



**Governor of Eastern Province**



**Deputy Governor of Eastern Province**



**Marafiq signs a research agreement with SWCC to extract metals and minerals from desalination plants**





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WORLD MAGAZINE ARCHIVE

## Marafiq World

**Saeed K. Al-Abdullah**  
Corporate Communication Manager  
Overall In-charge and Supervision

**Editor-in-Chief**  
Steven Carl Smith

**Editorial Board**  
Basheer Al-Tarouty  
Hadeel Salamah Al-Howaity  
Gerardo Dumo Flores

**Branding Specialist**  
Ansary Domado

PO Box 11133, Jubail Industrial City 31961  
Tel: 013 340 9707 Fax: 013 341 2052  
taroutybh@marafiq.com.sa

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**Mohammed Berki Al-Zuabi**  
President and CEO

These safety results are symbolic of the determination and resilience that we are making to sustain a safe working environment.

Last year our resilience and determination were tested, as we experienced a diversity of challenges that required us to modify our behavior to accommodate the new health rules. These challenges impacted our working lives and our personal lives with our families, as many of our children conducted virtual school from home.

I am deeply grateful to Allah that he has bestowed exceptional wisdom to the Custodian of the Two Holy Mosques and his faithful Crown Prince. Their leadership has received praise worldwide as Saudi Arabia was ranked first among the G20 nations as the safest country to live in.

Marafiq places service reliability as one of its top priorities; during 2020, we achieved zero interruptions for our industrial customers.

Marafiq plans to install smart water meters which uses advanced smart ultrasonic flowmeters, which will replace the existing mechanical type in different residential areas. The project scope includes supply, installation, and commissioning of 14,847 new smart water meters, establish a drive-by meter reading system and ensure that the system can be upgraded to fully automatic meter reading in the future.

Marafiq has also implemented extensive precautions to ensure that our customers visiting our offices are safe. As precautionary protocols, we have installed plastic window shields for the customer care representatives, conducted automatic temperature detection, and have installed various sanitization dispensers.

Marafiq has shown that it maintains good safety, health, and wellbeing with its employees. We have achieved a new historic milestone record of over 46 Million Safe Man-hours without a Lost Time Injury (LTI) through our efforts in cultivating a safe culture. Our Joint-Venture company MaSa has also attained a significant record with a zero safety incidents rate.

These safety results are symbolic of the determination and resilience that we are making to sustain a safe working environment. At Marafiq, one of our core values is accountability; it is clear that we have established an excellent safety culture as, during the course of 2020, there were more than 7,000 discussions made on safe and unsafe acts. Even though we are succeeding in building our safety culture, we should not become complacent; we need to continue taking accountability for our actions and purposefully continue to have safety discussions with our team members.



Marafiq focuses its attention and resources on its human capital, as it is the organization's heart and soul. At the end of 2020, we achieved 80% Saudization, which involves both men and women working towards a unified vision contributing to the Saudi economy.

In 2020, we conducted an employee engagement survey, where 95.6% of our employees participated; this reveals an excellent effort from our human capital and shows that they believe their voices are heard and are considered in the organization's decision-making process. The survey's overall outcome showed that more than half (58%) of employees were satisfied. Some of the survey's significant highlights illustrate that employees favor Marafiq's culture; in fact, 83% of the human capital are proud to be part of the Marafiq family, and 75% are happy with their relationship with their line manager.

Due to the pandemic's restriction in 2020, only 737 employees received training during the year, which accumulated to 8,265 training man-hours. In 2021, we will place more focus on the human capital using our virtual academy platform, which has more than 900 courses.

Moreover, in our effort to accelerate our human capital capabilities and upskilling, we have launched phase 1-Employee Central of our SAP SuccessFactors system, which will play a key role in our digitalization strategy; this system uses technology to develop our human capital careers and support succession planning.

During the course of 2020, by Allah's grace and mercy, Marafiq has donated SAR 11,950,000 to 25 different charity organizations. These efforts demonstrate Marafiq's nature, which is to care for people and provide support to those in need; these contributions have supported societies teachings of the Holy Quran,

empowered ladies' charities, provided for orphans and for those who suffer from disabilities, as well as supporting the efforts of the Saudi Health Ministry Fund and Health Endowment Fund.

As part of contributing to the Saudi Vision 2030, we aim to increase our contribution to the Kingdom's economy and supply chain security through local procurement. We aim to be part of the movement that encourages local talent to be creative and develop a culture of innovation and entrepreneurship within Saudi Arabia. This is key for the sustainable growth and development of our local economy.

In terms of environment and sustainability, we aim to reduce our energy and Green House Gas emissions intensity by 2-4%; and reduce our total waste intensity by 3% and eventually achieve zero. In light of this, we are developing our sustainable waste management plans to recycle or reuse the sludge produced from the treatment of Marafiq's industrial and sewage treatment plants, as well as the Fly Ash generated from the burning of fuel at our Yanbu power plants.

As part of Marafiq's growth strategy, we need to be well prepared to contribute to economic progress by expanding into new markets and services. An example of this development is that Marafiq has already reached 90% progress in setting up its policies for establishing itself as an integrated utility service provider in Jazan City for Primary and Downstream Industries and is finalizing the required agreements.

We need to continue applying due diligence and uphold Marafiq's core values as guiding principles to our success.





## Governor of Eastern Province



**H**is Royal Highness, The Governor of the Eastern Province, Prince Saud bin Nayef welcomed Mohammed Berki Al-Zuabi, Marafiq's President and CEO. His Royal Highness discussed the importance of providing reliable services and sustaining environmental standards.

## Deputy Governor of Eastern Province



**H**is Royal Highness, Deputy Prince of the Eastern Province, Prince Ahmed bin Fahad bin Salman was briefed on Marafiq's efforts in attracting, hiring, and developing Saudi talent during his meeting with Marafiq President and CEO Eng. Mohammed Berki Al-Zuabi.



## Jazan City for Primary and Downstream Industries



**M**arafiq President and CEO, Mohammed Berki Al-Zuabi, met with AbdulHadi Al-Juhani, CEO of Jazan City for Primary and Downstream Industries. The CEOs discussed the operation of water desalination plant and the sewage treatment plant projects in Jazan City.



## Marafiq signs a research agreement with SWCC to extract metals and minerals from desalination plants

On January 27, 2021, the President and CEO of Marafiq, Mohammed Berki Al-Zuabi, signed a five-year collaborative research agreement with the Governor of Saline Water Conversion Corporation, Abdullah Ibrahim Al-Abdulkarim. This bilateral agreement involves a long-term research project that would capitalize on extracting rare metals and minerals from

desalination plants' concentrated brine. Marafiq operates huge capacity desalination plants and possesses sufficient experience in extracting these metals and minerals from the brine produced at its Seawater Reverse Osmosis Plants'. This project showcases Marafiq's strategic intentions that have resulted from its research and development efforts.









## Holy Quran Memorization Charity in Jubail

In recognition of Marafiq's continuous support to the Holy Quran Memorization Charity in Jubail, Marafiq President and CEO, Mohammed Berki Al-Zuabi, received a plaque of appreciation from Sheikh Khalid Al-Jabr, Chairman of the Holy Quran Memorization Charity on December 24, 2020 at Marafiq Head Office in Jubail.



## Safety Performance Champion

The Manager of Customer Relations - Jubail, Abdulillah Mansour Al-Jader awarded a certificate of appreciation to Saleh Musfer Al-Qahtani, Coordinator of Customer Care in Jubail, for his consistent safety achievements for being the Best Safety Performer during each quarter in 2020 and for winning the Safety Quiz award for Q1 and Q3.





## Visit to MaSa's Cockpit Performance O&M (CPO) Center in Jubail



**M**ohammed Berki Al-Zuabi, MaSa Chairman of the Board and Marafiq President & CEO, with Mahmoud Saleh Al-Theeb, VP O&M-Jubail, were accompanied by Hamad Saad Al-

Suhaim, MaSa EGM and his team during their tour to the Cockpit Performance O&M (CPO) Center in Jubail.

