

MY TAKE ON WATERPOD

by Hendrik "Rik" van Hemmen

Partner, Martin, Ottaway, van Hemmen & Dolan, Inc.

Hendrik "Rik" van Hemmen is an aerospace and ocean engineer and a principal in Martin, Ottaway, van Hemmen & Dolan, Inc., a maritime consulting firm that has been in continuous operation in the port of New York since 1875. Mr. van Hemmen consults on maritime engineering and human factors issues to a wide variety of clients and has performed investigations in hundreds of human/technology interactions such as yacht design, ship crew size and workload, environmental management, novel technologies, the Exxon Valdez spill and the Staten Island ferry disaster.

GETTING THE CALL

Martin, Ottaway, van Hemmen & Dolan is a marine consulting firm that deals with engineering operational and financial issues in the maritime industry. The Firm has been in continuous operation since 1875 (One of the founders was a grand nephew of Robert Fulton) and it is known for assisting underwriters, owners, attorneys, shipbuilders, regulatory agencies and financial institutions when they suddenly find themselves in a situation where they have a need for deep knowledge and operational assistance in the maritime industry.

The marine industry is a very complex industry that spans huge expanses of history, distance, conflict, technology and cultures. It is the ability to deal with this complexity that is the core skill of the firm.

Our firm has worked for many years with the attorneys of Blank Rome, and in December of 2008 we were contacted by Richard Singleton of Blank Rome who asked if Martin & Ottaway would join them on a pro bono basis in supporting Waterpod since it appeared to be a marine project.

Martin & Ottaway supports quite a number of pro bono efforts ranging from community boat building, to historic vessel preservation, to engineering educational efforts, to international rule making. While the Waterpod project seemed to fit the type of project that would merit the firm's support, it also would be one additional commitment on a large plate of pro bono efforts.

Rich provided us with the original Waterpod proposal and our review did not leave us warm and fuzzy. In the simplest terms, it could be stated that, while there appeared to be an effort to create a self sustained artist community, the proposal failed by talking about installing a diesel generator. This resulted in our response that we did not think the project was sufficiently philosophically rigorous to spark our interest.

This was a true statement, but also a welcome reason to reject our involvement in yet another pro bono project. However, apparently the Waterpod originators were not sitting still and refined the concept and a later version of the proposal showed a much more ambitious project. This essentially removed our excuse to bow out and Martin & Ottaway was in, and off to the races.

The Waterpod project schedule was extremely aggressive. From our company's point of view this was seen as a challenge, but also a benefit. Our firm's specialty is short term high tempo projects and therefore we felt right at home. On the other hand there were literally hundreds of hurdles that had to be dealt with by the Waterpod team.

GETTING INVOLVED

In only a few weeks it became apparent that our task in the project was related to providing assistance with regard to maritime, regulatory and engineering approval issues to the project designers.

This would have been a complex task, but it became even more complex when New York City endorsed this project. The New York City endorsement was thrilling, but also an additional burden, since there are always two ways to engineer a project; the right way and the right way with official approval.

The latter is an order of magnitude more complex and required much more meeting, discussion and interaction with Mary, John, Derek, Myra and many more enthusiastic Waterpodders and other enthusiastic Waterpod supporters such as government officials and friends from as far away as California.

The actual steps from inception to our first tentative steps in allowing the public to experience the Waterpod are too many and too long to repeat in detail here. But most of all it needs to be mentioned that it was pure persistence by the Waterpod visionaries that made it possible. We, as engineering support, were

fortunate to see that we could provide advice and suggestions and know that somebody would use the advice and inch (or leap) the project forward.

The best part of the project (which to a large extent was driven by the ultra aggressive schedule) was the ability and willingness by all players to change horses mid stream without losing track of the project goals. As an example, we had people looking far and wide (including a long time California friend, Mark Acciani) for suitable and inexpensive windmills and we probably would have been able to secure a windmill eventually, but the schedule would not allow it and so it was decided to go with just solar panels. Just this one decision was a lesson. As engineers we worried about insufficient power, but in the experiment we discovered that, when the consumer is a Waterpodder, power use is much lower than the general assumptions that we as engineers live by. There were literally hundreds of such decisions that were made at very high speed, all of them with their own lesson.

GETTING THE MESSAGE

At Martin & Ottaway, I became the point man for the project. I am an engineer and have been interested and involved in sustainable development for most of my life. Sustainability on a global level is a new and strange concept, it is a radical change from the way we used to live and still all live today. Even for me, who has toyed with the concept for decades, it is difficult (and at this stage probably impossible) to fully live the concept on a personal level.

Still the issue will not go away, and to a large extent it is a worldwide training exercise. Thousands of years ago we learned to gather the harvest for the coming winter and the more harvest we could gather the better. As a life form we became pretty good at it, and those who did not learn, did not survive. Today we have to learn to manage the resources that Earth provides and learn that these resources are finite instead of believing that we always can find more.

