Issue of Risk Management in Oil Companies

Mădălina ALBU¹

¹ PhD Associate Professor, Faculty of
Economic Sciences, Petroleum-Gas
University of Ploiești, Romania,
malbu@upg-ploiesti.ro

Abstract: Risk management is a decision-making process whereby the results of the risk assessment are integrated with economic, technical, social and political principles for generating risk reduction strategies. One of the most important aspects of risk management is the integration and inclusion of public interests and values, the mediation of interest groups, local administration agencies, and other institutions responsible for setting the specified criteria for the evaluation of priority strategies. Such risks are also present in OMV Petrom and through this paper the main objective is to identify these risks and to find the right solutions in their management and reduction. OMV Petrom's risk management system is fully integrated into the company's business and all staff has overall responsibility to identify and report risks. The hazard from emissions of hazardous substances depends on their physicochemical and toxicological properties, the exposure time and the weather conditions, which determine their dispersion in the low atmosphere. Accidental risks that can cause very large losses depending on their proportion can reach the level of catastrophes, but financial risks play an important role in that they more precisely determine the evolution of society. Taking into account the continuous development process of the company, we aim to implement the risk management process in the new activities. That is why risk awareness, risk analysis, as well as their control are part of daily activity, thus supporting the company's strategy. The paper presents the conclusions of the study and the proposals that can help the company in the risk management of the industry in which it operates, namely that of oil and gas.

Keywords: *Risk management; oil companies; risk evaluation; treatment of risks; risk analysis.*

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1. Fundamental concepts of risk management

Risk management is the process of implementing management policies and practices, quality procedures and management practices for analysis, risk assessment and control.

At present, the principles and general guidelines for risk management are provided by the ISO 31000: 2010 (OMV Petrom. Annual Report, 2010) standard and can be used by any enterprise and applied to any type of risk, regardless of its nature, with positive or negative consequences. In conclusion, the standard is not industry-specific or industry-specific, and can be applied throughout the life of a business and a wide range of activities, including strategies and decisions, functions, operations, processes, projects, assets, products and services (Ilie, 2008).

The design and implementation of plans and the organizational framework of risk management should take into account the specific practices used, the needs of a particular enterprise, its particular objectives, its products and services, its structure, operations, processes, functions, projects and context.

The main purpose of ISO 31000: 2010 (OMV Petrom. Annual Report, 2010) is to amortize the risk management processes from existing and future standards. It provides a common approach to standards that address specific risks and/or services without replacing them.

An important aspect of this standard is that it is not intended for certification.

A risk study involves pursuing it from two points of view. The first focuses on unwanted events that can cause loss or damage. This approach is called pure risk. The second risk perspective refers to obtaining the information that is needed to make the right decision. The two points of view have in common that both focus on an ongoing activity, an opportunity accompanied by a certain level of uncertainty.

In order to have effective risk management, it is recommended that an enterprise adapt to principles at all levels. The main principles that manage risk management are:

- Risk management creates and protects value - helps achieve goals and improve performance;
- Risk management is a part of decision-making - it supports decision-makers to make the right choices, prioritize actions and distinguish between alternative policies directions;

- Risk management is an integral part of all organizational processes - it is an activity that falls within the responsibilities of management and is an integral part of all organizational processes;
- Risk management explicitly addresses uncertainty - it must take into account the uncertainty, the nature of uncertainty and the way it can be treated;
- Risk management is based on the best available information - the input elements of the risk management process are based on information sources;
- Risk management is systematic, structured and timely - contributes to achieving consistent, comparable and reliable results.

2. The risk management process

The risk management process is a process that involves the application of management policies and practices to communication, consultation, context, and identification, analysis, estimation, treatment, and monitoring and risk control.

Although presented as independent activities, in practice the steps listed above are in close interaction. For example, when the risks have been identified, the context and criteria need to be reviewed, and some aspects of the analysis need to be reconsidered. Stages of communication and consultation, as well as monitoring and review, involve activities and concepts that encompass the entire management process.

