



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

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Student Name	Badr Yousef Albasiri	بدر يوسف البصري	اسم الطالب
Students I.D	2021200181		الرقم الجامعي

Section

Master

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(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 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.
- 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

Risk management plan for Ritz Carlton standby generators installation by Alrasim United company

1. Introduction

Involving in any kind of projects will be exposed to different kinds of risk that may cause variations for the outcomes and therefore causing of budget overruns and delaying the project, and to avoid these risks and mitigate their expected consequences we have to establish a risk management plan that prepare us in case any expected risk materialized in future, this will include preparing and evaluating all the expected risk then prepare plans to eliminate and mitigate what it may happen. Establishing and implementing a risk management plan proof its efficiency and effectiveness in project management by helping the projects and teams in be ready by different kinds of risk responses to prevent any expected loses from happening.

In this assignment, we will prepare a risk evaluation for Ritz Carlton standby generators installation project by Alrasim United company, by listing the expected risks and evaluate their probability and impact and the proposed plans to response for it and contingency plans in case it happens also the triggers to warn the responsible employee about it and finally the expected monetary value, these steps and plan help in reducing the probability of facing dangerous in future and ensure the correct implantation of the different plans and their efficiency.

2. Literature review

2.1 Risk management

In risk management processes, the purpose is to search about all the possible threats and opportunities that may affect the final results and see how we can response to it by either eliminate it or transfer its responsibility to another part or at least trying to reduce its impact on the project in case its materialized. Generally, it is a circle of consequential process of identifying, evaluating, and responding to the risks during all the project phases which insuring covering them continuously [1].

2.2 Probability impact matrix

The PIM (Probability-Impact Matrix) is a method for producing a relative ranking of risk events by combining probability steps expressed as the percentage chance that something will happen or the frequency and impact in one or more dimensions. Hazard's incidents are represented graphically in PIMs and can be used to measure threats and opportunities. They can be used to assign a Probability-Impact score to each risk incident, prioritize risk incidents, and plan risk events, as well as use risk maps or risk profiles as graphical representations [2].

2.3 Elements affecting risk project management

The identification of critical success factors (CSFs) is crucial for project risk management. The importance of incorporating CSFs into the risk management framework cannot be overstated [3]. To ensure that benefit and risk practices are coordinated for the effective execution of project goals, the recommended structure should relate opportunities (value) and risk management actions to the institution's strategic objectives [4].

3. Methodology

In this assignment, we formed the different risk tables by descriptive and quantitative approaches by collecting the data from the project team and different stockholders including the hotel employees by brainstorming, we used the risk probability and impact matrix to evaluate the risk severity for each one of them. For determining the contingency reserves needed by the project, we used the formula of expected monetary value EMV to found it and find the total amount of it.

CONSEQUENCES	LIKELIHOOD				
	1 - Rare	2 - Unlikely	3 - Moderate	4 - Likely	5 - Certain
1 - Minor	1	2	3	4	5
2 - Moderate	2	4	6	8	10
3 - Serious	3	6	9	12	15
4 - Major	4	8	12	16	20
5 - Critical	5	10	15	20	25

Key Low risk Moderate risk Significant risk High risk

Figure 1: Probability-Impact matrix

4. Results and discussion

Now, we will mention and discuss the different important factors that we needed when evaluating risks in our project and how to deal with it, we will start with writing the possible risks in our project with their probability and impact and the resultant severity.

Table 1: Risk probability-impact-severity

No.	List of risks	Risk Probability	Risk Impact	Risk Severity
1	Specialists not able to come to Saudi Arabia	1	3	Low
2	The generators not synchronizing with the existing electrical power system	3	4	Significant
3	The site is not prepared for entering big equipment and cranes	2	4	Significant

4	Spare parts are not available in the market	4	5	High
5	Power interruption in the hotel due to testing work	3	2	Moderate

Now, we will mention the proposed ways to prevent and response to the risks in the beginning before their occurrence and how to deal with in case they materialized.

Table 2: Response and mitigation plans

No.	List of risks	Response plan	Mitigation plan
1	Specialists not able to come to Saudi Arabia	prepare and schedule their project earlier before 6 months to ensure their availability	Contact with the local company branch or another local contractor
2	The generators not synchronizing with the existing electrical power system	Checking the requirements with different system devices providers	Bring Schneider local team to modify and prepare their system
3	The site is not prepared for entering big equipment and the cranes	Checking the needed ways to enter the equipment and apply it	Prepare expected alternative ways to deal with the existing situation
4	Spare parts are not available in the market	Contact with the SDMO team to ask about the needed part earlier (about 6 months)	Search about the nearest providers in surrounding countries

5	Power interruption in the hotel facilities due to testing work	Ensure the readiness of hotel team and evacuation of elevators	Prepare standby generators from outside provider for critical loads
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Finally, we will mention the expected monetary value for the risks we have and how much contingency reserves we need to face these risks in case they happen, and these contingency reserves value will be added to the budget under project manager control to use when needed.

Table 3: Expected monetary value

No.	List of risks	Risk Probability (P)	Cost Impact (IC)	Risk Contingency (P*IC)
1	Specialists not able to come to Saudi Arabia	1 = 20%	70,000 \$	14,000 \$
2	The generators not synchronizing with the existing electrical power system	3 = 60%	30,000 \$	18,000 \$
3	The site is not prepared for entering big equipment and cranes	2 = 40%	5,000 \$	2,000 \$
4	Spare parts are not available in the market	4 = 80%	10,000 \$	8,000 \$
5	Power interruption in the hotel due to testing work	3 = 60%	1,000 \$	600 \$

Total EMV	116,000 \$	42,600 \$
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Now, after finishing all relevant needed information about the different project risks, we can see that in our project we have five expected risks with different probabilities and impacts, the risk number four about the availability of spare part in the market have the highest probability and impact which mean that it has a high severity in case it happen, therefore we have to put more fucose on this risk since it will affect the project significantly which may it lead to project failure, we can prepare for it by trying to contact the SDMO company team to search for the important needed parts to provide and ship it early also search about the proposed sellers and providers in the area and nearest countries.

Generally, preparing a full risk register for the project mean that the project team are ready to different risks and how to deal with it, preparing such a study will help in increasing the project success probability and achieving the required outcomes within the specific budget and time.

5. References

- [1] Widiанти U. Harihayati T. (2018) Risk project management analysis. ResearchGate.com
- [2] Wulpram I (2005) Construction project management. ResearcheGate.com
- [3] Gachie, W. (2017). Project risk management: A review of an institutional project life cycle. Risk Governance and Control: Financial Markets & Institutions
- [4] Ciutiene, R., Venckuviene, V., & Dadurki, G. (2016). The critical factors for project team collaboration in developing new products: qualitative perspective. Fifth International Scientific Conference on Project Management in the Baltic Countries