

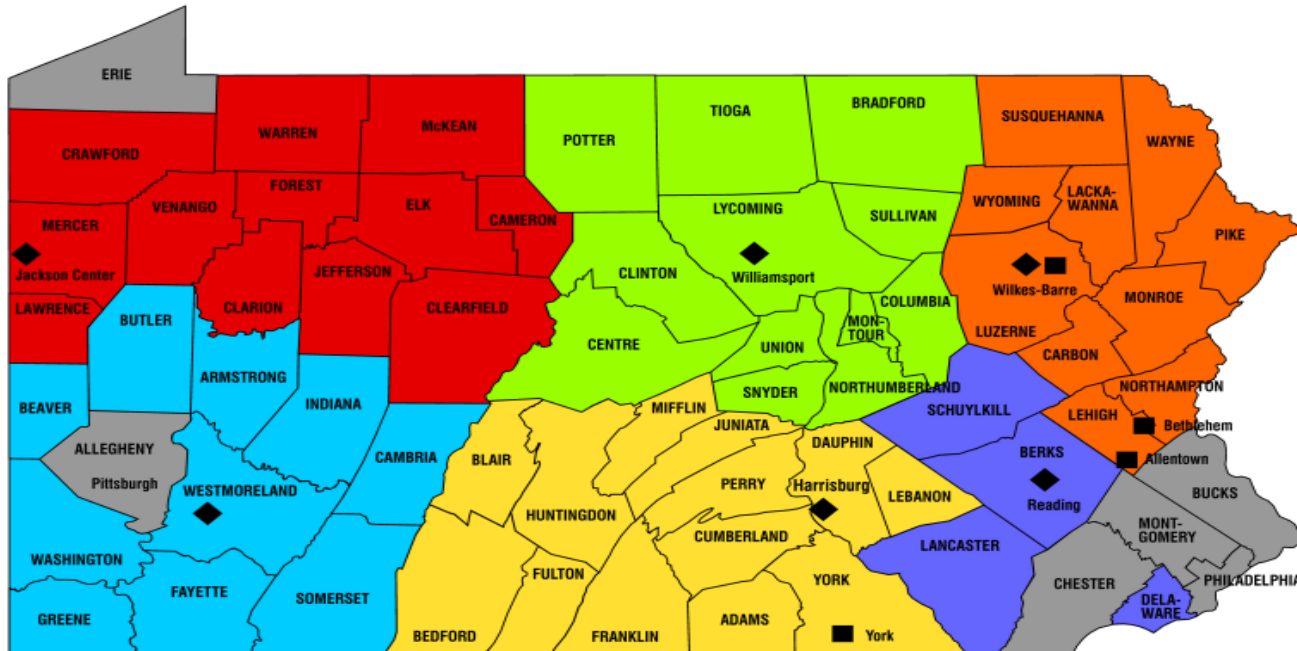
# ▶ PA Department of Health - Pool School

## Regulatory Compliance and Best Practices for Aquatic Facility Owners, Managers and Operators



# PA Dept of Health - District Coverage

## Pennsylvania Department of Health Community Health Districts



# Division of Environmental Health Services



## Environmental Health Specialists

<p align="center"><b>Southcentral District Office</b></p> <p>30 Kline Plaza Harrisburg, PA 17104</p> <p>EHS: John LaRosa <a href="mailto:jolarosa@pa.gov">jolarosa@pa.gov</a></p> <p>1-877-PA-HEALTH P 717-787-8092 F 717-772-3151 Direct 717-736-7380</p> <p>Counties of: Mifflin, Juniata, Perry, Cumberland, Dauphin, Lebanon</p>	<p>Northeast District Office 100 Lackawanna Avenue, Room 316 Scranton, PA 18503</p> <p>EHS: John L. Smith <a href="mailto:johlsmi@pa.gov">johlsmi@pa.gov</a></p> <p>1-877-PA-HEALTH P 570-892-4080 F 570-826-2238 Direct 570-309-3802</p> <p>Counties of: Carbon, Lackawanna, Lehigh, Monroe, Northampton, Pike, Susquehanna, Wayne, Wyoming</p>	<p>Southwest District Office 233 West Otterman St. Greensburg, PA 15601</p> <p>EHS: Jonathan Cunkelman <a href="mailto:jcunkelman@pa.gov">jcunkelman@pa.gov</a></p> <p>1-877-PA-HEALTH P 724-832-5315 F 724-832-5327 Direct Ext. 205</p> <p>Counties of: Armstrong, Beaver, Butler, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland</p> <p>County HD Allegheny Co.</p>
<p>York State Health Center 1750 N George Street York, PA 17404</p> <p>EHS: Hristo Hristov <a href="mailto:hhristov@pa.gov">hhristov@pa.gov</a></p> <p>1-877-PA-HEALTH P 717-578-8311 F 717-783-4790 Direct 717-736-7373</p> <p>Counties of: Blair, Huntingdon, Bedford, Fulton, Franklin, Adams, York</p>	<p>Southeast District Office Reading State Office Bldg. 625 Cherry St., Rm. 401 Reading, PA 19602</p> <p>EHS: Angelo Sfarra <a href="mailto:asfarra@pa.gov">asfarra@pa.gov</a></p> <p>1-877-PA-HEALTH P 610-378-4377 F 610-621-5890 Direct 484-855-3489</p> <p>Counties of: Berks, Lancaster, Schuylkill</p> <p>County HDs Delaware, Chester Montgomery Bucks Philadelphia</p>	<p>Northwest District Office 19 McQuiston Drive Jackson Center, PA 16133</p> <p>EHS: Michelle Scroggins <a href="mailto:msscroggins@pa.gov">msscroggins@pa.gov</a></p> <p>1-877-PA-HEALTH P 724-662-6068 F 724-662-6086 Direct 724-269-5937</p> <p>Counties of: Cameron, Clarion, Clearfield, Crawford, Elk, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, Warren</p> <p>County HD Erie County</p>
<p>Northcentral District Office Water Tower Sq., Suite 109 1000 Commerce Park Dr Williamsport, PA 17701</p> <p>EHS: John Charnego <a href="mailto:jcharnego@pa.gov">jcharnego@pa.gov</a></p> <p>1-877-PA-HEALTH P 570-327-3400 F 570-327-3748 Direct 570-505-7733</p> <p>Counties of: Bradford, Centre, Clinton, Columbia, Lycoming, Montour, Northumberland Potter, Snyder, Sullivan, Tioga, Union</p> <p>Plus, Luzerne for NEDO</p>	<p align="center"><b>Environmental Health Program Manager/Supervisor – Statewide</b></p> <p align="center">Richard Pugh <a href="mailto:ripugh@pa.gov">ripugh@pa.gov</a> Office 717-736-7393 Cell 717-503-3971</p>	