2.1. Risk identification

At this stage, the impact areas, the sources of risk, the events as well as the causes of the risks and their potential consequences are identified.

Its purpose is to create a risk-based list of events that can produce, intensify, prevent, degrade, accelerate or delay the achievement of goals.

It is preferable for identification to include risks regardless of whether their source is under the control of the enterprise or not, even when the source or the cause of the risk is not obvious. It must capture the side effects of specific consequences, including cascading and cumulative effects. With identifying what might happen, it is advisable to take into account the possible causes of the consequences that may arise.

An enterprise must use tools and techniques to identify risk specific to its objectives and capabilities as well as the risks it faces. Relevant and up-to-date information is important in identifying risks (OMV Petrom. Annual Report, 2010).

2.2. Risk analysis

At this stage, risk analysis involves understanding the risk. Risk analysis provides input for decision-making when choices have to be made and options involve different types and degrees of risk.

Account must be taken of the causes and sources of risk, their positive and negative consequences, and the credibility that these consequences can occur. It is advisable to identify the factors that affect their consequences and credibility and to consider the existing means of control, their effectiveness and their effectiveness. An event can have multiple consequences and may affect several goals.

Consideration should also be given to the level of confidence in establishing the level of risk and its sensitivity and communicated to decision-makers and other stakeholders.

Risk analysis can be done on the basis of risk, the purpose of the analysis, and the information, data and resources made available.

The analysis may be qualitative, semi-quantitative, quantitative or a combination thereof, depending on the circumstances.

Consequences and credibility can be determined by modeling the results of an event or set of events, or extrapolating from available data or from experimental studies. Consequences can be expressed in terms of tangible impacts and intangible impacts (OMV Petrom. Annual Report, 2010).

2.3. Risk estimation

The purpose of the risk assessment is to contribute, following the results of risk analysis, to making the right decisions on the risks to be treated and to speeding up the implementation of the treatment. The risk assessment involves comparing the level of risk determined by the analysis process with the risk criteria established at the time of considering the context. Based on this comparison, the need for risk treatment can be taken into account and should include the assessment of risk tolerance incurred by parties other than the undertaking benefiting from the risk (Coșea & Nastovici, 2000).

In some situations, the risk estimation may lead to a decision to conduct a more detailed analysis, but also to the decision to treat the risk only by maintaining the existing control means. This decision can be influenced by the organization's attitude to risk and the risk criteria that have been set (OMV Petrom. Annual Report, 2010).

2.4. Risk treatment

Risk management is the selection of one or more options for changing risks and implementing those options. Once implemented, treatment modes provide or modify control means (Figure 1).

Figure 1 The process of treating the risk

Risk treatment options are not necessarily mutually exclusive or do not apply to all circumstances. Options can include the following:

- avoiding risk by making the decision not to start or not to continue the activity that creates the risk;
- taking or raising the risk to capitalize on an opportunity;
- removing the source of risk;
- changing credibility;
- change of consequences;
- dividing the risk with another party or other parties (including contracts and risk financing);
- maintaining the risk by a fundamental decision.

2.5. Risk monitoring and control

Risk monitoring involves accepting the risk provided it is kept under constant surveillance. This strategy applies to risks with significant impact, but with a low probability of occurrence. The advantage of this step is to use the resources available only for high-risk risks. The enterprise is always in a position to prioritize its resource-based risk-management actions.

The disadvantage of the step is that the delay in treating the risk can reduce the chances of making effective risk management in the future.

By controlling the risks seen as threats, it is understood that at the enterprise level materialization or impact can be reduced if the risk materializes or both (Slobodeanu, 2008).

Risks become uncontrollable if an enterprise cannot act directly to mitigate probability and / or impact. This situation is most often encountered in external risks from the environment (context) in which the enterprise operates. The issue of risk control / non-control is most often addressed in terms of tolerance, with reference to partially controllable risks or risks that cannot be controlled to a satisfactory level of exposure.

