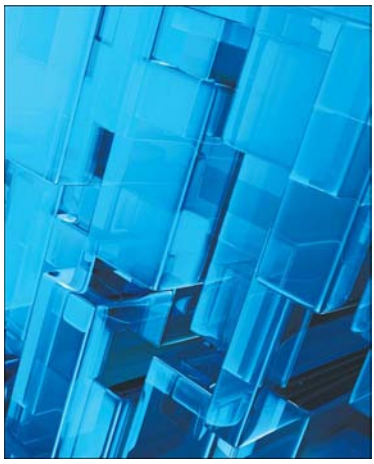


The Lyle Construction Project

At 6:00 P.M. on Thursday in late October 1998, Don Jung, an Atlay Company project manager (assigned to the Lyle contract) sat in his office thinking about the comments brought up during a meeting with his immediate superior earlier that afternoon. During that meeting Fred Franks, the supervisor of project managers, criticized Don for not promoting a cooperative attitude between him and the functional managers. Fred Franks had a high-level meeting with the vice presidents in charge of the various functional departments (i.e., engineering, construction, cost control, scheduling, and purchasing) earlier that day. One of these vice presidents, John Mabby (head of the purchasing department) had indicated that his department, according to his latest projections, would overrun their man-hour allocation by 6,000 hours. This fact had been relayed to Don by Bob Stewart (the project purchasing agent assigned to the Lyle Project) twice in the past, but Don had not seriously considered the request because some of the purchasing was now going to be done by the subcontractor at the job site (who had enough man-hours to cover this additional work). John Mabby complained that, even though the subcontractor was doing some of the purchasing in the field, his department still would overrun its man-hour allocation. He also indicated to Fred Franks that Don Jung had better do something about this man-hour problem now. At this point in the meeting, the vice president of engineering, Harold Mont, stated that he had experienced the same problem in that Don Jung seemed to ignore their requests for additional man-hours. Also at this meeting the various vice presidents indicated

that Don Jung had not been operating within the established standard company procedures. In an effort to make up for time lost due to initial delays that occurred in the process development stage of this project, Don and his project team had been getting the various functional people working on the contract to "cut corners" and in many cases to buck the standard operating procedures of their respective functional departments in an effort to save time. His actions and the actions of his project team were alienating the vice presidents in charge of the functional departments. During this meeting, Fred Franks received a good deal of criticism due to this fact. He was also told that Don Jung had better shape up, because it was the consensus opinion of these vice presidents that his method of operating might seriously hamper the project's ability to finish on time and within budget. It was very important that this job be completed in accordance with the Lyle requirements since they would be building two more similar plants within the next ten years. A good effort on this job could further enhance Atlay's chances for being awarded the next two jobs.

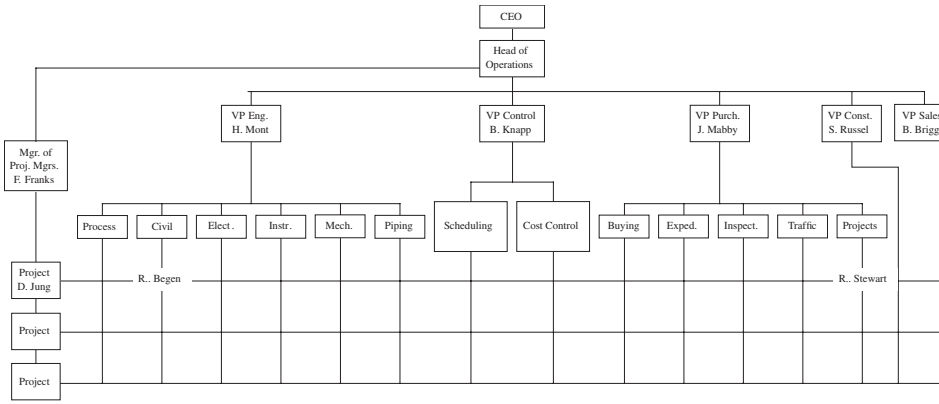
Fred Franks related these comments and a few of his own to Don Jung. Fred seriously questioned Don's ability to manage the project effectively and told him so. However, Fred was willing to allow Don to remain on the job if he would begin to operate in accordance with the various functional departments' standard operating procedures and if he would listen and be more attentive to the comments from the various functional departments and do his best to cooperate with them in the best interests of the company and the project itself.