# DOH Public Bathing Place Program

## Legal & Regulatory framework

- PA Public Bathing Law
  - Operating Permit required for all public bathing facilities
  - Grants PA DOH inspection & enforcement powers
- PA Code Title 28, Chapter 18 regulations
  - Operating Requirements

## Current Industry Standards/Best Practices

- International Swimming Pool and Spa Code (ISPSC)
- Model Aquatic Health Code (MAHC)
- Other CDC guidance and recommendations

[www.health.pa.gov](http://www.health.pa.gov)

[Health](#) > [All Health Topics](#) > [Programs](#) > [Bathing Places](#)

# DOH Public Bathing Place Program

## Permitting Process

- **Application**

- Completed Permit Application Form
- Supporting documentation
- Permit Application Fee

- **Supporting Documentation**

- Construction Permit and Approved/Signed blueprints
- Sanitary Survey Report (beaches only)
- Electrical Inspection Certificate
- Category 24 Pesticide Applicator License
- Most recent bacterial test report

- **DOH Permit Inspection prior to issuing permit**

- **Permit to operate issued prior to opening**

# DOH Public Bathing Place Program

## Public Bathing Place Program – PA DOH Inspection Goals

- Enforce Chapter 18 Regulations & Pennsylvania Public Bathing Law
- Identify / report operational violations
- Provide consultation & guidance
- Achieve compliance to ensure public health & safety

# Public Bathing Place (PBP) Inspections

- **Permit**
- **Annual / Routine**
- **Enforcement**
- **Complaint**



# PBP Inspections – Required Documentation

- **Public Bathing Place Operating Permit**
- **PA Code Title 28, Chapter 18**
  - Electrical Inspection certificate
  - Lifeguard certificates for Recreational Swimming Establishments (RSE)
  - Bacteriological Lab Reports
  - Daily Logs
- **Facility use rules**
  - Include bather load
- **Pesticide applicator license (Cat. 24)**
- **Emergency Contact Info/Procedure**



# PBP Inspection Check List – Chapter 18

- Lifeguard Requirements
- Disinfection (Cl<sub>2</sub>/Br<sub>2</sub> & pH)\*
- Bathing Water Quality\*
- Accurate Test Kits\*
- Daily Logs (Cl<sub>2</sub>/Br<sub>2</sub> & pH)\*
- Bacteria Monitoring Records\*
- Electrical Safety Hazard
- Electrical Inspection Certificate\*
- Structural Safety Threat
- Nuisance/Hazards
- Lifesaving Equipment\*
- Permit/Permit Specifications
- Facility Management
- Waste Management
- Vector/Pests
- Lighting & Ventilation
- Cross-connection & Plumbing
- Drinking Water Supply
- Dressing/Toilet Facilities
- Permit & Chapter 18 Posted

**\* Critical Provisions**

# PBP Inspection Report

H607-022 (6-19)  
Commonwealth of Pennsylvania

Department of Health

## PUBLIC BATHING PLACE REPORT

Facility Name		I.D. No.	County	Municipality	Date
Facility Location/Address			Operator's Name		Telephone Number
Permit Holder's Name			Reason for Report <input type="checkbox"/> Annual <input type="checkbox"/> Complaint <input type="checkbox"/> Permit <input type="checkbox"/> Enforcement		Location <input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor
Permit Holder's Address			Type of Unit <input type="checkbox"/> Pool <input type="checkbox"/> Spa <input type="checkbox"/> Spray Ground <input type="checkbox"/> Wading Pool <input type="checkbox"/> Beach		
Bathing Water					
Water Quality Monitoring Locations	Acceptable Clarity	pH	Disinfectant		Pool Chemicals Used
			Type	PPM	
A					<input type="checkbox"/> Gas Chlorine <input type="checkbox"/> Sodium Bisulfate <input type="checkbox"/> Sod. Hypochlorite <input type="checkbox"/> CO2 Gas <input type="checkbox"/> Cal. Hypochlorite <input type="checkbox"/> Soda Ash <input type="checkbox"/> Bromine <input type="checkbox"/> Sodium Bicarbonate <input type="checkbox"/> Trichlor * <input type="checkbox"/> pH Increaser <input type="checkbox"/> Dichlor * <input type="checkbox"/> pH Decreaser <input type="checkbox"/> Chlorine Generating (Salt) <input type="checkbox"/> _____ <input type="checkbox"/> Muriatic Acid <input type="checkbox"/> _____ * = outdoor use only
B					
C					
Electrical Inspector:		Bacterial Testing Company:		Bathing Water Source:	
Electrical Certificate Expiration Date:		Present Bather Load:		No. of Lifeguards on Duty:	

Violations	C	NC	NA
1. Lifeguards			
2. Disinfection *			
3. Bathing Water Quality *			
4. Electrical Safety Hazard			
5. Structural Safety Threat			
6. Drinking Water Supply			
7. Electrical Certificate *			
8. Sewage Disposal			
9. BP Bact. Monitoring/Records *			
10. Nuisance/Hazards			
11. Gas Chlorination Equipment			
12. Lifesaving Equipment *			
13. Plumbing/Cross connections			

C= Compliance    NC= Non-compliance

14. Permit/Permit Specifications	C	NC	NA
Changes/Alterations			
Operational			
Maintenance			
15. Accurate Test Kits *			
16. Hygiene			
17. Facility Management			
18. Waste Management			
19. Vector			
20. Lighting and Ventilation			
21. Dressing/Toilet Facilities			
22. Daily Perf. Monitoring Logs *			
23. Permit/Chapter 18 Posted			