## Visit to Al Safwa Cement Plant near Jeddah

**A**s an environmental sustainability measure, Ali A Aseeri, Manager of the Technical Services Department in Yanbu, and Dipankar Bera, Water Process Engineer visited Al Safwa Cement Plant near Jeddah and had discussions about entering into commercial agreement with regards to Recycle/Reuse of fly ash and bio sludge from Marafiq Yanbu plants to be processed at Al Safwa Cement Plant.





## Two new industrial gas customers



**G**as Distribution Department has completed the commissioning of two new industrial gas customers--Tayseer Al Shiekh Factory for Chemicals and Fertilizer (TASF) and Madar Rubber Factory

(MRF). Marafiq Gas Network has increased to nine industrial gas customers with a total approved allocation of 33 MMSCFD.

## Compliance Committee for Covid-19

**T**he Compliance Committee for Covid-19 Precautions conducted an audit with different departments in Jubail to increase health and safety awareness.







## Delivering on our new growth strategy

**Ahmed Mohammed Khalifah Al-Shangiti**  
General Manager of Corporate Strategy

The Business Development Department (BDD) plays a key role in Marafiq by leading the company's New Growth Strategy (NGS), which is related to inorganic business growth; including identifying, evaluating, developing and handing new business growth initiatives/opportunities. These efforts are aligned with Marafiq strategic positioning that would enable the business growth of the company to meet the company's vision and mission. This includes building relations and collaborating with external stakeholders to ensure sustainable business growth and profitability for the company. In order to achieve this, the BDD team is acting proactively to expand Marafiq's portfolio of services in the Kingdom of Saudi Arabia.

BDD had to surmount several challenges in the past to adapt to the changes in the market and support Marafiq's growth in its businesses, through meeting customer needs; as well as providing reliable and quality utility services in a sustainable way that comply with the environmental regulations and at same time maximize shareholder's value. Like the other departments in Marafiq, the ultimate goal of BDD is to ensure that Marafiq is positioned as the most preferred utility service provider in major Industrial Cites of the Kingdom.

BDD is exploring all possible business opportunities related to new utility segments, or related services in the Royal Commission administered areas. This includes growth of the existing utility services but with a change in the business model [example: change in the partnership model (Joint Ventures), change in the customer profile in the targeted utility segment, change in financing structure (non-recourse project finance), and unregulated revenue streams]. The opportunities are evaluated for strategic alignment and a business case is built as per the Board of Directors approval, these projects undergo a risks and benefits assessment and are prioritized accordingly. This excludes all opportunities related to Marafiq organic growth including capacity expansion, enhancement or optimization, etc. which is addressed through Marafiq's normal CAPEX expansion path.

With the implementation of Vision 2030 and subsequent privatization of utility businesses in the kingdom, Marafiq also has developed interests in inorganic growth through unregulated opportunities in the domain of water, co-gen and related services across the Kingdom of Saudi Arabia. This also includes mergers/acquisitions and captive utility/related services in Royal Commission areas. These opportunities are evaluated as per "NGS Framework 2017" for strategic alignment and a

business case is developed to evaluate the attractiveness of the opportunity. Marafiq engages in these opportunities either in partnerships or alone depending upon Marafiq's internal resource availability and capability by participating in competitive bids or on an exclusive basis.

BDD is equipped with a dedicated team of professionals comprising of market, economic and financial experiences who utilize multiple tools to evaluate and prioritize opportunities and present recommendations to the executive management for informed decisions prior to Marafiq's engagement in such opportunities. In order to cover all aspects of the opportunities, BDD coordinates with other relevant departments such as Legal, Finance, Tariff & Regulatory, ERM, O&M, TSD, Projects and Engineering for support at different stages of the evaluation process.

BDD ensures that any new inorganic business opportunity would bring value to Marafiq including sustainable growth of profit margin, and associated risks are mitigated/controlled over the life cycle of the project.

In the journey of BDD within Marafiq, it has enriched Marafiq's portfolio through effective leadership and contributed positively in value creation. These are embedded in the success of SADARA SWRO. BDD's active involvement in various bidding/non-bidding projects development also brought significant learning into Marafiq, which were leveraged to adapt new business models to improve the lifecycle cost of Marafiq's services. Testimony of this is the IWTP-8 stage 4 expansion through Design, Build and Operate (DBO) model, which contributed positively in terms of treatment cost, asset ownership, revenue growth and risk management.



Figure 1: An Example of Partnership selection criteria adopted





## Localization: A path towards sustainable growth

**Fahad Abdullah Al-Shammari**  
General Manager of Supply Chain

**S**audi Arabia's national economic challenges addressed within Vision 2030 are primarily related to economic diversification and development of national capabilities. Therefore, reducing imports of goods and services from international suppliers and developing local capabilities is a huge opportunity for local employment, which results in a reduction of money flowing out to international suppliers. Therefore, developing local talent and capabilities, while also creating a culture of innovation and entrepreneurship within Saudi Arabia is key for sustainable growth and development of the local economy.

In light of the above, the Kingdom of Saudi Arabia is pursuing a national agenda focused on local content in order to continue reducing reliance on imported goods and services, building capabilities of the local population, and attracting investment to the Kingdom of Saudi for sustainable economic growth.

There are numbers of initiatives taken into consideration to give preference to locally manufactured products and support local capabilities development.

### 1) Government entities local content policies

All major companies and Government Ministries have developed local content programs with aim of the total spend remaining within the country, which benefits the development of local companies and human resources, and contributes to strengthening the economic productivity, diversification, and resilience. There are a number of different ways in which this can be achieved. The important elements to be considered to ensure successful implementation of local content are having a clear vision, tailored procurement processes, focus on capacity development and enabling environment.

### 2) Development of centralized database of local manufacturers

A national centralized database available to all local businesses with proper support can help to focus on procurement of goods from local manufacturers and discourage the use of foreign manufacturers. It aims to be a win-win opportunity for both local businesses and the Government Ministries, which can help the local economy in terms of value created inside the Kingdom, local employment, reduce supply chain cycle time, reduce cost and aftersales support.

### 3) Imports Control through variable duties and taxes

In order to protect local industries, the import duty can be increased for the goods which are locally manufactured which can discourage procurement from foreign manufacturers. Similarly, the import duty can be reduced/waived for raw materials or machineries (not locally available) to support local manufacturing and value creation.

### 4) Foreign direct investment in local manufacturing

By encouraging international companies to invest locally through foreign direct investment, joint ventures, and local content - policies will create jobs, transfer technology, and build human capital and develop local manufacturers capabilities for future exports. Government Ministries, and other public entities have enacted policies to encourage directing spend towards companies with activities that add value to the local economy. Hence, companies with higher local content score's in their supply chain that are contributing to the local economy are given a competitive advantage over others.

### 5) Study of spend data and demand forecast

Analysis of the past five years import data to identify major spend categories/goods and developing mechanism for centralized demand forecasting can be instrumental to develop the business case for local manufacturing of different goods by major Government/Semi-Government entities. We can untap huge opportunities for example in water processing chemicals manufactured locally to serve all local plants and also export to the Gulf Cooperation Council (GCC) countries which are major markets for water process chemicals.

### 6) SMEs support and development

The General Authority for Small and Medium Enterprises (Monshaat) has a clear vision to make the SMEs sector an essential engine for economic growth in Saudi Arabia and an enabler in achieving Vision 2030 and beyond.

The SMEs can be supported and encouraged in following ways:

- a) Ease to get bank loans at special lower interest rate.
- b) Set quota (percentage) for purchase from SMEs by Government entities, businesses and their suppliers.
- c) Provide a training and skills development program.
- d) Special incentives for research and development.
- e) Ease of registration with Government entities and major businesses.





## Reflections on the employee engagement survey

**Ahmed Al-Khleawi**  
General Manager HR&S

Last year our team conducted the Employee Engagement, which is a project aimed to improve the levels of strategic alignment, internal communications, create a better work environment with well-defined roles and responsibilities, advance relationships with colleagues, provide more recognition, better growth, and development, and ultimately sustain Marafiq's highly engaged- culture. Marafiq has taken many strides toward this approach. Over the years, we have executed various surveys that stand as evidence that Marafiq's leadership cares about their employee's overall well-being.