INCEPTION OF THE LYLE PROJECT

In April of 1978, Bob Briggs, Atlay's vice president of sales, was notified by Lyle's vice president of operations (Fred Wilson) that Atlay had been awarded the $600 million contract to design, engineer, and construct a polypropylene plant in Louisiana. Bob Briggs immediately notified Atlay's president and other high-level officials in the organization (see Exhibit I). He then contacted Fred Franks in order to finalize the members of the project team. Briggs wanted George Fitz, who was involved in developing the initial proposal, to be the project manager. However, Fitz was in the hospital and would be essentially out of action for another three months. Atlay then had to scramble to appoint a project manager, since Lyle wanted to conduct a kickoff meeting in a week with all the principals present.

One of the persons most available for the position of project manager was Don Jung. Don had been with the company for about fifteen years. He had started with the company as a project engineer, and then was promoted to the position of manager of computer services. He was in charge of computer services for six months until he had a confrontation with Atlay's upper management regarding the

Exhibit I. Atlay and Company organization chart

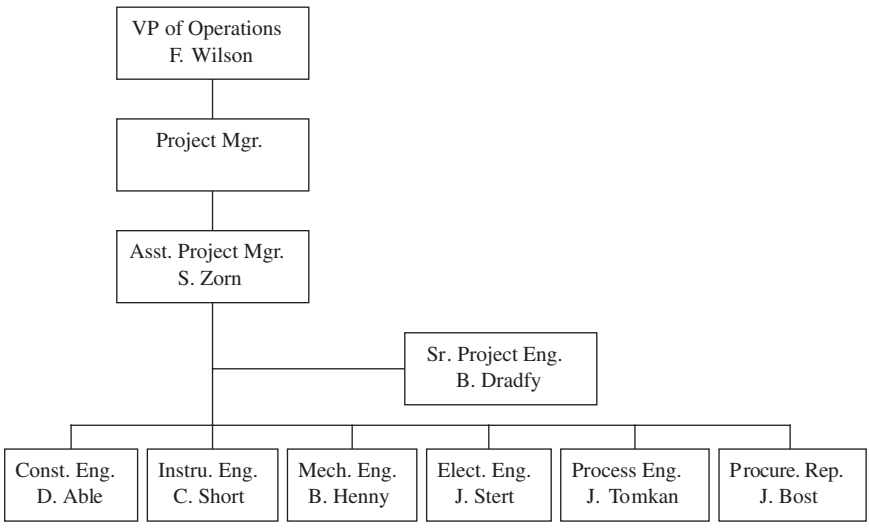


policies under which the computer department was operating. He had served the company in two other functions since—the most recent position, that of being a senior project engineer on a small project that was handled out of the Houston office. One big plus was the fact that Don knew Lyle's Fred Wilson personally since they belonged to many of the same community organizations. It was decided that Don Jung would be the project manager and John Neber (an experienced project engineer) would be assigned as the senior project engineer. The next week was spent advising Don Jung regarding the contents of the proposal and determining the rest of the members to be assigned to the project team.

A week later, Lyle's contingent arrived at Atlay's headquarters (see Exhibit II). Atlay was informed that Steve Zorn would be the assistant project manager on this job for Lyle. The position of project manager would be left vacant for the time being. The rest of Lyle's project team was then introduced. Lyle's project team consisted of individuals from various Lyle divisions around the country, including Texas, West Virginia, and Philadelphia. Many of the Lyle project team members had met each other for the first time only two weeks ago.

During this initial meeting, Fred Wilson emphasized that it was essential that this plant be completed on time since their competitor was also in the process of preparing to build a similar facility in the same general location. The first plant finished would most likely be the one that would establish control over the southwestern United States market for polypropylene material. Mr. Wilson felt that Lyle had a six-week head start over its competitor at the moment and would like

Exhibit II. Lyle project team organizational chart



to increase that difference, if at all possible. He then introduced Lyle's assistant project manager who completed the rest of the presentation.