NA= Not Applicable    \*= Critical

Corrections/Recommendations: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Received by (Signature and Date)

FACILITY COPY – WHITE

Investigator (Signature and Date)

INVESTIGATOR'S COPY – YELLOW

## VIOLATION

## REGULATION REFERENCE

- |  |                                |
|--|--------------------------------|
| 1 Provide adequate number of qualified lifeguards/valid number of lifeguard certificates/cards   | 18.42                          |
| 2 Maintain adequate disinfection levels in pools   | 18.29                          |
| 3 Meet clarity standards in pools: bacteriological standards at beaches and pools  | 18.21, .25, .27, .28           |
| 4 Electrical safety  | 18.81 - .87                    |
| 5 Pool construction and/or its equipment does not pose threat/danger to the health or safety of bathers  | 18.7, .41                      |
| 6 Provide safe/adequate drinking water supply  | 18.56                          |
| 7 Valid Electrical Certificate   | 18.81, .88                     |
| 8 Provide an approved sewage and wastewater disposal system  | 18.5                           |
| 9 Monitor for bacterial quality and maintain records of laboratory results   | 18.27, .30, .31                |
| 10 Operate and maintain in a manner to reduce hazards  | 18.21 - .24, .26, .41          |
| 11 Maintain separate room for gas chlorination/adequate breathing equipment for chlorine atmosphere/chaining of cylinder and automatic exhaust ventilation | 18.44 - .45                    |
| 12 Provide lifesaving (adequate number of reaching and flotation devices) and first aid equipment  | 18.43                          |
| 13 Provide approved plumbing, cross-connection control, and backflow prevention  | 18.71 - .73                    |
| 14 Obtain permit/adhere to permit and permit specifications  | 18.7, .11, .16, .22 - .24, .26 |
| 15 Provide accurate residual disinfection and pH monitoring test kits  | 18.29 ( c )                    |
| 16 Maintain hygiene and communicable disease protection  | 18.51 - .55                    |
| 17 Provide a capable manager as evidenced by maintaining a clean, sanitary, healthful, and menace free facility  | 18.4                           |
| 18 Satisfactory garbage and refuse handling  | 18.91 - .94                    |
| 19 Control arthropods and rodents  | 18.6                           |
| 20 Provide sufficient lighting, ventilation, and heating   | 18.65 - .66                    |
| 21 Provide adequate separate bather preparation/toilet facilities  | 18.61 - .66                    |
| 22 Maintain and submit daily records   | 18.32                          |
| 23 Post Chapter 18 and public Bathing Place Certificate  | 18.2                           |

# Facility Management

The purpose of the Pennsylvania Bathing Code, by which all public Pennsylvania pools, beaches, and spas are regulated, is “...**to protect the public health through the proper design, operation and maintenance of public bathing places.**”

- **Title 28, Chapter 18.4** requires that a “**capable manager**” shall be responsible for the proper maintenance and use of the bathing place...by keeping it in good repair and in a clean, sanitary and healthful manner, so that it does not constitute a menace to public health...and is not a public nuisance.”
- Our program strongly recommends, but does not require, a facility be managed by a **Certified Pool Operator (CPO)** or **Certified Aquatic Facility Operator (AFO)**.



# Capable Manager Requirement

**PA defines manager/operator as "capable" meaning they must have specific knowledge to:**

- **Complete accurate chlorine and pH testing** using proper test kit, record the results, and recognize the need to make chemical adjustments.
- **Adjust pH and chlorine levels** (may require immediately closing the pool) Pennsylvania Department of Agriculture (PDA) requires a **Cat. 24 Certified Pesticide Applicator License** for operators making chlorine applications.
- Understand what a positive coliform/E.coli test indicates and **be competent to follow Operational & Biological Contamination Protocol recommendations.**
- **Know what steps to take** if the water becomes cloudy, entrapment hazards etc., and be knowledgeable of all protocols for emergency response – may include procedures for pool closure/evacuation.

# Lifeguard Requirements – Certification

- A **certified lifeguard** shall mean an individual who has a current certification in lifeguarding from a certifying authority recognized by the department in a notice published in the Pennsylvania Bulletin.
- **Who must have certified lifeguards?** Any “recreational swimming establishment” defined as a facility that is designed for the primary purpose of swimming, where a fee is charged for admission.
- Lifeguard Requirements Q/A and Recognized Authorities for 2023 available on **DOH website**.



# Lifeguard Requirements – Operational

## How many certified lifeguards are required at a recreational swimming establishment?

- At least two lifeguards present and available when open to general public;
- At least one certified lifeguard for every 4,000 square feet of water surface area, plus one certified lifeguard for any fraction thereof, equal to or greater than 1,000 square feet, shall be on duty at the waterside;
- During special events in which the use of the recreational swimming establishment is restricted, at least one certified lifeguard, whose sole duty is to protect the bathers, shall be present at waterside during the event;
- When a wading pool is open, the certified lifeguard shall have an unobstructed view of the entire wading pool from the lifeguard's assigned station. If the certified lifeguard does not have an unobstructed view, an additional certified lifeguard shall be on duty to guard only the wading pool;
- If a diving board or water slide is present, a certified lifeguard shall be on duty to monitor the diving well or slide catch area.



# Disinfection \*

## § 18.29. Disinfection of pool water

### Chlorine Residual (required)

- 0.4 ppm PA regulatory minimum, 1 ppm rec. minimum per MAHC
- No maximum in PA code, however...
- Over 10 ppm free chlorine = potential hazard to bathers, DOH recommends temporary closure
- 2 – 4 ppm ideal range

### pH Value

- 7.2 minimum, 8.2 maximum by PA regulation
- 7.2 – 7.6 ideal range



# Types of Chlorine

	<b>Gas Chlorine</b>	<b>Sodium Hypochlorite</b>	<b>Calcium Hypochlorite</b>	<b>Dichlor *</b>	<b>Trichlor *</b>
<b>Physical Appearance</b>	Gas	Liquid	Granular & Tablet	Granular	Granular & Tablet
<b>% Available Chlorine</b>	100%	12-15%	65-70%	56-62%	90%
<b>pH Effect</b>	Lowers pH <1.0	Raises pH 13	Raises pH 11.8	Neutral pH 6.9	Lowers pH 2.9
<b>Loss to Sunlight</b>	Yes	Yes	Yes	No	No

