

Chapter 64

Management Practices in Exploration and Production Industry

Kashif Saeed

Wintershall Holding GmbH – Kassel, Germany

Georg Ziegler

Wintershall Holding GmbH – Kassel, Germany

Muhammad Kashif Yaqoob

Mubadala Petroleum – Abu Dhabi, UAE

ABSTRACT

This chapter is divided into three main sections; project management, HSE management, and quality management. A focus description of the different elements of exploration and production industry along with implementation of management practices on each of these elements including asset/portfolio, resources, time, project planning and scheduling, and proactive risk management are presented. Health safety and environment and quality management are dealt with as separate sections.

INTRODUCTION

Maximizing the value on investment responsibly is the ultimate goal of any engineering management project. Addressing exploration and production business needs is always challenging due to several reasons. First of all there are huge sums of money at stake. It takes enormous amount of capital expenditure to initiate any project, which can be up to billions of euros for the surveying, processing,

technical studies, drilling activities, completions, and work-overs. Additional infrastructure and community development is a necessity. Sometimes, the operational expenditure exceeds initial capital. Apart from that, extraordinary long duration of exploration and production projects makes it challenging to manage projects professionally. The average time-line of hydrocarbon projects can be spread over tens of years, starting from regional surveillance and reconnaissance surveys to depletion and abandonment of hydrocarbon reservoirs. Additional factors can be technol-

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ogy applications and blending with experienced professionals within organizations, protection of environment and eco-system, personnel and resource management.

The synergistic approach helps most to successfully execute project plan. Interdisciplinary integration of technical, human resources and economic teams is very essential for successful accomplishment of projects. The geologists, geophysicists, petrophysicists, reservoir engineers, production engineers, facility, and process engineers should all focus together on the definitive project goal and support each member of the team. It will not only boost the morale of the team as a whole but will also incorporate the important values like openness, flexibility, communication, and coordination among the team. Therefore, it is recommended to make project based teams instead of department based teams.

The application of management on early stage of a project can yield enhanced results and augment profits for the organization. In addition, dividing a mega-project into small tasks helps effective implementation of the project plan leading to successful achievement of the ultimate objectives. To maximize the return on investment it is significant to deplete the hydrocarbon reservoir intelligently. Thus, strategic, technical, and planning capabilities are essential at every stage of the project life cycle.

This study is divided into three main sections; project management, HSE management and quality management. A focus description of the different elements of exploration and production industry along with implementation of management practices on each of these elements including asset/portfolio, resources, time, project planning and scheduling, proactive risk management which are presented as section 'project management,' health safety and environment and quality management have been dealt as a separate sections.

PROJECT MANAGEMENT

Project management is the concept which has taken significant importance in all scopes of businesses and especially in the exploration and production industry, where the projects are extra-long and huge sums of money is involved. Fifty years ago, projects were executed and completed without even considering any idea like project management which is not only the subject of how to manage projects within given time and budget but also coping with different targets, environments and people with understanding the success key skill set essential for a certain project. Along with 'know-how,' the concept of 'do-how' can help greatly to accomplish the hefty accomplishments.

Dealing with a wide variety of projects including exploration, appraisal, production, disposal, sequestration, and storage, etc. is the hallmark of the exploration and production industry. This makes it a very diverse process, and at the same time, each type of project needs a specific set of expertise to execute successfully. However, over the years, some management tools, techniques, and problem solving approaches have proved to be essential for almost any type of project. Thus, at least such a basic skill set is considered to be a must for execution of such projects. Any additional expertise required for the specific projects are generally provided by the organizations in the form of trainings, seminars, and/or lectures.

The project management practices are very essential for the effective utilization of resources and thus to achieve the ultimate goals. Clear organization and scope setting at initial stage of project helps in great deal to define a project plan, which should be followed throughout the project lifecycle. In addition, identifying key success skills and performance indicators with the development of scenarios allow the efficient mitigation of any bottlenecks and risks. These are properly communicated to each level of hierarchy to continuously improve the progress until the project closure.

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