence that the site has been improving water balance through reductions in water use, greywater recycle program, tap water economizer were provided. 

Clause	Details	Yes	No	Comments/Evidence
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.	☒	☐	Deficient water resources is one of shared water challenge. The site has the targets to improve the efficient water use and water saving program are the following activities: • Inccrease water awareness knowledge to employee • Reuse water • Monitor water consumption to reduce water used in non-productive Moreover, the site has set water efficiency achieve in term of own consumption and manufacturing process.  Philip Morris International - Confidential
3.3.3	Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.	☒	☐	N/A the regulation does not mention about it.
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.	☒	☐	Water quality has been set in site's water stewardship plan 2019 – 2021. Evidences of wastewater quality at discharge point were reviwed. Effluent water quality is in line with national standard.

Year	Project	Water saving (m3)
2019	Softener operation improvement	3,142
2019	Tap & shower header type change	2,000
2020	WWTP treated water use for cooling tower	20,701
2020	Cooling system improvement	454
2020	Steam system equipment upgrade	8,422
2021	AHU stop optimization	771

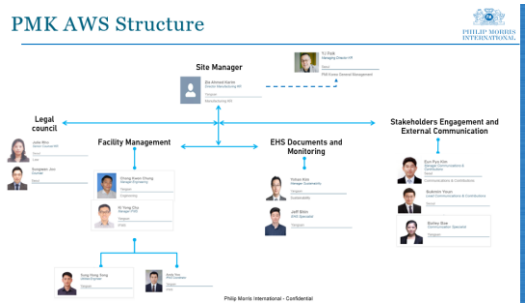
Year	Unit water consumption (m3/mio cig)	Vs PY	VS target
2020	9.7	-7%	-1%
2021	8.6	-12%	-9%

Clause	Details	Yes	No	Comments/Evidence
				Water quality condition PHILIP MORRIS INTERNATIONAL Type / location / Water quality: Water-in / Beom-eo water purification plant / OK Water-in / Coway water purifier (drinking water) / OK Water-out / On-site WWTP / OK Water-out / Yangsan wastewater treatment / OK      Philip Morris International - Confidential
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.	☒	☐	As water quality is one of shared water challenge. The factory has monitored water quality of the following; • Wastewater quality in treatment plant at discharge has been monitored in monthly. • Tap water which provided by government agency has been tracked from webpage of tap water provider. Results of both wastewater quality at discharge point and tap water quality are compliance with national standard.
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.	☒	☐	From the site survey and interviewed, no Important Water-Related Areas are present on-site.
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.			

Clause	Details	Yes	No	Comments/Evidence
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.	☒	☐	The factory provides clean drinking water, canteen and cabinet of occupational medicine, for health surveillance in case of need for all staffs.
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.	☒	☐	The factory provides drinking water to all workers, toilets for men, women separately.
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.	☒	☐	The site's raw material suppliers have been mapped and record of water consumption has been requested on questionnaire via E-mail. The main raw material is tobacco leaf. Water consumption on leaf plant has been tracked by PMI via water footprint program. Moreover, PMI has set up leaf plant sustainability program by providing knowledge and support technology for growing leaf with less water consumption.
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.	☒	☐	
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.	☒	☐	No concern arise around shared water challenges that affected or link to water-related infrastructure. However, the quality of discharge water is monitored by coordination with owner of water-related infrastructure.
3.9	Implement actions to achieve best practice			