**\* Outdoor use only**



# Disinfection Applications to Water



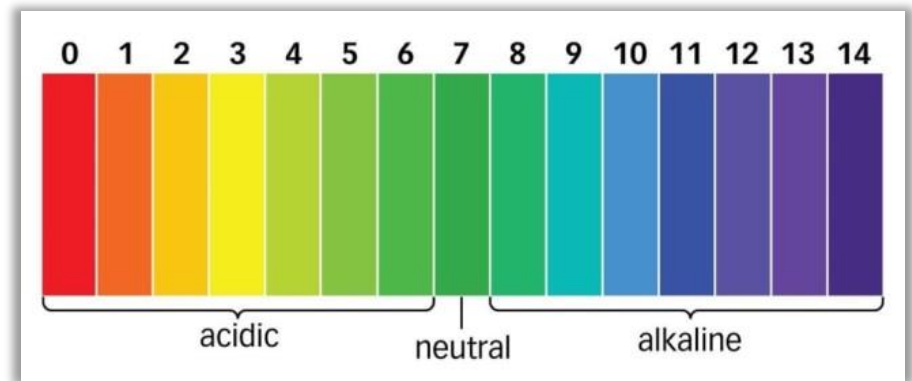
## Pool Closure

- Automated feed system is missing or not operational

# Water Acidity Balance - pH

- **pH** is a critical element in swimming pool water chemistry
- **pH** is a measure of acidity/hydrogen ion ( $H^+$ ) concentration of the water:
  - ▾ **Acidic: 0-6**
  - ▾ **Neutral: 7**
  - ▾ **Basic: 8-14**

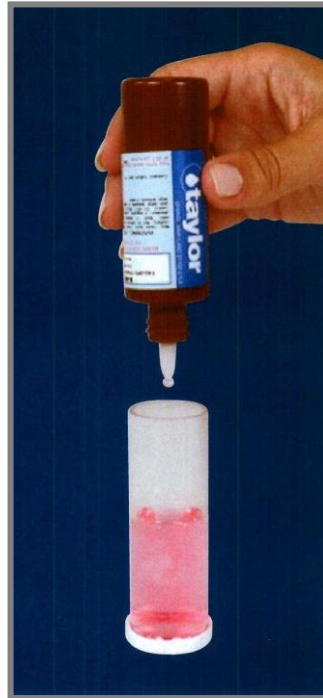
## pH Scale



# pH Effects on Water Quality

Water Quality	pH
<ul style="list-style-type: none"><li>• Poor Cl disinfection</li><li>• Eye irritation</li><li>• Skin irritation</li></ul>	> 8.0
<ul style="list-style-type: none"><li>• Ideal for disinfection</li><li>• Ideal for eye/skin comfort</li></ul>	7.2 – 7.6
<ul style="list-style-type: none"><li>• Eye irritation</li><li>• Skin irritation</li><li>• Pipe corrosion</li></ul>	< 7.0

# Pool Water Testing



# Accurate Test Kits \*

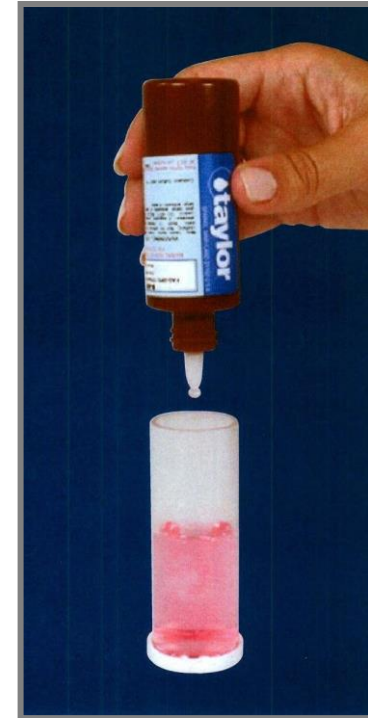
§ 18.29. (c) Testing kits shall be provided for making the necessary tests for residual disinfection and pH. The kit for disinfectant residual shall be **accurate within 0.1 milligram per liter of chlorine or equivalent**. The pH kit shall be accurate within **0.2 pH units**.



# DPD (diethyl-p-phenylene diamine)

## DOH requires use of a method of testing that measures free chlorine residual to 0.1 PPM

- For example, FAS-DPD Titration method with 50 mL sample
- Reagents are highly stable
- Easy to use - Titration turns water sample from pink to clear, less subjective to the user's eye than colorimeter match




# Accurate Test Kits \* (cont.)

- **pH** – Most use phenol red
  - Limit to 6.8 – 8.2
  - Make sure you have proper color comparator for test kit reagents
- Purchase all kit reagents from same manufacturer
- All must be stored out of heat and sunlight
- **Replace reagents** every 6 months – 1 year maximum, or by expiration date/best by date printed on label



# Daily Monitoring Logs \*

- Test and log disinfectant and pH **twice per day** minimum, required by reg.
- Bather load, flow rate, fresh water or chemicals added, backwash, pool closure, etc.


**PUBLIC BATHING PLACE MONTHLY RECORDS**
Jan. 2015

Name of facility \_\_\_\_\_ Address of site \_\_\_\_\_

Permit No. \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ Pool Spa Beach Cap.In gal. \_\_\_\_\_

