An Open Letter
To: Merit Energy, The Michigan Department of Environmental Quality, The Michigan Department of Natural Resources, The Anglers of the AuSable, Huron Pines Conservancy, and Michigan Trout Unlimited

Dear Sirs:

I have been following the Kolke Creek controversy and as an interested but certainly untrained observer, I have some thoughts. I am particularly interested because the course of the problem parallels some of the problems I have had in my career. My background is automotive engineering design. And the parallels will become more apparent if I explain a little history from that industry.

The automotive industry in the sixties was primarily a race between three large domestic companies. The public was mostly concerned with performance, luxury, and styling. People accepted the fact the there was always a few problems with automobiles and you just had to keep them serviced and get them fixed if they broke. Engineers did the best job they could on their individual parts and when the customers started to complain about something, it was fixed. Key word here is "customer." There was very little effort beyond sound engineering design, to try to predict individual failures and almost no effort to predict system failures. It was the customer – at the end of the process – that informed you there was a problem.

But two things came along that changed all that. The first was emission regulations. Automobiles were identified as a source of gaseous pollutants that contributed to photochemical smog. And while this problem was really only a problem in Los Angeles, it was surmised, and correctly so, that it would be a problem in any major city with large concentrations of automobiles. So emission laws were passed and the industry had to struggle on how to make cleaner cars. There was little engineers could do other than try their best to develop the technology to meet these standards. The time schedule and the system of monitoring customer complaints to see if you had a problem resulted in some very unhappy customers. Reliability and drivability suffered greatly. Then when fuel economy standards and fuel availability problems were added as a result of the Arab Oil Embargo, the whole house of cards came tumbling down.

If all this wasn't enough, here is the second big event. At that time, one company decided they had to have a better system. This company was a foreign manufacturer trying to tap into the lucrative American market. The systems they developed were focused on prediction of failure modes rather that fixing them after they were already out in the market. These systems were to become as commonplace in all automotive manufacturing as this companies vehicles are in the American landscape.

The most important thing that can be taken away from the preceding story is that the emphasis went from solving problems to predicting problems before they happened. The price of being competitive in today's market is that you must use this approach to prevent failures from ever reaching the public. This is exactly what **didn't** happen in the Kolke Creek saga.

So what are these magic tools that the automobile industry uses to achieve some of the highest reliability in some of the most complex systems known to man. The tools which are of particular interest to our problem at hand are: ISO 9000, Failure Modes and Effects Analysis (FMEA), and Analysis, Development, and Validation (ADV) Plans. These are structured tools specifically aimed at quality assurance. An explanation of each follows:

ISO 9000

ISO 9000 (also 9001, 9002, 9003, QS9000) is a procedure to, among other things, document all key processes of a business. These would include monitoring design and manufacturing processes to insure quality in the product, keeping formal and understandable records of all these processes, checking and monitoring these processes for defects, taking appropriate action to correct defects, documenting these defects and action items, and regularly reviewing the processes for effectiveness.

FMEA (Failure Modes and Effects Analysis)

FMEA is a structured procedure to identify the failure in a product which can cause them to fail to meet a customer requirement. The probability of incurring such a failure and the consequences of the failure are identified and prioritized. Priority here is a key word. Also a method, to evaluate the effectiveness of the control plan to prevent failures, should be present.

Analysis, Development, and Validation Plan (ADV)

This plan is a direct result of the output of the FMEA. Once a failure mode is identified and prioritized, a formal structure to analyse, develop, and validate a solution for the failure mode must be documented and used.

And just how would all this be implemented? Looking at the Kolke Creek situation, there are a number of individual companies and organizations that come into play. The most important, and those involved in the ongoing lawsuit, are Merit Energy, Th Michigan Department of Environmental Quality, The Michigan Department of Natural Resources, Trout Unlimited and The Anglers of the AuSable. In my opinion, there is no great Satan here. They are all good organizations trying to make the best of a situation that never should have existed in the first place. Individually they are:

Merit Oil

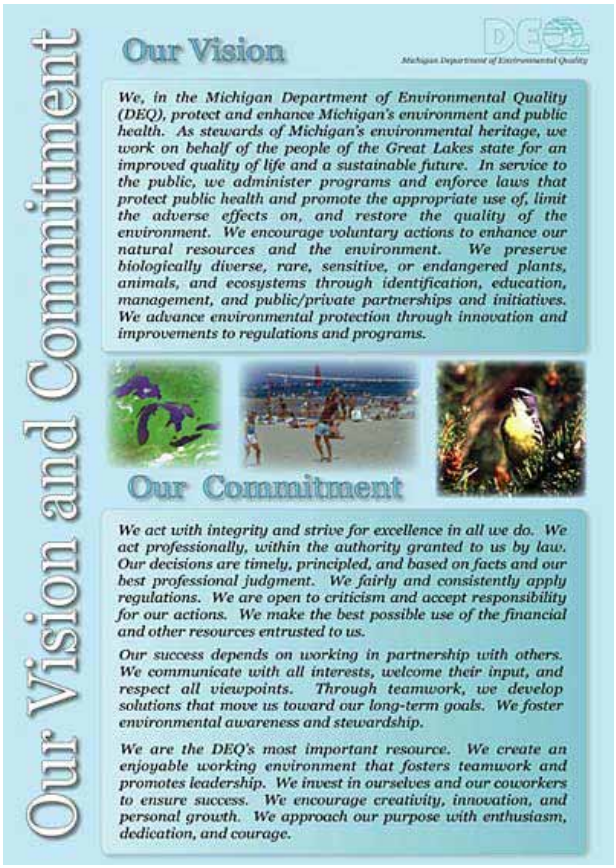
From their website, “Merit Energy Company is a private firm specializing in direct investments in mature oil and gas assets. Merit acquires, operates and develops producing oil and gas properties on behalf of reinvestment oriented limited partnerships. Throughout our sixteen year history our goal has remained the same: to provide attractive returns to our investors through cost effective management of low-risk energy

investments, while emphasizing preservation of capital.“ Merit is a very large company operating over 1100 wells nationally.