3. Implementation of the risk management system within OMV Petrom

OMV Petrom is the largest integrated oil group in South Eastern Europe and the largest industrial company in Romania. OMV Petrom is organized into three segments of operationally integrated operations - Upstream, Downstream Oil and Downstream Gas.

Upstream's activities consist of exploration, development and production of crude oil and natural gas and are concentrated in Romania and Kazakhstan. Upstream products consist of crude oil and natural gas and are mainly sold to the OMV Petrom Group.

Downstream Oil produces and delivers gasoline, diesel and other petroleum products. The Refining Division, part of the Downstream Oil segment, operates a refinery in Romania, namely the Petrobrazi refinery.

The Gas Division, part of the Downstream Gas segment, has as its main objective the sale of natural gas and the optimal use of the potential resulting from the liberalization of the market. The Energy Division, part of the Downstream Gas segment, has expanded its value chain of gas activity through a gas-fired power plant. The Marketing Division, part of the Downstream Oil segment, delivers products to its retail and wholesale customers and operates in Romania, Bulgaria, Serbia and the Republic of Moldova (Figure 2).

When companies are aware of the need to implement risk management, I think it is efficient for the organization that risk management becomes an integral part of the organization's administration, policy and culture.

Figure 2 Segments of activity - Upstream, Downstream Oil and Downstream Gas

Source:

https://www.omvpetrom.com/portal/01/petromcom/petromcom/OMV_Petrom/Annual_Report.

3.1. Risks identified by OMV Petrom

The OMV Petrom Group's activity in the oil and gas industry implies, by its nature, exposure to a range of risks. These include political stability, economic conditions, changes in legislation or tax rules, and other industry-specific operational risks such as the high volatility of crude oil prices and the US dollar.

The risks identified are analyzed according to their nature, based on the causes, consequences, volatility, historical trends and possible impact on cash flow (Albu, 2013).

The most significant exposures of OMV Petrom, both financial and non-financial, are: market risk for tradable goods; foreign exchange risk; operational risks with low probability and high impact.

OMV Petrom is exposed to the price and volatility of cash flows generated by the production, refining and marketing activities associated

with crude oil, petroleum products, gas and electricity. Market risk is of central strategic importance to OMV Petrom's risk profile and Company's liquidity. The price risk of the OMV Petrom Group's tradable commodities is closely analyzed, quantified and evaluated.

OMV Petrom's cash is exposed to the volatility of the domestic currency against the USD, but also against the EUR. The effect of foreign exchange risk on cash flows is regularly monitored.

OMV Petrom is an integrated company with a vast portfolio of assets, most of which are hydrocarbon production and processing facilities. Particular attention is paid to process safety risks. The low probability and high impact risks associated with operational activity (eg, eruptions, explosions, earthquakes, etc.) are systematically identified, and incident scenarios are developed and evaluated for each of them. Where appropriate, specific risk management plans are made for each location. In addition to disaster response, crisis and emergency plans, OMV Petrom's policy on insurable risks is to cover them through insurance instruments. These are closely analyzed, quantified, monitored by the risk organization and are managed through detailed internal procedures.

A risk is a potential negative future that might arise from certain present actions, which may lead to a fall in production prices or an overshoot of exploration and exploitation costs. Loss is often considered financially, but it can also be a loss in terms of credibility, partnerships, and loss of property or life.

3.2. Benefits of implementation of a risk management system at the level of OMV Petrom

Risk management facilitates a structured and systematic approach to the decision-making process in OMV Petrom's business. The value and risk management approach stems from the fact that it combines various assessment and consultation techniques, integrating them into a set that gives consistency to the decision-making process. Risk management gives the enterprise the ability to better understand the way operations are performed and the ability to respond more effectively to changes occurring both in the internal environment and in the external environment.

Operational risk management is closely linked to the company's day-to-day business, where decisions are made on a continuous basis.