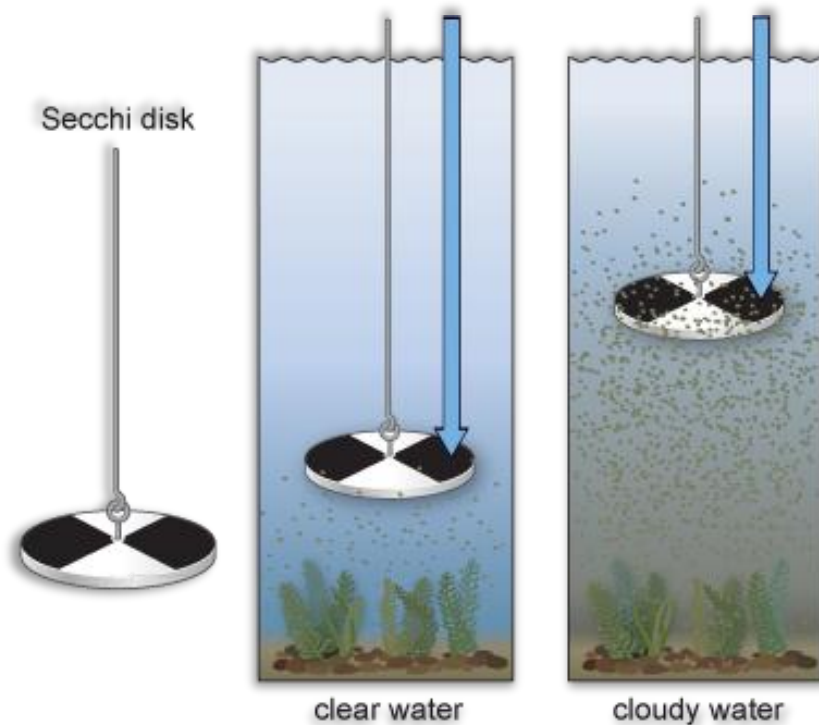
USE DATA		RESIDUAL CHLORINE, BROMINE, pH					OPERATIONAL DATA				Cl & Br USE	CHEMICALS USED	PESTICIDE APPLICATION RECORDS			APPLICATOR	
Day of the mo.	Number of bathers	A.M. Shallow End	A.M. Deep End	P.M. Shallow End	P.M. Deep End	A.M. pH	P.M. pH	Flow rate GPM	Gals. Water added	Back-wash /Clean Filter	Clean bottom and slides?	D Hypo-Cl D Cl GAS D Bromine	Soda-ash, acid, water conditioner, algaecide, murazlo acid, etc.	Pesticide Name & Formulation	EPA Reg. #	Amount Applied	Initials of Applicator
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
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On the reverse side the following incidents must be noted:  
 Circulation pump off at any time; Fecal release in pool; Accident/Injury/Death at pool; Cloudy water; Positive bacteriology report; Failure of any essential disinfection or circulation component; Pool drained.  
 If pool/spa closed, mark it on the report. Keep application records for 3 years. Check Free Chlorine and pH a minimum of twice daily (Am & Pm) and record on this form. It is recommended that you complete the other columns.



# Bathing Water Quality \* - Clarity

## § 18.25. Clarity of the pool



“A black disc, 6” in diameter on a white field, when placed on the bottom of the pool at the deepest point, must be clearly visible from the deck around the deep area of the pool.”

**Rule of Thumb – if you can't see the bottom drain the pool fails clarity standard and must be closed.**

# Water Quality and Bather Load

**§ 18.42 (c) (2)** The bather load of the swimming facility may not exceed the maximum bather load as defined in the permit application.

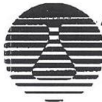
- Bather load determination based on ISPSC Code, formula found within.
- Bathers shed concentrations of bacteria on the order of 600,000 to 6,000,000 colony forming units (CFU) per person in the first 15 min of an exposure period.



# Bacteria Testing \*

## § 18.30. Water samples.

- ❖ (c) The permittee shall have a bacteriological analysis made at least **once each week**
- ❖ Analysis of water samples shall be performed at an **accredited environmental laboratory** registered with the Department of Environmental Protection for drinking water
- ❖ **Total Coliform < 2cfu/100mL** (Treated water only)
- ❖ Weekly laboratory records must be kept on site for **at least two years** by regulation.

 **ANALYTICAL LABORATORY SERVICES, INC.** YORK DIVISION  
Environmental Testing Laboratory

Print Date: Jun 23, 2006 **CERTIFICATE OF ANALYSIS**

Client: Kampground Lab Sample Number: L85501-1  
Gettysburg, PA 17325 Client Sample No.: POOL  
Sampled By: N KELLER 06/21/06 13:18  
Date Received: N KELLER 06/21/06

Attn: Mr Emile Bergeron Date Reported: 06/23/06  
Project: GET002/POOL Matrix: Pool  
Account: GET002 Discard Date: 07/07/06  
Description: Pool sample Page: 1 of 1

Parameter	Results	Units	DL	Date Analyzed	Analyst	Method
E. coli	ND	MPN/100ml	1	06/21/06	VDM/LMN	ONPG-MUG (MMD-MUG)
Total Coliform Bacteria, Idexx	11.0	MPN/100ml	1	06/21/06	VDM/LMN	SM9222B, ONPG-MUG

Note: Total Coliform Bacteria PRESENT.



# Positive/Failed Bacteria Result

## DOH Contamination Protocols

### Weekly Bacteriological Test Failure Treatment

- **Close the aquatic facility** including all units that share the same water.
- Communicate with patrons about length and nature of closure.
- If applicable, manually remove fecal matter and dispose in a sanitary facility.
- Disinfect the removal device.
- **Bring cyanuric acid level to less than 15 ppm** by partial water changes.
- **Bring pH to 7.2-7.5.**
- **Maintain 5-10 ppm residual free chlorine for 30 minutes.**
- Confirm filtration and turnover are at required rates during chlorination time.
- **Bring water chemistry back to recommended operational levels.**
- **Log the events**, date, remedial procedures, pH, and chemical levels used during enhanced treatment.
- **Reopen the unit(s).**

# Positive/Failed Bacteria Result (cont.)

## DOH Contamination Protocols

### Formed Stool Incident

- Crypto risk unlikely
- 5 ppm free chlorine\*\*
- 30 minutes minimum
- DOCUMENT all steps specifically chlorine & pH readings

### Unformed Stool Incident

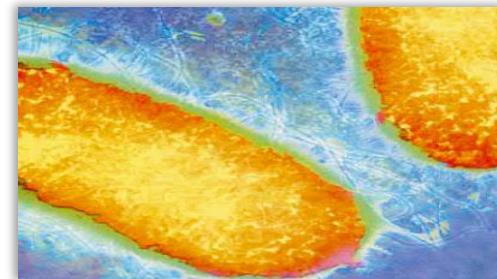
- Crypto risk very high
- 20 ppm free chlorine\*\*
- 12.75 hours minimum
- DOCUMENT all steps specifically chlorine & pH readings

