

Subject: Public Comment - Jt. Select Committee on the Flint Water Public Health Emergency
March 22nd, 2016

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Ethics & Engineering

I'd like to start by talking to you about ethics.

*I can't think of a job or a career where the understanding of ethics
is more important than engineering.*

Who designed the artificial aortic heart valve?

An engineer did that.

And who designed the gas chambers at Auschwitz?

An engineer did that, too.

*One man was responsible for helping save tens of thousands of lives,
another man helped kill millions.*

*Now, I don't know what any of you are gonna end up doing in your lives,
but I can guarantee you that there will come a day
where you have a decision to make,
and it won't be as easy as deciding between a heart valve and a gas chamber.*

*Everything we do in this classroom
ultimately comes back to that notion. All right?*

Those are the words of Dr. Robert Kearns, addressing a class of electrical engineering students, in the movie 'Flash of Genius'. Ya'll know who Dr. Kearns is right? A Detroit, and inventor of the intermittent windshield wiper, who had his invention stolen by Corporate America, i.e., Governor Snyder's good friend Bill Ford, Jr.'s company ...FORD. For those of you who think government should be run like a business ...is that something you want them to do? Steal from the people.

What does this have to do with the Flint LEAD Water Crisis?

Well ...the 'root cause' of the Flint Disaster is...lack of ethics ...especially, lack of '*ethics and engineering*'.

How does Michigan go from having the biggest, *and best*, REGIONAL water and wastewater system in the world (DWSD), supplying Flint with the cleanest drinking water in the world, to poisoning an entire city with lead and, becoming an **International Disgrace**, in 40 years?

How? Lack of ethics ...and lack of engineering.

Fifty years ago, it was determined by the leaders of Flint that the Flint River was NOT a viable source of drinking water for the city. A 'county' plan (similar to the KWA) to bring water to Flint from Lake Huron was stopped due to 'bribery and corruption' on the part of the Genesee County Drain Commissioner...imagine that. Flint turned to the Detroit Water Services (now DWSD) and it's Chief Engineer Gerald Remus. Remus was an engineer 'if there ever was one', holding Professional Engineering licenses in *both* mechanical and electrical engineering. His integrity was impeccable ...and he was *incorruptible*.

What transpired was the construction of the Port Huron Water Intake Tunnel five miles out into Lake Huron in 1969, and a 70 mile-long pipeline to supply Flint with the cleanest drinking water on the planet. Water so clean ...they made it 'dirtier' (more turbid) by treating it.

In the early '80's, Flint was undertaking *major* infrastructure repairs, upgrades, and replacements, of it's water and wastewater systems. As a young 'engineer' working on a large tunneling project, my boss, and later, friend and business partner, was the Engineer Fred Breau. Fred was the engineer responsible for construction of the Port Huron Water Intake Tunnel. At the time, this was an 'engineering feat', as they set a world record for machine driven, hard rock tunneling. Fred was an 'engineer if there ever was one' ...and a man of impeccable integrity. Incorruptible.

'It's not always the last thing you ate that made you sick.'

The 'root cause' of the Flint disaster goes back to the 'root cause' of the DWSD Disaster. In 1974, the Detroit City Charter was changed removing the requirement that the Director (then called, Chief Engineer) of DWSD be a tenured, civil servant, AND a Professional Engineer (P.E.). A Professional Engineer swears an oath on his professional license to protect the health and well being of the public. As a tenured civil servant, he was immune from political interference. Former US Senator Carl Levin presided as Detroit City Council President during this 'change'.

The 'change' meant the Director was now a political appointee (read 'lackey') of the Mayor. It was all 'down hill', and quickly, from there, as this opened the door to incompetence, corruption, and pollution.

The Federal EPA has been telling Michigan they have a problem with the REGIONAL Water Authority (DWSD) supplying Flint since Governor Snyder was 18 years old (1976).

In 1976, the EPA sued DWSD for pollution violations and DWSD came under the federal oversight of Judges Feikens and Cox ...for 37 YEARS!

Why was the Federal Oversight of DWSD not resolved by the State Legislators and Governors (Milliken-Blanchard-Engler-Granholm-Snyder), a long, long, time ago?

Perhaps in the future, like now, federal oversight issues need to become priority number one for the governor and legislators?

What role could have, and should have, the US Congress played in resolving the issue when the State Legislators, Governors, and Federal Judges failed?

Many of MI's US Congressmen and women have been in Washington during this time period ...some of them ...for the entire time period! *Why didn't they DO something?*

Dumb and dangerous.

This is the latest of Governor Snyder's *mantras*, inserted in his 'computer chip' by Prof Marc Edwards. They are referring to the EPA's Lead & Copper Rule. I refer to something else.

What happened in Flint ...and who let it happen ...is obvious.

The switch from a 50 year supply of treated water to using an untreated 'Drainage Ditch' by the EM ...was **DUMB**.

The hiring of an 'electrician who installs solar panels', Howard Croft, by the EM, to be Director of the Flint Water Works and be responsible to 'treat' (or in this case - not) that untreated water was **DANGEROUS** ...and should be illegal.

Any, any Professional Engineer, with water treatment experience, would a) never have allowed such a switch to occur and b) would have known of, and required, the use of corrosion protection if such a switch needed to be done.

As the EPA Director Gina McCarthy stated in her testimony in Washington last week:

"Who could have ever suspected that a State would switch from a treated source of water ,,to an untreated source ...and then ...not treat it!"

