ARD NEWSLETTER





COMPANY EVENTS REWARDS & RECOGNITION SOCIAL RESPONSIVENESS TRAININGS & DEVELOPMENT EMPLOYEES AFFAIRS CREATIVITY CORNER

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- 1. Operations
- 2. Maintenance 3. Engineering
- 4. Technical Services and P&D
- 5. Human Resources & Administration
- 6.Commercial & Materials Management
- 7. Finance & Corporate Affairs
- 8. Business Review & Assurance
- 9. Health, Safety, Environment & Quality

- Mr. liaz Hussain Tabassum
- Mr. Hammad Tahir
- Mr. Muhammad Qasim
- Mr. Saleem Hasrat
- Mr. Saba Sarfraz Mr. Mohsin Ali Sadiq Mr. Amin Kahoot
- Mr. Nek Akhtar
- Mr. Muhammad Arshad

Editorial Note

Dear Readers!

The Editorial Board is once again at work and pleased to unveil this edition of Pioneers.

In this edition, life at ARL has been covered from July to December, 2024 for the segments of company events, rewards & recognition, social responsiveness, trainings & development, employees affairs and their contribution.

You are welcome to share your feedback at <u>newsletter@arl.com.pk</u>

Enjoy Reading!

Appreciation Letters on Achievements

ARL management praises the employees with appreciation letters on their achievements for improvements in different processes.

1. Parallel operation of ISOM on single source of Hydrogen from Reformer Unit

Employees' initiative to develop and implement an inventive idea, allowed the parallel operations of ISOM and DHDS plants at minimum through-put by using Hydrogen Gas from Reformer Plant only. Following benefits were achieved as outcome of this operation:-

- 1. Preventing shutdowns of DHDS & ISOM plants and improved safety and reliability of operations.
- 2. Providing flexibility of operations.
- 3. Savings, if any accrued by reduction in blending costs due to continuous Isomerate production will be an added advantage.
- 4. Continuous production of PMG and HSD (product availability).
- 5.Better Crude & product management, keeping in view supply / demand fluctuations.

The following employees were lauded by the Management with appreciation letters for this initiative:

- Mr. Imran Tahir, Assistant Manager (Operations)
- Mr. Mohsin Asghar, Assistant Manager (Operations)
- Mr. Muhammad Imran Shafi, Assistant Manager (Operations)
- Mr. Anjum Naveed, Deputy Manager (Technical Services)

2. Safety Integrity Level (SIL) study of Heavy Crude Unit

A study of Safety Integrity Level (SIL) of Heavy Crude Unit, that is a dependable benchmark tool ensuring reliability and confidence in ESD System and is of prime importance in the Refinery operations, was conducted and following benefits were achieved:-

- 1. Improved safety and reliability of emergency shutdown system.
- 2. Enhancement of skill level / confidence of cross-functional team.
- 3. Savings of foreign exchange required for this study.
- 4.Confidence Building of Insurance Surveyor on ARL Technical team.

In recognition of the brilliant performance, the management bestowed upon appreciation letters A CLARE CONTRACTOR OF CONTRACT to the below mentioned employees:

- Mr. Iftikhar Yousaf, Manager (Maintenance)
- Mr. Asif Munir Khan, Assistant Manager (Operations)
- Mr. Amir Ejaz, Senior Engineer (Technical Services)
- Ms. Sadia Ashraf, Senior Engineer (HSEQ)

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Long Service Awards 2024

ARL presented Long Service Awards to the following management & non-management staff in appreciation and recognition of their long association with the company.

MANAGEMENT EMPLOYEES



ad Hayee Khar OPERATIONS 30 Years Service Award



Tariq Mehmood Khan HR & ADMIN 20 Years Service Award



Khadim Hussain OPERATIONS 20 Years Service



Rafique Ahmad 20 Years Service Award



Adnan Khurshid Engineering 20 Years Service A vard



Muhammad Ahmed HR & ADMIN 10 Years Service Award



Usman Ali Khan MAINTENANCE 20 Years Service Awar



Abbas Ali Khan F&CA 20 Years Service Award



Jamal Mustafa Hashmi C&MM 20 Years Service Award



Mr. Umer Zaman MAINTENANCE 20 Years Service Aw



M. Talah Asghar OPERATIONS 10 Years Service Award



20 Years Service Award



Atif Mahmood 20 Years Service Award











MAINTENANCE 20 Years Service Awa



HR & ADMIN



20 Years Service A



20 Years Service Av



Malik Nadeem Aftab OPERATIONS 20 Years ard



Niqash Ali MAINTENANCE 10 Years Service Award

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20 Years Service Av



Kamaluddin OPERATIONS ard



Aamir Saeed C&MM 20 Years Service Award



20 Year /ard



Kamran Shahzad HR & Admin 20 Years Service A rd





OPERATIONS 10 Years Service Award



HSEQ 20 Years Service Av



Sajjad H<u>aide</u>i OPERATIONS 20 Years Service Av











Waleed Javed OPERATIONS 10 Years Service Award



















REWARDS & RECOGNITION

Long Service Awards 2024





Kamran Khan F&CA 10 Years Service Award



Asim Hussain ENGINEERING 10 Years Service Award

Muhammad Yousaf

10 Years Service Award

OPERATIONS



Umar Maqsood OPERATIONS 10 Years Service Award



10 Years Service Award



ENGINEERING ears Service Aw 10 Ye





OPERATIONS 10 Years Service Award



MAINTENANCE ears Service Award



OPERATIONS





MAINTENANCE 10 Years Service Award





10 Years Service Award



10 Years Service Award



MAINTENANCE 10 Years Service Award



10 Years Service Av





Muddasar Ahsan

OPERATIONS

10 Years Service Av





Ahtsham Ul Hassan OPERATIONS 10 Years Service Award

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NON-MANAGEMENT EMPLOYEES



HR & Admin **35 Years Service Award**

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Ammar Nazar MAINTENANCE



10 Years Service Aw





10 Years Service Award

Asad Mahmood

HSEQ 40 Years Service Award



REWARDS & RECOGNITION

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2nd MAN OF THE QUARTER (MOQ) AWARDS - 2024

 2^{nd} MOQ - 2024 awards ceremony was held at ARL Diner on August 20, 2024. Performance Awards and Safety Awards were presented to employees. Man of the year awards were also presented to Mr. Abdul Jalil Jadun and Muhammad Siddique. Quarterly Safe Man-Hours trophy was won by Materials Management section.