At the end of 2020, 95.6% of Marafiq's workforce participated in the employee engagement survey. This is a healthy sign that employees are engaged with the company and the work and show their willingness to be heard. This was the first survey conducted internally using the available human resources from various departments within the organization.

The survey measured 32 factors that affect employee happiness, productivity and performance, these were characterized into six dimensions:

1. People and culture
2. Reward and recognition
3. Corporate reputation and practices
4. Opportunities and growth
5. Work
6. Industrial and wellness

The results from the survey highlight an overall 5% drop in employee satisfaction from 2019 to 2020. The survey demonstrated an overall 58% satisfaction amongst the workforce; this result has many contributing factors, including the increased level of stress and uncertainty brought on through the Covid-19 pandemic. There is reason to believe that this drop is low and can represent a positive result, as it shows that Marafiq was able to provide adequate support during the peak of the pandemic, even though many employees were requested to work from home, this does indicate that majority of the employees remained satisfied.

Survey results show an intense satisfaction towards people and culture: with 83% feeling proud to be part of the Marafiq family; and 75% feel confident about their relationship with their line managers. This shows that during the course of 2020, Marafiq maintained an excellent brand image with which employees felt assured to associate themselves; it also demonstrates improved communication between the line-managers and their respective employees. Other areas where the workforce was satisfied include, 75% were pleased with the medical insurance provider, 74% looked forward to receiving a homeownership loan from Marafiq, and 68% rated Marafiq's reputation favorable against other utility companies in the Kingdom of Saudi Arabia.

Evidence of employees feeling concerned was seen in only two dimensions: industrial & wellness and opportunities and growth. Results show that Marafiq should consider improving its sick leave policy, training programs, career path planning, development programs, and how performance is measured.

Regarding the above areas of concern, the Human Resources and Services function has already made significant efforts to address these issues. Some of these include providing more than 900 unique online training courses to employees through the Marafiq Virtual Academy, which will help employees develop competencies to advance their career development. At the end of 2020, we also launched the first phase of the SAP SuccessFactors – Employee Central, which is part of a larger digital drive that will utilize state-of-the-art technology to enable HR to attract, develop, motivate and manage Marafiq's entire workforce. Furthermore, the second phase of the SAP SuccessFactors will be going live during the first quarter of 2021. It will provide an enhanced performance management system that will accurately assess employee performance and support them in aligning their efforts to organizational goals.





## Employees feel proud to be part of the Marafiq family

**Saeed Al-Abdullah**  
Corporate Communication Manager

**M**arafiq's heart and soul is its culture; since its inception in 2003, we have built a brand that reflects its core values. The brand is not so much about the products and services but leverages more on "who" it is and "what" it represents. Cultivating a brand culture requires passionate employees whose efforts align with the vision and mission of the organization.

The Corporate Communication department has increased its brand evolution efforts; this year, we have launched the third edition of the Corporate Identity Guidelines, demonstrating Marafiq's efforts to stay contemporary with industry developments and stakeholders' expectations. Employees have been respectable ambassadors in applying and using these templates and elements in their day-to-day tasks, this shows their sense of pride and compliance in implementing the Corporate Identity Guidelines.

The brand attributes and its various elements form the character of Marafiq; it gives it its distinguished identity that establishes a sense of reliability and continuity. The new Corporate Identity Guidelines have also introduced and updated new features, which include: an additional slogan "Your Partner in Power and Water", new uniform, employee identity card, business card, office signage, new customer invoice, PowerPoint templates, and a welcome gift for our new employees.



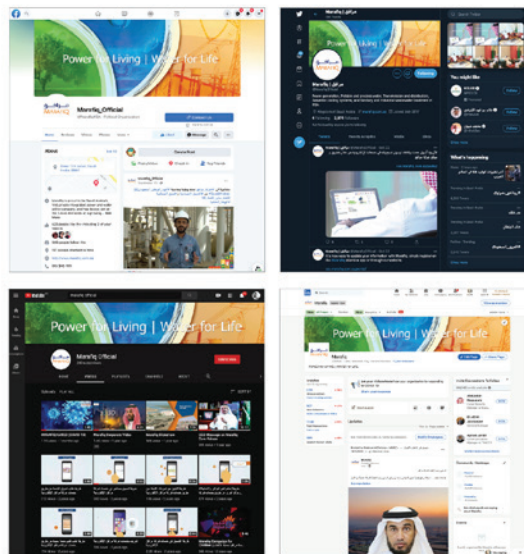
Marafiq's brand culture is its DNA; it governs every brand experience and interaction. At the end of 2020, the Human Resources and Benefits department worked in collaboration with the Corporate Communication department to enhance its onboarding program for recruits, one of the initiatives was to provide them with a new welcoming gift box that included a variety of essential branded items, such as a power bank, mug, notebook, pen, Bluetooth speaker, wireless desktop charger, USB Flash Drive and of course a unique Marafiq Pin.

We encourage our employees to follow us on our social media accounts, let us continue to build our brand culture, and participate in sharing, commenting, and liking our posts.

### Social Media

Facebook, Twitter, YouTube and LinkedIn

Only the Corporate Communication Department is authorized to manage communications on social networks. It is prohibited for any person to open social media accounts on behalf of Marafiq.







CORPORATE COMMUNICATION DEPARTMENT

Corporate Identity Guidelines

2021 Edition

Improper Use of Logo

Consistent and proper usage of the logo is essential to maintaining the integrity of the Marafiq brand. The Marafiq logo may not be altered in any way. The following examples illustrate improper usage or violations of the logo.

- Do not** color, stretch or scale the height or width of the logo disproportionately.
- Do not** place the logo on textured or complex backgrounds.
- Do not** tilt or rotate the logo.
- Do not** apply graphic effects to the logo (drop shadow, outline or use it as a background).
- Do not** customize the logo by adding individual office or department names.
- Do not** combine the logo with any other graphic element.
- Do not** combine the Arabic and English elements of the logo.
- Do not** position the logo into the corner of the page.
- Do not** change the color of the logo.



Colors and Contrasts

Colors

Two principal corporate colors are used: Marafiq Blue and Marafiq Orange. The Marafiq Blue symbolizes "Water" and the Marafiq Orange symbolizes "Power".

Consistent use of the two corporate colors is essential in establishing and reinforcing Marafiq's corporate identity in all the applications of the identity elements.

Color	CMYK	RGB	HEX
<b>Marafiq Blue</b>	100% 0% 0% 0%	0 0 255	#0000FF
<b>Marafiq Orange</b>	0% 0% 100% 0%	255 0 0	#FF0000

Contrasts

**High Contrast:** The Marafiq logo can be used in either white or Marafiq Orange on a high contrast background.

**Low Contrast:** The Marafiq logo can be used in either black or Marafiq Blue on a low contrast background.



PowerPoint Presentations

The official Marafiq PowerPoint template is available on the internet and features a variety of options for each slide. Adherence to the template means that employees are not to:

change the position of the logo or add any special effects to any of the brand elements. This will ensure consistency in the application of the presentation.

Area	Font	Size	Color
Title	Calibri	24pt	Black
Text	Calibri	12pt	Black





## Marafiq moving forward in its growth strategy

**Nadir Ali Al-Shafei**  
Power Distribution Manager

Marafiq is preparing to commence its services as a power and water utility service provider at Jazan City for the primary and downstream industries (JCPDI).

Marafiq has reached 90% progress in setting up its policies for establishing itself as an integrated utility service provider in JCPDI, by finalizing the required agreements (i.e. power purchase agreement with Principle Buyer, Operations and Maintenance Agreement with National Grid, Customer Transfer Agreement with Saudi Electrical Company, Power Distribution and Retail Supply License from Water and Electricity Regulatory Authority, Lease agreement with Royal Commission Jazan, etc.) in coordination with related stake holders.

JCPDI is an important national economic initiative in the Jazan Province of Saudi Arabia. The City is an important step in the continuing economic development and diversification of the Kingdom's economy. Initial development work has been done under the management of Saudi Aramco, including a pioneer port, refinery,

mineral processing facility, roads and other supporting infrastructure.

