

The background of the slide is a light blue gradient. It is decorated with numerous water droplets and bubbles of various sizes. Some are large and prominent, while others are small and subtle. They are scattered across the slide, with a higher concentration in the top and bottom corners, creating a fresh and aquatic feel.

# HOW TO AVOID LIABILITY IN YOUR LOCAL POOL PROGRAM

4<sup>th</sup> ANNUAL ENVIRONMENTAL HEALTH SYMPOSIUM

AUGUST 2, 2019

ASHEVILLE, NORTH CAROLINA



# ENVIRONMENTAL HEALTH


WHAT IS THE PURPOSE OF THE  
ENVIRONMENTAL HEALTH PROFESSION?





# DEFINITION OF ENVIRONMENTAL HEALTH

ENVIRONMENTAL HEALTH IS THE BRANCH OF PUBLIC  
HEALTH CONCERNED WITH ALL ASPECTS OF THE  
NATURAL AND BUILT ENVIRONMENT AFFECTING  
HUMAN HEALTH. (WIKIPEDIA)



# LAWSUITS

- WHO CAN BE SUED?
- FOR WHAT REASON CAN SOMEONE BE SUED?
- HOW MUCH CAN SOMEONE BE SUED FOR?





# LIABILITY

WHAT IS LIABILITY?





# DEFINITION OF LIABILITY

THE STATE OF BEING RESPONSIBLE FOR  
SOMETHING, ESPECIALLY BY LAW

SYNONYMS INCLUDE: RESPONSIBILITY,  
CULPABILITY, GUILT, BLAME, FAULT


GOOGLE DICTIONARY






# SITUATIONS OF LIABILITY

COME UP WITH A SITUATION WHERE AN  
EHS MAY BE ACCUSED OF BEING  
RESPONSIBLE FOR AN ACCIDENT OR DEATH  
AT A POOL THAT THEY INSPECT.






# WHAT COULD GO WRONG AT A POOL?

- DROWNINGS AND NEAR DROWNINGS
  - SUCTION INJURIES
  - ELECTROCUTIONS
  - RWI
  - CHLORINE GAS INCIDENTS
  - FALLS
- 



# AFTER A DEATH OR SERIOUS INJURY

- REQUESTS FOR PUBLIC INFORMATION
  - SUBPOENAS
  - DEPOSITIONS
  - TRIALS
  - SETTLEMENTS
- 





**Mandatory Report of Illness, Injury, or Death  
Attributed to a Public Swimming Pool**

Name of Facility: \_\_\_\_\_  
Physical Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_

Type of Report: ☐ Death ☐ Serious Injury ☐ Bather Complaint of Illness  
Date of Incident/Onset of Illness: \_\_\_\_\_

Name of Injured/Complainant: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

Description of Injury or Complaint\*:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name(s) and Telephone Number(s) of Person(s) Rendering First Aid or Assistance:  
\_\_\_\_\_  
\_\_\_\_\_

Name of Hospital, Rescue Squad, or Physician Providing Medical Treatment:  
\_\_\_\_\_  
\_\_\_\_\_

Name(s) and Phone Number(s) of Witnesses to the Incident:  
\_\_\_\_\_  
\_\_\_\_\_

\* Attach additional sheets as needed to provide complete details of the incident or illness.

*Submit completed report to the Mecklenburg County Health Department within 2 working days of any accident, injury or death attributed to a public swimming pool. Information may be called in to the office at (980) 314-1620 or faxed to (704) 336-5306.*


# **.2540 REPORTING OF INJURY OR ILLNESS**

“THE POOL OPERATOR SHALL REPORT ANY DEATH, SERIOUS INJURY OR COMPLAINT OF ILLNESS ATTRIBUTED BY A BATHER TO USE A PUBLIC SWIMMING POOL TO THE LOCAL HEALTH DEPARTMENT WITHIN TWO WORKING DAYS OF THE INCIDENT OR COMPLAINT. THE REPORT SHALL INCLUDE:

- 1) NAME AND TELEPHONE NUMBER OR ADDRESS OF THE PERSON INJURED OR MAKING A COMPLAINT.**
- 2) DATE OF THE INCIDENT OR ONSET OF ILLNESS.**
- 3) DESCRIPTION OF THE TYPE OF INJURY OR COMPLAINT.**
- 4) NAME AND PHONE NUMBER OF THE PERSON RENDERING ASSISTANCE OR FIRST AID.**
- 5) THE NAME OF ANY KNOWN HOSPITAL, RESCUE SQUAD OR PHYSICIAN PROVIDING MEDICAL ASSISTANCE.**
- 6) NAMES AND PHONE NUMBERS OF AVAILABLE WITNESSES TO THE INCIDENT.”**



POOLSAFELY.GOV

- ACCORDING TO CPSC ON JUNE 6, 2019  
DROWNING CONTINUES TO BE A PUBLIC  
HEALTH CRISIS AND REMAINS THE LEADING  
CAUSE OF UNINTENTIONAL DEATH AMONG  
CHILDREN 1–4.
- 



# DROWNINGS AT POOLS

- DURHAM COUNTY – JUNE 2018
  - 15-YEAR OLD MALE, 16-YEAR OLD FEMALE & 21-YEAR OLD MALE DROWNED.
  - REPORTERS CONTACTED LOCAL HD FOR INSPECTION REPORTS AND INTERVIEWED THE EHS THAT HAD PERMITTED THE POOL.
    - A MAY 2018 INSPECTION REPORT SHOWED VIOLATIONS DENYING THE PERMIT AND A 2<sup>ND</sup> REPORT IN JUNE SHOWED CORRECTIONS WERE MADE AND THE PERMIT WAS ISSUED. THE EHS STATED “THE POOL WAS ACTUALLY IN GOOD CONDITION.”
  - POOL REMAINED CLOSED UNTIL ANOTHER INSPECTION WAS COMPLETED.

# NEAR DROWNING LAWSUIT

- JAEKWON WILLIAMS WAS FOUND AT THE BOTTOM OF THE LAP POOL AT LIONS WATER ADVENTURE PARK IN AUGUST 2014.
- JAEKWON COULD NOT SWIM AND WAS UNDER WATER FOR ABOUT 7 MINUTES, LEAVING HIM WITH PERMANENT BRAIN DAMAGE.
- THE FAMILY SUED KINSTON, ROCKY MOUNT, THE WOODMEN FOUNDATION AND ROCKY MOUNT PARKS & RECREATION INCLUDING ITS COUNSELORS WHO ORGANIZED THE QUEST SUMMER DAY CAMP.
- THE INSURANCE CARRIER FOR ROCKY MTN PARKS & RECREATION DEPT PAID \$2.6 MILLION, THE CITY OF KINSTON PAID \$10 MILLION PLUS THERE WAS A CONFIDENTIAL SETTLEMENT BETWEEN THE OWNER OF THE WATER PARK AND THE FAMILY.

# SUCTION INJURIES AT POOLS


- VALERIE LAKEY – 1993 – WAKE COUNTY, NC
- REMOVED AN UNSECURED DRAIN COVER IN A WADING POOL AND SAT ON THE DRAIN
- SUCTION PULLED OUT 80% OF HER INTESTINES
- FAMILY'S ATTORNEYS SUED (THE POOL, THE HEALTH DEPT., THE PUMP MANUFACTURER AND THE DRAIN COVER MANUFACTURER.)
- AFTER 4 YEARS IN COURT, JURY AWARDED \$30.9 MILLION (STA-RITE \$25 MIL, POOL CLUB \$500,000, MAKER OF WADING POOL \$2.9 MIL, WAKE COUNTY HD \$2.5 MIL)

# CPSC SUCTION ENTRAPMENT MAY 2019 REPORT

- THE REPORT DATA WAS FROM 2013 – 2017, LISTED 11 INCIDENTS.
- ALL INDIVIDUALS UNDER AGE OF 15, HALF IN PUBLIC POOLS, HALF IN RESIDENTIAL POOLS.
- 
- 6 VICTIMS - HAIR ENTRAPMENT, 4 - LIMB ENTRAPMENT AND 1 - BODY ENTRAPMENT. (MYRTLE BEACH)
- 7 OCCURRED IN SPAS (57% IN HOTELS/MOTELS), 4 IN POOLS.
- 2 DEATHS OCCURRED FROM LIMB ENTRAPMENTS IN SUCTION OUTLETS WITH MISSING COVERS IN RESIDENTIAL POOLS.



