

FLORIDA BUILDING COMMISSION
SWIMMING POOL ELECTRICAL SAFETY PROJECT
CONCURRENT MEETING OF THE SWIMMING POOL TAC AND ELECTRICAL TAC
OCTOBER 14, 2015 MEETING SUMMARY REPORT

WEDNESDAY, OCTOBER 14, 2015

MEETING SUMMARY AND OVERVIEW

On Wednesday, October 14, 2015 the Swimming Pool TAC and Electrical TAC met concurrently in Daytona Beach to develop recommendations regarding pool safety issues focused on the prevention of electrocution in swimming pools. At the initial scoping meeting held on September 28, 2015 the TACs agreed that the project scope was to focus on evaluation of whether to recommend a code amendment requiring low voltage lighting in residential pools for new construction (Phase I). In addition, it was agreed that additional electrical pool safety relevant topical issues including bonding, grounding, retrofitting of existing pools, and education would be considered as a second phase of the project (Phase II). At the October 14, 2015 meeting the TACs proposed and acceptability ranked options for low voltage lighting in residential pools for new construction. In addition, the TACs evaluated proposed options to address the other key topical issues, and ultimately developed a consensus package of recommendations for consideration by the Florida Building Commission. The TACs voted unanimously to recommend the Commission approve the consensus package of recommendations from the TACs. The TACs' specific recommendations are as follow:

Grounding

The Electrical TAC and the Swimming Pool TAC voted unanimously to recommend that the Commission charge staff to work with the TAC chairs and in consultation with stakeholders to formulate a code amendment requiring that all electrical circuits feeding equipment that could potentially energize a pool have GFCI protection for new residential and commercial swimming pools (the goal is to fill in any gaps in the current Code).

Education

The Electrical TAC and the Swimming Pool TAC voted unanimously to recommend that the Commission support a comprehensive educational effort to ensure there is a consistent message to enhance pool electrical safety issues for existing and new pools by working with existing resources including educational providers and associations. The effort should include defining the problems, identifying solutions and communicating a consistent message to stakeholders (contractors, consumers, home inspectors, pool maintenance providers, etc.) through training courses, flyers, brochures, websites, etc. Key issues for education messaging include lighting, bonding, grounding, GFCI, maintenance of existing pools, and monitoring devices to detect stray currents in the pool water, etc.

Existing Swimming Pools

The Electrical TAC voted 6-2 in favor (75%), to recommend the Commission charge staff to work with the TAC chair and in consultation with stakeholders to formulate a code amendment requiring existing commercial and residential swimming pools to have GFCI protection for replacement pool

pump motors, if not already in place; to provide GFCI protection for the replacement of 120 volt pool lights when they are replaced; and, as part of the close out inspection ensuring that the existing bonding system is complete and terminated properly.

Note: The Swimming Pool TAC vote 5-3 (63%) in favor of the option.

PROJECT OVERVIEW

The 2015 Florida Legislature identified the need to evaluate the electrical aspects of swimming pool safety focusing on minimizing electrocution risks linked to swimming pools. In response, the Florida Building Commission approved a research project (technical enrichment) for a *Swimming Pool Electrocution Prevention Study*. In order to implement the project the Commission convened a process to develop recommendations for pool safety focused on the prevention of electrocution in swimming pools. The Commission determined that the project would be evaluated and recommendations developed by convening concurrent meetings of the Commission's Swimming Pool Technical Advisory Committee and Electrical Technical Advisory Committee (TAC). The objective of the project is to evaluate key topical issues, and as appropriate develop code amendment proposals designed to minimize electrocution risks linked to swimming pools.

In response to the Commission's direction the Swimming Pool TAC and Electrical TAC agreed that the initial Phase I scope of the project is to determine whether to recommend a proposed code amendment that would require low voltage lighting in residential swimming pools for new construction. Once the Swimming Pool TAC and the Electrical TAC conclude their evaluation of low voltage lighting they will evaluate additional project relevant topics in Phase II of the project: specifically bonding, grounding, retrofitting of existing pools, and education.