On the 9th of Shawwal 1436H (2015), a Royal Decree was issued to assign the Royal Commission for Jubail and Yanbu to manage and operate Jazan City for Primary and Downstream Industries to become the Fourth Industrial City managed and operated by the Royal Commission to join Jubail, Yanbu and Ras Al Khair Industrial Cities and Marafiq was entrusted to provide power and water utility services at JCPDI.

A Memorandum of Understanding was signed in the year 1440H/2018 among the Ministry of Energy (MoE), Water and Electricity Regulatory Authority, Marafiq, Royal Commission for Jubail and Yanbu; as well as Saudi Electrical Company entrusting Marafiq responsibilities as the utility service provider at JCPDI.

JCPDI has huge infrastructure projects being constructed and the utility related assets shall be leased from Royal Commission Jazan to Marafiq for ownership and O&M. The projected utility demand profile for the coming five years are as follows:





JCPDI	INDUSTRIAL UTILITIES / WASTE										
	power (MVA)	Potable Water (M3/hr)	Process Water (M3/hr)	Irrigation Water (M3/hr)	Reclaime Water (M3/hr)	Seawater Cooling (M3/hr)	Sanitary Wastewater (M3/hr)	Industrial Waste (M3/hr)	Solid Industrial Waste (tpy)	Hazardous Waste (tpy)	Non-Hazardous Waste (tpy)
	<b>2021</b>										
	391	1,676	519	28	695	10,000	65	349	25,045	185	120
	<b>2022</b>										
	463	1,753	911	29	953	32,000	137	349	25,045	185	3,161,322
	<b>2023</b>										
	583	2,073	913	29	953	158,505	168	385	25,075	215	3,161,352
	<b>2024</b>										
	648.3	2079.1	1716.0	51.7	953.3	162633.0	173.0	3220.3	25107.2	245.0	3161381.5
	<b>2025</b>										
	648.3	2079.1	1716.0	51.7	953.3	162633.0	173.0	3220.3	25107.2	245.0	3161381.5
RESIDENTIAL UTILITIES / WASTE											
<b>2021 - 2025</b>											
30	21,195	0	6,779	0	0	18,814	0	0	0	0	
<b>SUB TOTAL (2020-2025)</b>	<b>678.312</b>	<b>23274.1</b>	<b>1716.0</b>	<b>6830.7</b>	<b>953.3</b>	<b>162633.0</b>	<b>18987.0</b>	<b>3220.3</b>	<b>25107.2</b>	<b>245.0</b>	<b>3161381.5</b>

Marafiq is preparing itself to take the responsibility of the following business lines having following capacity:

Business Line	Capacity
Power distribution	Electricity distribution and retail supply of 450 MW.
Potable water production and distribution	60,000 m <sup>3</sup> /day, under commissioning stage.
Wastewater - Collection and treatment	40,000 m <sup>3</sup> /day, under commissioning stage.

Marafiq, as per the present progress is expected to take over the responsibilities for the utilities as described above for JCPDI by the third quarter of year 2021. Addition of JCDPI to Marafiq's portfolio as a

utility provider will prove as an important milestone for attaining its growth strategy to expand its services to customers in other areas of the Kingdom apart from Yanbu and Jubail Industrial City.





## Horizon scanning and preparing for 2021

**Atiq Ahmed Bajwa**  
Enterprise Risk Management Manager

Year 2020, has been extraordinary and tumultuous in every respect. Risk and Resilience professionals had to deal with a lot of totally unexpected events. In order to deal with the rapidly unfolding events and circumstances, we had to engage our best brains from all parts of the organization and made a lot of decisions on the fly as there were no text-book answers.

Most of our plans in our personal and professional lives had to change multiple times and we had to “re-calculate” our next course of action based on the current circumstances at the time. Although the end-game is still not clear, there is hope that the pandemic might end by the 3<sup>rd</sup> quarter of 2021 as per a Mckinsey report below.

[www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/when-will-the-covid-19-pandemic-end](http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/when-will-the-covid-19-pandemic-end)

Regardless of the expected end of the pandemic, we need to prepare for anything that year 2021 may bring to us. Based on our experience of 2020, we are now much more aware of the risks we might face going forward and we are now more prepared to deal with uncertainties by incorporating the lessons learned in the 2021 plans.

While planning for 2021 from Risk and Business Continuity perspective, we still however need to be prepared to modify or change our plans and approaches as and when needed. Keeping that in my mind, here are the high-level plans of the Marafiq Enterprise Risk Management team:

- Continue horizon scanning to identify any emerging risks and be prepared to respond swiftly.
- Continue monitoring COVID-19 related protocols and ensure compliance with the Public Health guidelines

- Stewardship of the Marafiq Top Risks by following up on the treatment actions
- Bottoms-up risk identification, assessment and action planning
- Identification of “Top Business Interruption Scenarios” and developing / testing BC plans
- Supporting the organization in risk assessment of strategic initiatives and providing guidance on the risk treatment options.
- Implementing a software solution for Risk, BCM and IMS to automate the work processes enabling effective tracking and reporting the status of risk treatment actions.
- Incorporating Risk Management into the annual Business Planning cycle and decision making
- Continue developing RM and BCM competencies of the Risk & BC Champions, Internal auditors and other relevant staff.
- Embedding the Risk and BC Planning into our day-to-day activities
- Supporting ISO-17025 Certification for our laboratories.
- Developing framework and implementing “Information Security Management System” aligned with ISO-27001.

The plan above appears quite ambitious but I am confident that the ERM team are up to the challenge of adding value to Marafiq business.





## Drive towards sustainable waste management

**Ali A. Al-Aseeri**

Technical Services Manager in Yanbu

One of the major environmental challenges faced by the Kingdom of Saudi Arabia is waste management. As part of “Saudi Vision 2030” initiative for achieving sustainable waste management strategy for the nation, it is imperative to develop Plan for sludge produced from the treatment of Marafiq’s Industrial and Sewage Treatment Plants at Jubail & Yanbu and Fly Ash generated from burning of Fuel at Yanbu I & II Power plants.

Marafiq Technical Service Department took up the onus to carry out Feasibility Study for devising a workable plan which will enable Marafiq to meet strategic objective of sustainable waste management. Once implemented, it may serve as an example for other cities of the Kingdom and help to accomplish the overall waste management goal.

### Objective set during Feasibility study for Bio Sludge and Fly Ash Management

1. Total recycle/reuse & energy recovery from Fly Ash from Power Plants and Biosludge from Sanitary Wastewater Treatment Plant (SWTP) and Industrial Wastewater Treatment Plant (IWTP) to achieve ZERO landfilling.
2. Market assessment of prospective opportunities
3. Recommending the most beneficial option based on the business perspectives, complying with the latest Royal Commission Environmental Regulations requirements.

### Approach and Methodology to arrive at Effective Bio Sludge & Fly Ash Management Plan

1. Data Collection and Analysis
2. Study for national and international legal provisions and best practices
3. Assessment of technology and end use options
4. Market demand assessment
5. Ranking of selected options: Based on cost for modification to existing schemes, market acceptability, Operation and maintenance, sustainability of reuse option, environmental and regulatory compliances and Best Available Technology analysis (BAT) the end use applications were ranked.

### Recommended end use for Fly ash

Based on the ranking of available options, most suitable option is to use of Fly Ash as a raw material in the cement industry (Co-processing unit).

After multiple interactions, Al Safwa cement plant located near Jeddah agrees with Marafiq to use Fly ash in their Cement Kiln. Presently we are undergoing process of contractual formalities for this purpose.

### Recommended end use for bio sludge management

Based on the Ranking of available options most suitable option is to use of Bio Sludge as alternative fuel or Raw material substitute in the Cement Industry (Co-processing unit). However, Bio sludge cannot be used in its present form. Biosludge needs to be dried further to make it useful for cement industry.

After multiple interactions, Eastern Province Cement Company near Jubail and Al Safwa cement plant located near Jeddah agree with Marafiq to use Bio Sludge generated at Jubail and Yanbu respectively in their Cement Kiln. Presently we are undergoing process of contractual formalities with them.