OMV Petrom has a risk management department that coordinates the process of the Enterprise Wide Risk Management (EWRM) process in which it actively seeks to identify, analyze, evaluate and manage significant risks in order to reduce their impact on the cash flow to an acceptable level.

The OMV Petrom Group's Risk Management Department monitors and manages all risks using an EWRM ISO 31000 integrated process through periodic assessments and internal risk reports that analyze significant exposure levels and their influence on flow of treasury versus risk appetite.

Regarding the risks faced by OMV Petrom Group, the market and financial risk category has a significant share, being managed with great care.

Risks that are included, among others, in the category of market and financial risk are: currency risk, credit risk, interest rate risk, liquidity risk and market price risk.

OMV Petrom monitors and carries out actions for any risk that reaches a substantial level or is sensitive to risk appetite and which develops rapidly. Individual and specific actions, proposed and implemented to reduce the exposure to an acceptable level or to eliminate it, are proposed.

Following the analysis, OMV Petrom has four levels of roles in the pyramid-type risk management system:

a. Level I includes risk owners. They are represented in all areas of activity by managers from different sectors of activity;

b. Level II includes Business Units and Divisional Risk Coordinators. They facilitate and coordinate the risk management process in their division;

c. Level III refers to the risk manager represented by the risk management department. He manages the entire risk management process, assisted by specialized corporate functions (HSSE, Compliance, Legal, Financial, and Controlling);

d. The highest level, the fourth level, is represented by the OMV Petrom Directorate. It coordinates and approves the consolidated risk profile of OMV Petrom according to the risk appetite and the objectives of the company. The risk management system and its effectiveness are monitored, through regular reports, by the Audit Committee of the Supervisory Board. (Information provided by the firm) The EWRM system of OMV Petrom is assessed through an external comparative study as being in line with best international practices.

Risks under the OMV Petrom EWRM system are organized into the following categories:

- market and financial risks;
- operational risks;
- strategic risks.

The tools and techniques used by OMV Petrom consist of international best practices in risk management as well as quantitative

models for measuring possible losses associated with OMV Petrom's risk categories (Albu, 2018).

The efficient organization of managing all risk categories has the benefit of bringing benefits to the entire company.

4. Conclusions

Risk management is a decision-making process whereby the results of the risk assessment are integrated with economic, technical, social and political principles for generating risk reduction strategies.

One of the most important aspects of risk management is the integration and inclusion of public interests and values, the mediation of interest groups, local administration agencies, other institutions responsible for setting the specified criteria for the evaluation of priority strategies.

The Petrom risk management system is fully integrated into the company's business and all staff has a general responsibility to identify and report risks.

The hazard from emissions of hazardous substances depends on their physicochemical and toxicological properties, the exposure time and the weather conditions, which determine their dispersion in the low atmosphere.

Accidental risks that can cause very large losses depending on their proportion can reach the level of catastrophes, but financial risks play an important role in that they more precisely determine the evolution of society.

Risk management refers to an interactive process consisting of steps that, when undertaken in succession, allow continuous improvement of the decision-making process.

The goal of risk management is to gain understanding by all parties and understand the extent to which they are managed and managed to improve performance, increase the value of firms, and reduce financial difficulties.

It is an undisputed fact that risk management increases the value of firms and can reduce financial difficulties. Employee health and safety pose a major risk to the oil and gas industry.

Disruptions to oil production caused by fires and accidents easily lead to significant economic losses and potential hazards for humans and the environment. Such risks are also present in OMV PETROM SA and through this paper, the main objective is to identify these risks and to find the right solutions for their management and diminution.

The implementation of risk management in a company requires the development of risk management programs, corresponding to each hierarchical level, integrated into the other planning and management activities.

Based on the documentation I have done, I believe that the responsibility and authority of the persons involved in the risk management activity, as well as the relationships between them, must be established through clear documents.

Taking into account the continuous development process of the company, we aim to implement the risk management process in the new activities. That is why, in my opinion, risk awareness, risk analysis, and control are part of daily activity, supporting the company's strategy.

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