PERFORMANCE AWARDS

Man of the Year Award













REWARDS & RECOGNITION

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3rd MAN OF THE QUARTER (MOQ) AWARDS - 2024

3rd MOQ - 2024 awards ceremony was held at ARL Diner on November 18, 2024. Employees were awarded with performance awards and safety awards. A new category of award, namely "Valued Employee of the Quarter", was introduced in order to encourage employees to embrace and practice the core values at the workplace. Valued Employee of the Quarter award was received by Mr. Asghar Tufail. The Safe Man-Hours trophy of 3rd quarter of 2024 was won by *Materials* Management Section.



Valued Employee of the Quarter

PERFORMANCE AWARDS









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KHURRAM SHEHZAD HR & ADMIN

TRAININGS

An Outbound Training (OBT) on 'Leading through Team Building' for the Crafting Outstanding Refinery Executive (CORE) Program was arranged by ARL. The training was conducted by Dr. Mobinul-Haque & Mr. Waqar Ahmed.



A two-day in-house training workshop on 'Design Thinking for Innovation' through M/s Institute of Knowledge and Leadership, Lahore, was organized. The training workshop was conducted by Dr. Farah Arif.



A training program on 'Strategic Leadership' in collaboration with the Petroleum Institute of Pakistan (PIP) was organized by ARL. The training was conducted by Mr. Amer Qureshi.



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Army Officers Training – 2024

ARL, in coordination with Army Service Corps (ASC) School, Nowshera, arranged petroleum processing training for 4 weeks for the 12th batch of Army Officers. The ARL team delivered lectures & presentations in the areas of refinery operations, standards/codes of security and product storage and practices on health, safety & quality control to give them a holistic understanding of the refinery operations. Field visits and testing at the quality control laboratory were also arranged for officers during this training.



INDUSTRIAL / EDUCATIONAL VISITS AT ARL

The following industrial & educational visits were arranged at ARL:

A visit was organized for a delegation from the Chashma Nuclear Power Plant, Chascent Mianwali.



A group photo of the delegation from Karachi Nuclear Power Generating Station (KNPGS) on industrial visit.



INDUSTRIAL / EDUCATIONAL VISITS AT ARL

A group photo of the delegation from Punjab Institute of Management and Professional Development, Lahore.



A group photo on a field trip of the students of National University of Sciences and Technology (NUST), Rawalpindi Campus.

A group photo of students from Riphah International University, Islamabad.







A visit of students from Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIKI), Swabi.

A group of students from Capital University of Science & Technology (CUST), Islamabad.



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ARL Learning and Innovation Conference

3rd Learning & Innovation Conference was organized by the Human Resources and Administration department on 29th October 2024, at Morgah Club. Theme of the conference was "Core Values & Sustainable Practices at Workplace". Eleven indigenous speakers gave presentations on relevant topics. The representatives from all departments of the company attended the conference.



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OUR GREAT ASSET

Welcome to the crew that thrives on enthusiasm and hard work. Your role here is essential and we're happy you have joined us on this adventure.

Sr.No.	Name	Designation	Department	Date of Joining
1	Mr. Adnan Hashim	Engineer (Maintenance)	Maintenance	18-Jul-24
2	Mr. Amir Khan	Senior Officer (Operations)	Operations	22-Jul-24
3	Mr. Asher Rafail	Senior Officer (Operations)	Operations	22-Jul-24
4	Mr. Fida Hussain	Field Operator (HBU-I)	Operations	22-Jul-24
5	Mr. Jahanzaib	Senior Officer (Operations)	Operations	22-Jul-24
6	Mr. Kaleem Abbas	Senior Officer (Operations)	Operations	25-Jul-24
7	Mr. Waqas Ahmed	Senior Officer (F)	Finance & Corporate Affairs	29-Jul-24
8	Mr. Muhammad Uzair	Senior Officer (Operations)	Operations	6-Aug-24
9	Mr. Muneeb Ahmed	Senior Officer (MM)	Commercial & Materials Management	30-Aug-24
10	Mr. Umar Gul	Senior Officer (QCL)	Health Safety Environment & Quality	2-Sep-24
11	Mr. Khuram Shakil	Senior Officer (QCL)	Health Safety Environment & Quality	2-Sep-24
12	Mr. Muhammad Hamza Riaz	Senior Officer (QCL)	Health Safety Environment & Quality	3-Sep-24
13	Mr. Faizan Ahmad	Senior Officer (Electrical)	Maintenance	10-Sep-24
14	Mr. Sadaqat Ullah	Senior Officer (Maintenance)	Maintenance	10-Sep-24
15	Mr. Imran Khan	Engineer (Operations)	Operations	12-Sep-24
16	Mr. M. Bilal Tayyab	Engineer (Operations)	Operations	12-Sep-24
17	Mr. Mazhar Abbas	Senior Officer (Electrical)	Maintenance	17-Oct-24
18	Ms. Fariya Shaheen Abbasi	Senior Officer (Procurement)	Commercial & Materials Management	29-Oct-24
19	Mr. Imran Tahir	Engineer (Operations)	Operations	1-Nov-24
20	Mr. Arbaz Khan	Engineer (Operations)	Operations	1-Nov-24
21	Mr. Awais Mehmood	Engineer (Operations)	Operations	1-Nov-24
22	Mr. Ghulam Haider	Engineer (Operations)	Operations	1-Nov-24
23	Mr. Sikandar Zaib	Senior Officer (Electrical)	Maintenance	4-Nov-24
24	Mr. Muhammad Irfan	Personal Secretary	Maintenance	28-Nov-24
25	Mr. Muhammad Waseeq Tariq	Senior Officer (Operations)	Operations	5-Dec-24
26	Mr. Uzair Aslam	Senior Officer (Operations)	Operations	5-Dec-24
27	Mr. Muhammad Haris	Senior Officer (Operations)	Operations	5-Dec-24
28	Mr. Muhammad Jalal	Senior Officer (Operations)	Operations	5-Dec-24
29	Mr. Muhammad Hamza	Senior Officer (Operations)	Operations	5-Dec-24
30	Mr. Abdul Haseeb	Senior Officer (Operations)	Operations	5-Dec-24
31	Mr. Muhammad Shamoon	Senior Officer (Operations)	Operations	5-Dec-24
32	Mr. Sohail	Senior Officer (Operations)	Operations	5-Dec-24
33	Mr. Muhammad Rashid	Senior Officer (Operations)	Operations	5-Dec-24
34	Mr. Saleem Shahzad	Senior Officer (Operations)	Operations	5-Dec-24
35	Mr. Afaq Ahmad	Senior Officer (Operations)	Operations	5-Dec-24
36	Mr. Saeed Ahmad	Senior Officer (Operations)	Operations	5-Dec-24
37	Syed Shah Sarim Sayan Banoori	Senior Officer (Operations)	Operations	5-Dec-24
38	Ms. Rubia Nadeem	Senior Officer (QCL)	Health Safety Environment & Quality	6-Dec-24
39	Mr. Asfandyar Khan	Engineer (Maintenance)	Maintenance	6-Dec-24