### Way forward

1. Get regulatory approvals: Royal Commission approval for movement of waste beyond their boundary and other compliances.
2. Technical audit of plants: Technical performance audits of existing IWTP/SWTP at both Jubail and Yanbu for achieving further dryness of Bio sludge suitable for use in cement kiln.
3. Develop implementation plan: Develop agreement, terms and conditions with the end users and implementation of required modification/infrastructure.





## Hazard Abatement - Your Safe Way to Avoid Workplace Accidents

**Fouad Abduljaleel Jambi**  
Industrial Security Manager in Yanbu

Millions of people have their lives severely affected because of the work they do, with illness, injury and even death caused by the safety hazards at their workplaces. Safety hazards are unsafe working conditions that can cause detrimental effects on people's life. Unfortunately, safety hazards exist in every workplace, but how do you know which ones have the most potential to harm workers?



By identifying hazards at your workplace, you will be better prepared to control or eliminate them and prevent accidents, injuries, property damage, and downtime. A number of safety experts and researchers travel across the world to visit worksites and conduct safety audits. A majority of these experts have identified the most common seven safety hazards that they frequented at the worksites and offer advice on preventing them.

### Working at height

It shouldn't be a surprise that one of the most frequently spotted safety hazards remains associated with working at height. Statistics of various safety bodies around the world shows that falls to a lower level accounts for the most workplace fatalities ever recorded.

The dangers associated with working at heights include:

- Falls of people.
- Falls of material.
- Falls from or through fragile roofs.
- Storage of materials.
- Insufficient guarding or edge protection.
- Incorrect method of getting equipment or tools from ground level to the working platform.

### Poor housekeeping

Housekeeping is a basic foundation for not only a safe workplace, but also a productive one. When housekeeping is poor at a worksite, employees are more likely to be hurt on the job. The unsafe conditions present due to poor housekeeping is often a contributing factor or a direct cause for workplace injuries. Clutter blocking fire exits, aisles and emergency exits is a housekeeping problem that is most commonly found at the workplaces. Housekeeping is not just cleanliness. It includes keeping work areas neat and orderly, maintaining halls and floors free of slip and trip hazards, and removing of waste materials (e.g., paper, cardboard) and other fire hazards from work areas. It also requires paying attention to important details such as the layout of the whole workplace, aisle marking, the adequacy of storage facilities, and maintenance. Good housekeeping is also a basic part of incident and fire prevention. Keeping the workplace neat and clean may effectively eliminate a number of safety hazards.

Few of the good housekeeping actions include:

- Cleanliness and tidiness.
- Safe disposal of scrap and waste.
- Unobstructed access in the workplace.
- Adequate space and proper layout.
- Fire and safety equipment in good condition.
- Planned maintenance.

### Confined spaces

Confined spaces can present a number of hazards. Statistics show tragedies involving confined spaces have occurred because the employers didn't issue a permit or failed to carry out a risk assessment.

The dangers associated with the confined spaces include:

- A serious risk of injury to any person at work arising from a fire or explosion.
- The loss of consciousness of any person at work arising from an increase in body temperature.
- Asphyxiation of any person at work arising from gas, fume, vapor or lack of oxygen.
- The drowning of any person at work arising from an increase in the level of a liquid.
- A serious risk of injury due to the presence of venomous organisms.

## Electrical – Extension cords

Extension cords are a common and convenient way to bring power to electrical devices. But used without proper caution, they can become fire hazards and pose risks to your personal safety. Extension cords can overheat and cause fires when used improperly. Overheating is usually caused by overloading or connecting appliances that consume more watts than the cord can handle. Damaged extension cords can also cause fires. The associated safety risks with the use of electrical extensions also include tempering with the electrical breakers and power supplies.

To avoid the safety hazards associated with the use of electrical extensions, ensure that:

- Only suitable, appropriate and approved electrical extensions should be used.
- Select cords that are rated to handle the wattage of the devices with which they'll be used.
- All extensions should be routed in a manner to avoid tripping hazards.
- Never use indoor extension cords outdoors.
- Don't plug multiple cords together.
- Use the safety devices such as fuses, isolation, residual current devices and earthing for safe use of electrical systems.
- Always ensure user checks, formal visual inspections, test and maintenance of electrical devices and systems.

## Chemical Hazard

The term “chemical hazard” refers to the risks that surround using a chemical. A chemical health hazard occurs when workers or other personnel are exposed to a hazardous substance. Hazardous chemicals can be inhaled, absorbed through the skin, swallowed, and ingested. Chemical health hazards can affect a person immediately (nausea, vomiting, acid burns, asphyxiation — also known as acute hazards) or the affects might take time to develop (dermatitis, asthma, liver damage, cancer — these are known as chronic hazards).

Chemical hazards present in the workplace can come from a variety of sources, including but not limited to:

- Gas - such as chlorine or carbon monoxide.
- Liquid - such as degreasing solvent or cleaning chemicals.
- Spray or mist - such as paint and epoxy sprays and acid mists.
- Fumes - such as welding, hot rubber, soldering, galvanizing fumes.
- Vapor - such as solvent vapor released from adhesives, paints or inks.
- Dust, powder or paste - such as wood, cement, metal, flour, grain, rubber.

## Lockout / tagout – Permit to Work System

Proper lockout/tagout procedures can help prevent serious injuries, but only if those procedures are followed. Most accidents occur when workers either fail to lock out or tag out properly or another worker starts the machinery unknowingly.

Violation of lockout/tagout procedures often boils down to three reasons:

- Complacency.
- A rush to finish the work.
- Being unfamiliar with the equipment.

These injuries can be prevented if workers cut off the power supply before working on machinery. However, some skip this step either unknowingly or deliberately. Risk of injury increases in units that have multiple moving parts and workers fail to cut off power sources from each before working.

Common accidents that can occur with improper LOTO include:

- Crushed under moving parts which should have been shut off beforehand.
- Suffocation under heavy machinery which starts moving or re-energizes during maintenance or examinations.
- Electrocutation because power supply was not cut off beforehand.
- Loss of limb, suffocation, and fractures due to moving parts.
- Life-threatening or fatal burns due to burners, hot liquids or hazardous materials that were not blocked during machine maintenance.

Most of these incidents are avoidable if proper precautions are set in place to prevent machinery from re-energizing during maintenance and examinations. Additionally, employers need to train employees on lockout/tagout and ensure they're qualified to carry out the procedures.

## Use of mobile equipment – Forklifts, Dumpers

The most common cause of serious incidents by the forklifts and trucks in the workplace are caused by speed, incorrect equipment, poor maintenance or lack of operational understanding. On top of it, vehicle overturns singly cause the major accidents at the workplace sites as forklift trucks, compact dumpers, tipper lorries and tractors are all especially prone to overturning.

Major reasons that contribute to the vehicle accidents at the workplace sites include the workers desire to work quickly by taking the shortcuts. Shortcuts include driving with too large of a load or driving distracted. The end result may be hitting a rack, damaging a wall or product, or even injuring a co-worker. Compounding these problems is a lack of maintenance and daily checks of trucks, and failing to segregate vehicles from pedestrians, Trucks should be regularly inspected to ensure they are in proper working order, and employers should create designated walkways.





## Converting to digital branches

**Abdulillah M. Al-Jader**

Customer Relations Manager in Jubail

The common term "branch conversion" can mean a variety of things that differ according to the requirements of the different departments within the company. Similar to the situation in many business sectors which focus on maintaining and attracting new customers, customer awareness continues to evolve. As consumer preferences change, it is important for service companies to convert their traditional branches into digital branches to provide faster services to existing and potential customers.

Converting branches is all about creating an enhanced customer experience. One of the important aspects of this process is to meet the needs of existing customers who prefer traditional methods, and at the same time, meet the needs of the growing segment of digitally oriented consumers.

The other aspect is the new self-service technology that can improve the customer experience. The main question here is how to evolve and become more cost-efficient while keeping the negative impact at the minimum level.

Just imagine that Marafiq has completely converted into digital branches. This step will contribute to enriching the customer experience by providing an immediate electronic experience, almost identical to what is offered through the branches. The digital branch is distinguished by its strategic location, its advanced future design, and its modern technical equipment. It provides a wide range of innovative and timely services along with self-service solutions that provide customers with sufficient time in full privacy and convenience.