So, given where we are now, what is the best possible REGIONAL solution for Flint, DWSD, GLWA & KWA moving forward?

Where we once had one REGIONAL Water Authority supplying S.E. Michigan ...we now have three ...DWSD, GLWA and KWA. This is not ...the Holy Trinity (3 in 1)but it could be.

There needs to be complete, total, and transparent, **ENGINEERING** review of the possible options moving forward and we need to put the ENGINEERS back in charge of water and waste water treatment ...and leave the politics out of it!

Pressing on, with unwavering faith,

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Former DWSD Head Engineer Weighs in on Changes Ordered by Judge Cox1 message

Jim Casha <jim.casha@gmail.com>
To: Jim Casha <jim.casha@gmail.com>

Sat, Mar 5, 2016 at 3:00 PM

Wednesday, November 9, 2011**Former DWSD Head Engineer Weighs in on Changes Ordered by Judge Cox**

Former Head Water Systems Engineer, Dennis L. Green, P.E., who retired from DWSD in 2009 after more than 40 years of service, recently weighed in on the recent changes ordered by Judge Cox in a Letter to the Editor published by the Detroit Free Press published (here) on November 8, 2011:

U.S. District Judge Sean Cox's call for structural changes in the Detroit Water Department ("Judge Sean Cox's ruling" Nov. 5) came on the heels of the disbanding of the DWSD Engineering Division. It's no coincidence that the decades of struggle with EPA compliance similarly began on the heels of another event involving Engineering.

In 1975, a new Detroit City Charter replaced the tenured chief engineer with a director serving at the pleasure of the mayor and removed the requirement for a Professional Engineer (PE) license.

With civil service tenure's protection from arbitrary dismissal, the chief engineer could take his objections regarding any ill-conceived policy of the mayor or Board of Water Commissioners to the public without fear of reprisal. A PE license requires an oath to protect the public health and safety, but serving at the pleasure of the mayor, an unlicensed director's loyalty is to the administration before the public.

Prior to 1975, DWSD had a worldwide reputation for its engineering and operational success, and its professionals dominated the committees writing the industry's standards. Then, without the check and balance between public safety concerns represented by a licensed engineer and the politics of the Board of Water Commissioners, it took only two years for the politicians to wreck the nation's most respected water system, provoking acrimony with its customers and the EPA.

U.S. District Judge John Feikens' oversight of DWSD was an abject failure. The billing squabbles between DWSD and its suburban customers festered for years. They eventually ended not because of the negotiating skills of his approved politicians and consultants, but as a result of an in-house engineering breakthrough that restored integrity to the billing process.

After years of failure by outside consultants, the Archer administration listened to me, my staff and people doing the actual work. Just like creating a credible water bill, creating a functional, efficient and maintainable treatment plant also begins as an engineering problem that can't be solved by imposing capricious court-ordered deadlines on politicians who won't or can't comprehend the problem.

If Judge Cox and Mayor Dave Bing want a working sewage treatment plant, they need to do what the proposed and existing charters fail to do: demand a director with a PE license, and make sure that director has sufficient political independence to do the job.



Jim Casha <jim.casha@gmail.com>

Former Head Engineer Weighs in on DWSD Restructuring Plan

1 message

Jim Casha <jim.casha@gmail.com>
To: Jim Casha <jim.casha@gmail.com>

Sat, Mar 5, 2016 at 2:57 PM

Friday, August 17, 2012**Former Head Engineer Weighs in on DWSD Restructuring Plan**

As he did following Judge Cox's rulings last November (here), Former Head Water Systems Engineer, Dennis L. Green, P.E., recently weighed in on DWSD's plans to dramatically downsize its staff size. Mr. Green, who retired from DWSD in 2009, wrote a Letter to the Editor published by the Detroit Free Press (here) on August 16, 2012:

During my 41 years with Detroit Water and Sewerage Department Engineering, I had some contact with EMA consultants. While one of the better consultants technically speaking, I question the choice of an organization having limited experience and ties to the area for planning the future of the DWSD.

Like most consultants I dealt with during my tenure, they are salesmen first, businessmen seeking profits second, and engineers last. Nearly all consultants I dealt with stick to the conventional wisdom, because it avoids the risk of error from their limited and superficial knowledge of the client.

Editorial Page Editor Stephen Henderson's Aug. 9 tirade ("Intolerable waste in the Water Dept.") says he has taken their report as gospel. Atlanta tried massive outsourcing of its water operations, and it led to a collapse of service, requiring a costly reconstruction of its department. Are we about to repeat the proverbial unlearned lesson of history?

The proposed solutions I'm hearing are platitudinous clichés once you get past correcting the obvious outrageous practices. Outsourcing is just another way, and an inefficient way, of turning DWSD into a for-profit operation by divvying it out piecemeal on short-term leases as service contracts, yet we are told to believe that adding profit mark-ups and the administrative costs of bidding and administering outsourcing contracts reduce the total cost.

The staggering overhead of contracting is invisible if city workers are not unshackled from the city's own stupid rules and allowed to compete. For example, my unionized staff saved DWSD more than a million dollars over the consultant's proposal for designing the wholesale water metering system contract, even doing it on overtime at time-and-a-half so as not to interfere with our regular duties, but I'll bet my pension that is not in EMA's report, because they probably told the client what they thought it wanted to hear. The anti-union rhetoric declared the verdict before the trial.

Dennis L. Green, P.E.