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OUR GREAT ASSET

Sr. No.	Name	Designation	Department	Date of Joining
40	Mr. Affan Azhar	Senior Officer (Operations)	Operations	6-Dec-24
41	Mr. Arbaz Ali	Senior Officer (Procurement)	Commercial & Materials Management	9-Dec-24
42	Mr. Haseeb Mahmood	Senior Officer (Operations)	Operations	9-Dec-24
43	Mr. Muhammad Bilal	Senior Officer (Operations)	Operations	9-Dec-24
44	Mr. Yasir Toseef	Senior Officer (Operations)	Operations	9-Dec-24
45	Mr. Waheed Haider	Senior Officer (Operations)	Operations	9-Dec-24
46	Mr. Muhammad Jameel	Senior Officer (Operations)	Operations	9-Dec-24
47	Mr. Nuaman Ijaz	Senior Officer (Operations)	Operations	10-Dec-24
48	Mr. Muhammad Junaid Anwar	Engineer (TS)	Technical Services	16-Dec-24
49	Mr. Muhammad Raheel Asim	Senior Officer (Inspection)	Engineering	26-Dec-24
50	Mr. Abdul Khaliq Tabassam	Senior Officer (Inspection)	Engineering	31-Dec-24

Welcome Connect

New joiners were warmly welcomed at the Welcome Connect, an initiative designed to help them to start their journey. An informal and friendly event was arranged to exchange valuable feedback.



EMPLOYEES AFFAIRS

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BALLOTTING FOR HAJJ & UMRAH NOMINATIONS - 2025

The Hajj & the Umrah balloting ceremony was held at ARL Diner on November 18, 2024. Five workers for the Umrah and four workers for the Hajj along with their spouses or dependents were nominated for the year 2025 through balloting amongst the eligible Muslim non-management staff. Mr. Asif Saeed, Head (C&MM), was the chief guest on the occasion. Following employees were declared successful as a result of the draw:

SERIAL No.	NAME	POSITION	DEPARTMENT					
UMRAH								
1	Mr. Amjad Javed	Senior Laboratory Technician	HSEQ					
2	Mr. Shahid Iqbal	Senior Storeman	Maintenance					
3	Mr. Shahid Iqbal	Senior Supervisor	С&ММ					
4	Mr. Muhammad Naseer	Senior Plant Operator	Operations					
5	Mr. Arshad Ali	Senior Plant Attendant	Operations					
LEAD								
1	Mr. Hameed Khan	Head Supervisor	Maintenance					
2	Mr. Abdul Rauf	Head Supervisor	С&ММ					
3	Mr. Safdar Mahmood	Head Supervisor	Operations					
4	Mr. Nazir Akhtar	Senior Operator (OM-I)	Operations					

BALLOTING FOR NON - MUSLIMS

The function was held on December 16, 2024 at Elliott Club which was attended by all non-Muslim non-management staff and CBA representatives. Mr. Parvaiz Masih, senior laboratory technician from HSEQ department was declared successful for visiting the holy places within Pakistan and was given a cheque amounting to Rs. 400,000/- for this purpose.



INDEPENDENCE DAY CEREMONY

77th Pakistan Independence Day was celebrated on 14 August 2024 with patriotic sentiments. The key highlights of the ceremony were the hooter blowing, recitation from the Holy Quran, the national anthem, flag hoisting and prayers for the solidarity of the nation.



NON-MANAGEMENT STAFF (NMS) FAREWELL PARTY

The farewell party for NMS retirees was held at ARL Diner on December 31, 2024. Senior management, CBA representatives and a large number of non-management staff were also present. Mr. M. Adil Khattak, Chief Executive Officer, was the chief guest at the occasion. The chief guest, in his address, highly commended the dedication and contribution of the retirees and expressed warm wishes for their future wellbeing.





ARL Annual Sports Ceremony

ARL organized an annual sports ceremony where prizes and trophies were distributed among the winners. Hockey, cricket, football, volleyball, tug of war, archery, table tennis, badminton, carom, athletics and other games were part of this annual sports event. Syed Asad Abbas, HOD (Finance & Corporate Affairs) was the chief guest of the event.