AGENDA ITEM OUTCOMES

OPENING AND MEETING ATTENDANCE

The meeting was opened at 10:00 AM once a quorum was established for the Swimming Pool and Electrical TACs respectively, and the following members participated:

Swimming Pool TAC: James Batts (chair), Jordan Clarkson, Bill Dumbaugh, Kevin Flanagan, John O’Conner, Mark Pabst, Gordon Shepardson, Bob Vincent, and John Wahler. (9 of 11)

Absent Members:

Tom Allen, and Corky Williams.

Electrical TAC: Kevin Flanagan (chair), Neal Burdick, Ken Castronovo, Leonard Devine, Jr. (*Alternate: Nelson Montgomery*), Shane Gerwig, David Rice (*Alternate: Steve Mitchell*), Joe Territo, Clarence Tibbs, and Dwight Wilkes. (9 of 11)

Absent Members:

Oriol Haage, and Roy Van Wyk.

DBPR Staff Present

Norman Bellamy, Chris Burgwald, Jim Hammers, April Hammonds, Mo Madani, and Jim Richmond.

Commissioners Present

Fred Schilling, Jim Schock, and Jeff Stone.

Meeting Facilitation and Reporting

The TAC Chairs meeting was facilitated by Jeff Blair from the FCRC Consensus center at Florida State University. Information at: <http://consensus.fsu.edu/>



CONSENSUS CENTER

Background and Supporting Documents

The agenda and relevant background and supporting documents are linked to each agenda item. The Agenda URLs for the October 14, 2015 TAC meetings are as follows:

http://www.floridabuilding.org/fbc/commission/FBC_1015/Swimming_Pool_TAC/Swimming_Pool_TAC_Agenda_101415.htm

http://www.floridabuilding.org/fbc/commission/FBC_1015/Electrical_TAC/Electrical_Agenda_TAC_101415.htm

AGENDA REVIEW

The Swimming Pool TAC voted unanimously, 8 - 0 in favor, to approve the agenda for the October 24, 2015 meeting as posted/presented.

The Electrical TAC voted unanimously, 9 - 0 in favor, to approve the agenda for the October 14, 2015 meeting as posted/presented.

Following are the key agenda items approved for consideration:

- To Approve Regular Procedural Topics (Agenda and Meeting Summary Report)
- To Discuss and Approve Phase I Recommendations (Low Voltage Lighting in Residential Pools for New Construction)
- To Discuss Phase II Topics (Bonding, Grounding, Retrofitting of Existing Pools, and Education)
- To Adopt Consensus Recommendations for Submittal to the Commission
- To Consider Public Comment
- To Identify Needed Next Steps: Information, Assignments, and Agenda Items for Next Meeting

The complete Agenda is included as “*Attachment 1*” of this report.

(See Attachment 1—Agenda)

APPROVAL OF SEPTEMBER 28, 2015 MEETING SUMMARY REPORT

The Swimming Pool TAC voted unanimously, 8 - 0 in favor, to approve the Meeting Summary Report for the September 28, 2015 meeting as posted/presented.

APPROVAL SEPTEMBER 28, 2015 MEETING SUMMARY REPORT

The Electrical TAC voted unanimously, 9 - 0 in favor, to approve the Meeting Summary Report for the September 28, 2015 meeting as posted/presented.

IDENTIFICATION, DISCUSSION, AND ACCEPTABILITY RANKING OF PHASE I OPTIONS Requirement for Low Voltage Lighting in Residential Pools for New Construction

At the September 28, 2015 meeting the Swimming Pool TAC and the Electrical TAC voted to approve in concept a code amendment proposal requiring low voltage lighting in residential pools for new construction, with the understanding that relevant safety data and other documentation would be evaluated prior to a final vote on any recommendation submitted to the Florida Building Commission.

At the October 14, 2015 meeting the TACs were asked to offer options regarding possible requirement for low voltage lighting in residential pools for new construction. In addition, the public was invited to comment on the options and/or suggest additional options prior to the TACs ranking them for acceptability. Jeff explained that members would be asked to rank each proposed option in turn utilizing a four-point acceptability ranking scale where 4 = acceptable, 3 = minor reservations, 2 = major reservations, and 1 = unacceptable. Following discussion and refinement of options, members may be asked to do additional rankings of proposed options if requested by a TAC member. Members should be prepared to offer specific refinements to address their reservations.