When we talk about companies such as Merit, we must remember, they are there because we want them there – yes we – the people. Every time we go out to our cars and turn the key, we expect companies like Merit to ensure that there is an uninterruptible source of quality fuel available to us at a reasonable price. As secondary concerns, we would prefer that it be a domestic source because we do no want to be held captive by foreign governments and we would prefer that it be environmentally friendly. As of late, we may even prefer that it produces no greenhouse gasses but this is a political issue that I won't address here.

Notice that the mission statement of Merit matches our first and primary desires for energy. Most of us, that is. So Merit is only doing what we ask. Although nobody at Merit would get up in the morning and say to themselves, "I am going to work today and intentionally pollute two major river systems," you must notice" being the most environmentally friendly company in the world" is not in their mission statement. This is not to infer that they don't make every effort they can. It just means that, like us, it is not in their primary mission. And this is not meant to infer Merit caused the original Hays 22 spill. They are, however, responsible for it through their own choice.

Michigan Department of Environmental Quality



Left is from the DEQ website. The vision and commitment statement pledges to enforce laws to ensure environmental quality. It also stresses partnerships and teamwork. I am sure DEQ works towards all these goals. And I am sure no one in DEQ would ever intentionally and maliciously play party to destruction of any of the environment. And yet they are involved in a lawsuit that hints that they, intentionally or not, may have done just that.

So if you are at the DEQ, and comes now Merit oil with a problem. Seems they are responsible for a little problem. There is an intrusion of BTEX into the underground aquifer creating a plume of contamination almost a mile long moving rapidly towards the Manistee River. Merit applies for a permit to use air strippers (already in use on other polluted sites with success) and drain the "cleaned" water into the closest creek. DEQ faced with an environmental

catastrophe, okays the permit and applies to the DNR (or Merit applies) for a permit to cross state land with the pipeline. Although some people outside DEQ were consulted and approved, not all did. Some of the non-consulted and un-approving parties took exception to dumping a million gallons a day of "treated" into the headwaters of one of the most unique ecosystems in the country. Now the case is into very expensive lawsuits and will be decided by a judge who knows next to nothing about the subject at hand. I am sure none of this was intentional by DEQ.

The Michigan DNR.

The Michigan DNR is not directly responsible for environmental issues concerning Michigan's inland waterways. I find this beyond strange. Interestingly, because of their particular intimacy with these waterways with local offices throughout the state, one would assume they would be the first stop for any department investigating environmental impact. Apparently the DNR or at least the local DNR office was not informed of the Kolke Creek situation until the permit for the pipeline was started. One has to ask themselves why these two departments are even separate.

The Anglers of the AuSable

From their website, "The Mission of the Anglers of the Au Sable is: To preserve, protect and enhance the Au Sable River System for future generations of fly fishers. The Anglers of the Au Sable are a 600-member strong, 501(c)(3) environmental conservation organization founded in Grayling, Michigan on January 18, 1987. "

Notice here that protection of the environment is the *only* thing in their mission statement. So when faced with the proposition that a million gallons a day of water previously laden with BTEX was going to be dumped into a headwater tributary of the AuSable system, and not feeling as though they were consulted let alone approved of the plan, the Anglers, by their own mission statement simply had no choice but to intervene by the only avenue left to them. They were doing exactly what their charter and their membership expected them to do. How could anyone have possibly expected any other response?

So here we are, exactly as was the automobile industry in the 1070's, reacting to a problem rather than anticipating it. One can say the problem already existed and this was simply in response to a problem. But the remediation of a problem can also be a problem unto itself. Case in point, Kolke Creek. How could this differ if we applied those techniques used by the automobile industry in the 80's and 90's? Well:

If the drilling contract or permit issued to an energy recovery company contained requirements for the company be ISO 9000 compliant and the procedures for energy recovery on public holdings be a matter of public record,

and

if FMEA's were required for each site and the team doing the FMEA was a multidisciplined team with full representatives of **all government and enviromental bodies** on board to ensure enviromental concerns were addresses and remedied,

and

if the ADV meetings were public record and had permanant representatives for enviromental concerns,

we just might get a process which would permit energy recovery while ensuring the highest possible protection of the environment.

What if Merit, DEQ, DNR, Anglers of the AuSable, TU and others had been part of a Failure Modes and Effects Analysis from the get-go? I doubt seriously if we would be in a court battle now. **The above is only my opinion.** I do not profess to speak for anyone except myself. All the facts may not be exactly correct and some of these procedures may already be in place in some of the organizations. But it is obvious they were not used.

Bob Bolton