PINK RIBBON DAY

Attock Refinery Limited in collaboration with Attock Hospital Pvt. Ltd. (AHL), & Attock Sahara Foundation (ASF) organized awareness sessions on breast cancer in the month of October 2024. Ladies from all of the aforementioned organizations, National Cleaner Production Center (NCPC) and Junior Model School (JMS) were present during the sessions. Dr. Saira Shabnum Awan (AHL) shared valuable information amongst the participants regarding breast cancer and its prevention.







DENGUE AWARENESS SESSION

ARL, in collaboration with Attock Sahara Foundation (ASF), Attock Hospital (Pvt) Limited (AHL) and District Health Authority Rawalpindi, organized a dengue awareness session at Elliott Club. Mr. Muhammad Asif Arbab Khan Niazi (Chief Executive Officer - District Health Authority Rawalpindi), Mr. Farhan (Entomologist) and Dr. Nawaz, Medical officer (AHL) shared valuable information amongst the participants regarding dengue and its prevention.



Artificial Intelligence Effects on Human Workers



recent years, the rapid In advancement of Artificial Intelligence (AI) technologies has brought about transformative various changes across industries. Contrary to the prevailing notion that AI may lead to job displacement, an extensive body of research highlights the positive impact of

AI on human workers and enterprises. The reality is that AI is more about empowerment than replacement. By augmenting human capabilities and handling repetitive tasks, AI allows us to focus on creativity, innovation and problemsolving. This article will find that AI contributes to enhancing labour productivity, bolstering employees' capabilities, fostering creativity and expanding information access, innovation, creating new jobs, driving cost savings and efficiency. It is increasingly integrated into various aspects of our lives, however; the question remains:

"Is AI empowering us or replacing us?"

The term artificial intelligence was created by J. McCarthy during a symposium in Dartmouth in 1956 and defined the field's perspective. Al was supposed to rapidly grow into computers and robots with human-level cognitive skills in the 1950s and 1960s, but now, artificial intelligence is everywhere. Its development and application are accelerating and benefiting the global economy. Following are the few segments explaining how Al is empowering us:

1.Healthcare: Enhancing Diagnosis and Treatment

Al in healthcare is a prime example of how technology can augment human expertise. Consider the use of Al in diagnostic imaging. Radiologists use Al tools to analyze X-rays, MRIs, and CT scans with incredible speed and accuracy. Al can highlight potential issues, such as tumors or fractures, that may be missed by the human eye, allowing radiologists to make more informed decisions. Instead of replacing radiologists, Al acts as an assistant, providing a second pair of eyes and reducing the likelihood of diagnostic errors.

Moreover, AI is enabling the development of personalized medicine. By analysing a patient's genetic makeup, lifestyle and medical history, AI can help doctors tailor treatments to individual needs, increasing effectiveness the of This level of interventions. precision was unimaginable a few years ago and empowering both patients and healt it is empowering both patients and health providers to achieve better health outcomes. healthcare

2.Education: Personalized Learning Experiences

Education is another sector where AI is making significant strides in empowerment that is

transforming education by providing personalized learning experiences. Traditional education often follows a one-size-fits-all approach but AI can adapt to the needs of individual students.

Al-driven educational platforms are capable of personalizing learning experiences for students. These platforms assess a student's strengths, weaknesses and learning pace, offering customized lessons that cater to their unique needs. This approach not only enhances the learning experience but also helps students to achieve their academic goals more efficiently.

Teachers are also benefiting from AI, as it helps to reduce their administrative burden. Tasks such as grading, attendance tracking and lesson planning can be automated, freeing up teachers to focus on what they do best; teaching and mentoring students. Al enhances their ability to provide tailored instruction and support to each student.

3.Creative Industries: Aiding Creativity

In creative fields such as music, art and writing, Al is not taking over but rather serving as a tool for inspiration and collaboration. For example, musicians are using Al to generate new melodies or assist with composing music. The Al doesn't replace the musician's creativity but provides new ideas and patterns that the artist can build upon.

4.Customer Service: Improving Efficiency and Experience

Al is revolutionizing customer service through the use of chatbots and virtual assistants. These Al-driven tools handle routine inquiries and tasks, such as answering frequently asked questions, booking appointments or processing simple transactions. This allows human customer service representatives to focus on more complex and nuanced customer issues where empathy and critical thinking are required.

5.Manufacturing: Enhancing Precision and Safety

In manufacturing, AI is playing a critical role in enhancing precision and safety on the production floor. Robots equipped with AI can perform repetitive tasks with high accuracy, reducing the likelihood of human error. However, these robots work alongside human workers, not in place of them. Workers oversee the AI-driven machines, ensuring they function correctly and intervening when necessary.

Al also improves safety in manufacturing environments. Predictive maintenance powered by Al helps identify potential equipment failures before they occur, preventing accidents and reducing downtime. Human workers are then freed from dangerous tasks and can focus on overseeing operations and ensuring quality control.

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6.Enhancing Workplace Productivity: Automation and Efficiency

Al is transforming the workplace by automating repetitive tasks, allowing employees to focus on more complex and meaningful work. In ranging industries from finance to manufacturing, Al-driven tools are handling tasks such as data entry, scheduling and routine analysis. This not only increases efficiency but also reduces the risk of human error. Al-powered robots work alongside human workers, performing tasks that require precision and consistency, while humans oversee operations and handle more strategic responsibilities.

7.Creating New Jobs

Contrary to concerns about job displacement, Al has been a catalyst for creating new employment opportunities. Research by Bordot (2022) and others demonstrates that as businesses adopt AI technologies, demand for AI-related roles such as data scientists, AI engineers and machine learning experts grows. This reflects a shift towards a skill-based economy, encouraging continuous learning and career growth.

Conclusion

Al is not here to replace us but to empower us. By taking over repetitive, routine tasks and providing insights that would be difficult for humans to achieve alone, Al allows us to focus on what we do best; creative thinking, problemsolving and innovation. The examples from healthcare, education, creative industries, customer service and manufacturing segments show that Al is enhancing our abilities, not replacing them. As we continue to develop and integrate Al into various aspects of life, it will be essential to focus on how these technologies can best serve humanity, amplifying our strengths and helping us achieve more than ever before rather than replacing us.