It requires us to understand the needs of our customers, as well as their unheard expectations, and to quickly adapt to meet them.





## Delivering on stakeholders' expectations

**Khalid Mohammed Al-Dawood**  
Center of Excellence Manager

In order to meet the needs and expectations of stakeholders, it is essential to first identify all relevant parties, potential customers and end-users. Collectively, these are classified as stakeholders and may include government, legal, or regulatory parties that can have an impact on one's day to day business.

Once all interested parties are identified, their needs and requirements are then mapped, and a plan is then developed to ensure that their expectation will be delivered on schedule.

At Marafiq, we utilize a Project Execution Strategy (PES) as a framework to ensure that all project stakeholders have been identified, and their requirements have been mapped and they have been engaged at an early stage. This project governance structure consists of a 7-stage Gating System that allows the Project management Team to define, analyze, and deliver the needs and expectations of all stakeholders. To achieve this, Project Execution Strategy (PES) prescribes Stakeholders Management and communication plan as a deliverable in each project stage to maximize stakeholder engagement throughout the project lifecycle.

Project Execution Strategy (PES) focuses on early engagement of stakeholders. As the project progresses through stage gates, the roles of stakeholders also change. The consistency in progress and quality is ensured by Approval Authority through governance process. This progressive development happens in sequence as per the PES stage gate system wherein the deliverables will

be thoroughly examined by the team of experts called as Approval Authority. The preparation and submission of deliverables are driven by stage gate owners supported by various functions. Once the compliance is verified by the Approval Authority it will be authorized to move ahead further. This is how the needs and expectations arising from the originator (Business Unit) is converted into a project deliverable and executed as per requirements.

This systematic process under Project Execution Strategy (PES) will ensure that the scope, specifications, testing requirements, warranty conditions, scheduled completion, and project budget will be developed addressing all the needs and expectations of diverse stakeholders

Learnings observed by various stakeholders are recorded, analyzed and archived as Lessons Learned at every stage gate. Relevant lessons learned in past pave a way for the various stakeholders to revisit the process in ongoing project.

To ensure the process flow seamlessly, the developed procedures are undergoing revisions to enhance them and to have optimization of resources. Depending upon the needs, new procedures are launched which will further enhance the process. Continuous improvement and building up on the Organizational Process Assets will definitely lead to enhance stakeholder's satisfaction levels. The Center of Excellence (CoE) is the department entrusted with these responsibilities where the end-user needs and expectations are converted into reality.





## Marafiq introduced mean time between failure as an indicator for Asset Reliability

**Ayman Abdullah Yahya Taher**  
Asset Performance and Integrity Manager

### What is MTBF?

MTBF stands for Mean Time Between Failures, and it is the average time elapsed between two failures in the same asset. It's one of the most important Key Performance Indicator (KPI) to determine Availability and Reliability. The higher the MTBF, the more reliable the asset.

### Calculating MTBF

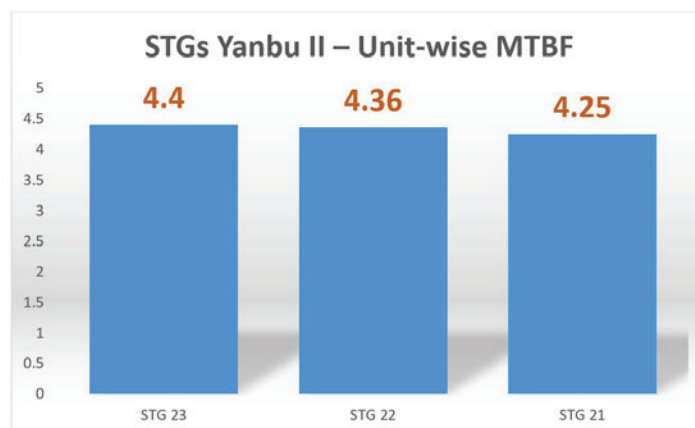
Marafiq's MTBF is characterized and focuses on the collective failure rate by representing average number of months of uninterrupted operation.

The below MTBF formula take in to account only unplanned maintenance and doesn't account for planned and preventive maintenance.

### MTBF as Performance Indicator

In Marafiq's production plants, MTBF is used to anticipate how likely an asset is to fail within a certain time period or how often a certain type of failure may occur. When considered with other maintenance strategies, like Reliability Centered Maintenance (RCM) and Reliability tools like Root Cause Analysis (RCA) MTBF further helps you avoid costly failures. MTBF makes it easier to create PMs so Reliability can be improved by handling issues before they cause failure. If it is known that an asset will likely run for a certain time period before the next failure, introducing preventive actions can help keep that failure to the minimum and extend the uptime of the asset.

MTBF has been established as a key performance indicator for all production units in Marafiq. Individual Unit-wise MTBF dashboards have been fixed in control rooms. Coaching and awareness are being conducted for O&M staff in both Yanbu I, Yanbu II and Jubail facilities. An example of such MTBF measurement is illustrated below for Yanbu II Steam Turbine Generator (STGs):



Measuring MTBF is one way to take control on unplanned outages because MTBF provides you with a baseline for maximizing your preventive maintenance schedule. Knowing how frequently an asset fails allows you to schedule PMs and gives you a better chance to prevent the failure.



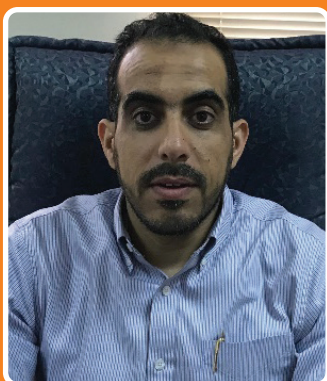
MTBF



Total Operating Time



No. of Failures



## Importance of effective communication for project success

**Mohammed Dhayfullah Al-Shammari**  
Projects Implementation Manager in Jubail

Project communication plan is the way to identify how the information will be communicated to the team members, stakeholders, sponsors, customer, and every single person involved in the project. The plan clearly outlines the method of delivery on the information, frequency, and who will receive the message.

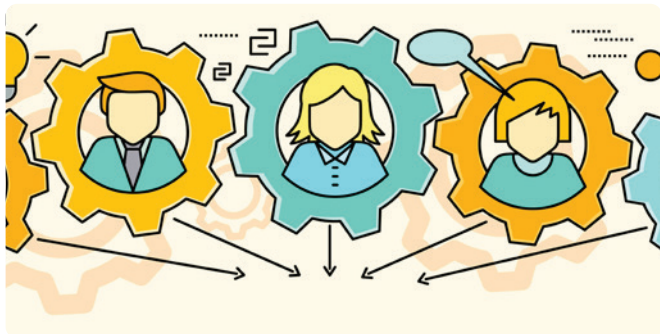
There are 10 project management areas of knowledge necessary for effective project management. All are important but the communication management comes at the top in importance as it controls the flow of required information in from all other area with when and why.

### Why is Communication Management Important?

Communication management is everything for the project. Once project plan is created and everyone has been made on board. Project Manager shall ensure managing the plan throughout the entirety of the project which will not happen without effective communication management plan determining roles and responsibility, time frame and way of communication for every member of the project.

### Benefits of a communication management plan:

A written framework where all client/stakeholders/team members can reference. This can help in case there is any need for mediation—you have a written paper trail you can refer back to.



It helps manage expectations from stakeholders to not anticipate a finished project before the deliverables have been tested for quality assurance.

Allow all stakeholders to provide valuable feedback to the project process as well as the final product, and give team members a chance to brainstorm ideas together ensuring meeting the project objectives.

Allows better discovering risks and issues early on.

Helps eliminating the need to hold unnecessary meetings that for sure is saving both time and money.

### PM Knowledge Areas







## Supplying gas to light industries

**Moyasar Saad Abdullah Mahrose**  
Gas Distribution Manager

Marafiq has been providing power and water to industrial, commercial and residential communities. An opportunity for new utility service came to Marafiq when Royal Commission planned to implement the use of clean and lower cost natural gas as fuel to all the industries in the new Yanbu Light Industrial Park.

