



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Master

Date

Thursday

18 / 03 / 2021.

Course Code

(PMG510)

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 الإنجليزية.
- 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.
- لون الخط أسود.
- المسافة بين الأسطر 1.5 line spacing
- عدد صفحات البحث (لا يقل عن ثلاث صفحات ولا يزيد عن ست صفحات).

Instructor's Name: Eng. Mosaab M. Hamed

Project:

Risk Identification and Analysis (Based on the project you chose in APM)

The objective of this report is to identify project risks, prepare a risk probability matrix, and carry out an analysis of selected risks. Referring to the project you select in **Advanced projects management APM course**, your task is to prepare a risk management plan that identifies potential risks in **the selected stage of the project** and identify risk management strategies.

From the course content and readings, you know that the overall purpose of risk planning is to anticipate possible risk events and be ready to take appropriate action when risk events occur—to eliminate or reduce negative impacts on the project.

You may wish to begin this exercise with a brainstorming about potential risks to get candidate risks “on the table” for consideration. And then identify and refine that wording for risks that have some realistic chance of occurring in this stage. For example, potential weather problems present a real obstacle to completing field data collection by the planned completion date. It is also an issue that the project manager will ultimately have to plan for, as opposed to other issues such as a major disaster (e.g., your office burning down), is not a high-enough probability event that requires much time in planning. As described below, you will select several of the identified risks and carry out a risk analysis.

You will use the distilled list of risks to make a risk probability/impact matrix. The matrix will have at least three categories (high/medium/low) for probability and impact.

Remember that it is important to name risks effectively—use words that describe the risk event and point to the impact on the project (e.g., “injury of field technician disrupts data installation work”).

After completion of the risk matrix, document a risk analysis for the selected risks. This detailed documentation for that selected risk will include:

- a description of the risk and potential impacts (schedule, quality of work, cost, etc.) on the project.
- indicators or triggers that would be monitored to help identify the risk as early as possible.
- specific risk response strategies to take.

Using probability and impact matrix calculate the **Expected Monetary Value (EMV)** for all risks that have the impact in terms of cost \$\$.

Best of luck...

المشروع:

التعرف على المخاطر وتحليلها (بحث مبني على مشروعك الذي اخترته في مادة ادارة المشاريع المتقدمة)

الغرض من هذا التقرير هو التعرف على المخاطر المحيطة بالمرحلة التي تختارها المرحلة من مراحل مشروعك (نفس المرحلة التي اخترت التطرق لها في مشروعك لمادة إدارة المشاريع المتقدمة Advanced project management) حيث أن مهمتك هي تحضير خطة متكاملة لإدارة المخاطر تشمل التعريف بالمخاطر المحتملة التي تحيط بتلك المرحلة وتحضير مصفوفة احتمالية المخاطر ومن ثم القيام بالتحليل لهذه المخاطر المختارة وتحديد استراتيجيات ادارة المخاطر المناسبة لكل خطر على حدة.

من محتويات المقرر والمصادر الأخرى المتاحة أصبحت تعلم الان أن الغرض العام لمرحلة التخطيط للمخاطر هي توقع أحداث المخاطر المحتملة والتجهز لاتخاذ ردة الفعل المناسبة عند وقوع الخطر – لمنع أو تقليل الاثار السلبية على المشروع.

قد تحبذ بداية هذا البحث بعصف ذهني عن ماهية المخاطر التي قد تحيط بتلك المرحلة من مراحل مشروعك, وذلك للحصول على قائمة بتلك المخاطر. ومن ثم تحديد وتصفية هذه القائمة للوصول إلى قائمة مختصرة بالمخاطر التي لها فرصة واقعية أكبر في الحدوث. على سبيل المثال: المشاكل الجوية المتوقعة والتي تمثل عقبة حقيقية أمام اكتمال جمع البيانات من المواقع في أو قبل الوقت المحدد، هذه تعتبر مشكلة على مدير المشاريع أن يضعها في الحسبان. من ناحية أخرى، فإن المخاطر غير الواقعية مثل الكوارث الطبيعية والأعاصير (تلك التي تسبب حريقاً بمكتبك وفقدان الأوراق المهمة) ليست لها احتمالية وقوع عالية وبالتالي لاتستدعي تضيق الكثير من الوقت في التخطيط لها. كما سيتبين لك، ستقوم باختيار عدة مخاطر من تلك التي قمت بالتعرف عليها لتحليلها.

ستقوم باستخدام هذه القائمة المختصرة لعمل مصفوفة المخاطر (الاحتمالية/الأثر). المصفوفة ستحتوي على الأقل على ثلاث تصنيفات (عالي/متوسط/منخفض) للإحتمالية والأثر.