**\*\*Stabilizer/cyanuric acid levels must remain < 15 ppm**

# Bacteria Testing\* - Fresh Water/Beaches

## PA Regulations require Bacteria testing of Beach water:

- Within 1 week prior to opening, and once a week during period of use
- DOH may require additional samples based on size, bather load, weather conditions, bacteriological history or other factors that may influence water quality
- Each sample is to be tested individually for E.Coli
  - ▀ E.Coli density may not exceed 235 per 100ml
  - ▀ 30-day geometric mean not > 126 per 100ml



# Beach Closure Requirements

## § 18.28. Bathing beach contamination

- Prominently post signs at all entrances to the bathing beach area informing the public that the bathing beach is closed and that swimming or bathing is prohibited
- Investigate reason for exceedance and document
- Resample immediately
- Notify DOH or local health department of new result
- Receive written authorization from DOH/local health department to reopen beach
- The approval to reopen will be given by DOH when the Department finds that the waters of the bathing beach are no longer contaminated.

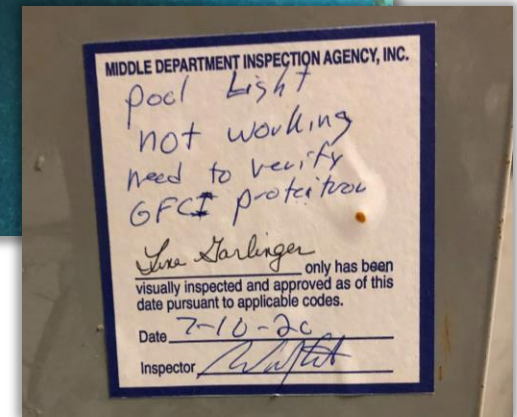
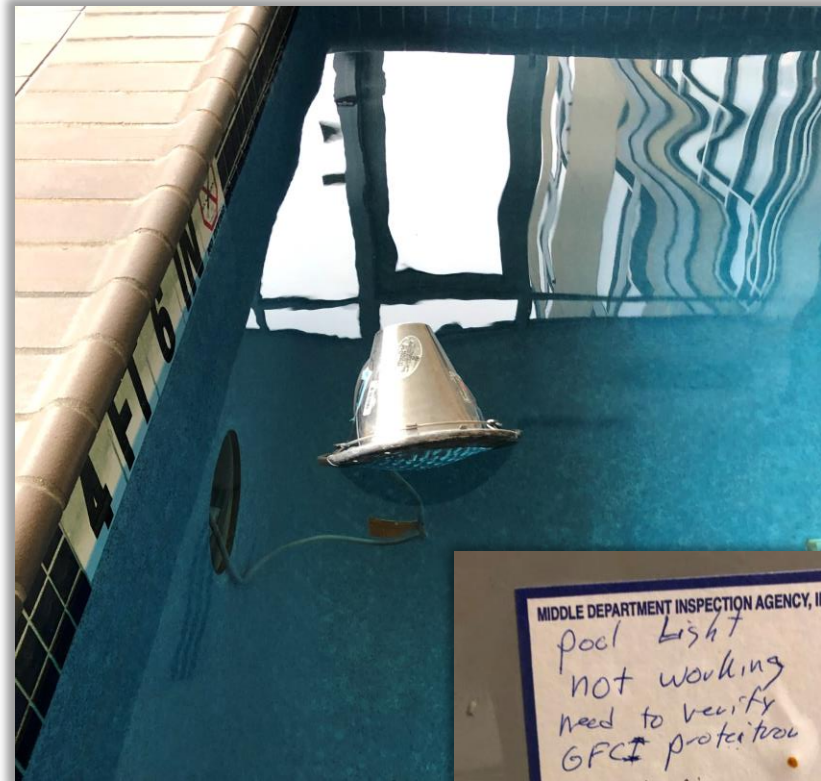


# Electrical Safety Hazard

Three of the biggest electrical safety hazards, especially in older pools:

- faulty underwater lighting
- faulty or nonexistent Ground Fault Circuit Interrupters (GFCIs)
- damaged wiring.

Grounding & Bonding of pool electrical equipment required to prevent electrical shock.





# Electrical Inspection Certificate \*

16446

**INSPECTION CERTIFICATE**

**COMMONWEALTH CODE**  
**INSPECTION SERVICE, INC.**  
176 DOE RUN ROAD, MANHEIM, PA 17545  
TELEPHONE (717) 664-2347

June 05, 2002  
APPL. #329

PREMISES OF ARTILLERY RIDGE CAMPGROUND as PUBLIC  
SWIMMING POOL  
Address: 610 TANEYTOWN ROAD, GETTYSBURG PA  
County of ADAMS

Installed by: EXISTING  
Apparatus: VISUAL INSPECTION OF ELECTRICAL EQUIPMENT.  
Inspected by: DON GERHART

The conditions following govern issuance of this certificate, and any certificate previously issued is cancelled. Failure to have the property reinspected when additional equipment or wiring is added, or within one year from date of the certificate shall void the certificate in its entirety and the company shall not be liable for any damages whatsoever.  
This certificate does not guarantee efficiency, wearing qualities, maintenance or repair and the company shall not be liable for any damages resulting from any defect or fault in the plans or specifications, including repair, reconstruction, personal injury or for the death of any person; and  
This certificate only covers visual inspection of wiring and does not cover manufacture or use of wiring.  
Inspectors of this Company shall have the privilege of making inspections at any time, and if his rules are violated, the Company shall have the right to revoke the certificate.

EPH10000 Rev. 12-68

- All units must comply with National Electric Safety Code
- Inspection of all electrical pool equipment is required every three years
- Licensed PA contractor certified to perform work in your county & recognized by PA Department of Labor & Industry (DLI)

DLI > Uniform Construction Code > Certified TPA (Buildings)

# Structural Safety Hazard

## Examples:

- Missing or broken tiles, cracked coping or basin, excessive pitting, damaged pool deck etc.



