ACCURATE DATA,
CAREFUL REPORTING,
AND GOOD DECISIONS

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Introduction

• It is not surprising that these three topics, Accurate Data, Careful Reporting, and Good Decisions are grouped together.

• Without accurate data you can not have careful reporting or make good decisions.

• In order to make good decisions you need to have accurate data and understand what that data is telling you.

• One of the biggest keys to careful reporting is communication. Why do we need the data? What are the results of the data? What does all of this mean? How does it effect the company, the product, the end user?
What is accurate data?

“In general, accuracy refers to freedom from error (correctness), or closeness to truth or fact, resulting from exercise of painstaking care, or due diligence. Accuracy depends on how the data is collected, and is usually judged by comparing several measurements from the same or different sources.”
ACCURATE DATA PREVENTS US FROM ASKING THE QUESTION.

HOW DID THAT HAPPEN?
Now that we know what accurate data is lets see how we can apply it...

The quality of data has many dimensions. These include accuracy, timeliness, completeness, and relevance, easily understood by the end user and trusted by the end user.

When we go to work we hold ourselves to a certain level of expectations. We know what our job is and what it requires, like following standard operating procedures (SOP’s), Maine Drinking Water Program rules, and AWWA guidelines, relying on institutional knowledge within the company, as well as outside expertise.
More and more we are able to rely on high tech equipment which measures and gives us the most accurate data.

However, accurate data is dependent on the efficiency of the equipment (calibration), as well as how knowledgeable the person is in the process of what they are doing. (using and understanding data)

This is all well and good when we are in control of what we are doing from start to finish.

However, this is not the case when it comes to Lead and Copper.
It is important to gather accurate data and to insure the data is as complete as possible.

If you gather data yourself it is Primary Data.

We collect primary data everyday like Ph, NTU’s, Cl2, Alkalinity. This data gives us the information that we need to make adjustments to the water we are producing everyday. This information is instant, we test our water every 2 hrs so that we know what is going on all the time.
It is important to gather accurate data and to insure the data is complete as possible.

If you gather data yourself it is Primary Data.

If you use data collected by others it is Secondary Data.

This data may have errors?
In Lead and Copper sampling we are relying on the customer to provide us with an accurate sample of water so that we can best determine a course of action, if any need to be taken. Did they take the sample properly, did it sit on the porch in the sun waiting to be picked up, was it transported timely and properly to the lab.

It is up to us to explain the importance, the relevance, the timeliness, and the necessity of what they are doing, so that we can be confident in the data that we receive.

Follow up is crucial, especially as we start receiving testing results.
WE DO NOT WANT TO BE Labeled...
RESULTS

• WHAT DO THE RESULTS TELL US ABOUT SOURCE WATER, TREATED WATER, AND THE DISTRIBUTION SYSTEM?

• ARE WE DOING WHAT NEEDS TO BE DONE TO MITIGATE THE CORROSIVENESS OF THE WATER?

• ARE WE PROVIDING AN ACCURATE BARRIER WITH OUR CORROSION CONTROL?

• IS THAT INFORMATION BEING SHARED AND DOES THE PUBLIC KNOW WHAT THEY NEED OR CAN DO IN ORDER TO HELP PREVENT ANY ISSUES OR ILL EFFECTS?
CAREFUL REPORTING STARTS WITH COMMUNICATION

Any time that we change something in our chemistry we are communicating with the state, running pilot studies, consulting with engineers, and deciding will it work, and what are the pros and cons.

Any time we are working with the public, we are taking samples, explaining what, why, and how, sharing results.

Anytime we are sending in our reports we are double and triple checking the numbers that we enter. Making sure that the numbers are meaningful and accurate.
PAST, PRESENT AND FUTURE

What does it mean?

What are we doing?

Where are we going?
In the past there was not a lot of involvement. Most of what we had was in books and paper records and there was just reporting to the state.
Presently we have open communication with the state, actively try to communicate with customers, utilize technology like WIMMs to collect, organize, and structure data so that it is effective and useful, and to reach out with social media, news letters, and notices to educate and inform the public. We currently put out two news letters a year, one in the summer and one in the winter. And we have even started an outreach program to educate children, coordinating with the local school districts during the time of year that they discuss the water cycle.
FUTURE

Where are we going in the future? I think there is going to be a need for customer involvement to continue to grow. It seems like the only time that we care about something is if it effects us in a negative way. As an industry we have done such a good job that many don’t think twice about using the water that comes out of the tap and often do not realize the work that goes into getting it there. I think there will be a need for educating and involving the customer in caring about everything that goes into making great water, and continuing to erase the fears, doubts, or concerns that a few may have. Promoting a more shared personal responsibility and accountability with our customers and continuing to worker even closer with the public.
The customer needs to know that we are there for them and that they can rely on us.
GOOD DECISION MAKING