# ELECTROCUTION DEATHS AT POOLS

- STANLY COUNTY 1988 – ALLISON STILLER
  - DAVIDSON COUNTY 2013 – LAUREN CECIL
  - WAKE COUNTY 2016 – RACHEL ROSOFF
- 

# ELECTRICAL SAFETY AT POOLS

- 2016 A LIFEGUARD IN WAKE COUNTY WAS ELECTRICALLY SHOCKED WHILE SAMPLING POOL WATER NEAR A METAL LADDER AND THEN DROWNED.
- FOR THE PAST SEVERAL YEARS, THERE HAVE BEEN ELECTRICAL SHOCK INCIDENTS REPORTED ACROSS COUNTRY AT POOLS WHEN THE WATER BECOMES ELECTRIFIED DUE TO FAULTY WIRING, MISSING PUMP GROUNDS, ETC.
- A MEMO WAS SENT TO ALL COUNTIES 1/2017 WITH INFORMATION THAT CAN BE SHARED WITH YOUR POOL OPERATORS. IT RECOMMENDS (NOT REQUIRES) THAT POOLS HAVE THEIR ELECTRICAL SYSTEMS INSPECTED PERIODICALLY TO ENSURE THAT THEY ARE SAFE.
- NC DOL ALSO SENT OUT A HAZARD ALERT ON SAME SUBJECT.



# ELECTRICAL SAFETY AT POOLS/LEGISLATION

- IN APRIL 2017, HB 598 PROPOSED GFCI CIRCUITS BE INSTALLED FOR ALL SWIMMING POOLS PUMPS WITHIN 90 DAYS AFTER LAW PASSED. BUT BILL STALLED.
- IN OCTOBER 2017, SB 16/SL 2017-211 WAS PASSED.
  - DIRECTED THE BUILDING CODE COUNCIL (BCC) TO STUDY ELECTRICAL SAFETY REQUIREMENTS FOR SWIMMING POOLS.
  - STUDY WAS PRESENTED TO THE JOINT LEGISLATIVE OVERSIGHT COMMITTEE ON JUSTICE AND PUBLIC SAFETY.




# UPDATES IN THE 2017 NC ELECTRICAL CODE

- 680.21(C)(2) MOTORS GFCI PROTECTION. (170613 ITEM B-16)
- **680.21(C)(2) MOTORS GFCI PROTECTION**
- **(C) GFCI PROTECTION.** OUTLETS SUPPLYING POOL PUMP MOTORS CONNECTED TO SINGLE-PHASE, 120-VOLT THROUGH 240-VOLT BRANCH CIRCUITS, WHETHER BY RECEPTACLE OR BY DIRECT CONNECTION, SHALL BE PROVIDED WITH GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.
- **(2) EXISTING POOL PUMP MOTOR BRANCH CIRCUIT AND OVERCURRENT PROTECTION.** ALL EXISTING SINGLE-PHASE, 120-VOLT THROUGH 240-VOLT BRANCH CIRCUITS AND OVERCURRENT DEVICES THAT SUPPLY POWER TO A POOL PUMP MOTOR BY DIRECT CONNECTION OR OUTLET SHALL COMPLY WITH THE PROVISIONS OF 680.21(C) WHEN THE BRANCH CIRCUITS OR OVERCURRENT DEVICES ARE ALTERED, INSTALLED, MODIFIED, RELOCATED, REPAIRED, OR REPLACED.
- **THE DELAYED EFFECTIVE DATE OF THIS RULE IS JUNE 12, 2018** FOR THE 2017 EDITION.
- THE STATUTORY AUTHORITY FOR RULE-MAKING IS G. S. 143-136; 143-138.



# ELECTRICAL SAFETY AT POOLS

- SO WHAT DOES ALL THIS MEAN?
  - ANY ALTERATION TO A POOL PUMP REQUIRES ELECTRICAL PERMIT AND INSPECTION.
  - A NEW POOL DRAIN SAFETY COMPLIANCE DATA SHEET MUST BE SUBMITTED + EHS MUST VERIFY THAT ELECTRICAL PERMIT OBTAINED AND ELECTRICAL INSPECTION WAS PASSED.
  - SEE SOMETHING – SAY SOMETHING.
- 

# SEE SOMETHING – SAY SOMETHING





# PUMP REPLACEMENT ISSUE

- EMAIL FROM COUNTY EHS

**Hey Phil I sent this attached picture to the inspections yesterday when I shut down this pool for other violations. The city sent this reply.**

I have contacted the manager at the hotel and advised him the pool is not to be used until a licensed electrician pulls permit, does necessary work and has it inspected, then we will advise you all the electrical work has been done. Kevin visited the hotel to verify the pool is locked and closed.

