

▣ PAAWWA ANNUAL CONFERENCE

▣ HERSHEY CONVENTION CENTER

▣ APRIL 23, 2015

▣ DENNIS C. BECK

SUSTAINABILITY

NEW THREATS

OLD THREATS

AND SOME WE CANNOT

EVEN PRONOUNCE

**THIS CLASS WILL INCREASE OUR
AWARENESS TO THREATS TO
OUR SYSTEM OPERATIONS AND
WATER QUALITY**

▣ IS YOUR VULNERABILITY ASSESSMENT UP TO DATE??

▣ IS YOUR EMERGENCY RESPONSE PLAN UP TO DATE?

▣ WE WILL LOOK AT THOSE QUESTIONS THIS MORNING...

**ARE YOU SUSTAINABLE IN THIS
TIME OF NATURAL AND MAN-
MADE DISASTERS?**

▣ CLASS OUTLINE

- ▣ INTRODUCTION
- ▣ OVERVIEW OF THREATS
- ▣ DISCUSSION ON OLD AND NEW ONES
- ▣ SITE EXAMPLES AND REACTIONS FROM ACTUAL OCCURANCES
- ▣ ANALYZE SOLUTIONS TO THREATS
- ▣ IS YOUR PLANT SUSCEPTABLE?
- ▣ IS YOUR VULNERABILITY ASSESSMENT PLAN UP TO DATE?
- ▣ IS YOUR EMERGENCY RESPONSE PLAN CURRENT?
- ▣ QUIZ ON REACTION TO THREATS
- ▣ SUMMARY

Lets look at some ordinary
threats that we all have seen or
placed in our Vulnerability
Assessments

- ▣ FARMING
- ▣ HIGHWAYS
- ▣ INDUSTRY
- ▣ DIRTY ENERGY
- ▣ AGING INFRASTRUCTURE
- ▣ LICENSES TO POLLUTE
- ▣ PRIVATIZATION
- ▣ RACIAL AND ECONOMIC
INEQUALITIES

• FARMING

- ▣ NUTRIENT MANAGEMENT
- ▣ CAFO'S
- ▣ LIQUID MANURE FACILITIES
- ▣ NITRATES
- ▣ RUNOFF
- ▣ RIPARIAN BUFFERS
- ▣ WELLHEAD PROTECTION

▣ HIGHWAYS

- ▣ WRECKS
- ▣ CHEMICAL SPILLS
- ▣ FRACKING WATER
- ▣ GASOLINE LEAKS
- ▣ SEWAGE SLUDGE
- ▣ RUNOFF (ROAD OILS AND GREASE)
- ▣ INTENTIONAL CONTAMINATION
- ▣ TERRORISM

INDUSTRY/TRANSPORT

- ▣ ARE YOU IN AN INDUSTRIAL AREA OR IS YOUR WATERSHED PRONE TO SPILLS OR LEAKS OR DUMPS (WEEKENDS WHEN IT RAINS)
- ▣ WHAT INDUSTRIES ARE THERE?
- ▣ DO YOU KNOW WHAT THEIR DISCHARGE CONTAINS (OR POTENTIALLY CONTAINS)?
- ▣ ARE YOU IN AN INDUSTRIAL TRANSPORT HIGHWAY OR RAILROAD SYSTEM?

▣ DIRTY ENERGY

- ▣ CLEAN COAL
- ▣ MOUNTAINTOP MINING
- ▣ BP SPILL
- ▣ FRACKING
- ▣ NUCLEAR
- ▣ TAR SANDS

▣ AGING INFRASTRUCTURE

- ▣ HOW OLD IS YOUR SYSTEM?
- ▣ DO YOU HAVE A REPLACEMENT SCHEDULE?
- ▣ DO YOU HAVE THE FUNDS SET ASIDE TO REPLACE X% PER YEAR?
- ▣ IS YOUR RATE STRUCTURE IN THE 1900'S?
- ▣ DOES YOUR BOARD REALIZE THIS PROBLEM?

