





Pipeline Operation Safety

We are committed to the goal of "zero defect, zero injury, zero pollution and zero accident". Pipeline operation safety is always the core of our work. This can be seen not only in our high standards and requirements for pipeline construction quality, but also in our huge amount of management and technical resources invested for operation safety.



Pipeline Construction Quality

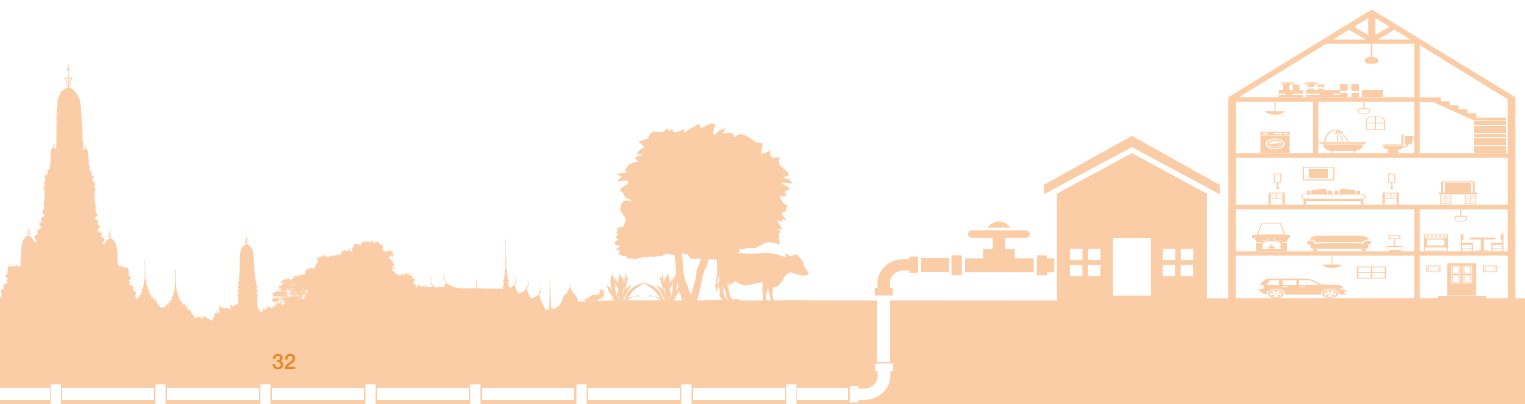
The high standards we adhere to today can ensure pipeline safety tomorrow. The Myanmar-China Oil & Gas Pipeline Project is constructed with high standards of quality, and in strict compliance with the international standards of the American Petroleum Institute (API) and the American Society of Mechanical Engineers (ASME). Optimal construction resources were chosen through international competitive tendering. Many outstanding enterprises from Myanmar, India, China, the USA, Germany, the UK, France, the UAE, and Thailand have contributed to the construction of the safe, high-quality and environmentally-friendly Myanmar-China Oil & Gas Pipeline Project.

Top engineering and technology institutes were invited to conduct seismic safety assessment and geological

hazard assessment, to ensure earthquake resistance of the oil terminal, pipelines and terminals on Madè Island. X70 steel was chosen for the project, as it is widely used globally in long-distance pipeline construction due to its mature and reliable technologies. Other components and spare parts were procured from well-known international manufacturers. For instance, ball valves and plug valves were supplied by Böhmer GmbH and Flowsolve Corporation, respectively. The first pass yield of welded seams was 98.68%, and the pipeline depth was fully qualified. The Myanmar-China Gas Pipeline (Myanmar Section) Project won the gold award in the competition for 2016 High-Quality Petroleum Projects organized by China Association of Petroleum Engineering Construction.

