

Everyone's Smart University

Project (Spring 2021)

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Section

Master

Date

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Course Code

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Project Risk Management

Instructions:

- اخر موعد للتسليم هو يوم السبت 2021-05-08 في تمام الساعة 9 مساءً.
- الإجابة متاحة باللغة الإنجليزية أو اللغة العربية مع مراعاة أن تكون المصطلحات العلمية باللغة الانجليزية.
- يتم تسليم المشروع في صيغة ملف pdf مع الالتزام نموذج الجامعة ولن تقبل أي مستندات أخرى.
- يجب مراعاة أقسام البحث الرئيسية (مقدمة Introduction، دراسات علمية سابقة Literature Review، طريقة البحث Methodology، النتائج والمناقشة Results and Discussion، وأخيراً المراجع References Appendices يتم إضافتها).
- وان كان هناك ملحقات Theme موحد كما يلي:
- حجم الخط 12.
- نوع الخط Arial.
- لون الخط أسود.
- المسافة بين الأسطر line spacing 1.5
- عدد صفحات البحث (لا يقل عن ثلاث صفحات ولا يزيد عن ست صفحات).

Instructor's Name: Eng. Mosaab M. Hamed

1-Introduction:

I work as a Project Engineer in a project management team (PMT). Me and my team, we are handling an Increment of Gas and Oil Separation Plant Facilities. The GOSP plant is about separating the gas and oil from sea water that coming through the pipe from offshore Rigs. The separation happens through a special process inside tanks and vessels that has an input from one side and three outputs of opposite side gas will be on top, then oil will be in the middle and water will be on the bottom. After the separation process, gas and oil are sent to the other gas and oil plants through the pipeline. Our old GOSP has been under service for 30 years and it produces per day around 150 thousand barrels per day and our company needs to increase the production to double about 300 thousand barrel per day. Our company needs the production continues while construction work on going for new facilities so we are working gray work zone which it is make the work more critical and slow for more for loss prevention.

1.1-Project Purpose

The purpose of the project is that increasing the gas and oil production to the double of its recent capacity. Which show one type of risk that is opportunity risk. Which can get back to the organization with positive or negative. But what happened during the pandemic of Covid-19. The request of gas and oil decrease and that causes some delay on the project due to the budget and marketplace.

1.2- Project schedule is not defined

The project schedule depends on many elements such as the experience of contractor, materials and manpower. The contractor is new in oil and gas filed construction. Which need more requirement regards the safety and quality processes. The bidding contractor doesn't consider both cost for mentioning elements so that put the contractor

in hard situation effect undefined or understand of the project. In the final, it causes shortage of materials and manpower due of a lack of budget and causes delay of project schedule.

1.3- Critical Area

The critical area is the area that is under construction while it is under operation as well. The production of gas and oil is continuing because Oil Company has committed to provide oil and gas to the global market without any disruption. Any mistake occurs will stop the plants so hazard risk will implement to avoid any danger that could happen. Pulling dead cable underground requires excavation which could damage live cable underground. It could considered as compliance, risk, hazard risk or control risk.

The activity requires some documents, qualifications and appropriate crane and attachments. It could be considered as hazardous risk, compliance risk or control risk.

2-Literature Review:

based on each risk mentioned there are article discusses similar risk occurred with detailed factors cause them or explored them before any project inception.

2.1-Project Purpose

The success of oil and gas project in Libya depended on fifteen project success criteria. Results of study showed a categorization scheme for success criteria for starting a project should include the categories of project management success, product success along with market success. All of them lead to successful project of the future, which measure all criteria of strategy, sustainability and safety. (Frefer AA, 2018)

2.2- Project schedule is undefined

One of the limitation of the project schedule is resource constraints, which considered as standard issue for the project schedule. Also, it is recognized resource constrained project schedule issue. The project activities considered as another problem. The time duration of an activity, once started the activity must be completed without interruption. There are precedence relationships between the activities and technological

requirements. The relationships can represent the certain amount of resources is required for each activity to be performed. (Farhad Habibi, 2018)

The issue of project schedule considered by researchers as the most commonly used fundamental issues and its standard issue had been addressed in different aspects. (Farhad Habibi, 2018)

2.3- Critical Area

One of critical underlying factors is lack of space. The main characteristic of confined construction site which inherent lack of space. The various tasks and ancillary items require good management of health and safety on site. The lack of space is the core issue in the management of confined construction of each site. There are sixth resource that needed for effective management after materials, equipment, labor, time and budget and one of them space or open space in other word. Also emphasized that health and safety issue associated with individuals whom work with large plant and machinery. (John P. Spillane¹)

3-Methodology

Risk impact:

- High – Catastrophic (Rating A – 100)
- Medium – Critical (Rating B – 50)
- Low – Marginal (Rating C – 10)

It identifies the timeframe for this risk to affect it. The following is classified as one:

Timeframe	Description
Near	Present to one month
Mid	2 month to 6 months
Far	More than 6 months

Impact-Probability Matrix:

Impact	Probability			
	High $80\% \leq x \leq 100\%$	Medium high $60\% \leq x \leq 80\%$	Medium low $30\% \leq x \leq 60\%$	Low $0\% \leq x \leq 30\%$
A= High	(Exposure very high) Score 100	(Exposure very High) Score 80	(Exposure High) Score 60	(Exposure Moderate) Score 30
B= Medium	(Exposure High) Score 50	(Exposure Moderate) Score 40	(Exposure Moderate) Score 30	(Exposure Low) Score 15
C= Low	(Exposure Low) Score 10	(Exposure Low) Score 8	(Exposure Low) Score 6	(Exposure Low) Score 3

Examples of risk classification:

Risk Event	Probability	Impact Rating	Score
The goal of project become not desirable due to market crisis	100%	A	100
Delay due to lack of contractor's experience to handle project schedule	50%	B	30
Damage live cable underground	30%	A	30
Total	160		

EVM calculation:

Risk	Risk Probability(P)	Cost Impact (IC)	Risk Contingency (P*IC)
A	1	\$1,000,000	\$1,000,000
B	0.5	\$7,500	\$3,750
C	.03	\$13,000	\$3,900

In the risk response plans the following implemented:

1. Risk reduction
2. Reduces the risk probability
3. Reducing the risk impact on project objectives

4-Discussion:

All kinds of risk events that could occur prior, during or after a project life cycle can be mitigated based on risk assessment. Understanding of the marketplace and all factors that would threaten a project can be mitigated by terminating the risk to avoid business crisis. Defined project schedule is necessary to be treated by controlling to reduce the feeling of contractor to accomplish their assignment on time. Finally, working in critical space could be dangers which need to be transferred to the third party.

References

- Farhad Habibi, F. B. (2018). Resource-constrained project scheduling problem: review of past and recent developments. *Journal of Project Management* , 56.
- Freder AA, M. M. (2018). Overview Success Criteria and Critical Success Factors in Project. p. 7.
- John P. Spillane¹, L. O. (n.d.). Confined site construction: A qualitative investigation of critical issues affecting management of health and safety . *School of Planning, Architecture and Civil Engineering Queen's University Belfast, United Kingdom.*, 142-143.