Construction of Marafiq Sales Gas Network was completed in 2010 with initial gas pipeline length of 9.30 Km, 55 MMSCFD Capacity Primary Metering Skid, Emergency Isolation Valves, Odorization System, SCADA system and six gas customers. Marafiq Gas Distribution network has started its operation to supply gas to light industries on 22 September 2011.



The Gas Distribution department's mission is to deliver environment friendly gas through safe reliable network, operating efficiently, professionally and ethically to meet stakeholders and customers expectation and ensure complete satisfaction. To achieve the mission, the following objectives are being implemented and practice by department; safe working environment, customer support and satisfaction, assured asset management integrity, safe efficient operation, optimum utilization of resources, knowledge sharing and enhancement, monitoring of unaccounted gas, adaptation of best practices.

Natural gas is highly flammable and safe delivery of gas to every customer is of utmost importance and must be the priority of the local gas distributor company. The Gas Distribution department has developed its operation and maintenance principles, guidelines and policies based on International Gas Industry standards and Saudi Aramco best practices. In addition to this, Gas Distribution department is very proactive in implementing Marafiq Safety Policies and the compliance to OHSMS procedures and guidelines to ensure the health and safety of all its personnel. The department has developed its Pipeline Integrity Management System to cover all aspects of the gas network Operation and Maintenance, as well as the expansion project of the gas network. The department is ensuring that all gas customer connection and pipeline expansion projects comply with gas standards from design concept, construction and installation, testing and commissioning. All of these efforts have resulted to zero incident, zero gas supply interruption and continuous safe delivery of gas to every satisfied customer for the last ten years and until today of Marafiq Gas Distribution Network operation.



More industrial companies are signifying their interest for gas connection to be competitive in their field industry. Example of this are the industrial companies in old Light Industrial Park who are requesting for gas connection for their factories beside the customers that will be in operation by coming year as per the plan. In 2020, four gas pipeline expansion and customer connection projects were completed which resulted to 50% increase of natural gas volume supplied to customers.

Gas distribution business has huge potential since natural gas is abundant in the Kingdom and

it is the preferred fuel by Heavy and Light Industries. Several opportunities are available for Marafiq in different industrial cities in Jubail and Yanbu as well as in other areas. Gas distribution department vision is the preferred gas distributor in major industrial cities in the Kingdom of Saudi Arabia. With the Gas Distribution department gained experience in gas distribution network Operation and Maintenance, developed policy guidelines, procedures, highly skilled team and continuous skill development of existing and new personnel through our in-house training and knowledge sharing program, this department's vision will soon be realized.







## Achievements of Power Generation in Yanbu II

**Mahmoud Mohammed Abdullah Al-Shangiti**

Power Generation Manager in Yanbu II



*Ground Breaking 2011*



*Construction 2013*

### Engineering, Procurement, and Construction (EPC) to Marafiq

Power and Water production facilities (P&W) in Yanbu II, includes the Power Generation Plant with 690 MW power to grid, a seawater desalination plant with a capacity of approximately 60,000 m<sup>3</sup>/day of desalinated water. The Power Generation Plant comprises of 275 MW X 3 steam boilers and turbines, fired with Heavy Fuel Oil (HFO) as primary and Arabian Light Crude (ALC) as back-up with all fuel transportation and storage systems.

Project and O&M teams in Yanbu II work tirelessly looking after the plants. It undertook rigorous different phases of inspections starting from construction and thereafter acceptance testing for operational capability, reliability and performance. Smooth and swift takeover from EPC speaks volumes about teams unwavering and uncompromising commitment towards quality, safety and reliability of plant handover to Marafiq.

### Skills development Marafiq O&M

The major challenge of taking over started in 2011 with the formation of new blended experienced qualified professionals with energetic young dynamic trainee from the On-Job-Training and Professional Development Programs. With each phase of construction completion and commissioning, young teams gained tremendous skills and competencies, as well as preparing comprehensive Standard Operating Procedures and Standard Maintenance Procedures in swift and successful takeover of the plant.



*Commissioning 2016*

### **Strategic reliability focus**

Focus on future plant operational reliability never lost sight in the eyes of Yanbu II management starting from the design stage. Apart from design reliability studies, future operational reliability strategic plans were developed and executed in consultation with Asset Performance and Integrity (AP&I) department during the construction stage. Plant spares and support services strategy was appropriately planned during the construction phase and all critical operational spares and support services were made available at site before endeavoring into commercial operation.



*LP Turbine Inspection 2019*

### **First turbine inspection**

First ever B-type inspection for 275 MW unit was undertaken at Marafiq in 2019 including overhauling of low-pressure turbine to confirm its integrity after initial years of commercial operation. The challenge of overhauling and availability of necessary resources were daunting however, the team accepted the challenge and task successfully completed with commissioning the unit back in 50 days.





## Water Production journey in Yanbu II

**Ghazi Abdulaali Al-Mohammadi**  
Water Production Manager in Yanbu II

The year 2020 is different than any year that past not just on Marafiq, but the whole world. Many unforeseen occasions happened during the year. But the most important is the COVID-19 pandemic that changed how the world and people deal with their lives. However, it was a successful year for Water Production Yanbu II where many achievements were accomplished in health, safety and environment, Reliability and sustainability.

Water production Yanbu II consists of two areas, Seawater Cooling (SWC) and desalination (MED). The sea water intake pump house consists of four intake bays. Intake bay 1, 2 and 3 each have two main water pumps while intake bay 4 has one main water pump, one 50% capacity pump. The main pumps each have a design capacity of 55,000 m<sup>3</sup>/hour with the 50% pump being 27,500 m<sup>3</sup>/hour. The pumps have sufficient head to give two Bar of force at the interface points with the main users (STG, MED and external customers). Therefore, overall the system consists of eight main sea water pumps, which supply three pump manifolds connected to three supply headers. The total flow capacity from the pump house to the three headers is 275,000 m<sup>3</sup>/hour which equals to five main pumps online.

In desalination area, two MED units are producing potable and process water. The two MED units have total production capacity of 60,000 m<sup>3</sup>/day as process water, which up to 20,000 m<sup>3</sup>/day can be converted to potable water through remineralization process. The produced water is stored in five storage tanks of process water with total capacity of 500,000 m<sup>3</sup> and two storage tanks of potable water tanks with total capacity of 200,000 m<sup>3</sup>.

The department has focused on keeping a safe work environment during COVID-19 pandemic by

encouraging department staff to strictly follow precautionary protocols set by government. The department achieved 100% compliance in safety KPIs which indicates the high commitment and adherence of individuals toward occupational health, safety and environment. Also, department staff have the highest correct answers and participation during Yanbu II Safety Hazards Identification Contest initiated by Safety section.

In terms of reliability, Water Production Yanbu II ensured the availability of all materials and chemicals in order to have high availability of SWC and MED units to meet customer demand. The team also successfully renewed the EPO (Environment Permit to Work) for Marine facility and Seawater cooling network up to 2025. In addition, there was no IMS finding of external audit in 2020 (for two consecutive years in a row).

Caring about the planet Earth is an essential goal of Water Production Yanbu II by maintaining high sustainable operation of the plant. MED units were kept in service with 100% load in order to increase performance and enhance energy efficiency, this result in saving of over one million Saudi Riyals in variable cost. Keeping a bright record of compliance to Royal Commission regulations and requirements is another way to ensure the sustainability and quality of Water Production Yanbu II plants and products.

In conclusion, Water Production Yanbu II has a business continuity plan that give the guideline to deal with all types of crises and meet the customer demand under any circumstances in a safe and reliable matter with high sustainability and quality of processes and products.







## Message from the Executive General Manager

**Hamad Saad Al-Suhaim**

Executive General Manager for MaSa

The Covid-19 pandemic is something we will all remember for a very long time. It has been a difficult and unpredictable year for many of our customers, colleagues and businesses. We are very proud to continue to deliver essential services to our customers, and to keep our colleagues safe as they perform their roles throughout these difficult times. The onset of Covid-19 tested our resilience and ability to adapt, but our thorough approach to business continuity, and the resilience of our workforce ensured the delivery of our essential services during this unprecedented time

We have been working together with our teams and stakeholders to understand and adapt to the impact of Covid-19 on our operations and the delivery of our performance targets. We are continuing to monitor and adjust our position, our people, our supply chain and other operations measures in order to evolve our ways of working to be able to continue providing our essential service to our customers.

