General Information

SeaTech manufactures many kinds of small craft, including dinghies, canoes, kayaks, inflatable rafts, small sail boats (under 30 feet in length), and outboard ski boats. These boats have traditionally been made out of aluminum, wood and/or fiberglass, but recently SeaTech has led the way in developing newer hull materials.

One important characteristic of boat materials is protective coatings. Most people who own large boats (like the larger sail boats that SeaTech manufactures) choose to leave their boats moored in water year round, often in salt water. Boats moored in salt water accumulate undesirable algae and barnacle growth. Therefore, hull materials and hull paints which can retard salt water corrosion or 'fouling' would be very desirable to boat owners and would have an advantage in this marketplace.

SeaTech has been trying to improve the anti-fouling quality of the hulls of its larger boats by developing better hull materials. A few engineers at SeaTech have suggested that anti-fouling paints could be developed in addition to, or perhaps even instead of, anti-fouling materials. Anti fouling paints might prove to be cheaper and easier to develop than materials that are equally anti fouling. Furthermore, the paints could be sold to other boat and ship manufacturers that would open up another market for SeaTech.

Pat Peterson is one of SeaTech's senior engineers in materials development, which is an area within the research and development department. While trying to improve the anti-fouling properties of SeaTech's special fiberglass, Pat has come up with a crude formula for how to design an extremely effective anti-fouling paint. Pat wishes to pursue further research and development on this anti-fouling paint. In fact, Pat would like to make it a full-time project separate from the materials project on which Pat is currently working.

SeaTech's research and development department has a history of entrepreneurial spirit uncommon for other boat manufacturers. Senior engineers are sometimes allowed to work full time on pet projects. The most promising projects have even been funded and staffed before having demonstrated profit potential. It is the responsibility of the head of R&D to approve and to arrange funding for such new projects that are brought forth by senior engineers. In past projects, the senior engineer has been removed from some or (rarely) all other responsibilities to head up a small staff of junior engineers and assistants who work in a laboratory designated for the project.

Tracy Jacobsen heads up the R&D department. In addition to Pat Peterson, R&D has 6 other senior engineers, 20 junior engineers, 30 laboratory and drafting assistants, and 10 departmental staff assistants. Presently, funding is tighter than usual, and upper management is not enthusiastic about starting new projects based solely on an entrepreneurial whim unless they are confident that the projects can show profits relatively quickly.

Confidential Information for Pat Peterson (Role 1)

While working on new resin variants for fiberglass that have especially strong anti-fouling properties, you discovered a new, non-toxic chemical that repels most microscopic salt water sea life from anchoring on to the fiberglass. Unfortunately, this new chemical also slightly weakens the bonding qualities of the resin. Any fiberglass produced with it would be considered insufficiently strong for SeaTech hull materials. With further development, your team of engineers might be able to incorporate it into an even stronger fiberglass. You do not believe this is likely to happen within the next year, if at all.

However, you do believe that you could include this anti fouling chemical into paint, which could be inexpensively applied to almost any hull. Your research so far suggests that such a paint could be produced cheaply and outperform any anti-fouling hull paint on the market. But you need further testing and development to be sure. If you worked full time on this paint project, you could have a prototype paint developed and tested within six months. You estimate that the paint will have a 80% chance of working at that point in time. A couple of other engineers on your fiberglass team, such as Randy Quinn, are less optimistic.

Although you believe you have a great idea, you suspect that there could be political difficulties involved in getting this paint project off the ground. For one thing, SeaTech has never made its own hull coatings or paints of any kind. It has always bought coatings from outside suppliers. Thus, you worry that some people in upper management may consider 'paints' outside SeaTech's product strategy. Secondly, sale of this paint to wholesale boat parts suppliers might hurt the competitive advantage SeaTech now enjoys with its hulls. That is, SeaTech boats are already known to have the most effective anti-fouling hulls of any boats. Thus, if this paint makes it to other boat manufacturers, or even to boat owners who could paint their own hulls, other manufacturers' boats would have the same anti-fouling quality as SeaTech's. Thirdly, such an anti-fouling paint would make moot SeaTech's efforts at improving the anti-fouling qualities of its materials. Finally, because funding is short these days at SeaTech, you anticipate difficulty getting full financial and human resource support for research and development of this paint.

However, there is not sufficient data available for anybody to firmly conclude that development of this paint would hurt SeaTech. It could dramatically improve SeaTech's overall profits. More research is needed. Over the long run, it would be foolish for SeaTech to not at least investigate an accessible product with so much potential. Furthermore, in your eyes, the paint is more easily within their reach than present efforts to develop anti-fouling fiberglass. This is why you have approached your boss, Tracy Jacobsen, to negotiate your development of this paint.

