



RISK AND OPPORTUNITIES

Our Business is subject to risks, uncertainties and opportunities, that is why risk management is considered an integral part of company corporate governance. A Risk Management & strategic planning committee headed by CEO and comprised of HOD's discusses, prioritizes and decides all matters related to risk management and strategic plans including opportunities twice a year. The risk and opportunities that are relevant to ARL business are discussed below. Management response for monitoring and tackling these risks and opportunities are also presented. In addition, risk and opportunities could cause actual results to vary from those described herein in the description below, which may include forward looking statements or could impact on our ability to meet our targets or to be detrimental to our profitability or reputation.

| <i>Economic Risks and Opportunities</i> | | |
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| <i>Risk /Opportunity</i> | <i>Impact & Consequence</i> | <i>ARL Management of Risks & Opportunities</i> |
| Circular Debt | Reduced Industrial Activity, Cash flow Shortfall, Social Effects | The issue of circular debt in petroleum sector has not been resolved, but in case of refineries it has reduced to some extent. Further it is hoped that quantum of circular debt will be reduced as a result of payments expected under recent agreements between Independent Power Producers (IPP) and Government of Pakistan (GOP). The issue of circular debt can be settled on a permanent basis, if GOP takes long term remedial actions e.g. rationalization of energy mix. Further, we closely monitor receivable/payable position and dispatches. |
| Fluctuating Exchange Rate | Uncertainty in Business Activities | The prices of ARL's products and crude oil are primarily determined in foreign currency therefore fluctuation in exchange rate has a mitigating effect in our case to the extent of respective flows involved. ARL does consider getting the forward exchange cover for its major capital expenditure. |
| Change in Taxation Policy and Other Laws | | All proposed changes in the laws and policies which may affect the Company are thoroughly monitored and discussed at relevant forums at the initial stage to avoid any unexpected exposure upon promulgation of relevant law. |
| Interest Rate | Uncertainty in Business Activities | Interest rate risk represents the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Company has financial assets and liabilities as appearing in its statement of financial position and it is monitored by having a sensitivity analysis identifying the impact of interest rates. |



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| Pricing Formula | Uncertainty in Business Activities | Under the present pricing formula the Company remains exposed to the risk of adverse fluctuation in the prices of petroleum products and crude oil. This risk has been mitigated to certain extent by introduction of fortnightly product prices. The Company has time and again taken up the matter with the Government and looks forward to formulation and implementation of a Refining Policy in consultation with all stakeholders to address such anomalies. |
| FFO issue | | Due to constraint placed by the Government on utilization of furnace fueled power plants in the country, the Company intermittently faces problems with respect to up-lifting of FFO. To cater for future reduced FFO demand a study has been initiated jointly by local refineries for upgradation of Bottom of Barrel to produce value added products. However any implementation on this project will be subject to incentives given by the GOP in this regard. |

Social Risks and Opportunities

| <i>Risk /Opportunity</i> | <i>Impact & Consequence</i> | <i>ARL Management of Risks & Opportunities</i> |
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| Change in Quality of Crude Oil | Change in crude oil quality may relate to either a change in its API gravity or to the amount of unwanted contaminants in it. This may impact the throughput of refinery, product slate and may also cause damage to the equipment resulting in financial loss/impact. | There is flexibility of operation at ARL distillation units with capability of handling light to heavy and sweet to sour crudes. In case of quality variance (increase/decrease in API gravity and sulphur contents) the crude blends may be adjusted to suit the unit's capability. In case of high sediments & salts, the Desalters at heavy crude unit are capable of getting rid of such impurities and save the downstream equipment from any adverse effects. ARL corrosion monitoring program is also in place with regular monitoring and inspection. If required, and as practiced in past also, primary treatment can also be carried out at oil fields. |
| Competitors Refineries in North region | ARL is the only refinery existing in the north region. In case if another refinery is setup in north region, the major share of crude received at ARL will be diverted to it, and there will be deficiency of crude for refinery operation. | Only one refinery was being planned in the North region, however, the plan has not been materialized yet. Viability of an inland gross root complex refinery of small capacity far from port is minimal. Further, crudes available in northern Punjab will still be available to ARL being the nearest refinery. |



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| <p>Occupational Health & Safety of employees and safety of Assets</p> | <p>High absenteeism rate, Direct and indirect accident cost and lower productivity</p> | <p>In order to minimize the chances of accidents and incidents, the Company carries out a detailed analysis of its operations and possible risks, consequently adjusts the existing processes, including increased control over the efficiency of equipment, employee training in the field of occupational health and safety, and permanent readiness for emergencies. The Company plans to further improve the processes of hazard identification, risk assessment, and use of a risk-based approach for HSE planning.</p> |
| <p>China-Pakistan Economic Corridor</p> | <p>Business Expansion & Economic growth</p> | <p>ARL considers China Pakistan Economic Corridor as an opportunity & game changer for Pakistan and whole region. CPEC energy & infrastructure projects will have primary impact on industry & services. The company is closely monitoring the progress of these projects for taking appropriate actions and measures as deemed necessary for business continuity and growth.</p> |
| <p>Market Trends</p> | <p>Low throughput, Uncertainty in Business & decrease in profitability</p> | <p>The introduction of LNG into the country energy mix and improved quality petroleum products including higher RON PMG & Low sulfur Diesel is changing the petroleum products market dynamics. As a result of Government's decision to minimize furnace fuel consumption in power plants (IPPs) with cheaper RLNG availability, FFO up-liftment from refineries reduced drastically. Refinery had to reduce throughput with eventual risk of complete shutdown. However, the situation improved after detailed discussions with the government which put restrictions on FFO imports and allowed use and storage when required during low electricity demand period as well. Reduced refinery margins due to various reasons including the pandemic (COVID-19) have severely impacted the refinery profitability. Refineries have taken up the issue with GOP and a Working Group comprising of representatives from all stake holders was formed to analyze and recommend the policy measures required for sustainable operation and upgradation of refineries. The proposals have been jointly presented by the refineries to Ministry team which would require appropriate approvals from the relevant forums of the Government. Considering the limited future demand of FFO, a configuration study for selection</p> |