The Sustainable Development Goals (SDGs): A Blueprint for Global Progress



Understanding the Sustainable Development Goals

The Sustainable Development Goals (SDGs), established by the United Nations in 2015, are a universal call to action to end poverty, protect the planet and ensure peace and prosperity for all by 2030. The Sustainable Development Goals are set of 17 interconnected global goals designed to serve as a blueprint for achieving a better and more sustainable future. Each goal has specific targets and indicators to measure progress, encouraging countries to align their policies and strategies with these objectives.

The Purpose of SDGs

The purpose of the Sustainable Development Goals is to create a comprehensive framework



Pictorial Representation of Sustainable Development Goals (SDGs)

for global development that addresses the most pressing challenges faced by humanity. By achieving these goals, the international community can address the root causes of poverty and inequality, improve living standards and safeguard the environment for future generations. The SDGs also recognize the interconnectedness of environmental, social and governance factors, advocating for a holistic approach to development that balances these dimensions to achieve long-term sustainability.

The Role of ARL in Advancing SDGs

Attock Refinery Limited (ARL) has committed to supporting and advancing the SDGs through its operations and community initiatives. Some of the impactful ways in which ARL is advancing the Sustainable Development Goals are described here:

SDG 1:No Poverty & SDG 2: Zero Hunger

ARL plays a crucial role in uplifting the economic conditions of the community through its sponsored NGO "Attock Sahara Foundation," by contributing to poverty alleviation. ARL supports social protection systems, provides employment for people with disabilities and cost-effective access to clean drinking water in nearby communities, schools and mosques.

SDG 3:Good Health and Well-being & SDG 4: Quality Education

ARL prioritizes health and well-being for employees and connected communities. In collaboration with Attock Hospital Ltd., ARL arranges free medical camps and health awareness sessions. ARL supports education by constructing the Junior Model School in the ARL colony area, offering minimal-fee education, and providing scholarships, internships and joint research facilities for the children of employees.

SDG 6:Clean Water and Sanitation & SDG 15: Life on Land

The Company treats its wastewater using stateof-the-art technologies to ensure that effluent water has minimal impact on downstream biodiversity. Moreover, ARL has initiated the Morgah Biodiversity Project, aiming at ex-situ conservation by establishing a biodiversity park over an area of 20 acres, contributing to the conservation of life on land.

SDG 8:Decent Work and Economic Growth & SDG 10: Reduced Inequality

ARL integrates ethical work practices into business processes, ensuring decent work and promoting economic growth. The company also focuses on gender equality and reducing inequalities within its workforce through a robust human resource policy, whistle-blowing policy and gender diversity policy, ensuring a safe work environment free from harassment.

SDG 7:Affordable & Clean Energy, SDG 12: Responsible Consumption and Production & SDG 13: Climate Action

Resource efficiency is a key goal for ARL, which is demonstrated through the implementation of

ISO 50001:2011 to achieve responsible consumption and production targets. This contributes directly to climate action by setting corporate targets for water consumption, energy base line and refinery production. The company has invested in renewable energy by installing solar power systems, contributing to climate action through reduced greenhouse gas emissions.

SDG 17:Partnerships for the Goals

ARL collaborates with multiple national and international organizations, including the UNGC, to achieve sustainable development objectives. The company's alignment with legal frameworks and partnerships enables it to contribute effectively to global efforts in achieving the SDGs.

Implementing SDGs: Challenges and Opportunities

Achieving the SDGs requires a collective effort from governments, businesses, civil society and individuals. One of the key challenges is balancing economic growth with sustainability. However, the SDGs also present significant opportunities for innovation, partnerships and the development of new business models that contribute to a more equitable and sustainable world.



<u>Conclusion</u>

The Sustainable Development Goals provide a comprehensive framework for addressing some of the most pressing challenges of our time. Through its commitment to these goals, ARL demonstrates that businesses can play a crucial role in driving sustainable development and creating positive social and environmental impacts. As we work towards this ambitious agenda, let us remember that the path to sustainability is not just a series of targets to be met but a shared journey towards a more just and prosperous world for everyone. بوكم وموكم ومولي والمعالية والمعام والمعام والمعالية والمع

Bridging the Gap: Engineering and Digital Skills



The world is going through a digital revolution and industries everywhere are being changed new technologies. bv For engineers, this shift brings both exciting opportunities and new challenges. The old skills that have always been important in engineering now need a digital boost to stay relevant. This change highlights the need for

Maintenance

engineers to combine their technical knowledge with digital skills to keep up with the evolving industry demands.



The Changing Face of Engineering

Engineering has always been a field of innovation, problem-solving and practical application. However, the tools and techniques that engineers rely on are rapidly evolving. technologies Advanced such as artificial intelligence (AI), machine learning (ML), the Internet of Things (IoT) and big data analytics are becoming integral to engineering processes. From predictive maintenance in industrial plants smart infrastructure design, digital to technologies are revolutionizing how engineers approach their work.

The oil and gas sector, for instance, has seen significant advancements digital in transformation. Engineers in this field now utilize IoT sensors to monitor equipment in real time, employ AI to optimize refinery processes and rely on data analytics to predict equipment failures before they occur. Such technologies not only improve operational efficiency but also enhance safety and compliance—a critical factor in industries with high stakes.

The Gap: Where We Are and Where We Need to Be

Despite these advancements, a significant skills gap persists. Many engineers, while proficient in their core technical domains, find themselves unprepared for the demands of digital tools and methodologies. A recent industry survey revealed that nearly 60% of engineers feel underequipped to handle digital technologies. This gap is not just a technical shortfall but a strategic risk for organizations striving to stay competitive in a digitally driven marketplace.

