

Audit Report

ALLIANCE FOR WATER STEWARDSHIP CERTIFICATION



Format v1.0

GUANGZHOU MEADVILLE ELECTRONICS CO., LTD., NO. 1 XINLE ROAD, SCIENCE CITY HI-TECH INDUSTRIAL DEVELOPMENT ZONE
GUANGZHOU, P.R. CHINA

PREPARED BY: DNV GL BUSINESS ASSURANCE CHINA | DATED: 18 DEC. 2020 | VERSION: 01

INTRODUCTION

Client Name	Guangzhou Meadville Electronics Co., Ltd. (GME)
AWS Reference Number	AWS-000283
Project No.	PRJN-199668-2020-SCM-CHN
Address	No. 1 Xinle Road, Science City Hi-tech Industrial Development Zone Guangzhou, P.R. China
Contact details of the person responsible for AWS	Ms. Xuemei SONG, Chief Engineer, xuemei.song@akmmv.com
DNV GL Team	SONG, Ke Karl (Lead Auditor) WU, Di (Auditor) Gong, Guangming (Hydrogeology Expert)
Audit Dates	22-23 Oct. 2020 for initial visit and 23-26 Nov. 2020 for initial audit
Technical Reviewer	
Scope of the assessment including all locations and facilities that were visited	AWS standard version 2.0 has been applied, and the operation type is single-site certification. DNV GL did not perform the pre-assessment work in this certification process.
Nature of Site	GME is an electronics manufacture factory 100% owned by AKM Meadville group. The site was established from 2006, its major product is High Density Interconnector (HDI). It was located in Hi-tech Science Industrial Zone of Guangzhou City.
Certification/Audit Type	Initial Certification/Initial Audit
Level of Certification Recommended	In summary, it is DNV GL's opinion that GME meets all relevant requirements and criteria for Gold level certification. Hence DNV GL thus recommends the Gold Level of AWS certificate with an annual surveillance on-site audit at each site.
Dated	12 December 2020

Document Type: *Internal*

ABOUT THE SITE

<p>Overview of Unit and Location</p>	<p>GME was fully owned by AKM Meadville, of which its purpose is to provide high-quality, high-density interconnected PCBs, packaging substrates and solution services. Located in Science city of Huangpu District in Guangzhou city, the site's land occupation is about 90,000 m² with 5,000 staffs. The major product of GME is HDI adopting the international advanced level technology.</p>
<p>Internal Governance</p>	<p>GME initiated the AWS building since May 2019. GME has passed multi ISO management system certification incl. 14001. Mr. Ou Alvin was the representative of its multi ISO management systems, he was also appointed as the management representative of AWS. Alvin reported to the General Manager of GME. The organization structure of water management in GME mainly included three departments: 1, Quality System Management (QSM) is responsible for water-related compliance management incl. regulatory identification and communication, internal audit and Stakeholder communication for water-related topics; 2, Facility Engineering (FE) is responsible for operation and maintenance of water system; 3, Environmental Protection Department is responsible for water-related quality measurement and evaluation.</p>
<p>Description of the catchment in which the client operates</p>	<p>GME was located in Science City Hi-tech Industrial Development Zone of Huangpu District in Guangzhou City, Guangdong Province of China. The site was located in Wuchong/Wenchong Catchment which was the sub-catchment of Pearl River Delta Basin. As per the pollution discharge permit, after treatment the wastewater effluent of GME was discharged to the Dashadi WWT Plant which was located in the same catchment of GME. Through its own discharge points, Dashadi WWT Plant discharged its effluent to Front Channel of Peral River Delta Basin. The supply water of GME was provided by the Water-supplier Center of Science City which is a secondary water supplier. The source water were from respective two water supply plants namely Xizhou Water Plant and Xintang Water Plant which were both located in another watershed called Dongjiang Basin. As mentioned in above, the physical boundary of GME included two basins namely Pearl River Delta Basin and Dongjiang Basin, were mapped in Figure 1.</p>

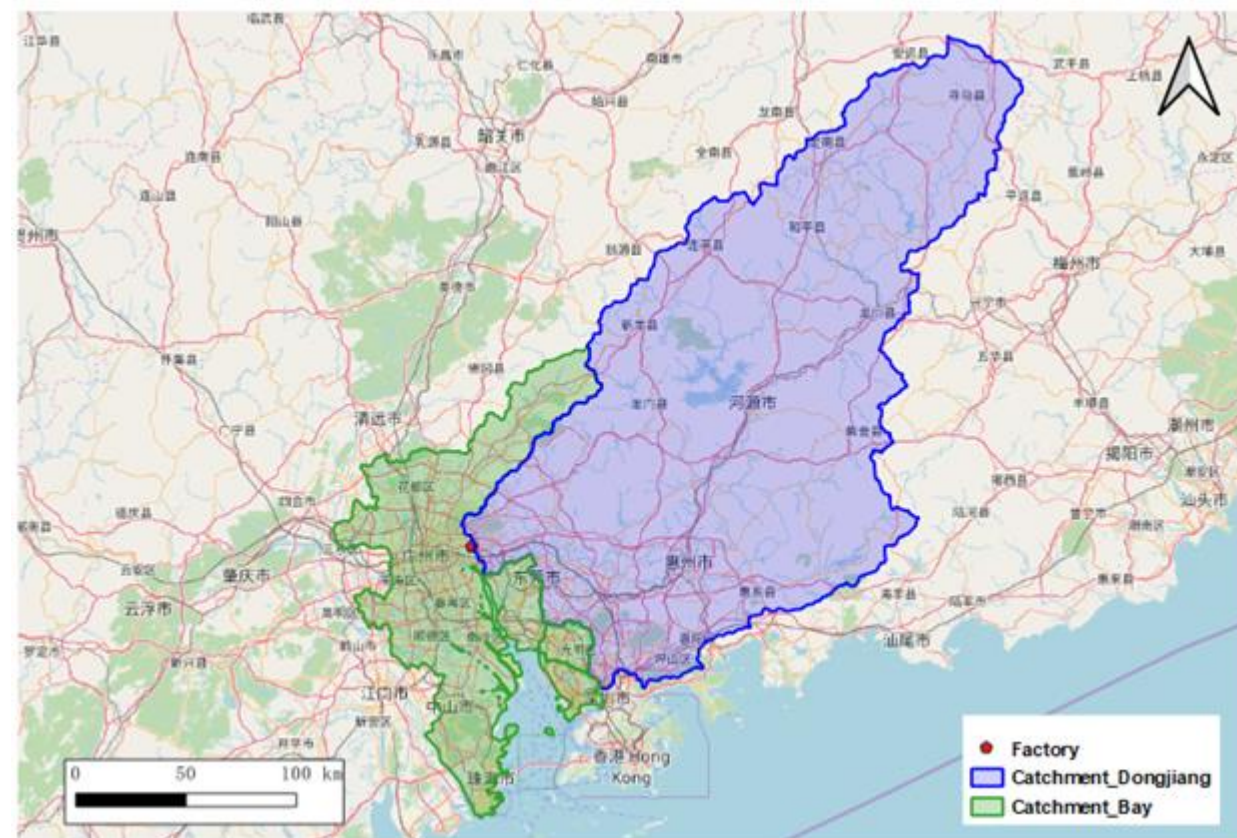


Figure 1, Physical Boundary's Sketch Map

Summary of shared water challenges and Programmes to counter challenges

GME faced with four major shared water challenges as below:

- 1, Priority as high, the water quality of Wuchong/Wenchong catchment where the site located needs to be improved. In 2019 there were 35 rivers with category V (the poorest as per national standard) water quality, among total 53 rivers to be improved the water quality;
- 2, Priority as high. Within the physical boundary, there is a trend that the water resources per capita are low but per capita comprehensive water usage demand is high;
- 3, Priority as medium. The waterlogging was caused by heavy rain. The number of waterlogging points in Guangzhou was increased to 72 in 2016 from 7 in 1980s. Urban flooding incident will bring the business continuity risk to GME;

	<p>4, Priority as low. The flooding was caused by Climate Change. Research shown that the heavy rain and storm days increased in recent years.</p> <p>To address above shared water challenges, series of programmes were initiated by the related stakeholders in the watershed:</p> <p>1, As per the "Implementation plan for the improvement of black and smelly water bodies in Guangzhou" administrative authority plan to achieve the rate of good quality water bodies to 61.5% till the end of 2020. At plant side GME has continuously improve the water quality of its effluent exceeding the compliance requirements;</p> <p>2, Guangzhou Administrative government initiated the water transfer project from Beijiang River to address the water shortage. Meanwhile, the water saving long-term plan (2018-2035) of Guangzhou has set serious ambitious targets, such as decreasing the water consumption intensity (water usage per CNY10,000 of added industrial values) by 31% in 2020 compared to 2015, and by 25% in 2025 compared to 2017, further by 20% in 2035 compared to 2025. Meanwhile, GME has consciously improve its water consumption efficiency by production line, by setting annual rolling targets on water usage per production.</p> <p>3, Guangzhou municipal authority developed "Guangzhou Sponge City Plan 2016-2030" which aimed at water logging management with continuous investment.</p> <p>4, As per "Guangzhou Sponge City Plan 2016-2030", local municipal authority has set a high flood control standard for town area.</p>
<p>Visit to Source Water Location</p>	<p>The supply water of GME was provided by the Water-supplier Center of Science City which is a secondary water supplier. The source water were from respective two water supply plants namely Xizhou Water Plant and Xintang Water Plant which were both located in Dongjiang Basin. During site visit audit team checked the source water connection point at the site, and interviewed the representative from the water supply center of science city on 26 Nov. 2020.</p>
<p>Visit to Water Discharge Location</p>	<p>On 26 Nov. 2020, audit team interviewed the representative from local EPA of science city and seek their comments on the wastewater treatment by GME. For details please see below section.</p>
<p>Stakeholder Interview Observations</p>	<p>The stakeholder announcement was published respectively on websites of AWS, GME and DNV GL 30 days before the on-site audit (starting from 23 Nov. 2020) as per the AWS standard. There was no any comment received during this period.</p> <p>Stakeholder interaction was undertaken on 26 Nov. 2020 at GME site's office No. 1. Audit team has respective face to face interviews with the representatives from community center, social worker center, secondary water supply center and client. Meanwhile, audit team has respective phones with</p>

representatives from local EPA, raw material supplier and hazardous waste treatment contractor. Summary of discussions from the interactions:

1, Some comments and feedbacks were raised by Mr. Li from environmental protection team of local community center:

- Environmental Protection Team has routine communication with GME, also conducted site inspection. In general GME's water management was deemed good, there were very few complaints received on this topic;
- GME may consider further improving the water saving awareness of its staffs;
- As there were some chemical plants located in the same science city, GME should establish the emergency procedures to address the potential risk by these chemical plants;
- GME should provide continuous water related training and practice to its staff;

2, Ms. Ye is a social worker who provided social work service at GME site, her major comments were received as below:

- The WASH condition was well maintained at GME plant, incl. office area and staff dormitories etc.;
- In 2020 GME initiated a volunteer program to provide free drinking water to these outdoor workers nearby the plant such as municipal sanitation workers and couriers;
- She observed that Most staffs' water saving awareness were good, there were few cases of excess water usage in dormitories;
- It was still suggested that GME should promote the internal communication encouraging staffs' water saving behavior;

3, Mr. Yuan came from the water-supply center of the science city, he has over twenty years working experience in current company. Mr. Yuan was the center's contact window with GME since its foundation in 2006: The main discussions with Mr. Yuan included:

- Water-supply center of the science city is a secondary supplier, its water was sourced from two water supply plants namely Xizhou Plant and Xintang Plant. Xintang Plant serves as the major water source and Xizhou Plant is the backup;
- GME's current water usage quota was allocated as 300,000-400,000 m³/month, this quota was determined based on the previous three years' historical water consumption; GME controlled its water usage as per this quota, there was no big fluctuation during its routing operation in recent years;
- In term of the water consumption in science city, GME was ranked at the 4th. As the key water consumption company, GME also participated and supported the water saving publicity activities initiated by water-supply center;
- Inside the science city, the rainfall water utilization ratio is very low. Only one company has initiated the reuse of rainfall water;
- In summary, GME's water management was recognized by Mr. Yuan;

4, As per phone interview, following comments were raised by Mr. Luo from local EPA of science city;

- Mr. Luo was taking over the responsibility of performing environmental protection supervision work incl. GME since Oct. 2019;
- The waste water discharge of GME was monitored by a local online system which was connected to local EPA's cloud system; there was no discharge limit exceeding identified since the system was installed, no illegal discharge of waste water found during the irregular onsite inspection by EPA team;
- Mr. Luo think that the environmental protection team's capacity of GME is quite good, the manger of EP team was experienced in this area;
- It was suggested by Mr. Luo that GME shall pay attention to the potential VOC (Volatile Organic Compound) produced during the waste water treatment process. The relevant collection and treatment system shall be equipped for VOC pollutants;

5, Mr. John was from the hazardous waste treatment contractor chosen by GME; He talked about the waste water management of GME during the phone:

- Currently the concentrated waste liquid from the PCB manufacture process was sent to its contractor from GME plant, transferred once every 2-3 days;
- There was a requirement on the heavy metal concentration limit in the transferred waste liquid as per the agreement signed between GME and its contractor; The sampling test shown that the concentration met the requirement;

6, Ms. Ouyang was from GME's electronic component supplier EMC Zhongshan; She introduced the water-related supply chain training provided by GME:

- As requested by GME, EMC Zhongshan filled the supplier water risk questionnaire and identified as the water-related high risk supplier;
- In Oct. 2020, GME conducted AWS awareness training to EMC Zhongshan's team;
- GME conducted the supplier performance onsite audit once per year, of which the environmental indicators was also assessed;

7, Last but not the least, Ms. Chen as the representative of GME's client raised her comments on the progress GME made in its water management:

- The baseline of GME's water management was rather weak at beginning of joining the client's water program; After series of training and capacity building introduced by client, GME has made significant progress to improve its water management at both water saving and waste water treatment;
- The current water reuse ratio of GME plant achieved between 35-40%, in PCB industry the advanced level is between 40-50%. Thus there was still improvement area for GME;
- Client is satisfied that GME is doing well in compliance obligations, but would encourage GME pursuing the excellence beyond the compliance in future.

Above concerns raised on water saving awareness, water resource quotation and waste water treatment, have been sufficiently discussed between the GME teams, the participants and audit teams during the face to face interview and teleconferences.

	As per the comments received from the stakeholder representatives, it's DNV GL's opinion these questions have been addressed in appropriated manner, and the stakeholder interviews conducted on 26 Nov. 2020 have provided audit team with enough information to assess the corresponding indicators as indicated in AWS Standard ver 2.0. There were no outstanding issues to be assessed after the stakeholder interview process.
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AUDIT COMMENTS

	<i>Detail</i>	<i>Score</i>	<i>Detail of Evidence Verified</i>	<i>Type of Finding Major/Minor/Observation</i>	<i>Corrective actions / Response from GME</i>
<p>STEP 1: GATHER DATA TO UNDERSTAND SHARED WATER CHALLENGES AND WATER RISKS, IMPACTS AND OPPORTUNITIES</p> <p><i>Intent: To ensure that the site gathers data on its water use and its catchment context and that the site uses these data to understand its shared water challenges as well as its contributions (both positive and negative) to these challenges, water risks, impacts, and opportunities. This information also informs the development of the site's water stewardship strategy and plan (Step 2) and guides the actions (Step 3) necessary to fulfil the site's commitments</i></p>					
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: <ul style="list-style-type: none"> - 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 	Conformed	1, Background Survey Report on Water-related Risks, Opportunities and Challenges (dated 10 Oct. 2020); 2, Site layout, water supply and drainage diagram (final acceptance map); 3, Dongjiang Basin and Pearl Delta Basin GIS map;	<p>Minor</p> <p>According to the "Background Survey Report on Water-related Risks, Opportunities and Challenges (dated 10 Oct. 2020)", the following issues were found:</p> <p>1. There is no clear definition for the physical boundary of sustainable water management of the site; the location identification incl</p>	<p>1. The physical boundary of the basin is determined as Dongjiang River</p>

	<p>site that are owned or managed by the site or its parent organization;</p> <ul style="list-style-type: none"> - 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. 			<p>municipal tap water access point, rainwater discharge point and wastewater discharge point are not clearly identified in the site boundary map;</p> <p>2. This survey report lacks the description on IWRA section;</p>	<p>Basin and Pearl River Delta Basin; the mapping has been updated accordingly, and the municipal tap water interface and rainwater and sewage discharge outlet of the plant site have been added;</p> <p>2. IWRA section have been identified and described in the updated survey report dated Nov. 2020;</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>1.2</p>	<p>Understand relevant stakeholders, their water related challenges, and the site’s ability to influence beyond its boundaries.</p>				
<p>1.2.1</p>	<p>Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall:</p> <ul style="list-style-type: none"> - Inclusively cover all relevant stakeholder groups including vulnerable, women, 	<p>Conformed</p>	<p>1, Stakeholder consideration analysis report (2020-Nov) 2, Environmental survey analysis report (2020-Nov) 3, 2020 Management review meeting presentation material;</p>	<p>Minor</p> <p>There is no clear stakeholder communication procedure established; no relevant record shown including vulnerable groups and ethnic minorities in the stakeholders list.</p>	<p>1, Issued a new procedure and establish clear stakeholder communication according to AWS requirements. For details, please refer to evidence: F7 -- analysis table of relevant parties</p>

	<p>minority, and Indigenous people;</p> <ul style="list-style-type: none"> - 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 				<p>in supplementary matrix; F7 -- screenshot of stakeholder communication process document.</p> <p>2. Train relevant personnel on the contents of procedure documents. For details, see improvement evidence: "AWS procedure document content training attendance form"</p> <p>Correction action was reviewed and closed by DNV GL.</p>
1.2.2	<p>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</p>	Conformed	<ol style="list-style-type: none"> 1, Stakeholder consideration analysis report (2020-Nov) 2, Environmental survey analysis report (2020-Nov) 3, 2020 Management review meeting presentation material 	<p>Minor</p> <p>There is no clear evaluation and ranking criteria for stakeholder concerns to fully and effectively identify the current and potential impacts between the site and stakeholders; the "shared water challenges of the watershed" identified in 2020 "Watershed Background and shared Water Challenges Report" does</p>	<ol style="list-style-type: none"> 1. This issued has been clarified in the Background Survey Report. For details, please refer to the improvement evidence: F8 - increase the evaluation and ranking of issues from stakeholders. 2. Developed procedure to

				<p>not fully address the current and potential impacts between sites and stakeholders as per clause 1.2.2 of standard.</p>	<p>establish clear stakeholder concerns in accordance with standard requirements. Issue evaluation and ranking criteria, were used to identify current and potential impacts between the site and stakeholders. For details, please refer to the evidence: F8 - process document screenshot content: confirm the current and potential impact between the site and stakeholders</p> <p>3. Carried out AWS procedure document training for relevant personnel. For details, please refer to evidence: AWS procedure document content training attendance form.</p> <p>Correction action was reviewed and closed by DNV GL.</p>
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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	Conformed	Reviewed 'Critical risk identified list', potential incidents identified include 1, Wastewater pollution; 2, Water supply inadequate and etc. Several water-related emergency action plans are instituted.	Minor "Water shortage per capita" has been identified as one of the high-risk events of "watershed shared water challenge", but the site has not established the necessary emergency plan for "water shortage/stop".	1. The emergency plan of "water supply shortage/stop" was added to SOP "water supply failure business continuity strategy and accident management plan". For details see evidence: F9 - business continuity strategy and incident management plan - water supply failure; 2. Issued procedure on emergency plan for water related accidents according to the standard requirements; For details, please refer to evidence: F9 - screenshot of procedure document content: emergency plan for water related accidents; 3. Carried out AWS procedure document training for relevant