At this initial meeting the design package was handed over to Atlay's Don Jung so that the process engineering stage of this project could begin. This package was, according to their inquiry letter, so complete that all material requirements for this job could be placed within three months after project award (since very little additional design work was required by Atlay on this project). Two weeks later, Don contacted the lead process engineer on the project, Raphael Begen. He wanted to get Raphael's opinion regarding the condition of the design package.

Begen: Don, I think you have been sold a bill of goods. This package is in bad shape.

Jung: What do you mean this package is in bad shape? Lyle told us that we would be able to have all the material on order within three months since this package was in such good shape.

Begen: Well in my opinion, it will take at least six weeks to straighten out the design package. Within three months from that point you will be able to have all the material on order.

Jung: What you are telling me then is that I am faced with a six-week schedule delay right off the bat due to the condition of the package.

Begen: Exactly.

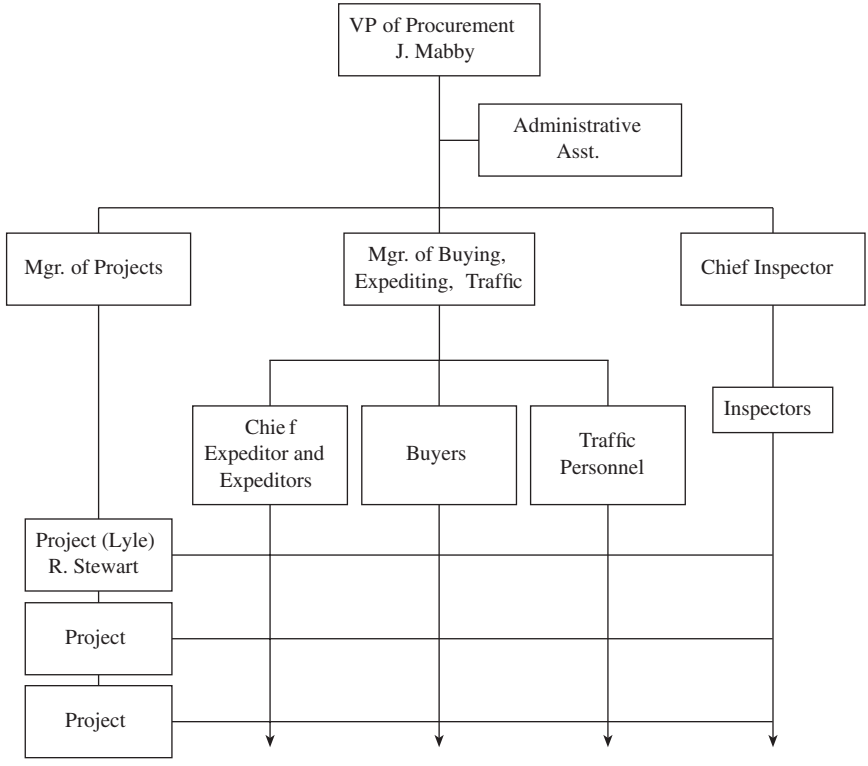
Don Jung went back to his office after his conversation with the lead process engineer. He thought about the status of his project. He felt that Begen was being overly pessimistic and that the package wasn't really all that bad. Besides, a month shouldn't be too hard to make up if the engineering section would do its work quicker than normal and if purchasing would cut down on the amount of time it takes to purchase materials and equipment needed for this plant.

CONDUCT OF THE PROJECT

The project began on a high note. Two months after contract award, Lyle sent in a contingent of their representatives. These representatives would be located at Atlay's headquarters for the next eight to ten months. Don Jung had arranged to have the Lyle offices set up on the other side of the building away from his project team. At first there were complaints from Lyle's assistant project manager regarding the physical distance that separated Lyle's project team and Atlay's project team. However, Don Jung assured him that there just wasn't any available space that was closer to the Atlay project team other than the one they were now occupying.