The key areas where digital skills are becoming essential include:

- Data Analytics: It is the ability to analyze and interpret large datasets to derive actionable insights which can be used in predictive maintenance, energy optimization, process optimization, quality control, supply chain management and safety and risk management.
- Programming and Automation: Familiarity with coding languages like python (being used for data science & analysis), MATLAB (being used for machine learning & AI) or R (being used for statistical analytics) and understanding of advanced automation systems.
- Internet of Thing (IoT) and Connectivity: Knowledge of how connected devices operate and how to integrate them into existing systems. This technology is being used for remote monitoring, controlling and predictive maintenance. In refineries, the failure of critical equipment like pumps, compressors or heat exchangers can lead to costly unplanned downtime, safety risks and production losses.
- Cybersecurity: Cybersecurity plays a critical role in protecting refineries from the increasing threats posed by cyberattacks. Refineries rely on Industrial Control Systems (ICS), Supervisory Control and Data Acquisition (SCADA) systems and IoT devices which are highly vulnerable to breaches if not properly secured. Cyberattacks targeting these systems can cause disruptions, equipment damage or catastrophic safety incidents.

Bridging the Gap: A Roadmap

To address this challenge, both individuals and organizations need to take proactive steps. Here are some strategies:

Continuous Learning: Engineers must commit to lifelong learning. Online courses, certifications and workshops on AI, IoT and data analytics can provide a solid foundation.

Mentorship and Knowledge Sharing: Experienced engineers with experience in digital transformation can mentor younger helping professionals, them navigate the intersection of traditional engineering and digital innovation.

Upskilling Programs: Companies should invest in upskilling initiatives, offering tailored training programs to bridge the skills gap within their workforce.

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Collaboration with IT Professionals:

Engineers and IT experts must work closely to understand each other's domains. Crossdisciplinary projects and joint training sessions can foster mutual learning.

Incorporating Digital Tools in Education: Engineering curricula must evolve to include modules on digital technologies. Universities and training institutes should focus on producing digitally savvy engineers.

Why This Matters

Modern industries are adopting technologies like Artificial Intelligence, the Internet of Things and big data analytics to improve operations. Engineers need to adapt to this digital shift to keep up with evolving demands. A few examples from the oil and gas industries are below:

Jamnagar Refinery (India):

The Jamnagar Refinery, located in Jamnagar, Gujarat, India, is one of the largest and most complex refinery sites in the world. It is operated by Reliance Industries Limited (RIL). Its total combined capacity is around 68.2 MTPA, which is equivalent to 1.36 million bpd. This refinery uses IoT sensors and AI-driven analytics to monitor operations and predict maintenance needs.

Sadara Chemical Complex (Saudi Arabia):

The Sadara Chemical Complex is located in Jubail Industrial City-II, Saudi Arabia. It is a joint venture between Saudi Aramco and Dow Chemical Company and is one of the world's largest integrated chemical facilities. This complex employs advanced automation and machine learning for efficient and predictive maintenance.

Port Arthur Refinery (USA):

It leverages digital twin technology and Al simulations to optimize real-time processes. These technologies boost efficiency, safety and sustainability, showcasing how digital skills empower engineers to make impactful changes.

The Way Forward

The integration of digital skills into engineering is no longer optional; it is imperative for staying relevant in today's fast-changing environment. By embracing this shift, engineers can unlock new opportunities, drive innovation and contribute to their industries' digital evolution.

As engineers, we must recognize that technology is not here to replace us but to empower us. The combination of engineering expertise and digital proficiency is a powerful formula for success in the modern world. By bridging this gap, we not only secure our professional futures but also play a crucial role in shaping the future of engineering itself.

My team of engineers and I are actively learning and developing advanced digital skills to align with the latest technological advancements. Our goal is to leverage these skills to modernize the operations and infrastructure of Attock Refinery's plants. By integrating cutting-edge digital technologies, we aim to enhance efficiency, optimize processes and ensure sustainability while staying ahead in the rapidly evolving landscape of the oil and gas industry.

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Safeguarding Critical Process Control Systems from Cyber Threats



Understanding Process Control Systems

Process Control Systems (PCS) are integral to industries such as manufacturing, energy and water treatment, designed to monitor and regulate physical processes. Key components include:

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- Supervisory Control and Data Acquisition (SCADA): Software used for remote monitoring and control of industrial systems.
- **Distributed Control Systems (DCS):** Integrated systems that manage production processes across multiple locations, allowing for centralized monitoring.
- **Programmable Logic Controllers (PLC):** Industrial computers that control machinery and equipment in real time.

<u>Cybersecurity Threats to Process Control</u> <u>Systems</u>

As Process Control Systems (PCS) have converged with information technology (IT), they now face a range of cyber threats that can compromise operational integrity, safety and security, including:

- **Ransomware Attacks:** Cybercriminals can lock operators out of critical functions, leading to significant operational downtime and safety hazards.
- **Data Breaches:** Unauthorized access may result in the theft of intellectual property or manipulation of operational parameters, disrupting services.
- **Insider Threats:** Employees or contractors might pose risks through mishandling sensitive information or intentional sabotage.
- Supply Chain Vulnerabilities: Third-party vendors can unintentionally introduce security gaps, making vigilant vetting essential.
- Denial of Service (DoS): Attackers can overwhelm PCS, rendering them unresponsive and causing operational disruption.

Importance of Cybersecurity

The potential consequences of cyber incidents in Process Control Systems (PCS) can be severe, leading to operational disruptions, financial losses, safety hazards and reputational damage. Effective cybersecurity measures are imperative to the following functions:

Ensure Safety: Protecting PCS helps prevent dangerous situations that could harm personnel

and the environment.

- Maintain Operational Continuity: Strong cybersecurity helps avoid production downtimes, ensuring smooth workflow.
- **Protect Sensitive Information:** Safeguarding proprietary data is vital in competitive markets.
- **Ensure Compliance:** Adhering to industry regulations regarding cybersecurity is crucial to avoid legal repercussions and financial penalties.