					<p>personnel. For details, please refer to attached evidence: AWS documents training attendance form.</p> <p>Correction action was reviewed and closed by DNV GL.</p>
1.3.2	Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped.	Conformed	Reviewed water balance calculation process and water supply invoice that site water balance, including inflows, losses, storage, and outflows are identified and mapped.	-	-
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.	Conformed	Water balance calculation result and monthly water supply invoice were reviewed;	<p>OBS</p> <p>1. By reviewing the water balance during June – Aug. 2020, it needs to be justified for the rationality of the selected estimation methods and parameters, such as the loss rates in different water use processes and the estimation of domestic sewage discharge;</p> <p>2. It is suggested that rainwater storage and utilization may be considered in future to expand unconventional water sources of GME.</p>	<p>1. The reasonable sources of the parameters in the water balance diagram have been confirmed, and the loss of each water consumption process has been estimated accordingly;</p> <p>2. The utilization of rainwater is not considered at present.</p> <p>The action taken was deemed appropriated by</p>

					DNV GL and OBS addressed.
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.	Conformed	Following records and documents reviewed: 1, wastewater discharging inspection report; 2, quality testing report of water supply 3, drink water inspection report;	-	-
1.3.5	Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.	Conformed	The site has implemented EMS for few years, risk assessment procedure is developed. Review the risk and opportunity matrix that potential sources of pollution is identified and mapped.	-	-
1.3.6	On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.	Conformed	GME presented the list of on-site IWRA to audit team, also introduce the status of each area 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	Conformed	Following records or documents reviewed: 1, Water supply invoice since 2019; 2, Wastewater processing procedure and record; 3, chemical consumption data of 2020-Oct;	Minor Internal revenue from the sale of DI (Deionization) water to FPC part and the sale of water treatment sludge by HDI part were not recognized.	1. "Sludge sales internal revenue" and "DI sales internal revenue to FPC" have been added to the "income related to

	<p>and used to inform the evaluation of the plan in 4.1.2.</p>				<p>plant water in 2019". For details, please refer to the attached evidence: F10 - increase the relevant income statistics of sludge and DI water sales to FPC.</p> <p>2. Prepared procedure, confirming water related costs, revenues and common value creation according to the standard requirements, and clearly define the calculation scope. For details, please refer to attached evidence: F10 - screenshots of program documents: confirm water related costs, revenues and common value creation</p> <p>3. Carried out AWS document training for relevant personnel. For details, please refer to attached evidence: AWS procedure document content training attendance form.</p>
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					Correction action was reviewed and closed by DNV GL.
1.3.8	Levels of access and adequacy of WASH at the site shall be identified.	Conformed	The Best practice evaluation report and annual drink water testing report indicate levels of access and adequacy of WASH at the site are identified and assessed.	<p>OBS</p> <p>It is recommended that GME may confirm the sufficient level of WASH facilities, according to different areas in the production site.</p>	<p>1. The level of WASH was calculated by FQC in the production area with the largest number of employees, and the results met the requirements of the standard. By analogy, other production areas also meet the requirements of the standard. For details, please refer to improvement: F16 - the maximum number of people in the production area and WASH level;</p> <p>2. Re-training and enhancing the understanding of AWS standards. For details, please refer to training record;</p> <p>3. Prepare procedure to clearly define the scope of WASH</p>

					<p>according to the standard requirements. Please refer to action: F16 - screenshot of program file content WASH level.</p> <p>Carried out AWS procedure document training for relevant personnel. See improvement evidence for details: "AWS procedure document content training attendance form".</p> <p>The action plan was deemed appropriated by DNV GL.</p>
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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				
	Detail	Score	Detail of Evidence Verified	Type of Finding Major/Minor/Observation	Corrective actions / Response from GME
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.	Conformed	Interview with AWS coordinator Ms. Song, review Approval Vendor List and water consumption reports of selected suppliers that the embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment are identified.	-	-
1.4.2	The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.	Conformed	Interview with AWS program coordinator Ms. Song Reviewed the contracts with outsourced service provider.	Minor GME did not confirm the outsourcing service provider's 1) cleaning of dust-free clothes/shoes; 2) the water use condition of employee commuter service.	1. Have carried out water survey on the suppliers of cleaning dust-free clothes and staff commuter service providers, and incorporate the survey results into the supplier evaluation form. For evidence, please refer to: F11 - cleaning supplier questionnaire. F11 - water communication record of outsourcing commuter company. F11 --- supplement the supplier evaluation form of outsourcing service providers;

					<p>2. Re-train and enhancing understanding on AWS standards. For details, see attached evidence: AWS standards training record form;</p> <p>3. Prepared procedure and planned the contents of clause 1.4.2 according to the standard requirements; Furthermore, defined the scope of investigation. For details, please refer to attached evidence: F11 - program file screenshot content: collect indirect water use data.</p> <p>4. Carried out AWS document training for relevant personnel. See attached evidence for details: "AWS procedure document content training attendance form"</p> <p>Correction action was reviewed and closed by DNV GL.</p>
1.4.3 ADV	The embedded water use of primary inputs in catchment(s) of origin shall be quantified	7	Reviewed the water consumption investigation report for raw material vendor that the embedded water use of primary inputs such as copper foil, chemical providers in	-	-

			catchment(s) of origin is quantified.		
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.	Conformed	Watershed Background Survey Report dated Nov. 2020 by GME;	-	-
1.5.2	Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.	Conformed	Compliance evaluation and legal/law list identified by GME, integrated with its EMS management, GME has obtained ISO 14001 certification;	<p>OBS</p> <p>It is suggested to improve the existing regulatory identification and compliance evaluation process to ensure timeliness and adequacy. By checking the "Implementation action plan of water saving in Guangdong Province" it was found:</p> <p>1. The identification of this document was in Oct. 2020 by GME, lagging behind its implementation date in Dec. 2019;</p> <p>2. Insufficient identification of applicable provisions of this</p>	<p>1. GME shall pay more attention to laws and regulations, and have outsourced the third-party professional laws/regulations identification services to ensure timely acquisition and evaluation of new laws and regulations, and timely update the list. For details, please refer to attached evidence - F3.</p> <p>2. In the subsequent evaluation of laws and regulations, GME will</p>

				document, such as the specific requirements for Key Water Users in the scheme are not clearly identified by GME;	organize corresponding internal departments/personnel to jointly evaluate, so as to fully identify the requirements of applicable laws/regulations. The action plan was deemed appropriated by DNV GL.
1.5.3	The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.	Conformed	1, Watershed Background Survey Report dated Nov. 2020 by GME; 2, Water balance of site;	-	-
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.	Conformed	Watershed Background Survey Report dated Nov. 2020 by GME;	-	-
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.	Conformed	Reviewed Environmental survey analysis report (2020-Nov), the site generally identified the important Water-Related Areas and perform status assessment roughly;	Minor 1 According to the "Background Survey Report on Water-related Risks, Opportunities and Challenges (dated 10 Oct. 2020)", the	IWRA section have been identified and described in the updated survey report dated Nov. 2020;

				<p>following issues were found: This survey report lacks the description on IWRA section;</p> <p>Minor 2</p> <p>The list of watershed IWAR is incomplete, and the status of IWRA is also not evaluated.</p>	<p>1. The IWRA around the site have been added in page 18-19 of the updated Watershed Survey Report, and the current status of IWRA has been identified. For details, please refer to attached evidence: F12 - determine the IWRA around the site and identify the current status of IWRA;</p> <p>2. Prepared the procedure, planned the content of "confirm the IWAR" according to the standard requirements, and evaluate the status of IWRA. For details, see the attached evidence: F12 - the screenshot content of the procedure document: confirm the important water related areas in the basin.</p> <p>3. Carried out AWS training for relevant personnel. See attached evidence for details: "AWS procedure document content training attendance form"</p>
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					Correction actions were reviewed and closed by DNV GL.
1.5.6	Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.	Conformed	By reviewing the related SOP and drill report;	-	-
1.5.7	The adequacy of available WASH services within the catchment shall be identified	Conformed	By reviewing the self-assessment result;	-	-
1.5.8 ADV	Efforts by the site to support and undertake catchment level water-related data collection shall be identified.	0	Refer to the issue identified in right column.	OBS There is no evidence shown that site has made efforts to support and undertake catchment level water-related data collection.	GME plan to follow up participation focuses on the water information collection of the basin, such as water quality monitoring in Wuchong river and Wenchong river.
1.5.9 ADV	The adequacy of WASH provision within the catchments of origin of primary inputs shall be identified.	4	GME performed WASH investigation for its primary material vendors, review the assessment report that the adequacy of WASH provision within the catchments of origin of primary inputs is identified	-	-
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.	Conformed	Chapter 4 of Watershed Background Survey Report dated Nov. 2020 by GME;	-	-

1.6.2	Initiatives to address shared water challenges shall be identified.	Conformed	Chapter 4 of Watershed Background Survey Report dated Nov. 2020 by GME;	-	-
1.6.3 ADV	Future water issues shall be identified, including anticipated impacts and trends	3	Watershed Background Survey Report dated Nov. 2020 by GME;	-	-
1.6.4 ADV	Potential water-related social impacts from the site shall be identified, resulting in a social impact assessment with a particular focus on water	4	Watershed Background Survey Report dated Nov. 2020 by GME;	-	-
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.	Conformed	1, Risk & Opportunity Matrix 2, Environmental aspect evaluation and management procedure;	-	-
1.7.2	Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.	Conformed	1, Risk & Opportunity Matrix 2, Environmental aspect evaluation and management procedure;	Minor Some water related opportunities have been identified, but respectively the estimation and importance ranking of savings and business opportunities have not been carried out.	1. Re-identify water related opportunities, estimate and rank the savings and business opportunities. For details, see attached evidence: f13 -- savings, commercial value and ranking; 2. Issued procedure and planned the contents of clause 1.7.2 according to the standard requirements, further