The Atlay project team operating within a matrix organizational structure plunged right into the project (see Exhibit III). They were made aware of the delay that was incurred at the onset of the job (due to the poor design package) by Don Jung. His instructions to them were to cut corners whenever doing so might result in time savings. They were also to suggest to members of the functional departments that were working on this project methods that could possibly result in quicker turnaround of the work required of them. The project team coerced the various engineering departments into operating outside of their normal procedures due to the special circumstances surrounding this job. For example, the civil engineering section prepared a special preliminary structural steel package, and the piping engineering section prepared preliminary piping packages so that the purchasing department could go out on inquiry immediately. Normally, the purchasing department would have to wait for formal take-offs from both of these departments before they could send out inquiries to potential vendors. Operating in

Exhibit III. Atlay Company procurement department organizational chart



this manner could result in some problems, however. For example, the purchasing department might arrange for discounts from the vendors based on the quantity of structural steel estimated during the preliminary take-off. After the formal take-off has been done by the civil engineering section (which would take about a month), they might find out that they underestimated the quantity of structural steel required on the project by 50 tons. This was damaging, because knowing that there was an additional 50 tons of structural steel might have aided the purchasing department in securing an additional discount of $.20 per pound (or $160,000 discount for 400 tons of steel).

In an effort to make up for lost time, the project team convinced the functional engineering departments to use catalog drawings or quotation information whenever they lacked engineering data on a particular piece of equipment. The engineering section leaders pointed out that this procedure could be very dangerous and could result in additional work and further delays to the project. If, for example, the dimensions for the scale model being built are based on this project on preliminary information without the benefit of having certified vendor drawings in house, then the scale for that section of the model might be off. When the certified data prints are later received and it is apparent that the dimensions are incorrect, that portion of the model might have to be rebuilt entirely. This would further delay the project. However, if the information does *not* change substantially, the company could save approximately a month in engineering time. Lyle was advised in regards to the risks and potential benefits involved when Atlay operates outside of their normal operating procedure. Steve Zorn informed Don Jung that Lyle was willing to take these risks in an effort to make up for lost time. The Atlay project team then proceeded accordingly.

The method that the project team was utilizing appeared to be working. It seemed as if the work was being accomplished at a much quicker rate than what was initially anticipated. The only snag in this operation occurred when Lyle had to review/approve something. Drawings, engineering requisitions, and purchase orders would sit in the Lyle area for about two weeks before Lyle personnel would review them. Half of the time these documents were returned two weeks later with a request for additional information or with changes noted by some of Lyle's engineers. Then the Atlay project team would have to review the comments/changes, incorporate them into the documents, and resubmit them to Lyle for review/approval. They would then sit for another week in that area before finally being reviewed and eventually returned to Atlay with final approval. It should be pointed out that the contract procedures stated that Lyle would have only five days to review/approve the various documents being submitted to it. Don Jung felt that part of the reason for this delay had to do with the fact that all the Lyle team members went back to their homes for the weekends. Their routine was to leave around 10:00 A.M. on Friday and return around 3:00 P.M. on the following Monday. Therefore, essentially two days of work by the Lyle project team

out of the week were lost. Don reminded Steve Zorn that according to the contract, Lyle was to return documents that needed approval within five days after receiving them. He also suggested that if the Lyle project team would work a full day on Monday and Friday, it would probably increase the speed at which documents were being returned. However, neither corrective action was undertaken by Lyle's assistant project manager, and the situation failed to improve. All the time the project team had saved by cutting corners was now being wasted, and further project delays seemed inevitable. In addition, other problems were being encountered during the interface process between the Lyle and Atlay project team members. It seems that the Lyle project team members (who were on temporary loan to Steve Zorn from various functional departments within the Lyle organization) were more concerned with producing a perfect end product. They did not seem to realize that their actions, as well as the actions of the Atlay project team, had a significant impact on this particular project. They did not seem to be aware of the fact that they were also constrained by time and cost, as well as performance. Instead, they had a very relaxed and informal operating procedure. Many of the changes made by Lyle were given to Atlay verbally. They explained to the Atlay project team members that written confirmation of the changes were unnecessary because "we are all working on the same team." Many significant changes in the project were made when a Lyle engineer was talking directly to an Atlay engineer. The Atlay engineer would then incorporate the changes into the drawings he was working on, and sometimes failed to inform his project engineer about the changes. Because of this informal way of operating, there were instances in which Lyle was dissatisfied with Atlay because changes were not being incorporated or were not made in strict accordance with their requests. Steve Zorn called Don Jung into his office to discuss this problem:

Steve: Don, I've received complaints from my personnel regarding your teams inability to follow through and incorporate Lyle's comments/changes accurately into the P & ID drawings.