# Nuisance/Hazards (General)

## § 18.41. Reduction of hazards.

**...To reduce to a practical minimum the danger of injury to persons from drowning, falls, collisions, fires, nuisances or hazard of any kind.**

- Mishandling/improper storage of chemicals
- Excessively high levels of chlorine
- Excessive hot tub/spa temperature (>104 deg F)
- Pool room left unsecured, locks not functioning
- Loose, broken or missing ladders or handrails
- Tripping hazards, etc.

# Lifesaving Equipment \*



## § 18.43. Lifesaving equipment.

1. Reaching Device
2. Floatation Device
3. First Aid Kit

\*\*Emergency Use only



# Permit Specifications - Operational



## 1. Operational

- Obtain permit to operate from PA DOH
- Appropriate use of disinfectant based on unit location and use with proper feeder equipment
- Circulation- 24/7
- Turnover period / Flow Rate

# Turnover Times

Permitted Unit Type	Turnover Time (Hours, Maximum)
Swimming Pool	6 <sup>A</sup> , 8 <sup>B</sup>
Wading Pool	1 <sup>A</sup> , 2 <sup>B</sup>
Spa/Hot Tub	0.5 <sup>A</sup> (30 minutes)
Splash Pad (less than 24 inches)	1 <sup>A</sup>
Catch Pool (Water Slide)	1 <sup>A</sup>
Leisure River	2 <sup>A</sup>
A) Max. turnover based on ISPSC build standard and/or MAHC B) Max. turnover by PA Code	


# Permit Specifications - Changes

## 2. Changes/alterations

- Equipment changes, unit modifications, etc.

## Public Bathing Place Application to Operate Equipment Changes

- Form to be used for Department review and approval of changes to equipment, outside of regular maintenance only.
- Filters, chemical feeders and chemical controls, circulating pumps, and flow meters.
- Must include a copy of your current Electrical Certificate.

 **pennsylvania**  
DEPARTMENT OF HEALTH

**Public Bathing Place**  
Application to Operate Equipment Changes

This form is to be used for Department review and approval of changes to equipment. Equipment changes are changes made outside of regular maintenance. Changes to the pool may require Building Code Permits; check with your local municipality for those requirements. Pool equipment includes filters, chemical feeders and chemical controls, circulating pumps, and flow meters. Complete the requested information on all the equipment and be careful to check each block as to whether the equipment is New or Existing. Completed forms must include a copy of your current Electrical Certificate and should be returned to the DOH District Offices. Please add additional pages if necessary to document multiple filters and chemical feeders.

Date:	Unit type:	Permit number:
Name of facility:	Owner:	
Facility address:		
City, State, Zip Code:		
Contact person:		
Phone:	Fax:	Email:
Pool location: Indoor <input type="checkbox"/> Outdoor <input type="checkbox"/> Other:		
Volume (gal):	Flow rate(gpm):	Area (sq.ft):
Filtration System:	New <input type="checkbox"/> Existing <input type="checkbox"/>	
**NSF Standard 50? Yes <input type="checkbox"/> No <input type="checkbox"/> If no, name testing agency:		
Type: Sand <input type="checkbox"/> Cartridge <input type="checkbox"/> Diatomaceous earth <input type="checkbox"/> Other:		
No. of Filters:	Make:	Model: Filter Area (sq.ft):
New <input type="checkbox"/> Existing <input type="checkbox"/>		
Chemical Feeder:	**NSF Standard 50? Yes <input type="checkbox"/> No <input type="checkbox"/> If no, name testing agency:	
Type: Chlorine gas <input type="checkbox"/> Calcium hypo <input type="checkbox"/> Sodium hypo <input type="checkbox"/> Bromine <input type="checkbox"/> Trichlor <input type="checkbox"/> Dichlor <input type="checkbox"/>		
Chlorine generation systems <input type="checkbox"/>	** for All systems please include an installation diagram.	
No. of units:	Make:	Model:
Feeder capacity (lbs. of disinfectant/day):		
Chemical controller make and model number:	New <input type="checkbox"/> Existing <input type="checkbox"/>	
Circulating pump:	New <input type="checkbox"/> Existing <input type="checkbox"/>	
**NSF Standard 50? yes <input type="checkbox"/> no <input type="checkbox"/> if no, name testing agency:		
Make:	Model:	
Pump capacity:	Horse power:	Total dynamic head:
Flow meter:	New <input type="checkbox"/> Existing <input type="checkbox"/>	
Make:	Model:	
Turnover period:	Flow rate range (gpm):	
Comments:		

\*\*NSF – National Sanitation Foundation

DOH 2015 HD01656F

# Permit Specifications - Maintenance



## 3. Maintenance

- Proper function of essential circulation, filtration and disinfection equipment
- Pump function, piping integrity, leaks, etc.





# Waste Management and Vector Control

## Garbage and Refuse

### § 18.91. Collection

The collection of garbage and refuse shall be conducted in a sanitary manner and as often as necessary in order to prevent a nuisance.

### § 18.92. Storage.

Other refuse shall be stored... in a manner so as to prevent arthropod or rodent problems and other nuisances.

### § 18.93. Disposal.

The disposal facilities shall be operated and maintained in a manner that does not create a nuisance or health hazard.

### § 18.6. Vector control.

Adequate measures for the control of arthropods and rodents which the Department deems a public health hazard shall be taken...



# Lighting and Ventilation

## § 18.65. Lighting.

Sufficient lighting shall be provided to promote cleanliness.