					<p>clarify the relevant requirements of water related opportunities. For details, please refer to attached evidence: F13 - screenshot of procedure document content: confirm water related opportunities;</p> <p>3. Carried out AWS training for relevant personnel. See attached evidence for details: "AWS procedure document content training attendance form".</p> <p>Correction action was reviewed and closed by DNV GL.</p>
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	Conformed	Interview with AWS program coordinator Ms. Song;	<p>Minor</p> <p>Site did not identify best practices in water management systems/water resources management at watersheds level.</p>	<p>1. Revise the "2020 GME best practice target and benchmarking" to include the best practice indicators for water management system/water resource governance. For details, see attached evidence: F14 - best practice in water resource management of supplementary water management system;</p> <p>2. Issued the procedure and planned the content</p>

					<p>of "water management system/best practice of water resource management" according to the standard requirements, and describe the best practice requirements of water management system/water resource management. For details, please refer to attached evidence: F14 - screenshot of content of procedure document: best practice of water management system.</p> <p>Correction action was reviewed and closed by DNV GL.</p>
1.8.2	<p>Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified .</p>	Conformed	<p>1, Interview with AWS program coordinator Ms. Song 2, 2020 Catchment background information and shared water challenge report;</p>	<p>Minor 1 For section of best practices related to water balance and water quality, only the best practices of the site were determined, the respective best practice at industry and / or watershed level were not defined;</p> <p>Minor 2 Best practices for water use efficiency (e.g. water reuse rate) have not been determined.</p>	<p>There were no available references on the best practice of industry / watershed level.</p> <p>1. Fresh water consumption per unit product from PCB Sector Clean Production Standard (HJ 450) has been referred as "water efficiency"; The unit fresh water consumption index cited from Clean Production</p>

					<p>Standard, has indirectly included the control of the water reuse rate, and has indirectly taken the water reuse rate as the best practice index. For details, please refer evidence: F15 - "2020 GME best practice target and benchmark setting";</p> <p>2. Issued procedure and planned the "best practice of water use efficiency" according to the standard requirements. For details, please refer to attached evidence: F15 -- screenshot of procedure document content: best practice of improving water efficiency;</p> <p>3. Carried out AWS training for relevant personnel. See attached evidence for details: "AWS procedure document content training attendance form"</p> <p>Correction action was reviewed and closed by DNV GL.</p>
1.8.3	Relevant sector and/or catchment best practice for water quality shall be	Conformed	1, Interview with AWS program coordinator Ms. Song	Minor	<p>1. For section of best practices related to water</p> <p>There were no available references on the best</p>

	identified, including rationale for data source.		2, 2020 Catchment background information and shared water challenge report 3, Environmental white book published by local government	balance and water quality, only the best practices of the site were determined, the respective best practice at industry and / or watershed level were not defined;	practice of industry / watershed level. Correction action was reviewed and closed by DNV GL.
1.8.4	Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified	Conformed	1, 2020 Catchment background information and shared water challenge report 2, Environmental white book published by local government 3, Wastewater processing operation records, equipment maintenance records	-	-
1.8.5	Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified	Conformed	1, Interview with AWS program coordinator Ms. Song 2, 2020 Catchment background information and shared water challenge report 3, Environmental white book published by local government 4, Hydrological Monitoring Station Monitoring Bulletin	Minor 2. The industry and / or watershed's best practice in IWRA and WASH was not identified.	GME has assessed its WASH performance by using WBCSD assessment tool. Correction action was reviewed and closed by DNV GL.

STEP 2: COMMIT TO BE A RESPONSIBLE WATER STEWARD AND DEVELOP A WATER STEWARDSHIP PLAN

Intent: *To ensure there is sufficient leadership support, site authority, and allocated resources for the site to implement the AWS Standard. It focuses on how a site will act on shared water challenges and improve its performance and the status of its catchment in terms of the AWS water stewardship outcomes. Step 2 links the information gathered in Step 1 to the actions implemented in Step 3, by describing who will do what and when.*

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
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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.	Conformed	Reviewed management review meeting report that the site has established water stewardship strategy which defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with AWS Standard.	-	-
2.1.2 ADV	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.	1	Reviewed management review meeting report that the site has established water stewardship strategy which defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with AWS Standard.	-	-
2.2	Implement plan to achieve site water balance targets.				
2.2.1	The system to maintain compliance obligations for	Conformed	Reviewed management review meeting report	-	-

	<p>water and wastewater management shall be identified, including:</p> <ul style="list-style-type: none"> - Identification of responsible persons/positions within facility organizational structure - Process for submissions to regulatory agencies. 		<p>that the site has established water stewardship strategy which defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with AWS Standard.</p>		
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	<p>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.</p>	Conformed	<p>Reviewed management review meeting report that the site has established water stewardship strategy which defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with AWS Standard.</p>	-	-
2.3.2	<p>A water stewardship plan shall be identified, including for each target:</p> <ul style="list-style-type: none"> - 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 	Conformed	<p>Reviewed 2020 Environmental Management Objective and Target List of the site that water stewardship plan is in place, the plans related to source managing, water saving and water pollution preventive are instituted.</p>	-	-

	shared water challenges and the AWS outcomes				
2.3.3 ADV	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.	0	Interview with AWS coordinator Ms. Song, Xuemei.	OBS No evidence was provided to confirm the corresponding activities have been carried out by site, incl. partnership/water stewardship.	Next step, GEM will promote the related water management activities, engaging brother factories of AKM Group as well as suppliers located in different river basins. The action plan was deemed appropriated by DNV GL.
2.3.4 ADV	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.	0	Interview with AWS coordinator Ms. Song, Xuemei.	Refer to clause 2.3.3.	Refer to clause 2.3.3.
2.3.5 ADV	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.	0	Interview with AWS coordinator Ms. Song, Xuemei.	Refer to clause 2.3.3.	Refer to clause 2.3.3.
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.	Conformed	Reviewed 'Environmental Emergent Action Plan' and 'Advance Water-saving Certificate' which is approved and issued by local IPA that the plan	-	-

			to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies has been instituted.		
2.4.2 ADV	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.	0	Interview with AWS coordinator Ms. Song, Xuemei.	OBS There is no evidence that the site has plans to mitigate or adapt to water risks associated with climate change	In principle, GME will assess the feasibility of evaluating or participating in weather forecast related activities with relevant public agencies and other experts, so as to deciding whether to carry out relevant activities. The action plan was deemed appropriated by DNV GL.

STEP 3: IMPLEMENT THE SITE'S STEWARDSHIP PLAN AND IMPROVE IMPACTS

Intent: *To ensure that the site is implementing the plan outlined in Step 2, mitigating risks and driving actual improvements in performance*

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.	Conformed	1. Report the sewage treatment record to local EPA once per week; 2. The Ni/Ag treatment system in the workshop was monitored by CEMs operated by a third party, and GME published the monitoring results regularly (once every two weeks) to the	-	-

			<p>national pollution source monitoring information management and sharing platform;</p> <p>3. Support the government's Environment Day activity on 5 June 5 2020, and show site's efforts and achievements in environmental protection. The local media reported the online monitoring system of waste water and waste gas treatment linked between GME and EPA's database. The water quality monitoring system is implemented. On June 2, Guangzhou TV station, G4 and other media broadcast in the evening news of Guangdong satellite TV.</p> <p>4. The annual information release of pollutant discharge permit is under preparation.</p>		
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.	Conformed	<p>1. The site is a built-up area without indigenous residents;</p> <p>2. According to the land transfer contract, the planned land use is for industrial land;</p> <p>3. Groundwater is not exploited by GME;</p> <p>4. The nearby community Qiangang</p>	-	-

			village is about 2 km away.		
3.1.3 ADV	Evidence of improvements in water governance capacity from a site-selected baseline date shall be identified.	2	<p>1. 2019 is the selected base year as the order of 2019 is relatively stable;</p> <p>2, the foundation of sustainable water resources management in enterprises, the 2020 training version, was released by WeChat official account in 26 Oct. 2020. For key departments the successful completion ratio of online training is 100.</p> <p>3. External training record: 1. AWS standard training in Guangzhou from 31 Oct. to 1 Nov. 2019, with 5 participants (EP/Fe/Q); 2. During 25-27 Oct. 2019, 3 staffs from GME participated in the training in xiankenggu village of Heyuan county; On 20 Oct. 2020, the environmental management system manual version G was revised to add relevant contents of AWS sustainable water management;</p>	-	-
3.1.4 ADV	Evidence from a representative range of stakeholders showing consensus that the site is seen as positively contributing to the good	2	1. Through the questionnaire star tool, an external questionnaire survey was carried out on 2 July 2020, with 26 copies	-	-

	water governance of the catchment shall be identified		received. Overall satisfaction is above 60%, and there is no negative feedback; In Jan. 2018, GME was rated as the only water-saving enterprise from electronics industry in Guangdong Province; GME was awarded the third batch of green factories by the Ministry of Industry and Information Technology (MIIT) in Nov. 2018; 4. Ranked as the Excellent Cleaner Production Enterprises in Guangzhou City from May 2020 to April 2025, and cleaner production enterprises in Guangdong Province from 2012 to 2019;		
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	Conformed	1. By reviewing EMP-GME-02f, procedures for obtaining and identifying compliance obligations; 2. EMP-GME-08f, compliance evaluation procedure; 3. Identify once every three months and conduct compliance evaluation simultaneously;	Refer to clause 1.5.2.	Refer to clause 1.5.2.
3.2.2	Where water rights are part of legal and regulatory requirements, measures identified to respect the water rights of others	Not applicable	Not applicable. Before the establishment of the factory there were no original residents, the	-	-

	including Indigenous peoples, shall be implemented		land use is for industrial land.		
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	Conformed	<p>1. Ultrafiltration membrane project with 108 pieces membranes replaced. Before the implementation of the project from March to June in 2020, and after the completion of the project from July to September. Mr. Xie, head of the environmental protection department, was responsible for project implementation.</p> <p>2. The RO membrane project was completed on 4 Nov. 2020. The water production was increased by 1,250 m³/day, meeting the expected as 1000m³/day.</p>	-	-
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	Conformed	The annual water consumption target of 2020 is set at 639.16m ³ /kft, in 2019 it was 710.18; the YTD from Jan. to Oct. 2020 was 603.86; FE Department was supervising the achievement of objectives, and the QA Department was checking FE's reporting data;	-	-