Thank you,

Jimmy

***James Lloyd  
Chief Code Enforcement Officer  
City of Graham***

**Now the pool is wanting me to come out and permit it before the city releases it. How do you feel about that.**

# LEGIONELLA OUTBREAK INVESTIGATIONS

- LEGIONNAIRES' DISEASE IS A SERIOUS TYPE OF **PNEUMONIA** (LUNG INFECTION) CAUSED BY *LEGIONELLA* BACTERIA. PEOPLE CAN GET SICK WHEN THEY BREATHE IN MIST OR ACCIDENTLY SWALLOW WATER INTO THE LUNGS CONTAINING *LEGIONELLA*.
- **ACCORDING TO CDC, ABOUT 1 IN 10 PEOPLE WHO GET SICK FROM LEGIONELLA WILL DIE.**
- COMMON SOURCES INCLUDE WATER USED FOR SHOWERING (POTABLE WATER), COOLING TOWERS (PARTS OF LARGE AIR CONDITIONING SYSTEMS), DECORATIVE FOUNTAINS AND **HOT TUBS**. OFTEN ASSOCIATED WITH LARGE HOTELS.
- SPA INSPECTION RECORDS WILL BE REQUESTED AND REVIEWED IN ANY COURT CASE. CPO RECORDS ARE CRITICAL.
- IF INDOOR SPAS ARE DISINFECTED WITH STABILIZED CHLORINE, IT IS CRUCIAL TO BE CHECKING CYANURIC ACID.

# CHLORINE GAS INCIDENTS

- GUILFORD COUNTY – PRIOR TO 2004
  - SWIM CLUB POOL CIRCULATION PUMP IS TURNED OFF
  - LIQUID CHLORINE AND LIQUID ACID CONTINUE TO FEED INTO SYSTEM
  - CREATES CHLORINE GAS
  - 8 CHILDREN TAKEN TO HOSPITAL – 2 STAY OVERNIGHT
  - NO SERIOUS INJURIES

# CHLORINE GAS INCIDENTS

- DURHAM COUNTY – AUGUST 2017
  - CHEMICAL SPILL IN BASEMENT EQUIPMENT ROOM PRODUCED CHLORINE GAS THAT WAS PULLED UP TO THE POOL THROUGH THE DECK DRAIN SYSTEM
  - 100 EVACUATED FROM BUILDING AND POOL
  - NO SERIOUS INJURIES



## What we found...

While investigating the possible route of the gas from the pump room to the deck located above the pump room, we followed the deck drains.


The deck drains were routed along the top of the pump room and ended at the backwash pit where they were cut off above the pit.

We wondered if air flow from the pool area was pulling air from the pump room through the deck drains? **The answer was YES!** The negative pressure in the pool area was so great that it pulled air from the pump room up to the pool deck.

When the acid and chlorine off-gassed it was pulled up through the deck drains located in the backwash pit and onto the deck where children and staff were located.

Here is one test we performed to prove air flow direction.






We decided to do  
further testing...

We next asked the Fire  
Marshall's office to perform  
a smoke test to try to  
duplicate the accident.

Our test proved our theory to  
be true! The smoke was  
pulled up through the deck  
drain openings in the pump  
room and onto the pool deck  
above.





The deck  
drains...

The smoke made  
it's way to the  
deck.

Our mystery was  
solved!

Now to remedy  
the problem.



# CHLORINE GAS INCIDENTS

- ALL PUBLIC SWIMMING POOLS UTILIZING LIQUID CHLORINE PUMPS ARE REQUIRED TO COMPLY WITH RULE .2535(6)  
"AUTOMATIC CHLORINE AND BROMINE FEEDER PUMPS SHALL BE AUTOMATICALLY PREVENTED FROM OPERATING WHEN THE CIRCULATION PUMP IS NOT IN OPERATION."
- THE AMERICAN CHEMISTRY COUNCIL CREATED A FREE TRAINING VIDEO ABOUT ELECTRICAL INTERLOCK PROTECTION TO PREVENT CHLORINE GAS INCIDENT
- [WWW.POOLINTERLOCKSAFETY.COM](http://WWW.POOLINTERLOCKSAFETY.COM)