لاتنس استخدام أسماء تصف طبيعة المخاطر بصورة فعالة – قم باستخدام كلمات تصف الحادثة الخطرة وتشير الى أثرها على المشروع (مثل: إصابة أحد الفنيين في الموقع مما يؤثر على أعمال التركيب).

بعد انتهاءك من مصفوفة المخاطر، قم بتوثيق تحليلك للمخاطر المختارة. هذا التسجيل المفصل للمخاطر يجب أن يتضمن:

- وصف للخطر واثاره المحتملة (الجدولة، جودة العمل، التكلفة، الخ)
- المؤشرات والمحفزات التي يجب مراقبتها للمساعدة في التعرف على هذا الخطر قبل وقوعه
- تفصيل للاستجابة المقترحة للتصدي لهذا الخطر

باستخدام مصفوفة الاحتمالات والتأثير ، احسب **القيمة النقدية المتوقعة (EMV)** لجميع المخاطر التي لها تأثير من حيث التكلفة \$\$.

مع تمنياتي بالتوفيق..

Project Risk Management

Relocate Jazan/Abha Refined Products Pipeline Project

1.Introduction

Risk Management is the process of identifying, assessing, and controlling threats to an organization's capital and earnings. These threats, or risks, could stem from a wide variety of sources, including financial uncertainty, legal liabilities, strategic management errors, accidents and natural disasters.

Every business and organization faces the risk of unexpected, harmful events that can cost the company money or cause it to permanently close. Risk management allows organizations to attempt to prepare for the unexpected by minimizing risks and extra costs before they happen.

Importance

By implementing a risk management plan and considering the various potential risks or events before they occur, an organization can save money and protect their future. This is because a robust risk management plan will help a company establish procedures to avoid potential threats, minimize their impact should they occur and cope with the results. This ability to understand and control risk enables organizations to be more confident in their business decisions.

Furthermore, Strong corporate governance principles that focus specifically on risk management can help a company to reach their goals.

2.Literature

Risk management strategies and processes

All risk management plans follow the same steps that combine to make up the overall risk management process:

- **Establish context.** Understand the circumstances in which the rest of the process will take place. The criteria that will be used to evaluate risk should also be established and the structure of the analysis should be defined.
- Risk Identification.** The company identifies and defines potential risks that may negatively influence a specific company process or project.
- **Risk Analysis.** Once specific types of risk are identified. The company then determines the odds of them occurring, as well as their consequences. The goal of risk analysis is to further understand each specific instance of risk, and how it could influence the company's projects and objectives.
- **Risk Assessment and Evaluation.** The risk is then further evaluated after determining the risks overall likelihood of occurrence combined with its overall consequence. The company can then make decision on whether the risk is acceptable and whether the company is willing to take it on based on its risk appetite.
- **Risk Mitigation.** During this step, companies assess their highest-ranked risks and develop a plan to alleviate them using specific risk controls. These plans include risk mitigation processes, risk prevention tactics and contingency plans in the event the risk comes to fruition.

- **Risk Monitoring.** Part of the mitigation plan includes following up on both the risks and the overall plan to continuously monitor and track new and existing risks. The overall risk management process should also be reviewed and updated accordingly
- **Communicate and Consult.** Internal and external stakeholders should be included in communication and consultation at each appropriate step of the risk management process and in regards to the process as a whole.

3.Methodology

Relocate Jazan/Abha Refined Products Pipeline Project

This project will be done by Saudi Aramco to efficiently meet the Kingdom's refined product demand in Jazan & Abha Regions. This will be accomplished through the addition of truck loading facilities at Jazan Refinery and three Kerosene tanks, constructing a new pipeline from Jazan refinery to Abha Bulk Plant and construct three tanks in Abha Bulk Plant.

As the project has entered the construction phase, PRM review session was organized and during this session, the participants identify the risks that shown in the below table.

RELOCATE JEZAN-ABHA REFINED PRODUCTS PIPE (IN-PLANT FACILITIES)