Five issues concern you:

(1) TIME

You need your time freed up next month to oversee this paint project. Presently, you are committed to the new anti-fouling fiberglass project full time. However, you believe that other capable engineers could do your work. This issue is most important to you--if you can't work on the project, it will never fly because this is your idea and others don't understand it as well. Besides, you are excited by the challenge of developing your idea.

(2) FUNDING

Once you get the approval for the project, whether you work on it full time or not, you need funding to buy research supplies, developmental materials, and chemicals. SeaTech has a policy of starting new projects with at least a minimal "Entrepreneurial Grant" of $20,000. There is very little you could do with $20,000. These grants can be, and often are, increased way beyond the $20,000 starter. You estimate that over the next six months you could use up to, but not more than, $95,000. This issue is the second most important issue to you.

(3) HIRING AND TRAINING

As much as you think paint is the way to go, you do not want to leave your friends in the materials area in a lurch by abandoning them. A new junior engineer, Sara Jackson, has applied to work at SeaTech. She could take over many, if not all, of your duties in materials development depending upon how much time you spend working on the paint. In any case, you want her hired and you would like to spend a quarter of your time for the near future working with her and training her in materials (not paints). Tracy has always consulted senior engineers on the hiring of junior engineers, and thus it is perfectly normal for you to make this request. This issue is the third most important to you.

(4) STAFF

You need a staff to work on this project with you. Although you could do much of the development on your own, certain testing aspects would require at least one lab assistant. To really proceed rapidly and effectively with the paint development, you believe you could use four lab assistants and two junior engineers with whom to discuss ideas. This issue is second to least important to you because you could probably develop the paint with just one lab assistant, although this would be difficult and might delay development significantly.

(5) LAB ACCESS

This project would proceed much more smoothly if you could gain access to SeaTech's new high tech laboratory for chemicals and materials testing. Although there is much demand for time in this new laboratory from most areas within R&D, you feel your project deserves priority and should get at least 10 days per month in this lab. Fifteen days would be great but you couldn't use much more lab time than that. This issue is least important.

Your exact preferences are represented in the following table, which are quantified as “points” (the “pts” columns) associated with each term for each of the five issues.

TIME	*pts*	FUNDING	*pts*	HIRING / TRAINING	*pts*	STAFF	*pts*	LAB ACCESS	*pts*
75%	30	$95,000	25	Sara/25%	20	4 assts/ 2 engrs	15	15 days	10
65%	24	$80,000	20	Sara/20%	16	3 assts/ 2 engrs	12	13 days	8
55%	18	$65,000	15	Sara/10%	12	3 assts/ 1 engr	9	11 days	6
45%	12	$50,000	10	Other/10%	8	2 assts/ 1 engr	6	9 days	4
35%	6	$35,000	5	Sara/5%	4	2 assts/ 0 engr	3	7 days	2
25%	0	$20,000	0	Other/5%	0	1 asst/ 0 engr	0	5 days	0

A few notes on negotiating with your boss. Your boss prefers to negotiate all matters on new projects. Nevertheless, your boss does have the authority to unilaterally decide the outcome of your request. That is, Tracy can at any point tell you how much time, money, staff, and access to the lab you will get as well as decide whom to hire and how the new engineer will be trained. If Tracy does not unilaterally decide the outcome, but you don't like the final offer, you have two choices: 1) you may take the offer, or 2) you may walk away from the negotiation. Remember, though, because Tracy has the final say on what happens with the project, if you walk away from the negotiation Tracy might make the project decision without your input. It is up to Tracy. If Tracy doesn't unilaterally decide, leaving the negotiation at an impasse, the project will not happen.

If an impasse happens, your only alternative is to continue working in materials and drop the paint project altogether. SeaTech owns the patents, so you cannot take the anti-fouling formula to another firm. It does you no good to quit the firm for this. Fortunately, impasse is not that bad of an outcome given that you have enjoyed working in materials so much. To be exact, impasse is worth roughly 75% of getting everything you could want for your new project. In other words, the precise value of this alternative is worth the equivalent of 75 points in the scoring system. That is, if you reach an impasse (and where Tracy makes no unilateral decisions to go forward with the project) you receive a score of 75 points in this negotiation. Obviously, you do not want to accept any agreement that would yield you less than 75 points.

Your goal in this negotiation is to get everything you can to quickly and successfully develop this new anti-fouling paint. That is, in terms of the table above, your goal in this negotiation is to maximize the number of points across all issues (i.e., the sum across all issues, not necessarily the number of points on each issue). Achieving this goal is of great importance. It is your only goal because all other concerns are subsumed in the point system.