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| | | <p>of optimum technology for bottom of barrel up gradation for ARL was completed in 2020. Since setting up of individual deep conversion units for Furnace Oil by each refinery is not a viable option considering the magnitude of investment involved and economy of scale, The Government, during Working group discussions, has alternatively asked the refineries to consider a Joint Venture. Work for engaging an international consultant/licensor for selection of configuration of a combined BOB project and prepare a Feasibility to assess the project viability and provide a proposal in this regard is underway.</p> |
| <p>PMG/HSD Specification</p> | <p>Government has implemented Euro-V specification for PMG and HSD. Refineries producing lower than Euro-V grade products will be penalized for quality differential in product price.</p> | <p>Currently ARL is meeting the sulfur content requirement of Euro-V gasoline while HSD produced at ARL meets the Euro-III specifications. In order to be able to produce Euro-V compliant higher RON PMG, ARL has planned to install a CCR unit. Basic Engineering Design for the CCR unit and revamp of existing Naphtha Complex has been completed. For production of Euro-V HSD, a revamp feasibility study of the existing DHDS unit is in progress by the Licensor of the unit.</p> |
| <p>Disaster-Sabotage/Terrorism</p> | <p>a. Geostrategic security threats</p> <p>b. Chances of terrorist activities entailing extra vigilance and expenditure on security apparatus.</p> | <p>a. Appropriate security measures in view of current law & order situation in the country as well as in the Region.</p> <p>b. Necessary liaison with the relevant government agencies.</p> |
| <p>Land disputes</p> | <p>Litigation due to land disputes.</p> | <p>Security and Land Sections report all construction activities within 200 yards of ARL boundary in line with KPID instructions and necessary measures are adopted to deal with such violations as per policy. Pending land issues with DHA are being pursued for final settlement.</p> |
| <p>Man Power Retention</p> | <p>Company is facing some serious economic challenges due to unfavorable govt. policies coupled with the Covid-19 effects, inflation, adverse price parity of crude oil vs products, market volatilities therefore retention in key areas specialists and generalists is a major challenge.</p> | <p>The management is fully cognizant of enrolling HR of the set standards, provision of healthy workplace environment, reasonable salaries and perks, career progression, training and development, ensuring work-life balance, provision of accommodation and recreational facilities are some of the measures to keep turnover within the desired limits. We try to meet the financial challenges by means of cost-efficiency without compromising the business</p> |



standards. During the entire period of huge financial losses, since 2018-2019 to date, the Company stood committed to pursue good HR practices without any layoffs or holding the statutory payments during these times, to keep the morale of the employees high.

Environmental Risks and Opportunities

| <i>Risk /Opportunity</i> | <i>Impact & Consequence</i> | <i>ARL Management of Risks & Opportunities</i> |
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| Climate Change | Natural calamities, Disasters, Overloading of atmosphere with pollutants, Increase in earth temperature | Pakistan contributes less than 1 percent of the world's greenhouse gases blamed for causing global warming, yet it's amongst the world's most vulnerable victims of the growing consequences of climate change. Pakistan is in the top 10 countries affected most by climate change, according to the 2020 Global Climate Risk Index released by the public policy group German watch. Climate change is not a direct risk to ARL operation and location, however it may affect indirectly in case of high floods in terms of oil movement. Disruption in oil movement would limit production capacity and potentially increase operational cost. Still we proactively consider climate change risks and opportunities in our business decisions. We are playing our part by taking actions like tree plantation, utilization of renewable resources i.e. installation of solar systems, implantation of energy management system, measuring GHG emissions for quantification & possible reduction and increasing awareness etc. |
| Water Management | Constraints to growth, Decrease in profitability, Rising costs for raw-water reconditioning | Water is an essential utility in Plant Operations. It is used in cooling tower for water make-up; Boiler Feed Water; Plant Water; in crude desalting; for flushing of pipelines and for drinking purpose. Availability of water sufficient supply to ARL water reservoirs as per demand is very critical for smooth refinery operations. During hot and dry months (May-June), water demand is at its peak. When Supply-Demand gap widens, a fraction of treated effluent water from Effluent Treatment Plant (ETP) is recycled, after testing from Laboratory. Optimization of water usage is an ongoing activity that is adopted all year round in general but in dry month in particular |
| Covid-19 Pandemic | Threat to workers health, Indirect threat to the productivity and continuity of business | To prevent any damage to the health of employee, ARL has developed and implemented SOPs during the lethal waves of COVID-19 pandemic. The detailed initiatives are mentioned in chapter 4. |