Once ranked, options with a 75% or greater number of 4's and 3's in proportion to 2's and 1's shall be considered consensus recommendations. The TACs' consensus recommendations will be submitted to the Commission for consideration.

Following the opportunity provided for questions and answers, public comment, and discussion, the TACs ranked a series of options regarding low voltage lighting in residential pools for new construction.

The complete Options Acceptability Ranking Results are included as “Attachment 2” of this report.

(See Attachment 2—Ranking Results)

DISCUSSION AND EVALUATION OF PHASE II TOPICS IN TURN

Identification of Issues and Options, and Acceptability Ranking of Options in Turn

Jeff explained that the TACs would address each of the four key issues in turn by topic, and that members would be invited to propose and comment on options before the TAC members ranked them. In addition, the public was invited to comment on the options and/or suggest additional options prior to the TACs ranking them for acceptability. The Phase II topics are Bonding, Grounding, Retrofitting of Existing Swimming Pools, and Education of Contractors and Consumers. Jeff explained that TAC members would be asked to rank each proposed option in turn utilizing a four-point acceptability ranking scale where 4 = acceptable, 3 = minor reservations, 2 = major reservations, and 1 = unacceptable. Following discussion and refinement of options, members may be asked to do additional rankings of proposed options if requested by a TAC member. Members should be prepared to offer specific refinements to address their reservations. Once ranked, options with a 75% or greater number of 4's and 3's in proportion to 2's and 1's shall be considered consensus recommendations. The TACs' consensus recommendations will be submitted to the Commission for consideration.

Following the opportunity provided for questions and answers, public comment, and discussion, the TACs ranked the proposed options for acceptability. All of the options proposed are included in the ranking results. Following are the option(s) ranked that achieved a consensus level of support ($\geq 75\%$ in favor):

Grounding

The Electrical TAC and the Swimming Pool TAC voted unanimously to recommend that the Commission charge staff to work with the TAC chairs and in consultation with stakeholders to formulate a code amendment requiring that all electrical circuits feeding equipment that could potentially energize a pool have GFCI protection for new residential and commercial swimming pools (the goal is to fill in any gaps in the current Code).

Education

The Electrical TAC and the Swimming Pool TAC voted unanimously to recommend that the Commission support a comprehensive educational effort to ensure there is a consistent message to enhance pool electrical safety issues for existing and new pools by working with existing resources including educational providers and associations. The effort should include defining the problems, identifying solutions and communicating a consistent message to stakeholders (contractors, consumers, home inspectors, pool maintenance providers, etc.) through training courses, flyers,

brochures, websites, etc. Key issues for education messaging include lighting, bonding, grounding, GFCI, maintenance of existing pools, and monitoring devices to detect stray currents in the pool water, etc.

Existing Swimming Pools

The Electrical TAC voted 6-2 in favor (75%), to recommend the Commission charge staff to work with the TAC chair and in consultation with stakeholders to formulate a code amendment requiring existing commercial and residential swimming pools to have GFCI protection for replacement pool pump motors, if not already in place; to provide GFCI protection for the replacement of 120 volt pool lights when they are replaced; and, as part of the close out inspection ensuring that the existing bonding system is complete and terminated properly.

Note: The Swimming Pool TAC vote 5-3 (63%) in favor of the option.

The complete Options Acceptability Ranking Results are included as “Attachment 2” of this report.

(See Attachment 2—Ranking Results)

TAC ACTIONS

Following the opportunity provided for questions and answers, public comment and discussion, the TACs took the following actions:

MOTION—The Swimming Pool TAC voted unanimously, 8 - 0 in favor, to recommend the Commission approve the TACs’ package of consensus recommendations.

MOTION—The Electrical Pool TAC voted unanimously, 8 - 0 in favor, to recommend the Commission approve the TACs’ package of consensus recommendation.

NEXT STEPS

Following are the next steps for the Swimming Pool Electrical Safety Project:

- The Commission will evaluate the TACs’ (Swimming Pool TAC and Electrical TAC) consensus package of recommendations at the October 15, 2015 meeting.
- The Commission will take the lead with ensuring Code amendments are proposed consistent with any recommendations approved by the Commission regarding swimming pool electrical safety requirements.