3.3.3	Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.	NA	Not applicable. There was no additional water allocated to outside users;	-	-
3.3.4 ADV	The total volume of water voluntarily re-allocated (from site water savings) for social, cultural and environmental needs shall be quantified	NA	Not applicable.	-	-
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.	Conformed	<p>1. For COD and ammonia nitrogen, GME have set dual control targets of total amount and concentration (internal control index is adopted for concentration, which is stricter than the approved discharge permit). CEMs was operated and maintained by a third party. GME confirms real-time concentration data once four hours. In case the internal control standard is exceeded, it will be analysed and improved, to ensure the standard will be met continuously;</p> <p>2. For Cu, GMES has set the concentration internal control target (also strict than the discharge permit), which was checked once every four hours;</p> <p>3. By checking the data of the online platform (Guangzhou Huangpu</p>	<p>Minor</p> <p>By checking related records, it was found that the NS micro filtration water treatment project has been completed in Aug. 2019, thus should not be included in the sustainable water management plan of 2020.</p>	<p>1. The NS micro filtration project has been eliminated from the sustainable water management plan 2020. See attached evidence: F1 - 2020 sustainable water management plan;</p> <p>2. While making the plan for the next year, the relevant personnel should be trained before making the plan;</p> <p>3. For updated procedure, see attached evidence: F1 - screenshot of procedure document content: sustainable water management plan;</p> <p>4. Training the relevant personnel. For details, please refer to attached evidence: AWS procedure document content training attendance form;</p>

			District pollution source online monitoring system) in the first three quarters of 2020 to confirm the standard; the total amount of pollutants is confirmed once a shift, twice a day; In the first three quarters of 2020, the concentration of Cu is 0.2217 mg/L, for COD it was 24.81 mg/L, for ammonia nitrogen it was 1.182 mg/L;		Correction action was reviewed and closed by DNV GL.
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	Conformed	<p>1. Rainwater quality monitoring was performed to ensure that the drainage is not polluted; sampling at two outlets every six months; by checking the monitoring report on 12 Sep. 2020; Reviewed SOP EP-GEN-19D rainwater system operation and management work instruction;</p> <p>2. Groundwater monitoring. According to the monitoring report on 10 Apr. 2020, the testing was against GB 14848, which was done once a year;</p>	<p>OBS</p> <p>It is suggested to regularly follow up the cumulative amount of heavy metals discharged from the workshop outlet, to ensure that it meets the requirements of the Discharge Permit.</p>	<p>The emission statistics of heavy metal incl. Cu/Ag/Ni and other heavy metal pollutants have been recorded in the CEM (Continuous Emission Monitoring) platform supervised by local authority. The relevant data were measured and aggregated by CEM.</p> <p>The action taken was deemed appropriated by DNV GL and OBS addressed.</p>

3.5	Implement plan to maintain or improve the site's and/or catchment's Important Water-Related Area				
	<i>Detail</i>	<i>Score</i>	<i>Detail of Evidence Verified</i>	<i>Type of Finding Major/Minor/Observation</i>	
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	Conformed	1, In Sep. 2020, GME prioritized planting tree species, by signing the agreement with environmental conservation agency; 2. The planting rate target of GME is 30.5%, which was set as per the provisions of urban greening planning and construction index;	-	-
3.5.2 ADV	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.	0	There was no any action raised by GME, thus this is area for improvement in future.	-	-
3.5.3 ADV	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	0	There was no any action raised by GME, thus this is area for improvement in future.	-	-
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,	Conformed	1. HR and administration department is responsible for	-	-

	effective sanitation, and protective hygiene (WASH) for all workers onsite shall be identified and where applicable, quantified		<p>monitoring the quality of drinking water (drinking water dispensers installed) once every 6 months, with 9 drinking fountains (24 in total), confirmed by checking monitoring reports in Sep. 2020; the filter element was replaced every 2 months (the replacement record of filter element of engineering office is recorded from Jan. to Nov. in 2020);</p> <p>2. FE is responsible for the tap water pool, and the measurement is conducted every three months;</p> <p>3, During the COVID-19 period, the disinfection of the toilets were done 4 times a day;</p>		
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.	Conformed	There are no indigenous people around, thus no impact of water consumption by GME;	-	-
3.6.3 ADV	A list of actions taken to support the provision to stakeholders in the catchment of access to safe drinking water, adequate	5	1. GME carried out an initiative to provide free drinking water for nearby outdoor workers (sanitation workers,	-	-

	sanitation and hygiene awareness shall be identified		express delivery personnel, etc.); 2. The Budget was 220 CNY/year;		
3.6.4 ADV	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	0	Not applicable, WASH was not identified as the shared water challenge.	-	-
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.	Conformed	1. GME identified 11 priority management suppliers, one of which EMC Zhongshan has been trained; 2. By using IPE tool GME assessed and investigated of total 50 suppliers; 3. On 16 Oct. 2020, the training for EMC Zhongshan was conducted 0.5hr; 4. For other non-priority suppliers, 3 have been trained incl. Hitachi, cleaning supplier, Panasonic; 5. The training of other suppliers will be delivered in 2021;	OBS Where appropriate in target setting, sites may consider: 1, further set the overall consumption target on tap water use; 2, quantify the indirect use target, to impact and push the supply chain for implementation of water saving measures;	Sites will further evaluate and determine the necessity on these water resource and treatment target setting, and impact on relevant stakeholders. The action plan was deemed appropriated by DNV GL.
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	Conformed	1. Refer to material supplier audit instructions (INT-QA-017) Environmental and pollution prevention	-	-

	result of the site's engagement related to indirect water use, shall be identified		<p>indicators, were assessed during the annual audit of suppliers;</p> <p>2. EMC Zhongshan, on-site audit from 26-27 Aug. 2020, in addition to water indicator also incl. the implementation of energy conservation and waste reduction;</p> <p>3. According to the assessment results, suppliers will be encouraged to continuously improve their performance.</p>		
3.7.3 ADV	Actions taken to address water related risks and challenges related to indirect water use outside the catchment shall be documented and evaluated	0	<p>1. For three suppliers outside the catchment, they have been included in the training plan of 2021;</p> <p>2. IPE tool was used to supervise the supplier's compliance; By reviewing related SOP (QAP-GME-15G), and the supplier shall submitted correction report; One supplier ZhongTaoLvYougreen was found one violation record in Sep. 2020, this supplier completed the rectification on 10 Sep. 2020; the material supplier management SOP (QM-SQE-01C) requires the supplier to sign back to confirm compliance with relevant requirements.</p>	<p>OBS</p> <p>It is suggested whiling identifying corresponding action plans to maintain or improve indirect water use, GME may consider the perspective from a higher level rather than the compliance obligation, including promoting water conservation and pollutant emission reduction in the supply chain.</p>	<p>The next action plan is to promote water conservation and pollutant reduction in the supply chain by GME.</p>

			3. Supplement and formulate the AWS sharing action plan of brother companies of AKM group outside the catchment.		
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	Conformed	In Jan. 2020 GME communicated with the water supply center that the water supply pressure dropped. In this case the dormitory water use was affected, but the production line was not affected; 2. During routine operation GME communicated with the water supply center by phones;	-	-
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	Conformed	1. Compliance management of drainage was followed up the permit (No.50 of SuiKai Drainage Approval 2019) valid from 19 June 2019 to 18 June 2024; Living sewage is monitored by a third party half a year, and the monitoring report on 17 Nov. 2020 was checked and found in line with the requirements of the drainage permit;	-	-

			<p>2. Compliance management of sewage;</p> <p>3. AWS disclosure form, once a year; the information of 2020 has been disclosed on the official website;</p> <p>4. BCM, emergency drill. The drill of DI water quality abnormality was implemented on 22 Sep. 2020;</p>		
3.9.2	<p>Actions towards achieving best practice, related to targets in terms of water balance shall be implemented</p>	Conformed	<p>1. As per Level I of the Clean Production Guidance - HJ450 6.66m³/m² (equivalent to 616m³ / kft²);</p> <p>2, The water use flowmeter installation rate is 100%;</p>	-	-
3.9.3	<p>Actions towards achieving best practice, related to targets in terms of water quality shall be implemented</p>	Conformed	<p>1. The internal pollutants control standards of Cu, COD and NH₃ are stricter than the requirements of discharge permit;</p> <p>2. Waste water output per unit product, class I standard from the Clean Production Guidance, 7.688 m³/m²; improve the reuse rate, select water-saving equipment, and train employees to correctly discharge waste liquid;</p> <p>3. Monitoring frequency of main pollutant indicators was once 6 hours, according to the requirements of</p>	-	-