Don: Steve, I think my staff has been doing a fairly good job of incorporating your team's comments/changes. You know the whole process would work a lot better, however, if you would send us a letter detailing each change. Sometimes my engineers are given two different instructions regarding the scope of the change recommended by your people. For example, one of your people will tell our process engineer to add a check valve to a specific process line and another would tell him that check valves are not required in that service.

Steve: Don, you know that if we documented everything that was discussed between our two project teams we would be buried in paperwork. Nothing would ever get accomplished. Now, if you get two different instructions from my project team, you should advise me accordingly so that I can resolve the discrepancy. I've decided that since we seem to have a communication problem regarding

engineering changes, I want to set up a weekly engineering meeting for every Thursday. These meetings should help to cut down on the misunderstandings, as well as keeping us advised of your progress in the engineering area of this contract without the need of a formal status report. I would like all members of your project staff present at these meetings.

Don: Will this meeting be in addition to our overall progress meetings that are held on Wednesdays?

Steve: Yes. We will now have two joint Atlay/Lyle meetings a week—one discussing overall progress on the job and one specifically aimed at engineering.

On the way back to his office Don thought about the request for an additional meeting. That meeting will be a waste of time, he thought, just as the Wednesday meeting currently is. It will just take away another day from the Lyle project team's available time for approving drawings, engineering, requisitions, and purchase orders. Now there are three days during the week where at least a good part of the day is taken up by meetings, in addition to a meeting with his project team on Mondays in order to freely discuss the progress and problems of the job without intervention by Lyle personnel. A good part of his project team's time, therefore, was now being spent preparing for and attending meetings during the course of the week. "Well," Don rationalized, "they are the client, and if they desire a meeting, then I have no alternative but to accommodate them."

JUNG'S CONFRONTATION

When Don returned to his desk he saw a message stating that John Mabby (vice-president of procurement) had called. Don returned his call and found out that John requested a meeting. A meeting was set up for the following day. At 9:00 A.M. the next day Don was in Mabby's office. Mabby was concerned about the unusual procedures that were being utilized on this project. It seems as though he had a rather lengthy discussion with Bob Stewart, the project purchasing agent assigned to the Lyle project. During the course of that conversation it became very apparent that this particular project was not operating within the normal procedures established for the purchasing department. This deviation from normal procedures was the result of instructions given by Don Jung to Bob Stewart. This upset John Mabby, since he felt that Don Jung should have discussed these deviations with him prior to his instructing Bob Stewart to proceed in this manner:

Mabby: Don, I understand that you advised my project purchasing agent to work around the procedures that I established for this department so that you could possibly save time on your project.

Jung: That's right, John. We ran into a little trouble early in the project and started running behind schedule, but by cutting corners here and there we've been able to make up some of the time.

Mabby: Well I wish you had contacted me first regarding this situation. I have to tell you, however, that if I had known about some of these actions I would never have allowed Bob Stewart to proceed. I've instructed Stewart that from now on he is to check with me prior to going against our standard operating procedure.

Jung: But John Stewart has been assigned to me for this project. Therefore, I feel that he should operate in accordance with my requests, whether they are within your procedures or not.

Mabby: That's not true. Stewart is in my department and works for me. I am the one who reviews him, approves the size of his raise, and decides if and when he gets a promotion. I have made that fact very clear to Stewart, and I hope I've made it very clear to you, also. In addition, I hear that Stewart has been predicting a 6,000 man-hour overrun for the purchasing department on your project. Why haven't you submitted an additional change request to the client?

Jung: Well, if what Stewart tells me is true the main reason that your department is short man-hours is because the project manager who was handling the initial proposal (George Fitz) underestimated your requirements by 7,000 man-hours. Therefore, from the very beginning you were short man-hours. Why should I be the one that goes to the client and tells him that we blew our estimate when I wasn't even involved in the proposal stage of this contract? Besides, we are taking away some of your duties on this job, and I personally feel that you won't even need those additional 6,000 man-hours.

Mabby: Well, I have to attend a meeting with your boss Fred Franks tomorrow, and I think I'll talk to him about these matters.

Jung: Go right ahead. I'm sure you'll find out that Fred stands behind me 100 percent.