▣ LICENSES TO POLLUTE

- ▣ INDUSTRY NPDES PERMITS IN YOUR WATERSHED
- ▣ FARM DISCHARGE PERMITS
- ▣ FRACKING WATER- PRE AND POST PRODUCTION

▣ PRIVATIZATION

- ▣ GOOD OR BAD OR EVEN WORSE???
- ▣ WEST VIRGINIA - 400,000 PEOPLE - NO WATER
- ▣ IS TOO BIG TOO DANGEROUS?
- ▣ WHAT IS THE PRIORITY OF LARGE CONGLOMERATES OF WATER SYSTEMS?
- ▣ WHAT ARE THE DANGERS?
- ▣ NUMBERS OF SYSTEMS WHO BOUGHT BACK THEIR OWNERSHIP CITED HERE.

- ▣ WHAT IS YOUR OPINION OR EXPERIENCE?

▣ RACIAL AND ECONOMIC INEQUALITIES

SO HOW DOES THIS AFFECT YOU??

THERE IS NO BINDING
ENFORCEMENT TO GUARANTEE
YOU THAT YOU WILL NOT BE
SHUT OFF IF YOU DO NOT PAY
YOUR BILL (DETROIT)

- ▣ HOW ABOUT SOME NEW TREATS!!
 - OR IS THREATS???
 - ▣ CYBER THREATS
 - ▣ EDC'S
 - ▣ CLIMATE CHANGE
 - ▣ LEGIONELLA
 - ▣ CEC
 - ▣ NAEGLERIA fowleri
 - ▣ MYCOBACTERIUM abscessia
 - ▣ 4-methylcyclohexanemethanol

▣ NEW THREATS (con't)

▣ EARTHQUAKES

▣ REUSE

▣ RECHARGE WITH STORMWATER

▣ RECHARGE WITH WASTEWATER

▣ DISCUSSION

▣ SIGNIFICANT POINT ON EACH OF THE ABOVE THREATS

▣ EXAMPLES OF ACTUAL CONTAMINATION

▣ QUESTIONS FOR GROUP

▣ FARMING

▣ DISCUSSION ITEMS

▣ NUTRIENT MANAGEMENT

- CONSERVATION DISTRICTS
 - NRCS -NATURAL RESOURCE CONSERVATION SERVICE
 - NITRATES
 - PHOSPHATES
 - FERTILIZER
 - MANURE PITS
 - MANURE HOLDING TANKS
 - EROSION CONTROL
-
- EPA STUDY WAS 20% NON POINT 80% POINT SOURCES
 - NEW STUDY - REVERSES NUMBERS - ONLY 20% POINT SOURCE
CONTAMINANTS - WASTEWATER PLANTS?????

▣ HIGHWAYS

- ▣ WHAT TYPES OF MATERIALS ARE TRANSPORTED THROUGH YOUR WATERSHED IN TANKER TRUCKS?
- ▣ IS THERE FRACKING IN YOUR AREA?
- ▣ REPORT OF TRUCK HAULING PRODUCTION WATER WITH EMPTY VALVE CRACKED OPEN.
- ▣ RETURN WATER RADIOACTIVE =- REALLY???

▣ CONTINUED

▣ CHEMICAL COMPOSITION OF RETURN WATER

- ▣ STYRENE
- ▣ ARSENIC
- ▣ FORMALDEHYDE
- ▣ XYLENE
- ▣ SODIUM
- ▣ STRONTIUM
- ▣ RADIUM

▣ THERE ARE MORE ON MY LIST AND WHERE ARE THEY DISPOSING OF THIS WATER??? THE REAL QUESTION!!!

INDUSTRY/TRANSPORT

WHAT TYPES OF SPILLS HAVE OCCURRED IN THE PAST YEAR THAT DID OR MAY AFFECT YOUR OPERATIONS??

LETS TALK ABOUT RAILROAD OIL TANKERS - SPILLS AND WRECKS IN VA

DO YOU THE INDUSTRIES IN YOUR WATERSHED THAT MAY HAVE ACCIDENTAL SPILLS?????? AND THE CHEMICALS THEY USE IN THEIR PROCESSES?