			<p>pollutant discharge permit;</p> <p>4. Monitor the total amount of sewage discharge every 12 hours;</p>		
3.9.4	<p>Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented</p>	Conformed	<p>1. According to the "urban greening planning and construction indicators", the industrial land producing harmful gases shall not be less than 30%;</p> <p>2. According to the construction acceptance document of GME, the overall greening rate is 30.5%;</p>	-	-
3.9.5	<p>Actions towards achieving best practice related to targets in terms of WASH shall be implemented</p>	Conformed	<p>1. The number of toilet facilities met GB 31177 / 2014 student dormitory hygiene requirements and management norms;</p> <p>2. Toilet number met GBZ1-2010 industrial enterprise design hygiene standard;</p> <p>3. The coincidence rate of WBCSD wash checklist was 95%, and the frequency of daily cleaning and disinfection was 95%;</p> <p>4. Dormitory personnel arrangement, no more than 4 persons in one room;</p> <p>5. As per GME's plan, a new building will be constructed (near the basketball court), the</p>	-	-

			number of toilets should be set in consideration of the peak number of people; 6. The filter element of the pantry were replaced every 2 months;		
3.9.6 ADV	Achievement of identified best practice related to targets in terms of good water governance shall be quantified	8	1. As per SOP (EMP-GME-07G), GME carried out corresponding monitoring regularly to ensure that the requirements are met; 2. BCM drill was carried out strictly according to the plan; 3. AWS disclosure frequency is once a year;	-	-
3.9.7 ADV	Achievement of identified best practice related to targets in terms of sustainable water balance shall be quantified	8	1. From Jan. to Sep. in 2020, the water use intensity was 6.66 m3/m2, less than the Clean Production Guidance of 7.879 m3/m2; 2. The equipment ratio of water use flowmeters meets the related requirements;	-	-
3.9.8 ADV	Achievement of identified best practices related to targets in terms of water quality shall be quantified	0	1, The pollutant discharge meets the requirements of discharge permit; From Jan. to Sep. of 2020, it meets the Level I of Clean Production Guidance; 2. Monitoring frequency of pollutants: the monitoring system was checked weekly by the	OBS According to the Drainage Permit, the production wastewater discharge specified in the permit is 8,000m3/day. By checking the CEMs, the actual water discharge is about 9,400 m3/day from 12:00pm on 24 Nov. to	As the production discharge of the enterprise is controlled by the discharge permit, according to the discharge permit, the total amount and concentration of the pollutants are required, but there is no

			third party; the on-site registration form shall be confirmed by both parties;	12:00pm on 25 Nov. 2020. It is suggested that GME should make it clear the requirements of the drainage volume, and manage the discharge as per the approved quota.	requirement for the discharge amount of waste water. Moreover, the online CEMs will monitor the water discharge and timely upload the data to authority's system. The site will also record the discharge twice a day to monitor the discharge. See improvement evidence: F6 - daily drainage record form. The action plan was deemed appropriated by DNV GL.
3.9.9 ADV	Achievement of identified best practices related to targets in terms of the site's maintenance of Important Water-Related Areas have been implemented	0	Not implemented by GEM, this is an improvement area in future.	-	-
3.9.10 ADV	Achievement of identified best practice related to targets in terms of WASH shall be quantified	4	1. The maximum number of people in each dormitory is 4, meeting the requirements of 8 people; the squatting toilet meets the requirements of the standard, and the tap is at least one for every 10 people, which meets the standard GB 31177; 2. Set the WBCSD target synthesis as 95%, and each section should not be less than 91% (at present, the lowest is 91%);	-	-

			<p>3. Replace the filter element every two months;</p> <p>4. The toilet should be disinfected once every 6 hours;</p>		
3.9.11 ADV	A list of efforts to spread best practices shall be identified.	3	<p>1. Environment Day Activity on June 2020, the local media interviewed and the Publicity Department of Huangpu District Committee reported on the Internet to promote the best practice of water quality.</p> <p>2. Through AWS sharing smart water meter project (230 new installed in June 2020), it is planned to be implemented by the end of 2020.</p> <p>3. Carried out AWS training for prioritized suppliers;</p>	-	-
3.9.12 ADV	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.	0	This is an improvement area for future.	-	-
3.9.13 ADV	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	0	This is an improvement area for future.	-	-

	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				
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STEP 4: EVALUATE THE SITE'S PERFORMANCE

Intent: *To review a site's performance against the actions taken in Step 3, learn from the results – both intended and unintended – and inform the next iteration of the site's water stewardship plan. This evaluation shall occur at least annually, but sites should consider more frequent evaluations.*

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	Conformed	This was confirmed by reviewing the supporting evidences incl. following: 1. Water management: intelligent water meter initiatives; 2. Water balance: ultrafiltration membrane, RO membrane, water consumption per unit product; 3. Water quality internal control procedures; 4. Water management system: internal AWS training, shared by brother factories and suppliers; 5. Supply chain water use survey: indirect water use questionnaire survey; 6. Separate rainwater and sewage according to related SOPs; 7. Planting rate: no less than 30%;	-	-
4.1.2	Value creation resulting from the water stewardship plan shall be evaluated	Conformed	1. Financial income; replacement of ultrafiltration membrane and RO membrane, expected 1,567,594 CNY/5 yrs; Respective	-	-

			<p>return periods were 3.93yrs and 2.09yrs;</p> <p>2. Reducing the risk of water quality, tighten the discharge standards, set up intelligent water flowmeters, and improve and promote the staff's awareness and knowledge of AWS;</p>		
4.1.3	The shared value benefits in the catchment shall be identified and where applicable, quantified	Conformed	<p>1. Provide knowledge sharing to supply chain in and outside the catchment to pay attention to or carry out AWS, enhance their understanding of AWS, and provide support for suppliers in AWS management activities.</p> <p>2. The water consumption during 2018-2020 is significantly lower than the water consumption as allocated by authority, so the available water amount of outside water use units is increased.</p>	-	-
4.1.4 ADV	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	3	<p>1. Management review procedure SOP QAP-INT-032D included the procedure for AWS management review; its output shall include: updating the sustainable water management plan, updating the corresponding emergency plan, and emergency prevention measures;</p>	-	-

			On 16 Nov. 2020, the AWS management review was carried out;		
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 .	Conformed	1. The AWS management review evaluated the emergency plan and confirmed that the existing plan was suitable and effective; 2. The environmental emergency plan was completed on 19 Dec 2018 and approved by Guangzhou EPA on 2 Jan. 2019, GME was ranked as general risk level - water Q2-M1-E3;	-	-
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	Conformed	1. The questionnaire survey of relevant parties, through mail and official we-chat account; 2. Communication strategy: meeting, training (local EPA), telephone, on-site interview, questionnaire, staff suggestion box; 3. Information exchange form: QM-EMS-064 was regularly aggregated from different departments;	-	-
4.3.2 ADV	The site's efforts to address shared water challenges shall be evaluated by stakeholders. This shall include stakeholder reviewing of the site's efforts	6	1. The questionnaire star tool was used to conduct an external survey with 26 copies feedback	-	-

	across all five outcome areas, and their suggestions for continual improvement.		received covering all five outcome areas; 2. Carried out water resources related activities; strengthen staff awareness training; strengthen water related information disclosure; strengthen water resources management; 3, Stakeholders' satisfaction on GME's environmental issues were found as high and included: sewage treatment and discharge, advocacy and implementation of water conservation, environmental information disclosure, compliance with relevant laws and regulations;		
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.	Conformed	1. The management review has evaluated the sustainable water management plan, which will not be changed in 2021; 2. The sustainable water management plan for the 2021 will be drafted in December 2020, then finalized and approved as per GME's procedure;	-	-

STEP 5: COMMUNICATE ABOUT WATER STEWARDSHIP AND DISCLOSE THE SITE'S STEWARDSHIP EFFORTS

Intent: To encourage transparency and accountability through communication of performance relative to commitments, policies, and plans. The disclosure of relevant information allows others to make informed opinions on a site's operations and tailor their involvement to suit

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	Conformed	Reviewed the Water Stewardship Report disclosed on Meadville internet homepage (https://www.akmmv.com/wp-content/uploads/2020/11/AWS水管理信息披露报告_v1.pdf) that the site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations disclosed.	-	-
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	Conformed	Reviewed GEM's 2020 CSR Report, information of the communication with stakeholders about water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes was disclosed.	OBS Till 23 Oct. 2020 (one month before the commence of the initial audit scheduled on 23 Nov. 2020), the stakeholder engagement announcement were only published on the website of DNV GL and AWS. GME should release this announcement one month before the formal audit, such as	Announcement has been published through GME's official WeChat account. The action plan was deemed appropriated by DNV GL.

				through local newspapers.	
5.3	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.				
5.3.1	A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.	Conformed	Reviewed 2020 Environmental management objective and program plan, 2020 CSR report, that the summary of the site's water stewardship performance, including quantified performance against targets are disclosed.	-	-
5.3.2 ADV	The site's efforts to implement the AWS Standard shall be disclosed in the organization's annual report.	1	Information of the site's efforts to implement the AWS Standard is disclosed in 2020 CSR Report	-	-
5.3.3 ADV	Benefits to the site and stakeholders from implementation of the AWS Standard shall be quantified in the organization's annual report.	0	Reviewed 2020 CSR report and interview with AWS program coordinator Ms. Song, Xuemei	OBS Income from the implementation of AWS standards, such as changes in tap water cost and sewage treatment costs, was not disclosed.	Quantitative financial data will be included in subsequent CSR reports of GME. The action plan was deemed appropriated by DNV GL.
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.	Conformed	Relevant information disclosed in 2020 CSR Report and Water Stewardship Report (could be find in above linkage)	-	-
5.4.2	Efforts made by the site to engage stakeholders and coordinate and support public-sector	Conformed	Interview with supervisor Mr. Yuan of utility department and review 2020 water stewardship report of the site, that efforts made to engage stakeholders	-	-

	agencies shall be identified		and coordinate and support public-sector agencies are identified		
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	Conformed	Interview with AWS coordinator Ms. Song, Xuemei and research internet that there is no compliance violations identified in past few years. This was also checked and confirmed during stakeholder interview with representatives from local EPA.	-	-
5.5.2	Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable	Conformed	A procedure to manage non-conformance and related corrective action is developed, there is no compliance violation identified in past few years.	-	-
5.5.3	Any site water-related violation that may pose significant risk and threat to human or ecosystem health shall be immediately communicated to relevant public agencies and disclosed.	Conformed	A procedure to manage non-conformance and related corrective action is developed, any site water-related violation that may pose significant risk and threat to human or ecosystem health is required to immediately communicated to relevant public	-	-

SUMMARY SCORE

STEP	CORE POINTS	ADVANCED POINTS
STEP 1	29	18
STEP 2	5	1
STEP 3	20	32
STEP 4	6	9
STEP 5	8	1
TOTAL	68	61
EVALUATION RESULT	68	61
Certification/Audit Type	Initial Certification	
Level of Certification Recommended	AWS GOLD LEVEL	