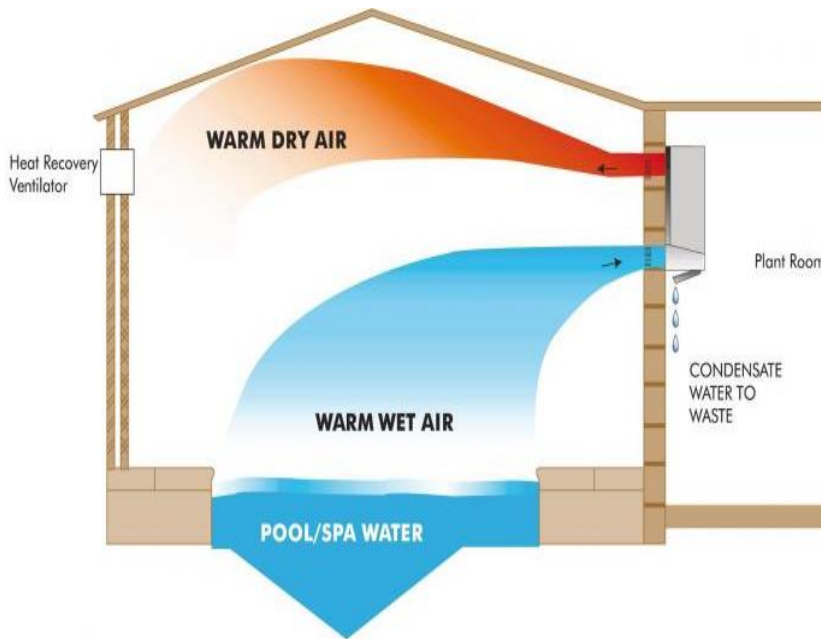
## § 18.66. Ventilation and heating.

Ventilation and heating shall be such as to provide for the comfort of the bather.



# Air Handling and Water Quality

American Society of Heating, Refrigerating and Air-Conditioning Engineers



- ASHRAE recommends replacing the indoor air once per hour.
- ASHRAE requires that relative indoor humidity remain below 60 percent

## Recommendations:

- 1. Automatic chlorine control system.**  
The chemical feed pump must be sized to match worst case pool loading.
- 2. High water turnover** to better mix the pool, to avoid dead spots, and to provide better chlorine concentration measurement and control.
- 3. ASHRAE 62 outdoor air compliance** to aid in breakpoint chlorination. Consult with your technical advisor.
- 4. Add chlorine deactivating filters** to help balance energy, humidity and water chemistry demands.

# Drinking Water and Dressing/Toilet Facilities

**§ 18.56.(b)** Drinking water facilities shall be provided at public bathing places



**§ 18.62.** Bather preparation facilities shall be provided with dressing facilities, showers, lavatories, and toilets



# Cross-connection & Plumbing

## § 18.72. Cross connections.

- Cross connections are not permitted.
- A minimum air gap of at least twice the diameter of the water pipe is provided where pool water or water from the recirculation system is discharged to a sewer system.

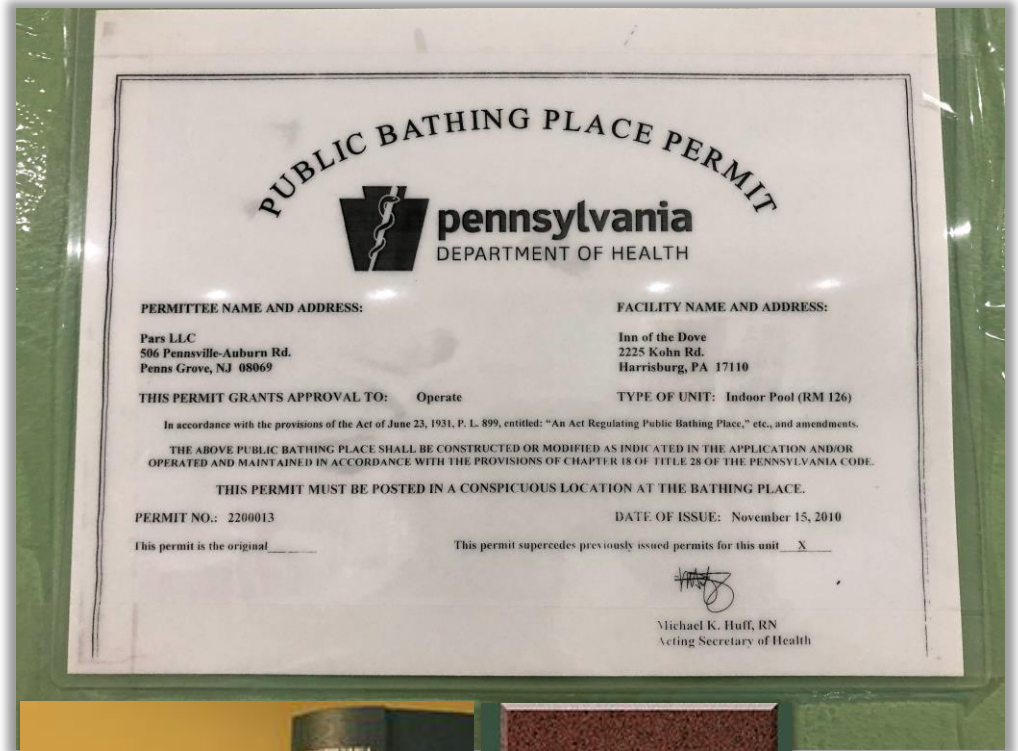
## § 18.73. Backflow prevention.

- Backflow is not permitted.
- Where it is not practicable to provide the minimum air gap, the connection to the fixture, equipment or appliance shall be equipped with a backflow preventer assembly.

# PBP Permit & Chapter 18 Posted Onsite

## § 18.2. Posting of regulations.

A copy of this chapter, as well as the Certificate for Bathing Place, shall be posted conspicuously at the public bathing place for the information of the public.



# Best Practices - Daily Check Lists

- Pool Chemistry
- Log Entries
  - Record all daily readings and chemical adjustments
- Filter Room
  - Feeder/ Filters Equipment Pumps and Chemical Storage/PPE
- Safety Features
  - Life saving equipment
  - Ride/Pool Rules
- Deck and Deck Equipment
  - Depth markers/warning signs
  - Free from structural hazards and obstructions
- Pool Cleaning
  - Clarity, skimming, water levels, stains, non-slip tile surfaces
- Emergency Response Systems

# Best Practices - Emergency Response

- **Develop Emergency Response Plan**
  - ▣ Spill-cleanup
  - ▣ Chemical accident/exposure response
  - ▣ Clear chain of command w/ alternates
  - ▣ Evacuation Plan
  - ▣ Communication plan alerting patrons, staff & emergency responders
- **Practice Drills and Organizational Response**
- **Review and Update**



# PA Department of Health - Pool School

## Regulatory Compliance and Best Practices for Aquatic Facility Owners, Managers and Operators

Questions?

**THANK YOU!**