Strategies for Enhancing Cybersecurity

To tackle the unique cybersecurity challenges posed to Process Control Systems (PCS), organizations should adopt a multi-faceted approach:

- 1.**Network Segmentation:** Isolate PCS from broader enterprise networks to reduce the risk of widespread attacks.
- 2. Access Controls: Implement strict access control policies, ensuring that only authorized personnel have access to critical systems. This includes utilizing role-based access controls and conducting regular audits.
- 3. **Regular Risk Assessments:** Continuously identify vulnerabilities and assess the impact of potential cyber threats on PCS.
- 4. **Incident Response Planning:** Develop and rehearse incident response plans specifically addressing cybersecurity threats to PCS to facilitate swift and effective responses.
- 5. **Patch Management:** Establish thorough protocols for updating software to protect against known vulnerabilities, ensuring updates are rigorously tested before deployment.
- 6. Employee Training and Awareness: Regular training on cybersecurity best practices and PCS-specific risks is essential to foster a culture of security awareness.
- 7. **Collaboration and Information Sharing**: Engage with industry groups and government bodies to stay informed about emerging threats and best practices.

Conclusion

In the rapidly evolving industrial landscape, the importance of cybersecurity in protecting process control systems cannot be overstated. By implementing tailored cybersecurity strategies, organizations can safeguard their operations and enhance resilience against cyber threats, ensuring safety, compliance and efficiency in a digital era.

Building Operational Excellence at ARL



Attock Refinery Limited At (ARL), we understand that the key to sustaining operational excellence lies the in commitment, dedication, hard work and collaboration of every individual across the organization. Our ability to meet challenges and maintain a competitive edge in the

refining industry is driven by the following core principles that form the foundation of our daily operations which lead to our continued success and growth:

1.Commitment: The Foundation of Operational Excellence

Commitment is the heart of ARL's operations. Our employees are fully dedicated to maintaining the highest standards, ensuring safety and continuously improving our processes. This commitment extends from plant operators to engineers, all working together with a shared responsibility to meet production targets and uphold the company's reputation for excellence. By staying focused on our goals and maintaining a unified approach, we continually enhance productivity, reduce downtime and ensure optimal plant performance.

2.Dedication: The Backbone of Progress

Dedication is the driving force behind operations' success. It's not just about working long hours but about the passion and determination to overcome challenges and pursue excellence in all aspects of our operations. Our dedicated team consistently demonstrates resilience and collaboration, ensuring we set high standards and make meaningful progress. Dedication to our work and our mission allows ARL to innovate, improve and inspire the next generation of researchers and industry leaders.

3.Hard Work: The Engine Behind Success

Hard work is essential to the smooth operation of our plants. The complexity of plant management demands continuous effort, attention to detail and persistence. Whether it's routine maintenance or troubleshooting complex issues, hard work ensures we meet production goals, improve plant performance and adhere to strict safety standards. Through determination and teamwork, ARL consistently achieves high levels of efficiency, ensuring the reliability and success of our operations.

4.Knowledge Sharing: Leveraging Collective Expertise

At ARL, knowledge sharing is a crucial element in driving operational efficiency. By fostering a culture of collaboration, we empower our teams to share insights, experiences and expertise across departments. This exchange of knowledge enhances problem-solving, ensures that employees stay informed about the latest developments and helps to improve overall performance. From daily briefings to training sessions, knowledge sharing allows us to address challenges more effectively and find innovative solutions that enhance productivity and safety.

5.Motivation: Fuelling Innovation and Excellence

Motivation is the spark that drives creativity and innovation at ARL. It is about creating a work environment that encourages personal growth, continuous improvement and teamwork. Motivated employees bring energy and enthusiasm to their roles, pushing boundaries and exploring new frontiers in research and development. At ARL, we strive to provide resources, mentorship and recognition to ensure our teams are equipped and inspired to reach their full potential.

6.Appreciation: Celebrating Effort and Achievement

Appreciation plays a vital role in maintaining high morale and employee engagement at ARL. Recognizing and celebrating both the big wins and the small efforts contribute to a positive and supportive culture. Whether through formal recognition programs or simple gestures of thanks, appreciation reinforces a sense of belonging and pride. This, in turn, motivates our teams to continue striving for excellence in all their endeavours.

7.Acknowledgement: Valuing Every Contribution

Acknowledgement is integral for creating an inclusive and respectful environment at ARL. We recognize that every individual's contribution, no matter how big or small, plays an essential role in the success of our operations. From field operators to senior management, all team members' unique talents and skills are valued. Acknowledging the hard work and collaboration behind each project fosters an environment where everyone feels seen, heard and respected which ultimately contributes to a stronger and more cohesive team.

Conclusion

The success of operations at Attock Refinery Limited is built upon the collective commitment, dedication, hard work, knowledge sharing, motivation, appreciation and acknowledgment of our teams. These principles are the driving force behind our ability to continuously improve, innovate and achieve operational excellence. As we continue to push the boundaries of what is possible, we remain committed to maintaining a culture where every employee is empowered to contribute to ARL's long-term success. Together, we will continue to lead the way in the refining industry, ensuring that ARL remains a trusted name for years to come.

The Importance of Project Management in an Oil Refinery



Project management plays a crucial role in the successful operation of oil refineries. It may be applied for small projects being carried out during routine operation of the refinery, as well as for mega projects involving Technical Services, P&D expansion / upgradation of

refinery configuration for improvement in capacity and product quality etc. It encompasses the planning, execution and monitoring of projects that are essential for maintaining efficiency, safety and profitability in refinery operations.

Key Aspects of Project Management in Oil **Refineries:**

• Planning and Scheduling:

Effective project management begins with thorough planning. This includes defining project goals, timelines and resource allocation. In an oil refinery, where operations are complex and interdependent, a well-structured plan ensures that all teams are aligned and the projects progress smoothly.

Risk Management:

The oil and gas industry has inherent risks, including safety hazards and environmental concerns. A robust project management framework incorporates risk assessment and mitigation strategies to minimize potential disruptions and ensure compliance with safety regulations.