Clause	Details	Yes	No	Comments/Evidence
	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.	☒	☐	The site has created Green Tiger Campaign which is sustainability performance tracking program. The achievement of water saving has been communicated to both internal and external stakeholders.
3.9.2	Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.	☒	☐	The site has set up water reduction target at 9% in year 2020. From the site's performance, 12% reduction has been achieved by reducing consumption, recycle water and encourage staff to save water.
3.9.3	Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.	☒	☐	Water quality of incoming water is tracked from tap water's provider. The results of wastewater quality at discharged point have been submitted to local authority as per regulation requested. The results of both tap water and wastewater are compliance with national standard.
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.	☒	☐	From the site survey and interviewed, no Important Water-Related Areas are present on-site.
3.9.5	Actions towards achieving best practice related to targets in terms of WASH shall be implemented.	☒	☐	The best practice for site provision of equitable and adequate WASH services is supplies safe drinking water and appropriate canteen for all workers.
4	Evaluate (Core)			
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.	☒	☐	AWS Performance Assessment of the site was carried out into the (PMK Yangsan – AWS Stewardship Plan 2019-2021) where various performance elements are assessed for each year planned. Status of the plans have been tracked. Achievement and expected results with value/benefits in terms of economic, environmental and social are evaluated. The assessment also evaluate how the plan has contributed to achieving the 5 AWS Outcomes. The evaluation assessment will be conducted in annually.
4.1.2	Value creation resulting from the water stewardship plan shall be evaluated.	☒	☐	

Clause	Details	Yes	No	Comments/Evidence
4.1.3	The shared value benefits in the catchment shall be identified and where applicable, quantified.	☒	☐	**Observation** The historical record of site's water stewardship plan evaluation or any changed from expectation/planing should be recorded.
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.	☒	☐	Water related incident from wastewater treatment plant leakage was occurred on 29th July 2019. Analysis and action report was provided. Preventative and corrective actions and mitigations with timeline are identified in the report. As per interviwed, the Emergency Prepareness procedure will be reviwed in annually. **Observation** The historical record of procedure reviewing or any changed should be recorded.
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.	☒	☐	The site sent questionnaires to all identified stakeholders in order to gather water related information. Stakeholder feedback on performance has given the following; • It will help the local community through cleaner water purification and set a model for other business sites by using recycled water. • The stakeholders will also participate and make efforts. • The stakeholders appreciate with Green Tiger campaign.
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	☒	☐	PMK Yangsan – AWS Stewardship plan 2019 – 2022 was provided. After the plan was evaluated, new/revis actions with timeline, financial budget allocation, responsible person and expected benefits were identified.

Clause	Details	Yes	No	Comments/Evidence
	learned from the evaluations in this step and these changes shall be identified.			**Observation** Activity which delay from timeline because of some resons, any changes should be reviwed with corrective action identified.
5	Communicate and Disclose (core)			
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.	☒	☐	The site's water-related internal governance, including positions has been assigned and published on media in the factory and informed to stakeholders via E-mail. For outside stakeholders, AWS team has been communicated via Green Tiger campaign. 
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.	☒	☐	The site sent E-mail to stakeholders to inform site's water stewardship plan and the contributes to AWS Standard outcomes. Moreover, the site's water stewardship plan was communicated via Green Tiger campaign and published on Korean newspaper and magazines.

Clause	Details	Yes	No	Comments/Evidence
				뉴데일리경제 한국필립모리스 양산공장, 그린 타이거 캠페인 1년... "물 1만톤 절약" 공장 에너지와 물 절약 위해 작년 3월 시작 1년 간 절약한 물 소비량 약 1만톤에 달해 국제 AWS 인증 도전 예정, 국내 공장 최초 기사입력 2021-03-24 13:54:56 | 최종수정 2021-03-24 14:28:48 | 한지명 기자 | summer@newdailybiz.co.kr 
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.	☒	☐	Summary of the site's water stewardship performance was disclosed under Green Tiger campaign. This campaign disclosed site's sustainability performance which water is one of site's sustainability target. The same information is communicated to the external interested parties, based on the communication actions referred to.

Clause	Details	Yes	No	Comments/Evidence
				
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.	☒	☐	Site's water-related challenges and risks have been shared with relevant stakeholders in questionnaires, joint projects, Green Tiger campaign. The engagements have been executed with catchment stakeholders in order to mitigate shared water risks and implement best practices in the catchment area. Projects, actions and related efforts to address challenges with stakeholders are illustrated in the responsive and evaluation.
5.4.2	Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.	☒	☐	The site has communicated the Green Tiger campaign via local newspaper and magazines. This campaign encouraged other business to join the sustainability concept and support public-sector agencies to understand AWS and sustainability.
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.	☒	☐	From the interview and document review, no water-related compliance violation has been occurred in year 2019 to 2021.