MAJOR NCS

Detail of Finding	CAP	
	Root Cause	Specific CA
- No major NC was found	-	-

MINOR NCS

Detail of Finding	CAP	
	Root Cause	Specific CA
Clause 1.1.1&1.5.5 According to the "Background Survey Report on Water-related Risks, Opportunities and Challenges (dated 10 Oct. 2020)", the following issues were found: 1. There is no clear definition for the physical boundary of sustainable water management of the site; the location identification incl municipal tap water access point, rainwater	The requirements of physical boundary are not clearly understood; the IWRA are not fully identified in the plant site boundary map; the identification of IWRA is also omitted in the report.	1. The physical boundary of the basin is determined as Dongjiang River Basin and Pearl River Delta Basin; the mapping has been updated accordingly, and the municipal tap water interface and rainwater and sewage discharge outlet of the plant site have been added;

<p>discharge point and wastewater discharge point are not clearly identified in the site boundary map;</p> <p>2. This survey report lacks the description on IWRA section;</p>		<p>2. IWRA section have been identified and described in the updated survey report dated Nov. 2020;</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.8</p> <p>1. For section of best practices related to water balance and water quality, only the best practices of the site were determined, the respective best practice at industry and / or watershed level were not defined;</p> <p>2. The industry and / or watershed's best practice in IWRA and WASH was not identified.</p>	<p>There were no available references on the best practice of industry / watershed level.</p>	<p>GME has assessed its WASH performance by using WBCSD assessment tool.</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.2.1</p> <p>There is no clear stakeholder communication procedure established; no relevant record shown including vulnerable groups and ethnic minorities in the stakeholders list.</p>	<p>There is no procedure directly referring to the related clauses of AWS to plan the internal strategy following the respective requirements of AWS, so there are some omissions in the identification of requirements.</p>	<p>1, Issued a new procedure and establish clear stakeholder communication according to AWS requirements. For details, please refer to evidence: F7 -- analysis table of relevant parties in supplementary matrix; F7 -- screenshot of stakeholder communication process document.</p> <p>2. Train relevant personnel on the contents of procedure documents. For details, see improvement evidence: "AWS procedure document content training attendance form"</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.2.2</p> <p>There is no clear evaluation and ranking criteria for stakeholder concerns to fully and effectively identify the current and potential impacts between the site and stakeholders; the "shared water challenges of the watershed" identified in 2020 "Watershed Background and shared Water Challenges Report" does not fully address the current and potential impacts between sites and stakeholders as per clause 1.2.2 of standard.</p>	<p>There is no procedure directly referring to the related clauses of AWS to plan the internal strategy following the respective requirements of AWS, so there are some omissions in the identification of requirements.</p>	<p>1. This issued has been clarified in the Background Survey Report. For details, please refer to the improvement evidence: F8 - increase the evaluation and ranking of issues from stakeholders.</p> <p>2. Developed procedure to establish clear stakeholder concerns in accordance with standard requirements.</p> <p>Issue evaluation and ranking criteria, were used to identify current and potential impacts between the site and</p>

		<p>stakeholders. For details, please refer to the evidence: F8 - process document screenshot content: confirm the current and potential impact between the site and stakeholders</p> <p>3. Carried out AWS procedure document training for relevant personnel. For details, please refer to evidence: AWS procedure document content training attendance form.</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.3.1</p> <p>"Water shortage per capita" has been identified as one of the high-risk events of "watershed shared water challenge", but the site has not established the necessary emergency plan for "water shortage/stop".</p>	<p>There is no procedure benchmarking the terms of AWS to plan the internal strategy for each requirement of AWS, including considering the relevance of input and output.</p>	<p>1. The emergency plan of "water supply shortage/stop" was added to SOP "water supply failure business continuity strategy and accident management plan". For details see evidence: F9 - business continuity strategy and incident management plan - water supply failure;</p> <p>2. Issued procedure on emergency plan for water related accidents according to the standard requirements; For details, please refer to evidence: F9 - screenshot of procedure document content: emergency plan for water related accidents;</p> <p>3. Carried out AWS procedure document training for relevant personnel. For details, please refer to attached evidence: AWS documents training attendance form.</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.3.7</p> <p>Internal revenue from the sale of DI (Deionization) water to FPC part and the sale of water treatment sludge by HDI part were not recognized.</p>	<p>There was no procedure directly benchmarking the terms of AWS to plan the internal strategy of each requirement of AWS, thus the calculation scope is not clearly defined.</p>	<p>1. "Sludge sales internal revenue" and "DI sales internal revenue to FPC" have been added to the "income related to plant water in 2019". For details, please refer to the attached evidence: F10 - increase the</p>

		<p>relevant income statistics of sludge and DI water sales to FPC.</p> <p>2. Prepared procedure, confirming water related costs, revenues and common value creation according to the standard requirements, and clearly define the calculation scope. For details, please refer to attached evidence: F10 - screenshots of program documents: confirm water related costs, revenues and common value creation</p> <p>3. Carried out AWS document training for relevant personnel. For details, please refer to attached evidence: AWS procedure document content training attendance form.</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.4.2 GME did not confirm the outsourcing service provider's 1) cleaning of dust-free clothes/shoes; 2) the water use condition of employee commuter service.</p>	<p>There is no procedure directly benchmarking the terms of AWS to plan the internal strategy of each requirement of AWS, thus the scope of investigation is not clearly identified and defined.</p>	<p>1. Have carried out water survey on the suppliers of cleaning dust-free clothes and staff commuter service providers, and incorporate the survey results into the supplier evaluation form. For evidence, please refer to: F11 - cleaning supplier questionnaire. F11 - water communication record of outsourcing commuter company. F11 --- supplement the supplier evaluation form of outsourcing service providers;</p> <p>2. Re-train and enhancing understanding on AWS standards. For details, see attached evidence: AWS standards training record form;</p> <p>3. Prepared procedure and planned the contents of clause 1.4.2 according to the standard requirements;</p> <p>Furthermore, defined the scope of investigation. For details, please refer to attached evidence: F11 - program file</p>

		<p>screenshot content: collect indirect water use data.</p> <p>4. Carried out AWS document training for relevant personnel. See attached evidence for details: "AWS procedure document content training attendance form"</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.5.5 The list of watershed IWAR is incomplete, and the status of IWRA is also not evaluated.</p>	<p>There is no procedure directly benchmarking the terms of AWS to plan the internal strategy of each requirement of AWS, thus the scope of evaluation is not clearly identified and defined.</p>	<p>1. The IWRA around the site have been added in page 18-19 of the updated Watershed Survey Report, and the current status of IWRA has been identified. For details, please refer to attached evidence: F12 - determine the IWRA around the site and identify the current status of IWRA;</p> <p>2. Prepared the procedure, planned the content of "confirm the IWAR" according to the standard requirements, and evaluate the status of IWRA. For details, see the attached evidence: F12 - the screenshot content of the procedure document: confirm the important water related areas in the basin.</p> <p>3. Carried out AWS training for relevant personnel. See attached evidence for details: "AWS procedure document content training attendance form"</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.7.2 Some water related opportunities have been identified, but respectively the estimation and importance ranking of savings and business opportunities have not been carried out.</p>	<p>There is no procedure directly benchmarking with the provisions of AWS to plan the internal strategy of each requirement of AWS, thus the relevant requirements of water related opportunities are not specified.</p>	<p>1. Re-identify water related opportunities, estimate and rank the savings and business opportunities. For details, see attached evidence: f13 -- savings, commercial value and ranking;</p> <p>2. Issued procedure and planned the contents of clause 1.7.2 according to the standard requirements, further clarify the</p>

		<p>relevant requirements of water related opportunities. For details, please refer to attached evidence: F13 - screenshot of procedure document content: confirm water related opportunities;</p> <p>3. Carried out AWS training for relevant personnel. See attached evidence for details: "AWS procedure document content training attendance form".</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.8.1 Site did not identify best practices in water management systems/water resources management at watersheds level.</p>	<p>There is no procedure directly benchmarking the terms of AWS to plan the internal strategy for each requirement of AWS, thus the requirements related to water management system/best practice in water resource management are not specified.</p>	<p>1. Revise the "2020 GME best practice target and benchmarking" to include the best practice indicators for water management system/water resource governance. For details, see attached evidence: F14 - best practice in water resource management of supplementary water management system;</p> <p>2. Issued the procedure and planned the content of "water management system/best practice of water resource management" according to the standard requirements, and describe the best practice requirements of water management system/water resource management. For details, please refer to attached evidence: F14 - screenshot of content of procedure document: best practice of water management system.</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 1.8.2 Best practices for water use efficiency (e.g. water reuse rate) have not been determined.</p>	<p>There is no procedure directly benchmarking the terms of AWS to plan the internal strategy for each requirement of AWS, thus the requirements related to best practice of water efficiency are not specified.</p>	<p>1. Fresh water consumption per unit product from PCB Sector Clean Production Standard (HJ 450) has been referred as "water efficiency";</p> <p>The unit fresh water consumption index cited from Clean Production Standard, has indirectly included the control of the</p>

		<p>water reuse rate, and has indirectly taken the water reuse rate as the best practice index. For details, please refer evidence: F15 - "2020 GME best practice target and benchmark setting";</p> <p>2. Issued procedure and planned the "best practice of water use efficiency" according to the standard requirements. For details, please refer to attached evidence: F15 -- screenshot of procedure document content: best practice of improving water efficiency;</p> <p>3. Carried out AWS training for relevant personnel. See attached evidence for details: "AWS procedure document content training attendance form"</p> <p>Correction action was reviewed and closed by DNV GL.</p>
<p>Clause 3.4.1</p> <p>By checking related records, it was found that the NS micro filtration water treatment project has been completed in Aug. 2019, thus should not be included in the sustainable water management plan of 2020.</p>	<p>The project was commenced in 2019, and the construction is completed in Aug. 2019 and put into use. However, the formal operation and acceptance are completed in early 2020, so it is retained in the 2020 plan. This problem occurs because the existing procedures do not clearly define how to allocate the projects to the related yearly plan.</p>	<p>1. The NS micro filtration project has been eliminated from the sustainable water management plan 2020. See attached evidence: F1 - 2020 sustainable water management plan;</p> <p>2. While making the plan for the next year, the relevant personnel should be trained before making the plan;</p> <p>3. For updated procedure, see attached evidence: F1 - screenshot of procedure document content: sustainable water management plan;</p> <p>4. Training the relevant personnel. For details, please refer to attached evidence: AWS procedure document content training attendance form;</p> <p>Correction action was reviewed and closed by DNV GL.</p>

