

Company Moving to New Building After Hurricane Maria

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Abstract — *The main objective of this project is to move the operations of Pratt & Whitney Puerto Rico to a new building facility in Aguadilla by the end of Q2. The company was supposed to move by 9/2017, but Puerto Rico suffered from the pass of two hurricanes that devastated the island. Because of hurricane Maria, the new building suffered considerable damage and the movement was postponed until further notice. By the beginning of 2018, the company hired a contractor to start the renovation effort and be able to move by the end of Q2, and between both parts discussed a possible schedule to ensure such outcome. Between completions and delays, the employees were able to move to the new facilities by the end of June 2018, and the building was 100% completed by mid-September, meeting expectations from the company upper management and their employees in general.*

Key Terms — *Delays; Manpower; Relocation; Schedule.*

INTRODUCTION

Since its conception in 2004, Infotech Aerospace Services (now Pratt & Whitney Puerto Rico) has consistently maintained a growing workforce, up to the point that in 2016 it was announced the acquisition of a new building facilities in Aguadilla to relocate their workforce due to lack of space in the current facilities.

After more than a year spent in remodeling the new facilities, the company was supposed to move their operations in September 2017, but by the beginning of the month hurricane Irma passed through the island, which caused a delay of two weeks to the original date. Then on September 20th hurricane Maria devastated the island, leaving the majority of residents without basic utilities services such as water, electricity and telecommunication services.

The new facilities suffered far more than imagined, given that they were newly remodeled. The roof was broken by the hurricane gusts and water leaked to the inside of the building, causing severe damage to the furniture and the overall equipment and wiring. Everything that was ready to receive employees was damaged. Because of this, all personnel were reporting back to work to the current facilities on the last week of October, after water, electricity and internet services were back up and running. In parallel, facilities and upper management were working with new plans for the relocation and how they were going to be executed. From this point forward, this is where this project starts.

Objectives

The objectives of this project are the following:

- Have the company moved their operations to the new building facility in Aguadilla by the end of Q2 2018.
- At least 10 conference rooms (50% of total) and 900 desks (75% of total) must be ready by the time of the relocation to accommodate current employee's needs.
- Parking facilities must be 100% functional by the time of the relocation.
- Building must be 100% finished by the end of Q3.
- Building must become cat 5 hurricane-proof.
- The project cost should not exceed \$5 million.

BACKGROUND

Performing research on the topic of the project, it was found that most companies end up relocating their operations to a new place mostly because of their growing business pace [1]-[2] or to avoid current location problems and shortage of space [3]. Site selection was an important part of the

relocation because it will have a direct impact on the current employees, so Pacific Mutual Life Insurance Company created a list of several parameters to be evaluated at the time of choosing the new site [3]. The criteria covered factors such as operating costs on new site, impact on employee's morale, quality of live in nearby communities, economic trends in immediate areas, and accessibility to new facility, between other parameters.

The human factor is another aspect discussed in detail when company relocation is on the works. In some communities, the civic leaders meet with the local government to lay out a plan that can benefit both groups, and sometimes training and retraining people from the same community so that the people living nearby could work in the newly relocated company [4]. Sometimes is not as easy as it seems because the own residents or the current employees can become the main obstacle. Moving a company away to the suburbs has been problematic because of disagreements with the company's executives or the community discomfort. Also, the disadvantage for current employees that are forced to relocate, or they couldn't find any advantage for themselves if they moved with the company.

ANALYSIS APPROACH

After the hurricane left the island, a lot of work had to be done to bring back the employees to work again. Because the priority was to have functional facilities, the company focused first on having as much employees supporting work as soon as possible. While some departments were working outside of the company facilities in Isabela, the facility and IT employees were focusing on bringing back to "normal" operations the Isabela buildings, thus the renovation efforts needed to be done in the Aguadilla facility was put on hold in the meantime. Nevertheless, an assessment was performed and there was severe damage to the interior of the facilities; the roof leakages flooded the building with almost one feet of water,

damaging all furniture, desks, wiring for electricity and internet (all wiring is mounted on the base of the desks modular walls). The HVAC unit and all ceiling acoustics had mold on it, the dry wall was damaged due to water deterioration and the kitchen lounge equipment was useless due to the flooding.