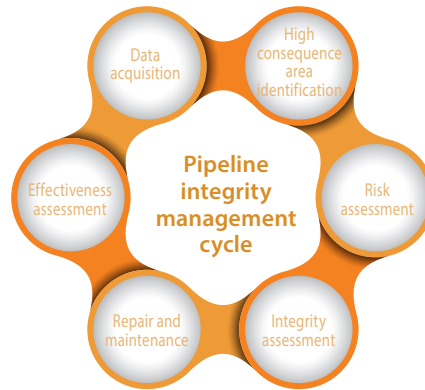


Welding Quality Inspection

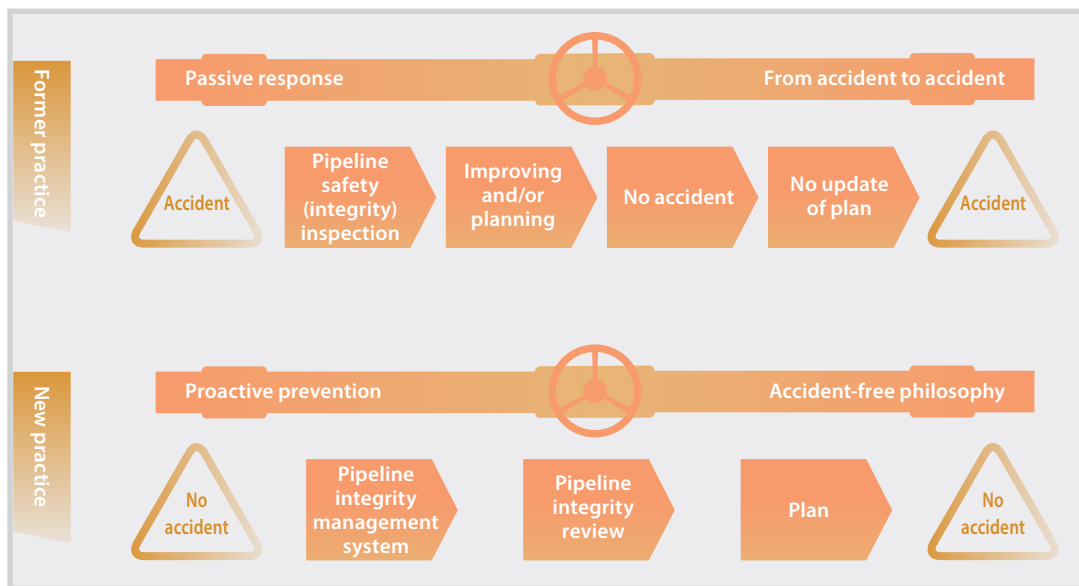


Pipeline Integrity Management

The pipeline integrity management system is adopted to effectively prevent and control all types of risks during the operation of the pipelines. Using the system, we identified and assessed the risk factors in the design, construction, operation, maintenance and repair processes, and established appropriate preventive and control measures accordingly. Additionally, data integration information technology including SCADA was developed and used to prevent and reduce accidents in relation to pipeline quality and safety. This has ensured the safe operation of the pipelines in an economical and reasonable manner.



Relation and Difference between Integrity Management and Traditional Management



SCADA Technology

The Supervisory Control and Data Acquisition (SCADA) system is a complete scheduling management system that performs 24-hour real-time monitoring and data acquisition of the pipeline operation.

The SCADA system is composed of the control center, intermediate station control systems and block valve chambers. Through the communication system, the control center acquires real-time information along the pipelines, such as changes in pipeline pressure and flow, and abnormalities in pipeline operation.

The control center of the Myanmar-China Oil & Gas Pipelines is located in Mandalay. With the data acquisition and control system, the operational status of the entire pipeline is displayed in real-time on the screen. Furthermore, there is a standardized pipeline maintenance & emergency repair center with three maintenance & emergency repair teams, which can provide emergency response immediately in case of an accident.

Security Measures

Cooperation with Local Government and Community

The Myanmar-China Oil & Gas Pipeline Project is an important infrastructure in Myanmar. Its safe operation depends not only on the company carrying out the construction and operation, but also on the participation of the local government and community residents. Together with the Oilfield (Pipeline) Security Department of the Myanmar Government and local residents, we work to safeguard the operational safety of the pipelines.

We developed and improved the management system, defined all potential operation risks, and made uniform treatment measures and procedures. We organized special patrols, established a proper mechanism to communicate with local government and police, and provided local residents with pipeline protection knowledge, thereby forming a safety guarantee network supported by the company, government and the local community.



Distributing brochures for pipeline protection



Explaining natural gas and pipeline protection to elementary students in Eswa Village



Local Residents - Pipeline Safety Guards

To ensure safe operation, we assign an inspector every 3-8 km along the pipelines. The inspectors are mostly local residents living along the pipelines, who are familiar with the local natural and cultural environment. Preventive measures are established to maintain pipeline safety, and the company responds quickly with these measures upon receiving any hazard report from the inspectors. When necessary, we will closely communicate with the local government and police to jointly guarantee pipeline safety.



Key areas of inspection



If there is any large machinery operation within 500 meters on both sides of the operating zone.



If there is any dredging or other operation in river or drain crossing areas along the pipelines.



If there is any vehicle of over 20 tons within the operating zone.



If there is any other behavior or incident which may endanger pipeline safety.



Myanmar-China Oil & Gas Pipeline Project crossing Myitnge River