• Resource Management:

Efficient use of resources, both human and material, is vital in refinery projects. Project managers must coordinate teams, manage budgets and procure materials to keep projects on track and within budget.

Communication:

Clear communication is essential for project success. Project managers must facilitate

communication among stakeholders, including engineers, contractors and regulatory bodies, to ensure that everyone is informed and engaged throughout the project lifecycle.

• Project Close-out:

Project close-out in an oil refinery project is a critical phase that ensures all aspects of the finalized systematically project are and efficiently. This process involves verifying that all project deliverables have been met according to specifications, completing final inspections and addressing any outstanding issues. It includes the documentation of lessons learned which provides valuable insights for future projects and helps to improve overall project management practices.

Additionally, project close-out requires the meticulous handover of assets and documentation to the operations team, ensuring that they are fully equipped to manage and maintain the systems installed. Effective close-out not only signifies the completion of the project but also enhances stakeholder satisfaction and facilitates seamless integration into ongoing refinery operations.

Continuous Improvement:

After project completion, it is important to evaluate outcomes and gather lessons learned. This feedback loop allows for continuous improvement in project management practices, leading to enhanced efficiency and effectiveness in future projects.

In conclusion, effective project management is integral to the success of oil refinery operations. By focusing on planning, risk management, resource allocation, communication and continuous improvement, refineries can enhance their operational efficiency and ensure safe and profitable operations.

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POEM

Since the time you left us mom

Seems like the time has freezed It's so difficult for us to breathe

The pain of your loss <mark>n</mark>ever goes away Without missing you, never passes a da<mark>y</mark>

Your beautiful smile keeps <mark>coming</mark> to my <mark>mi</mark>nd How brave you were, it make<mark>s us to r</mark>emin<mark>d</mark>

You were a Rose, a Lilly, like a fr<mark>agrance</mark> In core of our heart lie<mark>s</mark> your remembrance

Wish I could see you, hug yo<mark>u or kiss you again</mark> The bitter truth is, you will never come again

Words can never express the depth of your loss To take care & love, we remember your cause

It's never a goodbye or farewell to you On every tick of the clock, we miss you

The poet wrote this poem on his mother's *third death anniversary*. Kindly remember her in your prayers.



POEM

The rhythm of towers and flames

In the heart of the refinery, where steel giants reign, Tower rise skyward, their purpose plain. Flames dance atop in a fiery display, Guiding the night, keeping darkness at bay.

The hum of the heaters, the roar of the flare, Echoes of energy that fill the air. Pumps whisper secrets, valves sing their song, Together in harmony, where we all belong.

From the crude that flows, black and unrefined, To products we craft, for humankind. Each fraction distilled, each drop we tame, In the rhythm of towers and eternal flame.

Yet behind the machines, the heartbeat remains, Engineers and operators, through joys and pains. With every alarm, every shift we strive, Keeping the refinery safe, and alive.

So, here's to the teamwork, the sweat, and the strain, To the beauty in challenges, not just the gain. In the rhythm of towers, and flames so high, Lies the spirit of unity that will never die.



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نظم

تم کو لگتا ہے کہ ہم تم سے مَکر کرتے ہیں اے مری جان! تری سچ میں فکر کرتے ہیں جس جگہ نام بھی لی<mark>نے</mark> پہ ہو پھانسی اکثر ہم وفادار! وہاں تر<mark>ا ذ</mark>کر کرتے ہیں عشق والوں پہ جو دنیا میں <mark>خُدا ب</mark>نتے ہیں ہم خُدا والے ہیں، پھر ان کا ح<mark>شر کرتے</mark> ہیں ظلم والے تو حدیں پار کیا کرتے <mark>ہیں</mark> زیرِ خنجر بھی صبر والے صبر کرتے ہیں عشق والوں کی تو باتیں ہیں ج<mark>دا دنیا سے</mark> یہ جہانوں سے پرے تک کی خبر <mark>کرتے ہیں</mark> دشت میں ن<mark>ور سے کچھ پھول خدا کے بندے</mark> اپنے اللہ کی رِضاؤں کی <mark>نذر کرتے ہیں</mark> وقت کو چیر کے پاتے ہی<mark>ں مُرادیں اپنی</mark> کم سِنی میں بھی جو فکروں کا س<mark>فرکرتے ہیں</mark> پھرسمو لیتے ہیں وہ وقت کی <mark>ظالم موجی</mark>ں اپنی سوچوں کو بڑھا کر جو <mark>بحر ک</mark>رتے ہیں جن کی دنیا میں نہیں ہو<mark>تی رسائ</mark>ی ممکن کام وہ سارے تیرے خ<mark>اک</mark> بسر کرتے ہیں ہم ہیں اِنساں مگر دعوٰی ہے پارسائی کا جھوٹ کہتے ہیں ، ہم لوگ کفر کرتے ہیں ہم ہیں احساس کی خاطر، کہ یہ انسان حسنؔ ہے زبانوں کو بھی حیران بشر کرتے ہیں

نظم



ظلمت کے مکینوں کا کیسے یہ مکاں بدلے کوئی ایسا ہو اُجالا ، جو یہ تاریک سماں بدلے تقدیر اپنی جو نہ بدلے ، ملت گی کہاں بدلے بدلے نہیں اس شہر کے مکینوں کے تخیل و افکار جو خوُد تو بدلتے نہیں ، کہتے ہیں حکمراں بدلے شاید ہی کمتر ہو کوئی چیز جہاں میں جن سے اُن زرّوں سےبھی ریگستاں بدلے ،قطروں سے بھی سیل رواں بدلے کاش ایسی کوئی صورت ہو کہ ، باطن میں اُتر کر کوئی روح بدلے ، قلب و جگر بدلے ، جسم و جاں بدلے کوئی روح بدلے ، قلب و جگر بدلے ، جسم و جاں بدلے