METHODOLOGY

To complete all tasks needed and have the new facility ready to receive the employees, the company asked for an estimate to the current contractor, but also asked another two contractors to see which one would propose the fastest solution, and with a determined budget. Critical Path Method (CPM) was used to analyze each proposal, focusing more on the deadlines of having the relocation by the end of Q2 and completing all tasks with a maximum of \$5 million. After analyzing all three of them, the current contractor won the contract because out of the three contractors, they agreed to have more than what was planned on the objectives by the end of Q2 and the overall cost would be \$4 million. The other two proposals were declined because one of the companies lacked enough manpower (due to employees leaving the island after the hurricane) and couldn't ensure to have the building ready to receive people by Q2. The third company agreed to complete all tasks on time, but because of the high demand and cost of construction materials, their proposal cost was up to \$4.6 million.

RESULTS

The starting and finish dates presented on Table 1 were discussed with the contractor to ensure accuracy and completion of the main objectives of the project. At the beginning of the project, due to some delays with signing the contract, work started one week late, and from that point forward most of the tasks started later than planned.

Table 1
Planned Dates on Key Project Tasks

Project tasks	Start Date	Finish Date
Roof repair	1/1/2018	5/28/2018
Damaged wall removal	1/1/2018	2/17/2018
Damaged wiring removal	1/1/2018	2/17/2018
Dry wall installation	2/27/2018	6/2/2018
Ceiling acoustics	4/6/2018	5/20/2018
IT wiring	2/27/2018	6/2/2018
Painting	4/3/2018	5/13/2018
Parking lot	3/1/2018	4/29/2018
Furniture installation	4/2/2018	5/12/2018
Cafeteria facilities	3/1/2018	8/28/2018
Office move	6/19/2018	6/30/2018

Table 2 shows that there were some delays with the individual key tasks of the project and some of them, like the painting of the building exterior and interior, took more time than planned and was finished after the employees moved the last week of June. The parking lot was finished more than one month later than planned because the light posts arrived much later than expected, but the overall task was finished before the moving, so the project was on track.

Table 2
Actual Dates on Key Project Tasks

Project tasks	Actual start	Actual finish
Roof repair	1/8/2018	6/13/2018
Damaged wall removal	1/8/2018	2/28/2018
Damaged wiring removal	1/8/2018	2/25/2018
Dry wall installation	3/3/2018	6/20/2018
Ceiling acoustics	4/6/2018	5/14/2018
IT wiring	3/3/2018	6/5/2018
Painting	4/17/2018	7/13/2018
Parking lot	3/1/2018	6/1/2018
Furniture installation	4/24/2018	6/16/2018
Cafeteria facilities	3/1/2018	8/10/2018
Office move	6/22/2018	6/29/2018

The contractor compensated for lost time on some tasks by adding more manpower to the tasks related to the objectives of the contract and was

able to have all desks and all conference rooms by the time of the relocation on the last week of June. The last deliverable was the cafeteria room, and it was finished more than two weeks in advance in comparison with the original end date.

CONCLUSIONS

Overall, the project was completed within schedule and budget assigned, and the final product was completed meeting the expectations of the company. As mentioned before, even though there were some hiccups along the way all tasks were completed satisfactorily, and the employees seems to like the new building facilities and how the final product looks like.

One important aspect to notice was how the contractor planned his manpower use around the different tasks. They were able to assign the necessary manpower to each task, and sometimes move people from one task to the other so that the overall project deadline would not be affected even though in the interim tasks, the planned finish dates were not met.

Having the necessary knowledge in project management is helpful in projects like this one because by understanding how each part of the process works, the manager will be able to foresee any possible issues and make the right decisions without affecting the final expected outcome.

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