OBSERVATIONS

Detail of Finding	CAP	
	Root Cause	Specific CA
<p>Clause 1.3.3</p> <p>1. By reviewing the water balance during June – Aug. 2020, it needs to be justified for the rationality of the selected estimation methods and parameters, such as the loss rates in different water use processes and the estimation of domestic sewage discharge;</p> <p>2. It is suggested that rainwater storage and utilization may be considered in future to expand unconventional water sources of GME.</p>	-	<p>1. The reasonable sources of the parameters in the water balance diagram have been confirmed, and the loss of each water consumption process has been estimated accordingly;</p> <p>2. The utilization of rainwater is not considered at present.</p> <p>The action taken was deemed appropriated by DNV GL and OBS addressed.</p>
<p>Clause 3.4</p> <p>It is suggested to regularly follow up the cumulative amount of heavy metals discharged from the workshop outlet, to ensure that it meets the requirements of the Discharge Permit.</p>	-	<p>The emission statistics of heavy metal incl. Cu/Ag/Ni and other heavy metal pollutants have been recorded in the CEM (Continuous Emission Monitoring) platform supervised by local authority. The relevant data were measured and aggregated by CEM.</p> <p>The action taken was deemed appropriated by DNV GL and OBS addressed.</p>
<p>Clause 5</p> <p>Till 23 Oct. 2020 (one month before the commence of the initial audit scheduled on 23 Nov. 2020), the stakeholder engagement announcement were only published on the website of DNV GL and AWS. GME should release this announcement one month before the formal audit, such as through local newspapers.</p>	-	<p>Announcement has been published through GME’s official WeChat account.</p> <p>The action plan was deemed appropriated by DNV GL.</p>
<p>Clause 1.5.2/3.2.1</p> <p>It is suggested to improve the existing regulatory identification and compliance evaluation process to ensure timeliness and adequacy. By checking the “Implementation action plan of water saving in Guangdong Province” it was found:</p> <p>1. The identification of this document was in Oct. 2020 by GME, lagging behind its implementation date in Dec. 2019;</p>	<p>1. At present, the frequency of laws and regulations identification and list updating is once a year, which leads to the untimely identification of laws and regulations.</p>	<p>1. GME shall pay more attention to laws and regulations, and have outsourced the third-party professional laws/regulations identification services to ensure timely acquisition and evaluation of new laws and regulations, and timely update the</p>

<p>2. Insufficient identification of applicable provisions of this document, such as the specific requirements for Key Water Users in the scheme are not clearly identified by GME;</p>	<p>2. The review of laws and regulations is not sufficient.</p>	<p>list. For details, please refer to attached evidence - F3.</p> <p>2. In the subsequent evaluation of laws and regulations, GME will organize corresponding internal departments/personnel to jointly evaluate, so as to fully identify the requirements of applicable laws/regulations.</p> <p>The action plan was deemed appropriated by DNV GL.</p>
<p>Clause 3.7.3 It is suggested whiling identifying corresponding action plans to maintain or improve indirect water use, GME may consider the perspective from a higher level rather than the compliance obligation, including promoting water conservation and pollutant emission reduction in the supply chain.</p>	<p>-</p>	<p>The next action plan is to promote water conservation and pollutant reduction in the supply chain by GME.</p> <p>The action plan was deemed appropriated by DNV GL.</p>
<p>Clause 3.9.8 It is suggested that GME may strengthen the communication with the third-party who is responsible for operation of onsite waste water quality CEMs system: 1. Confirm the daily operation and maintenance of the third party; 2. Timely communicate and follow up in case of any issues found; 3. Maintain the relevant communication records;</p>	<p>-</p>	<p>The following 7.8 items are added to SOP "Operation and Management Instructions of Environmental Protection Laboratory" to strengthen the communication and control of the third-party institutions for online water quality CEMs: "7.8 inspection of monitoring data and abnormal follow-up of CEMs for general discharge of production wastewater: 7.8.1 check the monitoring data of the wastewater quality CEMs every 2 hours, and inform the equipment maintenance supplier of the online monitoring system in time if the monitoring data is abnormal. 7.8.2 follow up the maintenance of the equipment maintenance supplier of CEMs, and sign on the maintenance record form stored on site."</p> <p>Refer to the improvement evidence - F5 - communication record with the third party, and SOP.</p>

		<p>The action plan was deemed appropriated by DNV GL.</p>
<p>Clause 3.9.8 According to the Drainage Permit, the production wastewater discharge specified in the permit is 8,000m³/day. By checking the CEMs, the actual water discharge is about 9,400 m³/day from 12:00pm on 24 Nov. to 12:00pm on 25 Nov. 2020.</p> <p>It is suggested that GME should make it clear the requirements of the drainage volume, and manage the discharge as per the approved quota.</p>	-	<p>As the production discharge of the enterprise is controlled by the discharge permit, according to the discharge permit, the total amount and concentration of the pollutants are required, but there is no requirement for the discharge amount of waste water. Moreover, the online CEMs will monitor the water discharge and timely upload the data to authority's system. The site will also record the discharge twice a day to monitor the discharge. See improvement evidence: F6 - daily drainage record form.</p> <p>The action plan was deemed appropriated by DNV GL.</p>
<p>Clause 1.3.8 It is recommended that GME may confirm the sufficient level of WAH facilities, according to different areas in the production site.</p>	<p>There is no procedure directly benchmarking the terms of AWS to plan the internal strategy of each requirement of AWS, and the scope of WASH coverage is not clearly defined.</p>	<p>1. The level of WAH was calculated by FQC in the production area with the largest number of employees, and the results met the requirements of the standard. By analogy, other production areas also meet the requirements of the standard. For details, please refer to improvement: F16 - the maximum number of people in the production area and WASH level;</p> <p>2. Re-training and enhancing the understanding of AWS standards. For details, please refer to training record;</p> <p>3. Prepare procedure to clearly define the scope of WASH according to the standard requirements. Please refer to action: F16 - screenshot of program file content WASH level.</p> <p>Carried out AWS procedure document training for relevant personnel. See improvement evidence for details: "AWS procedure document content training attendance form".</p>

		The action plan was deemed appropriated by DNV GL.
<p>Clause 1.5.8 There is no evidence shown that site has made efforts to support and undertake catchment level water-related data collection.</p>	-	<p>GME plan to follow up participation focuses on the water information collection of the basin, such as water quality monitoring in Wuchong river and Wenchong river.</p> <p>The action plan was deemed appropriated by DNV GL.</p>
<p>Clause 2.3.3/2.3.4/2.3.5 No evidence was provided to confirm the corresponding activities have been carried out by site, incl. partnership/water stewardship.</p>	-	<p>Next step, GEM will promote the related water management activities, engaging brother factories of AKM Group as well as suppliers located in different river basins.</p> <p>The action plan was deemed appropriated by DNV GL.</p>
<p>Clause 2.4.2 There is no evidence that the site has plans to mitigate or adapt to water risks associated with climate change.</p>	-	<p>In principle, GME will assess the feasibility of evaluating or participating in weather forecast related activities with relevant public agencies and other experts, so as to deciding whether to carry out relevant activities.</p> <p>The action plan was deemed appropriated by DNV GL.</p>
<p>Clause 5.3.3 Income from the implementation of AWS standards, such as changes in tap water cost and sewage treatment costs, was not disclosed.</p>	-	<p>Quantitative financial data will be included in subsequent CSR reports of GME.</p> <p>The action plan was deemed appropriated by DNV GL.</p>

LIST OF PERSONS INTERVIEWED

Name	Designation
Mr. OU Alvin	Director - Quality Assurance, GME
Ms. PENG QiaoMei	Manager - QSM, GME
Ms. ZHANG LiRu	Senior Manager - EP, GME
Ms. CAO JingJing	Chief Engineer - QM, GME
Ms. SONG XueMei	Chief Engineer - QM, GME
Mr. ZHOU XiaoPeng	Internship Engineer - EP, GME
Mr. WU MingHui	Internship Engineer - QM, GME
Mr. LIANG JunBin	Senior Engineer - EP, GME
HU YuWei	Senior Engineer - PROD, GME
ZHANG Tao	Manager - FE, GME
LI Yuan	Manager - PROD III, GME
YI Lei	Assistant Director - HR, GME
Mr. ZHANG HeHua	Special Director - Product, GME
WU AiDong	Senior Manager - HR&Admin, GME
CAI JinJin	Procurement Manager, GME
YANG ZeJi	Internship Engineer - FE, GME
GUO	Manager - HR&Admin, GME
Mr. Li HuanLin	Field Team Leader - District Office of Science City - Stakeholder
Ms. YE LiuXiang	Social Worker - LeFei Social Work Agency - Stakeholder
Mr. YUAN YongZhang	Manager - Water-supply Center - Stakeholder
Chief Luo (over the phone)	Team Leader - Huang Pu District Environmental Law Enforcement Team- Stakeholder
Mr. Yu John (over the phone)	Sales GM - KeCheng Environmental Protection Co., Ltd. - Stakeholder
Ms. OU YANG ZhiYun (over the phone)	Manager - EMC Zhongshan - Stakeholder
Ms. CHEN LuoLuo	Client Representative - APPLE - Stakeholder
Ms. WU Zhenzhen	GM - AWS Asia Pacific
Ms. GE Chang Sally	Project Manager - AWS Asia Pacific