ADJOURNMENT

After a determination that a quorum was still present the Swimming Pool TAC voted unanimously, 8 – 0 in favor, to adjourn the meeting at 3:30 PM on Wednesday, October 14, 2015.

After a determination that a quorum was still present the Electrical TAC voted unanimously, 8 – 0 in favor, to adjourn the meeting at 3:30 PM on Wednesday, October 14, 2015.

**ATTACHMENT 1
OCTOBER 14, 2015 MEETING AGENDAS**

FLORIDA BUILDING COMMISSION
SWIMMING POOL TECHNICAL ADVISORY COMMITTEE (TAC)
CONCURRENTLY WITH THE ELECTRICAL TAC
OCTOBER 14, 2015—MEETING II
PLAZA HISTORIC BEACH RESORT AND SPA
600 NORTH ATLANTIC BOULEVARD—DAYTONA BEACH, FLORIDA 33706

MEETING OBJECTIVES

- To Approve Regular Procedural Topics (Agenda and Meeting Summary Report)
- To Discuss and Approve Phase I Recommendations (Low Voltage Lighting in Residential Pools for New Construction)
- To Discuss Phase II Topics (Bonding, Grounding, Retrofitting of Existing Pools, and Education)
- To Adopt Consensus Recommendations for Submittal to the Commission
- To Consider Public Comment
- ✓ To Identify Needed Next Steps: Information, Assignments, and Agenda Items for Next Meeting

MEETING AGENDA—WEDNESDAY, OCTOBER 14, 2015

All Agenda Times—including Adjournment—are Approximate and Subject to Change

10:00 AM	A.)	WELCOME AND INTRODUCTIONS
	B.)	AGENDA REVIEW AND APPROVAL (October 14, 2015)
	C.)	REVIEW AND APPROVAL OF FACILITATOR’S SUMMARY REPORT (September 28, 2015)
	D.)	IDENTIFICATION, DISCUSSION, AND ACCEPTABILITY RANKING OF PHASE I OPTIONS Requirement for Low Voltage Lighting in Residential Pools for New Construction <ul style="list-style-type: none"> • Identification, Discussion and Acceptability Ranking of Options In Turn
	E.)	ADOPTION OF PHASE I CONSENSUS RECOMMENDATIONS FOR SUBMITTAL TO THE COMMISSION
<i>12:00 PM</i>		<i>LUNCH</i>
1:00 PM	F.	DISCUSSION AND EVALUATION OF PHASE II TOPICS IN TURN Identification of Issues and Options, and Acceptability Ranking of Options in Turn <ul style="list-style-type: none"> • Bonding • Grounding • Retrofitting of Existing Swimming Pools • Education of Contractors and Consumers
<i>3:00 PM</i>		<i>BREAK</i>
3:15 PM	F.	DISCUSSION AND EVALUATION OF PHASE II TOPICS IN TURN CONTINUED
	G.)	ADOPTION OF ANY PHASE II CONSENSUS RECOMMENDATIONS FOR SUBMITTAL TO THE COMMISSION
	H.)	GENERAL PUBLIC COMMENT
	I.)	NEXT STEPS: AGENDA ITEMS, NEEDED INFORMATION, ASSIGNMENTS, DATE AND LOCATION IF NEEDED
<i>~5:00 PM</i>	J.)	<i>ADJOURN</i>

FLORIDA BUILDING COMMISSION
ELECTRICAL TECHNICAL ADVISORY COMMITTEE (TAC)
CONCURRENTLY WITH THE SWIMMING POOL TAC
OCTOBER 14, 2015—MEETING II
PLAZA HISTORIC BEACH RESORT AND SPA
600 NORTH ATLANTIC BOULEVARD—DAYTONA BEACH, FLORIDA 33706

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3:00 PM	BREAK	
3:15 PM	F.	DISCUSSION AND EVALUATION OF PHASE II TOPICS IN TURN CONTINUED
	G.)	ADOPTION OF ANY PHASE II CONSENSUS RECOMMENDATIONS FOR SUBMITTAL TO THE COMMISSION
	H.)	GENERAL PUBLIC COMMENT
	I.)	NEXT STEPS: AGENDA ITEMS, NEEDED INFORMATION, ASSIGNMENTS, DATE AND LOCATION IF NEEDED
~5:00 PM	J.)	ADJOURN