# POOL LIGHTING

- HOUSE BILL 56 BECAME SESSION LAW 2017-209
- SECTION 8 "AMEND THE RULE FOR POOL LIGHTING"
- DIRECTS THE COMMISSION FOR PUBLIC HEALTH TO AMEND THE POOL LIGHTING RULE (.2524)
- DIRECTS LOCAL INSPECTORS TO IMPLEMENT THE CHANGES DIRECTED BY THE SESSION LAW UNTIL THE RULE IS CHANGED
- PROGRAM DID NOT OPPOSE THE LEGISLATION

# POOL LIGHTING

- REQUIRES ILLUMINATION SUFFICIENT TO ILLUMINATE THE MAIN DRAINS, AND ILLUMINATION SUFFICIENT TO ILLUMINATE THE DECK AREA OF THE POOL SO THAT IT IS VISIBLE AT ALL TIMES THE POOL IS IN USE BUT SHALL NOT REQUIRE SPECIFIC FOOT CANDLES OF ILLUMINATION FOR THE DECK AREA.
- OLD RULE = 10 FOOT CANDLES
- NEW RULE = ILLUMINATION SUFFICIENT TO ILLUMINATE



# POOL LIGHTING

- SENT GUIDANCE MEMO TO EH LISTSERV ON OCTOBER 10, 2017.
- INSPECTORS WILL NEED TO VISIT POOLS AT NIGHT IF THE POOLS INDICATE THEY WILL BE OPEN FOR NIGHT SWIMMING TO DETERMINE IF THE MAIN DRAINS AND DECK ARE BOTH ILLUMINATED.
- ALSO – DEPTH MARKERS, SIGNS, ENTRANCES, RESTROOMS, SAFETY EQUIPMENT AND WALKWAYS SHALL BE ILLUMINATED. (THIS PART OF RULE WAS LEFT UNCHANGED.)



# POOL LIGHTING

- ALL PUBLIC SWIMMING POOL PERMITS SHOULD BE CONDITIONED TO INDICATE WHETHER NIGHT SWIMMING IS ALLOWED OR NOT ALLOWED.
- STATE ON INSPECTION AND PERMIT WHEN ILLUMINATION SURVEY WAS DONE – DATE AND TIME AND NUMBER AND PLACEMENT OF LIGHTS


# POOL LIGHTING

- LIGHTING MUST BE EVALUATED EVERY YEAR.
- MUST HAVE CLEAR WATER IN THE POOL DURING THE EVALUATION.
- ALL LIGHTS MUST BE ON DURING THE EVALUATION.



# REDUCING LIABILITY

HOW DO YOU REDUCE, LIMIT OR ELIMINATE  
LIABILITY FOR YOURSELF AND YOUR HEALTH  
DEPARTMENT?



# REDUCING LIABILITY

- DO YOUR JOB
- DOCUMENT COMPLETELY
- DO IT THE SAME EVERY TIME
- DON'T BE AFRAID TO ENFORCE THE RULES

# DON'T FORGET...

- NC G.S. 130A-23(d) "A PERMIT SHALL BE SUSPENDED OR REVOKED IMMEDIATELY IF A VIOLATION OF THE CHAPTER, THE RULES OR A CONDITION IMPOSED UPON THE PERMIT PRESENTS AN IMMINENT HAZARD. AN OPERATION PERMIT ISSUED PURSUANT TO G.S. 130A-281 SHALL BE IMMEDIATELY SUSPENDED FOR FAILURE OF A PUBLIC SWIMMING POOL TO MAINTAIN MINIMUM WATER QUALITY OR SAFETY STANDARDS OR DESIGN AND CONSTRUCTION STANDARDS PERTAINING TO THE ABATEMENT OF SUCTION HAZARDS WHICH RESULT IN AN UNSAFE CONDITION. ..."

# WRAP UP

- WHAT HAVE YOU LEARNED?
- WHAT WILL YOU DO DIFFERENT AS A RESULT OF IT?



The background is a light blue gradient. It is decorated with several realistic water droplets of various sizes. Some droplets are at the top left, some are at the bottom right, and others are scattered in the center. Each droplet has a highlight and a shadow, giving it a 3D appearance.

**ANY QUESTIONS?**

**THANK YOU!**