▣ DIRTY ENERGY

- ▣ COAL - LET'S BE REALISTIC BUT NOT RADICAL
- ▣ MOUNTAINTOP MINING - EROSION
- ▣ OIL - BP SPILL
- ▣ METHANE PRODUCTION - SOURCES
- ▣ NUCLEAR WASTE
- ▣ TAR SANDS - REALLY NASTY - HARDER TO CLEAN THAN NORMAL OIL WELLS

▣ AGING INFRASTRUCTURE

- ▣ DO YOU HAVE A REPLACEMENT SCHEDULE?
- ▣ DOES YOUR BOARD UNDERSTAND THIS CRITICAL PLANNING NEED??
- ▣ BOARD QUALIFICATIONS!!
- ▣ ARE YOU LOSING WATER AND REVENUE???
- ▣ PORTAGE WATER AUTHORITY EXAMPLE

▣ LICENSE TO POLLUTE

- NPDES PERMITS IN YOUR WATERSHED.
 - FARMS
 - INDUSTRY
 - FRACKING
 - CO-GEN PLANTS

▣ PRIVATIZATION

- ▣ GOOD OR BAD OR EVEN WORSE???
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- ▣ WHAT IS YOUR OPINION OR EXPERIENCE?

▣ PRIVATIZATION

- ▣ 2002 STUDY FOUND THAT OF 245 MUNICIPALITIES WHO SOLD THEIR WATER AND SEWER SYSTEMS TO PRIVATE COMPANIES 73% ENDED THEIR CONTRACTS WITH PRIVATE COMPANIES

• PRIVATIZATION

- ▣ DISASTER CAPITALIZATION
- ▣ PRIVATE OR PUBLIC
- ▣ FELTON, CA 74% INCREASE
- ▣ COATSVILLE, PA 85% INCREASE FOR WATER AND 229% SEWAGE
- ▣ 2009 STUDY - 5000 WATER AND 1900 SEWAGE SYSTEMS -
- ▣ PRIVATE RATES WERE 80% HIGHER FOR WATER AND
- ▣ 100% HIGHER FOR SEWAGE

▣ RACIAL AND ECONOMIC INEQUALITIES

▣ TOUCHY TOPIC

▣ NO LAWS PROHIBITING WATER SHUTOFFS FOR NON-PAYMENT OF BILLS.

▣ DETROIT EXAMPLE - INEXCUSABLE MANAGEMENT

▣ DOES YOUR SYSTEM ALLOW SPECIAL CASES TO KEEP THEIR WATER?

▣ IS IT RURAL VS URBAN OR JUST MANAGEMENT MISMANAGEMENT??

▣ NEW GUYS ON THE BLOCK

NAEGLERIA fowleri

▣ WHERE IN H___ DID THIS ONE COME FROM?????

- ▣ 5 cases in Virginia out of 16,000 autopsies
- ▣ Infection through the nose
- ▣ Has occurred while swimming at the beach or in questionable waters.
- ▣ This is the BRAIN EATING AMOEBIA called
PAM or

PRIMARY AMOEBIC MENINGOENCEPHALITIS

CAN YOUR SYSTEM HANDLE THIS ONE??

▣ MORE NAEGLERIA

- ▣ FOUND IN AUSTRALIA DRINKING WATERS IN 1980'S
- ▣ FOUND IN LOUISIANA SURFACE WATER SYSTEM
- ▣ ALSO FOUND IN ARIZONA GROUNDWATER SYSTEM (2008-2010 studies)
- ▣ OUTBREAK IN KARACHI, PAKISTAN
- ▣ FOUND IN FRESH WATER- biofilms in sand and carbon filters, mostly at water temps between 30 – 45C
- ▣ Control with 0.2 mg/l free Cl₂ at the end of the system

▣ LEGIONELLA

- ▣ HAS AFFECTED VETERAN'S HOSPITALS AND HOTELS ACROSS THE US
- ▣ PITTSBURGH VA
- ▣ BELLEVUE STRATFORD HOTEL IN PHILADELPHIA
- ▣ ARE YOU CARRYING ENOUGH CHLORINE RESIDUAL TO MAINTAIN A SAFE WATER - EVEN IN PREMISE PLUMBING PAST YOUR METER??

▣ MYCOBACTERIUM abscessa

▣ Greenville, NC

- JULY 21, 2014
- 4TH VICTIM DIES AT GREENVILLE HEALTH SYSTEM
- LOOKING AT SOURCE BEING

FILTERED ICE MACHINE

FOR THE OPERATING ROOM

- ▣ FEATURE ARTICLE IN WATER PLANT OPERATOR IN MAY 2014 “ALL UNDER CONTROL”
- ▣ 2 MONTHS LATER THIS OUTBREAK?? SPORTS ILLUSTRATED JINX?

▣ READY???

