



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Master

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Project Risk Management

Instructions:

- اخر موعد للتسليم هو يوم السبت 2021-05-08 في تمام الساعة ٩ 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 . وان كان هناك ملحقات Appendices يتم إضافتها)
- يجب الالتزام بـ Theme موحد كما يلي:
- حجم الخط 12.
- نوع الخط Arial.
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- عدد صفحات البحث (لا يقل عن ثلاث صفحات ولا يزيد عن ست صفحات).

Instructor's Name: Eng. Mosaab M. Hamed

Project Risk Management Research

1. Introduction

In this research am going to study the implementation of risk management in one of my projects, in which I was assigned as a deputy project manager. In this research I am going to focus on the risk related activity, which took place during the project life cycle, among them shall be the risk identification method, risk probability/impact matrix, and filled up job safety analysis. Moreover, a case study shall be presented. At the end, we shall compare, and discuss the results and draw our conclusion.

1.1 Project Brief

My Project Title is “**Installation and Maintenance of Broadband Wireless Data Link System**”. The Scope of my project covers the installation and maintenance of offshore broadband wireless data link system. The intent of the project is the deployment of offshore and onshore data link by installing a fully integrated, redundant and secured broadband data radio networks with suitable antenna system for Oil and Gas facilities, Rigs and marine vessels. Contractor will be responsible for Design, Supply, Installation, Testing & Commissioning, Training, Support/Service. Moreover, Operations and Maintenance support will be provided by the Contractor who has well experienced workmanship.

Contract period is 45 months, which includes 9 months for design and implementation, and 36 months for the operation and maintenance support of the installed equipment.

Equipment to be installed include Access Point/Base Station (AP/BS) and UTs.

All the installations shall be completed with approved design and method by required time limit. The recommended location for Access Point/Base Station (AP/BS) shall include but not limited to the following:

No.	AP/BS Locations	No. of Radio Set	No. of Sector Antenna	No. of Beam Antenna
1	Location-1	4	4	0

2	Location-1	4	0	4
Total		8	4	4

As for the UTs, the following table shows minimum locations of the UT installation that shall be implemented at the commencement of this contract, and based on “Service Order (SO)”

UT Package	Jack-up Rig	Maintenance Barge	Service Boat	Total
Package-1 Long range with fixed antenna	02	00	00	02
Package-2 Long range with automatic tracking antenna	00	01	05	06

2. Literature Review

Nowadays more and more companies or entities are applying Knowledge, tools, and techniques in project activities to meet the projects requirement. The project is generally divided into phases, which are initiation, planning, execution, closing phases which in totality are called project life cycle. Moreover, it is to be highly noted that even though some wouldn't mention monitoring and controlling as a project phase, but they all agree it is an integral part of every phase. As the project cycle, activities are a human product, they are entitled to risks from vulnerabilities, imperfection, and mistakes. As a professional project personal, we are expected to anticipate, identify, quantify, and analyze these risks and take necessary action, appropriate to our entities' capability, objectives, and appetite. “In risk assessment, the analysts often attempt to answer the following set of questions (Haimes, 2009):

- What can go wrong?

- What is the likelihood that it would go wrong?
- What are the consequences?

Risk assessment should be an integral part of the decision making, which aims at assessing perceived risk in order to take better decision” [1]. Risks are commonly classified as control/ uncertainty, hazard, compliance, or opportunity

3. Methodology

In my project the methods utilized in order to identify the risks, were mainly:

- 1- Brainstorming with team members. A question is asked as what could go wrong with in every project phase? Or major deliverables?
- 2- Organizational assets, like similar past projects risk register, and lesson learnt

Upon Implementing the above, expected risks are identified, and a discussion and what control action need to be taken are proposed. Risk identification is an activity at every project phase, and as a project develops new risks are always identified, and action plan are always updated, and optimized.

4. Results and Discussion

As a result of the methodology utilized the below project were identified, as follows:

#	Risk Description	Type
1.	Exceeding scheduled deadline	control
2.	Exceeding allocated budget	control
3.	Scope is not well defined	control
4.	Inability to obtain equipment and frequency licenses	compliance
5.	Change of CITC licensing regulation	compliance
6.	personal injury	hazard
7.	Personal falling from height or on sea	hazard
8.	Exposure to radiation	hazard
9.	Rough sea	control
10.	Low visibility	control

Moreover, Portability x impact matrix were generated, and necessary actions were registered in place to control the risks as follow:

Risk no	Risk Description	Likelihood	Impact	Risk rate
1.	Exceeding scheduled deadline	2	5	10
2.	Exceeding allocated budget	2	3	6
3.	Scope is not well defined	1	5	5
4.	Inability to obtain equipment and frequency licenses	1	5	5
5.	Change of CITC licensing regulation	1	2	2
6.	personal injury	1	3	3
7.	Personal falling from height or on sea	1	5	5
8.	Exposure to radiation	1	5	5
9.	Rough sea	5	5	25
10.	Low visibility	3	2	6

Risk rating range	Level of risk
1-6	Low
8-14	Medium
15-25	High

Risk no.	Triggers or indicators	Control measures	Responsible	Residual risk
1.	Confirmed delay from manufacturer, and logistic	Add contingency for every deliverable	Project manager PM	6
2.	Change in product rate due to corona pandemic	Add contingency for every deliverable	PM	4
3.	Identification of additional scope	Involve stakeholders, and good market survey of best practices	Technical Engineer	4
4.	Inability to import the equipment	Acquire approvals before the project initiation	PR	1
5.	Sudden request by CITC to stop operation	Monitor closely	PM	1
6.	Working with hazardous equipment	Wear Appropriate PPE, and follow safety procedures & PTW	supervisor	2
7.	Working at height or offshore	Wear Appropriate PPE, and follow safety procedures & PTW	supervisor	2
8.	Working with radioactive equipment	Wear Appropriate PPE, and follow safety procedures & PTW	supervisor	2

9.	Boats can't travel	Monitor closely weather forecast and consider contingency during schedule planning	Coordinator	14
10	Sand storm or foggy weather	Monitor closely weather forecast	Coordinator	5

Finally, the Expected Monetary Value (EMV) for all risks that have an impact in terms of cost \$\$ were calculated as follows:

Risk no.	Probability %	Impact \$	EMV \$
2	25	-50,000	-12,500
3	10	-100,000	-10,000
5	0	-1,000,000	0
EMV of the project			-22,500\$

Based on above table a value of 22,500\$ should be added to the project budget as a contingency of any of the risks being materialized.

Above are the results of the risk management activities, however, as risk management is a continuously improving/ developing during the project lifecycle and from a project to another, below are some short comings of our assessment and proposals for upcoming projects:

- 1- During risk identification, we should have applied more tools and techniques like (**Delphi Technique, Interviewing stakeholders& experts, SWOT Analysis, and assumption Analysis**)
- 2- As the projects develops the risk register should have been rechecked, and updated regularly

5. Conclusion

In summary, the method taken by our company in order to identify risks within the project were basically, brainstorming, and lesson learnt. These helped in identifying 10 risks, and control actions were put in place accordingly. The project EMV was estimated as an additional budget requirement of 22,500\$ as a contingency. Many new and serious risks were only identified during the planning stage, which caused a delay in schedule and disputes with contractor. These would have been mitigated if more tools, and techniques

were utilized during the identification. Proposed additional tools/techniques are Delphi Technique, Interviewing stakeholders& experts, SWOT Analysis, and Assumption Analysis

6. References

[1] Mohammad Dadpouri & Kiran Nunna, 2011, A Literature Review on Risk Analysis of Production Location Decisions