Clause	Details	Yes	No	Comments/Evidence
5.5.2	Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable.	☒	☐	As no water-related compliance violation has been occurred, so no corrective actions have been necessary to prevent future occurrences. However, the factory showed the management procedure in case of compliance violation occurred.
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.	☒	☐	No site water-related violation that may pose significant risk and threat to human or ecosystem health has been occurred in year 2019 to 2021. However, the site explained the standard procedure of communication system of any violation that may pose risk and threat to human or ecosystem health.

7 AUDIT FINDINGS

A findings log was issued to the site which detailed the findings raised during the audit. As there were a large number of documents supplied to SGS as evidence and each one had to be reviewed, the findings log acted as a live document and was updated periodically until all indicators and documents had been reviewed for compliance.

7.1 MAJOR NON CONFORMANCES

During the course of the audit major non-conformances were not raised.

Table 7.1.1. Major Non-Conformances raised during the AWS audit process

No.	Type	Ref.	Details	Response by Philp Morris Korea Inc. Yangsan Factory	Relevant References

7.2 MINOR NON CONFORMANCES

Minor non-conformances were not raised during the audit process.

Table 7.2.1. Minor Non-Conformances raised during the AWS audit process

No.	Type	Ref.	Details	Response by Philp Morris Korea Inc. Yangsan Factory	Relevant References

7.3 OBSERVATIONS

Five observations were raised during the audit which are only to be considered as improvement opportunities. No action is necessary during this audit period but these issues would most likely come under scrutiny during a surveillance audit scenario.

Table 7.3.1. Observations and New Information Requests raised during the AWS audit process

No.	Type	Ref.	Details	Response by Philp Morris Korea Inc. Yangsan Factory	Relevant References
2.2.1	Observation	221OBS	The regulation of discharged wastewater quality has been updated, parameter of COD has been changed to TOC and will effective in January 2022. As per interviewed, it is on process to improve wastewater monitoring system.		
2.3.2	Observation	232OBS	Target to achieve/ measurable results should be identified. For example, goal is 7% water reduction, the evaluation should indicate the final achievement.		
4.1.3	Observation	413OBS	The historical record of site's water stewardship plan evaluation or any changed from expectation/planing should be recorded.		
4.2.1	Observation	421OBS	The historical record of procedure reviewing or any changed should be recorded.		
4.4.1	Observation	441OBS	Activity which delay from timeline because of some resons, any changes should be reviwed with corrective action identified.		

8 SUMMARY

In reviewing the body of evidence presented by Philp Morris Korea Inc. Yangsan Factory it is apparent that a considerable quantity of effort and work has been put into the preparation in closing the gaps for the audit for Alliance for Water Stewardship Certification.

The instances of observations were raised during the audit which are affectively recommendations for future improvement. No action is necessary during this audit period but these issues would most likely come under scrutiny during a surveillance audit scenario.

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9 OPPORTUNITIES FOR IMPROVEMENT

The certification audit for Philp Morris Korea Inc. Yangsan Factory against the AWS Standard is for the initial assessment of conformity and as such allows for some areas for improvement going forward.

As this was a first year assessment, focus of the review has been on the documented plan and its implementation to date.

Future audits will review deeply the evaluation of performance against the Standard indicators and how this is monitored and presented as compliance. SGS recommends that the factory develops robust ways of monitoring performance against the indicators, collecting, storing and publishing accessibility related to AWS on the website at least in annually.

10 CONCLUSIONS AND RECOMMANDATIONS

Given the review of evidence produced and site visit inspections SGS recommends that Philp Morris Korea Inc. Yangsan Factory is awarded AWS Core Certified status with a surveillance audit interval of annual frequency.