▣ 4-METHYCYCLOHEXANEMETHANOL

▣ WEST VIRGINIA SPILL

▣ 300,000 PEOPLE AFFECTED

- ▣ TON?? THRESHOLD ODOR NUMBER - DETECTABLE LIMIT ON SMELL
- ▣ ORC – ODOR RECOGNIZATION CONCENTRATION
 - ▣ COAL CLEANING PLANT CHEMICAL
 - ▣ SMELLED LIKE LICORICE
- ▣ HOW DID IT GET THROUGH THE WATER PLANT??
 - ▣ MORE HEALTH RELATED STUDIES NOT ODORS

▣ EDC'S

▣ ENDOCRINE DISRUPTING CHEMICALS

▣ PHARMACUETICALS

▣ PERSONAL CARE PRODUCTS

▣ PESTICIDES

▣ PHYTOESTROGENS

▣ **OVER BLOWN CONCERNS??**

▣ **LOOKING AT ng/L LEVELS**

▣ **WE AS AN INDUSTRY STILL NEED TO BE
ATTENTIVE!!**

▣ CYBER THREATS

▣ DDOS - DISTRIBUTED DENIAL OF SERVICES

▣ EMPLOYEES ACCESSING QUESTIONABLE WEBSITES

▣ NON WORK RELATED SITES

▣ GAMES

▣ EMAILS

▣ SHOPPING ONLINE

▣ NEVER - NEVER ALLOW THIS AND GET POLICIES TO PUNISH VIOLATIONS

▣ CEC

- ▣ CONTAMINANTS OF EMERGING CONCERN
- ▣ THIS SOUNDS LIKE EPA LOOKING FOR MORE TESTING REQUIREMENTS
OR DO WE NEED TO BE MORE WATCHFUL.
- ▣ DRBC STUDY IN SEPT. 2014
- ▣ AMONG THE COMPOUNDS DISCUSSED WERE
 - PPCP - PHARMACEUTICALS AND PERSONEL CARE PRODUCTS
 - STAIN REPELLANTS
 - FIRE FIGHTING FOAMS
 - FLAME RETARDANTS TCPP (Tris (1-chloro-2-propyl) phosphate (TCPP))
 - HORMONES

•CEC (CON'T)

- ▣ ARE YOUR SYSTEMS BACKED UP??
- ▣ EVERY DAY??
- ▣ IS YOUR SCADA SYSTEM SECURE??
- ▣ BEWARE OF MALWARE - IT'S EVERYWHERE
- ▣ ONLY COSTS \$50 - \$100 FOR A TOOLKIT TO LAUNCH AN ATTACK
- ▣ DHS - CSSP- CONTROL SYSTEM SECURITY PROGRAM
- ▣ EPA, DHS AND WATER SECTOR COORDINATING COUNCIL (AWWA) SPONSORING SEMINARS OR CYBER SECURITY

▣ CLIMATE CHANGE OR ANGRY MOTHER NATURE

- ▣ DROUGHTS - WATER SHORTAGES
 - ▣ OBVIOUS CASES
 - CALIFORNIA
 - NEVADA
 - SOUTH AFRICA
 - CHINA
 - MAINE
 - MIDDLE EAST

▣ MORE MOTHER NATURE

- ▣ DISCUSSION ON EFFECTS OF DROUGHT OF OUR WATER SUPPLIES AND SOME OF OUR INHERENT PROBLEMS OR IGNORANCE OR DISREGARD OR HOW DO WE PAY FOR THAT???
- ▣ DROUGHT AND DRINKING WATER
- ▣ DROUGHT AND FOOD SUPPLIES
- ▣ DROUGHT AND ENERGY
- ▣ DROUGHT AND RECHARGE OF AQUIFER WITH WASTEWATER OR STORMWATER
- ▣ DROUGHT AND REUSE OF WATER

▣ MOTHER NATURE WON'T GO AWAY

-MORE SEVERE STORMS

-WEATHER GETTING WARMER

-MORE MOISTURE IN ATMOSPHERE

-DEPENDING ON JET STREAM - SOME
AREAS WILL GET MUCH MORE RAIN AND
STORMS AND OTHER AREAS WILL GET
ZILCH

-THE ICE IS MELTING - OCEAN FRONT
PROPERTY MAY MOVE TO HARRISBURG

▣ MOTHER NATURE IS EVERYWHERE

- ▣ ANYONE WANT TO BY MY BEACH FRONT CONDO??
- ▣ NOAA REPORTS THAT 2014 WAS THE HOTTEST YEAR ON RECORD
- ▣ ARE YOU READY FOR SOME REALLY BAD STORMS?
- ▣ ARE YOU READY FOR DROUGHTS AND WATER CONSERVATION POLICIES?
- ▣ DO YOU KNOW WHAT HAPPENS WHEN YOU ANNOUNCE THAT THERE ARE WATER RESTRICTIONS??