ATTACHMENT 2
OPTIONS ACCEPTABILITY RANKING RESULTS

I. PHASE I RECOMMENDATIONS

**LOW VOLTAGE LIGHTING IN RESIDENTIAL SWIMMING POOLS FOR
NEW CONSTRUCTION**

Low Voltage October 14, 2015	4=acceptable	3= minor reservations	2=major reservations	1= not acceptable
Option A: Require low voltage lighting in residential pools for new construction (Miami-Dade requirements).				
<i>Swimming Pool TAC</i> (6-3) 67%	5	1	1	2
<i>Electrical TAC</i> (5-4) 56%	4	1	1	3
Option B: Maintain NEC requirements for new residential pools				
<i>Swimming Pool TAC</i> (7-2) 78%	6	1	1	1
<i>Swimming Pool TAC</i> (6-3) 67%	5	1	1	2
Revised Ranking <i>Electrical TAC</i> (5-4) 56%	4	1	3	1
Option C: Require low voltage lighting in residential pools for new construction (Miami-Dade requirements) for energy conservation purposes.				
<i>Swimming Pool TAC</i> (7-2) 78%	5	2	1	1
<i>Swimming Pool TAC</i> (4-5) 44%	2	2	2	3
Revised Ranking <i>Electrical TAC</i> (6-3) 67%	2	4	0	3
Revised Ranking <i>Electrical TAC</i> (5-4) 56%	3	2	1	3
Option D: Require LED pool lights with plastic niches or without niches in new construction.				
<i>Swimming Pool TAC</i> (3-6) 33%	2	1	3	3
<i>Electrical TAC</i> (2-7) 22%	1	1	4	3

Option E: All residential pools shall meet the requirements of code and shall be require a monitoring device to detect stray currents in the water.				
<i>Swimming Pool TAC</i> (2-7) 22%	0	2	5	2
<i>Electrical TAC</i> (3-6) 33%	1	2	6	0

II. PHASE II RECOMMENDATIONS

1. BONDING

No specific options were evaluated for bonding.

2. GROUNDING

Grounding <i>October 14, 2015</i>	4=acceptable	3= minor reservations	2=major reservations	1= not acceptable
Option A: Require that all electrical circuits feeding equipment that could potentially energize a pool have GFCI protection for new residential and commercial swimming pools (the goal is to fill in any gaps in the current Code).				
<i>Swimming Pool TAC</i> (9-0) 100%	5	4	0	0
<i>Electrical TAC</i> (9-0) 100%	4	5	0	0

3. RETROFITTING OF EXISTING POOLS

Retrofitting <i>October 14, 2015</i>	4=acceptable	3= minor reservations	2=major reservations	1= not acceptable
Option A: Require existing commercial and residential swimming pools to have GFCI protection for replacement pool pump motors, if not already in place; to provide GFCI protection for the replacement of 120 volt pool lights when they are replaced; and, as part of the close out inspection ensuring that the existing bonding system is complete and terminated properly.				
<i>Swimming Pool TAC</i> (5-3) 63%	2	3	3	0
<i>Electrical TAC</i> (6-2) 75%	4	2	2	0

4. EDUCATION INITIATIVES FOR CONTRACTORS AND CONSUMERS

Education <i>October 14, 2015</i>	<i>4=acceptable</i>	<i>3= minor reservations</i>	<i>2=major reservations</i>	<i>1= not acceptable</i>
<i>Option A: Initiate a comprehensive educational effort to ensure there is a consistent message to enhance pool electrical safety issues for existing and new pools by working with existing resources including educational providers and associations. The effort should include defining the problems, identifying solutions and communicating a consistent message to stakeholders (contractors, consumers, home inspectors, pool maintenance providers, etc.) through training courses, flyers, brochures, websites, etc. Key issues for education messaging include lighting, bonding, grounding, GFCI, maintenance of existing pools, and monitoring devices to detect stray currents in the pool water, etc.</i>				
<i>Swimming Pool TAC</i> (9-0) 100%	9	0	0	0
<i>Electrical TAC</i> (9-0) 100%	8	0	0	0