Risk ID	Potential Risk	Risk Owner	Risk without Any Control				Preventive Controls	Residual Risk Rating				Status
			Consequence Severity	Probability	Rating			Consequence Severity	Probability	Rating		
			1,2,3,4,5	A,B,C,D,E	C*P	L/M/H		1,2,3,4,5	A,B,C,D,E	C*P	L/M/H	
PMRK-R-001	<i>The shipper pump sizing may not be adequate</i> The downstream pipeline hydraulic is not complete as the analysis was based only on one scenario(80MBD)	Waleed	3	D	3D	Medium	Provide the missing information to enable design contractor to complete the hydraulic to include the 140 MBD	3	B	3B	Low	Complete
PMRK-R-002	Communication MUX equipment brand/make has not be finalized	Ahmed	3	D	3D	Medium	Providing the missing information'	4	C	4C	Low	In Progress
PMRK-R-003	<i>Control System may be changed from FEED</i> The control of the projects is divided by different system(Abha is using ABB while Jazan is using honeywell)	Waleed	2	D	2D	High	Based on the existing control system, generate operation philosophy to align with the proposed control with proponent concurrence Obtain the existing control philosophy of Jazan-Abha Pipeline	2	C	2C	Medium	Complete
PMRK-R-004	<i>Reserved equipment may not be available when needed</i> Multi ongoing projects may use the reserved equipment	Ali	4	C	4C	Low	Lock out tags should be installed with operation concurrence at Abha	4	B	4B	Low	In Progress
PMRK-R-005	<i>SP3D moel may not be accurate</i> As-Built is not available	Mohammed	3	D	3D	Medium	Investigate alternative options to proceed with design in the absence of as built documents with proptent concurrence Aramco to provide as built drawings to Contractor to enable them integrate with the detailed design	4	C	4C	Low	Complete
PMRK-R-006	<i>Design & site conditions may conflict in Jazan Tankfarm & Truck loading</i> SPI Database SPPI&D Database SP3D model As built drawings availability	Waleed	3	C	3C	Medium	Investigate alternative options proceed with design in the absence of the as built documents with proponent concurrence	3	B	3B	Low	In Progress
PMRK-R-007	<i>Utility equipment design may change</i> Basis of design done during FEED was not available	Ali	3	B	3B	Low	Establish the design basis while doing the detailed design	3	A	3A	Low	In Progress
PMRK-R-008	<i>Design basis for security may change</i> SRA Report is not available	Ali	4	C	4C	Low	Aramco to provide the approved HCIS Stage 1 & 2 package confirming the facility classification	4	B	4B	Low	In Progress
PMRK-R-009	<i>Additional electrical equipment (Switch rack) may be required</i> Existing switchrack modification was decided by vendor (IECEx certification can not be done by vendor at site for existing switch rack)	Mohammed	4	C	4C	Low	Design Contractor to propose alternate power source for tank farm electrical load	2	C	2C	Medium	In Progress
PMRK-R-010	<i>Adverse weather conditions may impact project progress</i> Construction contractor has no experience working in Jazan Region	Ahmed	3	D	3D	Medium	Consider night shifts as applicable Adjust the construction activities to avoid harsh weather conditions	4	C	4C	Low	In Progress
PMRK-R-011	<i>Operation may not accept the design</i> Lesson learned showed previous failure even the standard was followed	Waleed	3	C	3C	Medium	Include key personnel as part of the design review	3	B	3B	Low	In Progress
PMRK-R-012	<i>Unplanned Closure of port of entry</i> Acommodation of public safety	Ahmed	3	D	3D	Medium	Consider alternative port of entry(i.e. Jeddah Abha etc)	3	B	3B	Low	In Progress
PMRK-R-013	<i>The project schedule & Jazan refinery project schedule may not align</i> Jazan refinery Commissioning schedule is not fixed	Waleed	3	D	3D	Medium	Look for large bore pipes(24-48 in) from open market to be delivered before Oct2020(Install the valves without S/D	3	B	3B	Low	In Progress

Probability Impact Matrix

					Probability				
					Never heard of in E&P industry	Heard of in E&P industry	Has occurred in company	Has occurred several times in company	Occurs frequently in company
					<1%	1-10%	10-50%	50-90%	>90%
					A	B	C	D	E
					Improbable	Unlikely	Seldom	Probable	Frequent
Consequence	Cost	Schedule	Quality						
	>= EUR 1 mn	> 1 month delay	Total change in project scope or leading to disastrous quality	1	Catastrophic				
	>= EUR 500 k up to < 1 mn	2 - 4 weeks delay	Major change in project scope or leading to bad project quality	2	Major			High	
	>= EUR 250 k up to < 500 k	1 week - 2 weeks delay	Moderate change in project scope or leading to inferior quality	3	Moderate		Medium		
	>= EUR 50.000 up to < 250.000	2 days - 1 week delay	Minor change in project scope or leading to inferior quality	4	Minor	Low			
	< EUR 50.000	< 2 days delay	Marginal change in project scope and quality	5	Slight				
No consequence									

5.References

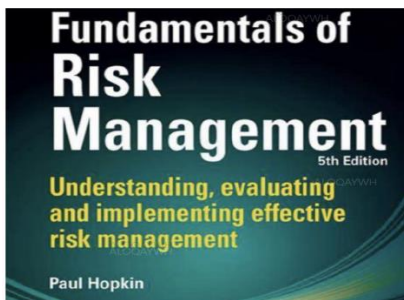
5.1



5.2



5.3



5.4

Saudi Aramco Website