This is a big change and for all of us who are busy doing our thing (learning, eating, raising families, working, playing, keeping peace, etc) this is a difficult change and distraction. In the simplest terms, we used to think that bigger is better (which makes sense, since a bigger barn filled with grain will more likely get you through the winter), but today we have to learn that more efficient is better and so we have to change our approach and learn to design a barn that is just big enough, knowing that we can depend on our world-wide interdependence to survive if our barn catches fire.

There are many areas where sustainability is starting to make headway. The engineering profession is slowly starting to focus on sustainability. For about one hundred years the engineering profession has had a special duty to the public at large in its code of ethics, but that did not include a professional duty to focus on sustainability in engineering projects. This issue is now being incorporated into engineering codes of ethics, but inclusion in a code is not the same as proper execution of a code. The proper execution is going to take at least another engineering generation. Once the majority of engineers start to understand the concept (and trust me, many engineers, despite knowing lots of things about science and technology, have difficulty "getting it"), engineers still need to get the approval and resources (money) from the public to be able to implement sustainability concepts, and this is where the rubber starts to hit the road.

Sustainability is not something you decide to do, it is something you have to learn to do and you have to learn it as a community. Engineers have to learn, the public has to learn and policy makers have to learn. Learning things like reading or writing is hard, but learning to change from "bigger is better" to "just the right size is better", is a deeply moral and emotional process akin to a religious conversion.

So how are religious and sustainability conversions achieved? This is probably humanity's most complex subject, but how about some of the following considerations?

- Conversion is achieved one soul at a time
- Conversion is achieved in an inclusive fashion rather than an exclusive fashion
- Conversion has to be non-threatening
- Conversion is by example
- Conversion is by experimentation
- Conversion is by showing a hopeful future
- Conversion is by persistence

And this is how Waterpod does its thing. It ties into this conversion process.

Waterpod is one soul at a time. As a semi-neutral bystander I am continually surprised at how every Waterpod visitor has a unique message they bring home. Some say: I didn't know you can live without a

flush toilet. Others say: This trash really has been put to good use. Still others say: These solar panels really fulfill all your needs? But regardless of the message, they all learn something. I know that Waterpod has touched thousands of individuals one by one and actually millions through the media.

Waterpod is incredibly inclusive, it went all through New York City. It never was more than a bicycle ride from any New York City citizen and everybody is welcome and everybody is invited to share or start their own experiment.

Waterpod is non-threatening; it's just a bunch of artists (in the best sense of the phrase). Waterpod is not something that is being sold by the government or a corporation.

Waterpod is showing a hopeful future. It shows we live in an environment that might have limited resources, but it also shows that through technology, inspired design, experimentation, cooperation and communication, living with limited resources is a joyful challenge that raises our awareness and humanity rather than limiting us. And anybody who visits Waterpod will only need a few minutes to realize this.

Waterpod shows persistence through the amazing effort by a few enthusiastic artists with a will to make a positive impact on the world.

But with the end of the original project in sight, the persistence part leaves me a little sad.

As an engineer, and as a member of the human race, I believe in incremental progress through trial and experimentation. Having been involved in this project for almost a year, without qualification, I can say that Waterpod truly succeeded. I have noticed so many things that worked wonderfully, I also noticed so many things that needed improvement, and so many things that could make Waterpod even more efficient and effective. And all of these things are measures of success, since they are all lessons.

But lessons are only useful if they can be applied, and this is where some measure of sadness creeps in.

Waterpod 2009 was only a small step for a few men and women, and we need to achieve a giant leap. That leap will be best achieved through persistence, and persistence means that experiments like Waterpod need to stand and build on lessons learned and applied, and not be scrapped at the coming of winter and assigned to the dustbin of noble experiments.

There is so much more that Waterpod can teach us, and we can only learn more if we can continue the experiment. Waterpod needs to become a continuous New York City mental conversion tool.

In next year's Waterpod we don't have to spend so much effort at designing moorings, because we have learned so much and can apply it with much less effort. That gives us the chance to focus on other things. Maybe in next year's Waterpod we'll be able to install so much generating power that we can send some back to the City. Maybe next year we'll be producing sufficient food for the whole summer. Maybe we can build a Waterpod that is winterized and allows year round sustainability. There is so much we can try and so much to learn.

Let's not make Apollo's mistake. Let's not go to the moon and leave, but instead let's go to the moon and do it better and better and with less and less.

I started this story with explaining Martin & Ottaway's love hate relationship with pro bono projects. In truth there are two types of pro bono projects, those that benefit the recipient, but do not benefit the giver and those that benefit the recipient, but also benefit the giver. Waterpod benefits the giver by a huge margin.

As one of the givers we are ready to try again next year, there is so much to learn. We hope that all the Waterpod players and supporters will also sign up again and that there will be even more supporters and players next year; there is too much to learn.