Good decisions are usually the result of consultation
GOOD DECISION MAKING STARTS WITH THE HIRING PROCESS

How many of you are familiar with the Professional Code of Ethic for Water System Operators?
• THE WATER SYSTEM OPERATOR SHALL, AT ALL TIMES, RECOGNIZE HIS, OR HER PRIMARY OBLIGATION IS TO PROTECT THE SAFETY, HEALTH AND WELFARE OF THE PUBLIC IN THE PERFORMANCE OF HIS, OR HER DUTIES. IF HIS, OR HER JUDGEMENT IS OVERRULED UNDER CIRCUMSTANCES WHERE SAFETY, HEALTH AND WELFARE OF THE PUBLIC ARE ENDANGERED, HE OR SHE SHALL INFORM HIS, OR HER EMPLOYER OF THE POSSIBLE CONSEQUENCES AND NOTIFY OTHER PROPER AUTHORITIES OF THE SITUATION, AS MAY BE APPROPRIATE.
THE WATER SYSTEM OPERATOR SHALL ACCEPT AND PERFORM WATER OPERATION ASSIGNMENTS ONLY WHEN QUALIFIED BY EDUCATION, OR EXPERIENCE, IN THE SPECIFIC TECHNICAL AREA AND LEVELS OF WATER OPERATION INVOLVED. THE WATER SYSTEM OPERATOR MAY ACCEPT AN ASSIGNMENT REQUIRING EDUCATION, OR EXPERIENCE OUTSIDE HIS OR HER OWN FIELD OF COMPETENCE, BUT ONLY UNDER THE DIRECT SUPERVISION OF LICENSED, QUALIFIED CO-WORKER, CONSULTANTS, OR EMPLOYEES.
• THE WATER SYSTEM OPERATOR SHALL BE COMPLETELY OBJECTIVE AND TRUTHFUL IN ALL PROFESSIONAL REPORTS, STATEMENTS, AND TESTIMONY. HE, OR SHE, SHALL INCLUDE ALL RELEVANT AND PERTINENT INFORMATION IN SUCH REPORTS, STATEMENTS, OR TESTIMONY.
• ANYONE CAN LEARN TO DO THIS JOB
• BUT THE PEOPLE WE LOOK FOR NEED TO HAVE DESIRE TO MAKE THING BETTER
• TO STRIVE FOR CONSTANT IMPROVEMENT
• HAVE CHARACTER TRAITS LIKE HONESTY AND INTEGRITY
• THE DESIRE TO DO THE RIGHT THING, HAVE A CONSCIENCE
LET'S TAKE A LOOK AT THE KEYS TO MAKING A GOOD DECISION

✓ Identify the objectives or outcome you want to achieve.
✓ Do your homework. Gather as many facts and as much information you can to assess your options.
✓ Brainstorm and come up with several possible choices. Determine if the options are compatible with your values, interests and abilities.
✓ Weigh the probabilities or possible outcomes. In other words, what's the worst that can happen? What will happen if I do A, B or C and can I live with the consequences?
✓ Make a list of the pros and cons. Prioritize which considerations are very important to you, and which are less so. Sometimes when you match the pros against the cons you may find them dramatically lopsided.
✓ Solicit opinions and obtain feedback from those you trust or have had a similar situation to contend with. There may be some aspects you haven't thought about.
✓ Make the decision and monitor your results. Make sure you obtain the desired outcome.
WHAT MAKES THE DIFFERENCE BETWEEN GOOD DECISIONS AND BAD DECISIONS?

**Good Decisions may be defined as:**
- BASED ON LOGIC
- CONSIDERED ALL POSSIBLE DECISIONS ALTERNATIVES,
- EXAMINED ALL AVAILABLE INFORMATION ABOUT FUTURE AND,
- APPLIED DECISION MODELING APPROACH

**Bad decisions may be defined as:**
- Not based on logic
- Did not use all available information
- Did not consider all alternatives, and
- Did not employ appropriate decision modeling techniques.
SUMMARY

The customer is our boss along with state primacy regulators and EPA. They are a crucial piece of the triangle for water quality and need to be educated.

It is only through interaction and communication with the public that we will be able to obtain the accurate data we need, especially when it comes to lead and copper, so that we will be capable of making good decisions for the future.

All of these topics together, Accurate Data, Careful Reporting, and Good Decision Making give the customer confidence in us, in what we do, and in the water that we produce.
Dogbert Consults

You need a dashboard application to track your key metrics.

That way you'll have more data to ignore when you make your decisions based on company politics.

Will the data be accurate?

Okay, let's pretend that matters.