▣ WEATHER TODAY

▣ IS YOUR SYSTEM TIGHT?

▣ WHAT IS YOUR WATER LOSS??

▣ PORTAGE WATER AUTHORITY CASE

- ▣ REPLACED 4 MILES OF MAIN LINE FEEDING TOWN
- ▣ FLOW WAS REDUCED BY 25 - 30 %
- ▣ 320GPM TO 230 GPM
- ▣ CHEMICAL COST WENT DOWN
- ▣ ELECTRIC COSTS WENT DOWN
- ▣ LESS WORK FOR FILTERS
- ▣ REDUCED PAYBACK PERIOD SIGNIFICANTLY

- ▣ **LET'S MOVE ON**
- ▣ **HOW ABOUT EPA???**

- ▣ NEW WATER REGULATORY PROCESSES
- ▣ ADDRESSING CONTAMINANTS AS A GROUP INSTEAD OF ONE AT A TIME
- ▣ **NOT GOOD NEWS FOR US**
- ▣ GROUPS UNDER CONSIDERATION
 - ▣ NITROSOAMINES
 - ▣ CARCINOGENIC VOLATILE ORGANIC COMPOUNDS
 - ▣ CHLORINATED DBP'S

▣ MORE

- ▣ THIRD CONTAMINANT CANDIDATE LIST CCL3
- ▣ NDMA - N-NITROSODIMETHYLAMINE
- ▣ MCLG WOULD BE ZERO OR 2 ng/L
- ▣ PROPORTIONAL INTAKE FROM DRINKING WATER IS ONLY 0.2% OF THE AMOUNT WE GET FROM FOOD AND DRINKS
- ▣ VOC'S - TCE- PERC- GAC OR AIR STRIPPING
- ▣ CHLORINATED DBP'S- STAGE 2 D/DBPR

- ▣ HEALTH RISK MANDATE IN SDWA

▣ AND MORE

- ▣ In 2010, 123.3 million people, or 39 percent of the nation's population lived in counties directly on the shoreline. This population is expected to increase by 8% from 2010 to 2020.
- ▣ IF THE SEA KEEPS RISING WHERE ARE THESE PEOPLE GOING TO MOVE???
- ▣ COASTAL CITIES ARE LOOKING AT CONTINGENCY PLANS FOR INCREMENTAL RISES IN OCEAN LEVELS OVER 100 YEARS
- ▣ POMPANO BEACH HAS A GOOD GRASP ON THE PLAN BUT HAVE TO ABANDON MUCH OF THE CITY WITH RISE OF >3 FEET!!!

▣ AND ON AND ON

- ▣ GROUNDWATER CONTAMINATION FROM SEAWATER INUNDATION AND HURRICANE SURGE**
- ▣ SEPTIC TANK AND ONSITE TREATMENT SYSTEMS**
- ▣ RECHARGE OF AQUIFER SYSTEMS NEGATED**
- ▣ WTP AND WWTP FLOODED**

▣ LET'S CHANGE THE SUBJECT TO EARTHQUAKES

- ▣ NOT HERE YOU SAY
- ▣ THEY ARE CLOSER THAN YOU THINK AND DO YOU HAVE A PLAN.
- ▣ IS YOUR INFRASTRUCTURE STABLE ENOUGH TO WITHSTAND AN EARTHQUAKE
- ▣ THE NEW THREAT WILL BE FROM DEEP WELL INJECTION OF FRACK WATER
- ▣ OKLAHOMA HAS SEEN A 200% INCREASE IN QUAKES OVER 3.0 RICHTER SINCE FRACKING STARTED 5 YEARS AGO AND THEY DISPOSED OF WASTE BY DEEP WELL INJECTION

▣ AND

- ▣ **YOUNGSTOWN HAD AN EARTHQUAKE NEAR A DEEP WELL INJECTION POINT THAT WAS BADLY PLACED NEAR A FAULT.**
- ▣ **CALIFORNIA NOW HAS PROBLEMS WITH SEA RISE AND THE SAN ANDREAS FAULT.**
- ▣ **SAN FRANCISCO IS OVERDUE FOR THE BIG ONE - THEY HAD LARGE MOVEMENTS EVERY 159 YEARS AND NOW ARE IN YEAR 164. ITS COMING GUYS.**