December 2020 saw the end of the 9th year of the second joint venture (JV) agreement between MARAFIQ and SAUR. As we move through the next period of this agreement, we have set our priorities focusing on the delivery the expected commitments and achieving elevated set of objectives and targets.

As part of MaSa's objective to achieve ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certification, Stage 1 of the Certification Audit was completed successfully in October 2020. Stage 2 Certification Audit is scheduled in November and December 2020 which will cover all of MaSa's Department in Jubail and Yanbu. Once completed, the certification status is expected to be granted in the first quarter of 2021 which would enhance our robustness the basic business position with well-integrated management system.

Human Capital Department (HCD) conducted 715 employee assessment interviews in 2020 to identify the individual employees' skills and knowledge. CoreSkills training courses based on gap analysis to match the job requirements have been identified, and training courses to ensure the basics level of skill-sets for our Operators and Technicians has been delivered in 2020. This is to support our objective to achieve workforce developments target which is delivered in 2020 as per the initial plan. Delivering these achievements during Covid-19 pandemic was very challenging, but thanks to the availability of remote communication tools, and safety precautionary measures taken by all staff, it became possible

Furthermore, Water Academy is developing new projects for 2021-2024 to support achieving our targets and goals. These projects will focus on delivering multi-skills training for all Operators & Technicians, Customer Relations training for our frontline employees, support training to the digitation and mobility projects, in addition to the on-demand training to increase the agility of O&M.

MWA also seeks to achieve TVTC accreditation status and create a water industry qualification program by the end of 2021. The aim of this qualification program is to create a national Training Institute for Water Sciences capable to deliver training courses for customers and industrials in the Kingdom.

The year 2020 was a pivotal year for the business with the changes that Covid-19 pandemic has brought to our lives, and probably the biggest operational challenge to face our business in our lifetimes. I am proud of the way our people have risen to these challenges at a time when water services resilience is more critical than ever. I wanted to finish my message with a big thank you to every one of our employees for their hard-work, dedication and commitment during this difficult time to deliver life's essential service, so our customers, communities and the environment can thrive.



## MaSa 10 Safety Golden Rules

**Ali F. Al Shammari**  
QHSE Manager for MaSa

The 10 Safety Golden Rules is a Company Initiative and comprehensive HSE program focusing on providing a Health, Safety & Environment culture, and builds on the ongoing HSE system to develop zero tolerance towards non-compliance of identified highest risks. The 10 Rules are critical actions that you must always be followed when engaging in the identified activities.

They also provide more detailed guidance and information of those activities and procedures references.

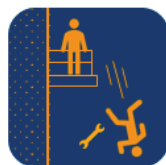
MaSa recently celebrated 6.5 Million Safe Man-Hours without LTI as an outcome of the implementation of MaSa Safety Golden Rules.



Safe Systems of Work



Chemical Safety



Falls from Height



Lifting Operations



Created Openings



Vehicle Safety



Confined Spaces



Isolation & Lock Off



MOC



Process Interruption





## Top Achievements for 2020

**Abdullah Mousa Abdulwahed**

Operations and Maintenance Manager for Tawreed

By the end of the year 2020, the joint project with JWAP has gone through ten years of successful commercial operation. The progressive improvement in overall performance at all levels in terms of commitment to the planned quantities of power and water, reliability, safety and continuity of service has been achieved since the project started to present time.

I'd like to mention one of the most important successes that our O&M team have played a role in. This is that TAWREED O&M department has been ranked the first champion in Marafiq Safety Awareness Committee award twice in a row, with scores of 100% compliance. The contributions, feedback, and suggestions from our partners and customers were critical in improving our services. We continuously work to enhance our services to meet our commitments and exceed our customers' expectations, ensuring their satisfaction. We will always build and establish strong and long-term relationships with our partners to ensure the prosperity of our business.

I am proud to share with you the top TAWREED achievements for 2020:

1. On 27 February 2020 after long negotiations and challenging the Ministry of Energy, agreed on the transfer of gas allocation ownership from Marafiq to TAWREED as well as has approved an additional gas quantity of 42 MMSCF which has been added to the original allocation quantity, therefore the final gas allocation becomes 540 MMSCF.
2. Gas pipeline seawater canal crossing repair contract was successfully awarded to RB Hilton Saudi Arabia Ltd. to do all the necessary repair works which include surface preparation and non-metallic wrapping. The project was safely and successfully completed on 26 January 2020, which was two months ahead of its scheduled target completion date.
3. TAWREED has successfully implemented the Business Continuity Plan on Covid-19 risks and control measures and ensured uninterrupted fuel gas supply to JWAP.
4. Successful implantation and commissioning of JWAP product water header by pass to Saline Water Conversion Corporation (SWCC) on 10 May 2020. Marafiq Tie-in works are also scheduled for implementation during plant common outage in Q1-2021.
5. Successfully diverted a total of 3,536,426 m<sup>3</sup> surplus water inside JWAP fence from Marafiq quota to SWCC from February to October 2020, based on swap agreement between Marafiq and SWCC.
6. Successfully conducted the Seawater transmitter calibration in JWAP plant with third party and presence of JWAP, Marafiq and SWCC on 25 August 2020.
7. With the support of Marafiq Finance team TAWREED has successfully implement the 15% VAT on invoicing system after securement and concurrence of all On-Sale parties.



8. Fuel Gas Metering Skid Supervisory System upgradation has successfully been completed which will enhance the reliability of metering system of custody transfer.
9. Successfully resolved the notifications of Force Majeure/Change in Law received from JWAP in 2020 which includes Integrated Fire Station, Industrial License/Custom Duties, Covid-19 Force Majeure, Water Regulations, Environmental Regulations, Hot Sea Water Temperature and New Zakat Regulations.
10. The first department in Jubail O&M that successfully accomplished the implementation of TAWREED SAP Permit To Work Automation project with the support of IT department.

11. In November 2020, TAWREED successfully secured the approval from the Ministry of Energy for a quantity 6,000 m<sup>3</sup> of back up diesel to top-up JWAP back up fuel tanks.

Finally, I would take this opportunity to extend my deep gratitude to the TAWREED management and Members of the Board for their efforts and their high-level of professionalism which led to those significant achievements. I would also thank and appreciate all TAWREED's employees for their dedication and efforts in serving this entity for further success and progress, to maintain its important position and commitments.





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MOHAMMAD JAMEEL AHMED



15

MARIO HALLARE REYES



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AHMED EID AL AREWI



10

DAN SUMADSAD MACATANGAY



10

MOHAMMED AHMED AL-HOSAH



10

MOHAMMAD RASHED AL-SHAIBAN



10

MOHAMMED HAMAD BALHARITH



10

MOUSA H. AL-JOHANI



10

RADHI FARHAN AL-SHAMMARI



10

SULTAN AHMED AL-SULAIMANI



10

WASEEM MOHAMMED SAYED



**10** YEARS  
ABDULRAHEEM SHER MOHAMMAD



**10** YEARS  
NAJEEB SAAD AL-MOHAMMADI



**10** YEARS  
MOHAMMAD SAMI ANSARI



**10** YEARS  
AHMED HAGAG AL-JOHANI



**10** YEARS  
AHMED ABDULLAH AL-AMRI



**10** YEARS  
ABDULLAH BAKEET AL-JOHANI



**10** YEARS  
ABDULWAHAB GHASSAN SALLAM



**10** YEARS  
ALI HOSSIEN AL-MAKRAMI



**10** YEARS  
GHAZI FARHAN AL-JOHANI



**5** YEARS  
BUPHEN PRASAD JENA



**5** YEARS  
SELVAGANDHI MANI



**5** YEARS  
MIZRA ANYATULLAH BEG



**5** YEARS  
ORANCO ALBA SAMPANG



**5** YEARS  
RASHED ABDULLATEEF



**5** YEARS  
TAUHEED AHMED SHEIKH



**5** YEARS  
MUHAMMAD AIJAZ MUHAMMAD



**5** YEARS  
SALEH AL-SOBAEI