▣ CASE IN SOUTH AFRICA

- ▣ USING 98% OF AVAILABLE WATER
- ▣ 40 % OF WASTEWATER FACILITIES ARE INADEQUATE
- ▣ 37% OF WATER IS LOST THROUGH LEAKS
- ▣ REAL NUMBER IS PROBABLY HIGHER
- ▣ AGRICULTURE USES 62% OF THE WATER AVAILABLE
- ▣ THAT MUST BE REASSESSED
- ▣ ONLY 5% OF HAZARDOUS WASTE IS TREATED CORRECTLY
- ▣ OUT OF 931 WATER SYSTEMS -ONLY 98 WERE ADEQUATE

▣ SOUTH AFRICA

- ▣ 60% OF PLANT DO NOT HAVE PROPER LICENSES OR PERMITS
- ▣ OTHER 40 % REPORT THAT 30 % OF THEM DO NOT MONITOR WATER QUALITY
- ▣ ONE IN FIVE DO NOT USE A LABORATORY FOR QUALITY ANALYSES
- ▣ THEY HAVE AMD!!!! COAL MINING-GOLD MINING-MINERAL MINING
- ▣ CAN YOU BE RICH AND HAVE NO WATER??????????

▣ TMDL

- ▣ **THE EFFECT OF TMDL LIMITS ON YOUR EFFLUENT AND WASTEWATER DISCHARGE WILL BE DISCUSSED.**
- ▣ **NITRATE AND PHOSPHATE TMDL'S ARE A BIG PROBLEM FOR MANY WASTEWATER PLANTS.**

▣ USEPA

▣ 1970

▣ 85% POLLUTION CAME FROM
POINT SOURCES

▣ 2010

▣ 85% OF POLLUTION IS NOW
FROM NON-POINT SOURCES

ONE MORE

▣ THE WATERS OF THE UNITED STATES

- ▣ NEW PROPOSAL from EPA AND USCOE
- ▣ FROM “NAVIGABLE WATERS” BY CHANGING DEFINITIONS AND MEANINGS
- ▣ INCLUDES “OTHER WATERS” AND “DRY LAND”??? BASED ON A SIGNIFICANT NEXUS – WHICH IS NOT DEFINED OR MAY NEVER BE TOTALLY DEFINED SO EVERYTHING MAY BE INCLUDED

▣ AND

- ▣ SOME CONCERNS WITH CONFLICT WITH THE CONSTITUTION - ARTICLES V, IX AND X
- ▣ ARTICLE V - “NO PROPERTY SHALL BE TAKEN FOR PUBLIC USE WITHOUT JUST COMPENSATION”
- ▣ ARTICLE IX - “THE ENUMERATION IN THE CONSTITUTION, OF CERTAIN RIGHTS, SHALL NOT BE CONSTRUED TO DENY OR DISPARAGE OTHERS RETAINED BY THE PEOPLE”
- ▣ ARTICLE X - “THE POWERS NOT DELEGATED TO THE UNITED STATES BY THE CONSTITUTION NOR PROHIBITED BY IT TO THE STATES, ARE RESERVED TO THE STATES RESPECTIVELY, OR TO THE PEOPLE.
- ▣ FAR TOO MANY UNANSWERED QUESTIONS AND VAGUE CONTROLS - TOO MANY ANSWERS OF “WELL THAT’S NOT WHAT IT MEANS!!!!

**▣ HAVE YOU FOUND ANYTHING
IN TODAY'S DISCUSSION AND
PRESENTATION THAT SHOULD
BE IN YOUR VULNERABILITY
ASSESSMENT OR YOUR
EMERGENCY RESPONSE PLAN??**

**▣ IS YOUR PROPANE OR DIESEL
SUPPLIER'S PHONE NUMBER
THERE?**

▣ WE WILL TAKE COMMENTS FROM THE GROUP ON PERSONAL EXPERIENCES WITH REGULATIONS, MOTHER NATURE, AND OTHER THREATS THEY HAVE ENCOUNTERED.

▣ NESTLE

▣ Discussion on Nestle's Philosophy of water

**Disputes in Africa - South
America - Maine - Michigan -
India**