

Comparing Effectiveness of WEA to Sirens

Tyler Swearingen
Nuclear Emergency Preparedness
Specialist

Goal of Project

- Determine if Wireless Emergency Alerts are at least as effective at alerting the public as Outdoor Warning Sirens



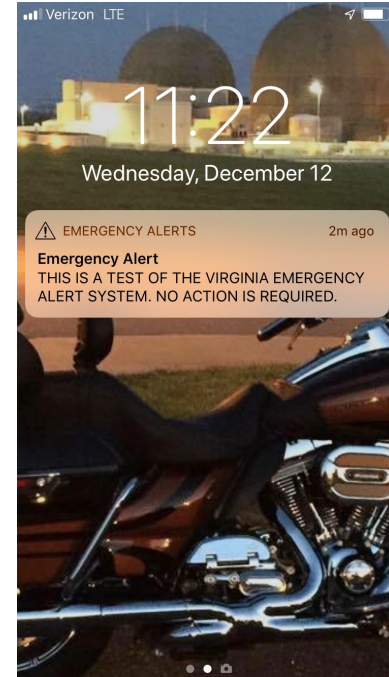
WIRELESS
**EMERGENCY
ALERTS**

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How we did it

- Requested FCC waiver to conduct a “live” test, test code was not available at the time
- Hired professional survey company to develop and conduct survey
- Conducted WEA test in conjunction with Siren test (mid morning)



Survey Strategy

- Hired Public Opinion Strategies to conduct a telephone survey among adults living within a 10 mile radius of North Anna, Surry, and VC Summer Power Stations
- Margin of error of 5%
- Objectives
 - Measure recall levels of the siren and WEA tests
 - Determine if recall levels differed for the two methods of alerts

Survey Details

Plant	North Anna	Surry	VC Summer
Date of WEA test	2/20/19	12/12/18	4/2/19
Dates of Survey	2/20-23	12/12-13	4/2-5
Sample Size	361	400	402
Error Rate	±5.1%	±4.9%	±4.8%

Survey Questions

I want you to think about your day (today/yesterday/two days ago), (If Surry: Wednesday, December 12th) (If North Anna: Wednesday, February 20th). Specifically thinking about where you were in the late morning (today/on Wednesday)...

Some people we have spoken with reported hearing a siren going off (today/Wednesday) and some people did not hear it. You may or may not have heard it depending on where you were (today/on Wednesday). How about you, did you or did anyone in your household hear a siren going off (today/on Wednesday,) (If Surry: December 12th) (If North Anna: February 20th)? **(DO NOT READ RESPONSES)**

- 1 Yes, Self
- 2 Yes, Someone else in household
- 3 Yes, Both self and someone else in household
- 4 No, Did not hear siren, but heard about the siren from another source such as a neighbor, co-worker, or member of household
- 5 No, Did not hear siren and did NOT hear about it
- 6 Refused

Survey Questions cont

(If Yes on Q1: 1-3) What type of siren was it? (PRE-CODE OPEN END - DO NOT READ RESPONSES)

- 1 A large pole-mounted stationary siren warning system
- 2 The nuclear power station siren warning system
- 3 A police vehicle's siren
- 4 A fire vehicle's siren
- 5 Other (Please specify)
- 6 Don't know

Survey Questions cont

(Identified Siren As Large Pole-Mounted on Q2:1 OR Q3:1) Do you know what the large pole-mounted stationary siren warning system is for?

- 1 Yes
 - 2 No
 - 3 Don't Know **(DO NOT READ)**
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(Knows What For on Q4:1) Please tell me what the large pole-mounted stationary siren warning system is for? **(PRE-CODE OPEN END - DO NOT READ RESPONSES)**

- 1 The nuclear power station siren warning system
 - 2 Other (RECORD VERBATIM)
 - 3 Don't Know
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Survey Questions cont

(ASK ALL) Thinking some more about the early warning siren and alerting route system for the (If Surry: Surry Nuclear Power Station) (If North Anna: North Anna Nuclear Power Station). Do you know what you are supposed to do or what actions you are supposed to take when you hear the siren going off?

- 1 Yes
- 2 No
- 3 Don't Know **(DO NOT READ)**

(If Yes Know What To Do on Q9:1) Please tell me what you are supposed to do or what actions you are supposed to take when you hear the early warning siren system for the power station going off. Anything else?

RECORD RESPONSE VERBATIM

Survey Questions cont

Thinking again about [today/(If Surry: Wednesday, December 12th) (If North Anna: Wednesday, February 20th)], specifically thinking about the late morning ...

14. Some people we have spoken with reported receiving a wireless emergency alert message on their cell phone [today/on Wednesday (If Surry: December 12th) (If North Anna: February 20th)] and some people did not receive it. You may or may not have received it depending on where you were (today/Wednesday). How about you, did you or did anyone in your household receive a wireless emergency alert cell phone message (today/on Wednesday) (If Surry: December 12th) (If North Anna: February 20th)? **(DO NOT READ RESPONSES)**

- 1 Yes, Self
- 2 Yes, Someone else in household
- 3 Yes, Both self and someone else in household
- 4 No, Did not receive wireless emergency alert on cell phone, but heard about it from another source such as a neighbor, co-worker, or member of household
- 5 No, Did not receive wireless emergency alert on cell phone and did NOT hear about it
- 6 Refused

Survey Questions cont

(Received WEA on Q14:1-3) Do you know what the wireless emergency alert message was for?

- 1 Yes
 - 2 No
 - 3 Don't Know **(DO NOT READ)**
-

(Know What WEA Was For on Q15:1) Please tell me what the wireless emergency alert message was for? **(PRE-CODE OPEN END - DO NOT READ RESPONSES)**

- 1 A test of the Virginia wireless emergency alert system
- 2 An amber alert for a kidnapped or missing child
- 3 An emergency weather alert such as a tornado warning or flash flood
- 4 A presidential test of the wireless emergency alert system
- 5 Other **(RECORD VERBATIM)**
- 6 Don't Know

Recall Levels – Wireless Emergency Alerts

Method of Recall	WEA		
	Surry	North Anna	VCS
Direct (Heard/Received Self)	43% (N=172)	17% (N=61)	42% (N=168)
Indirect (Heard/Received From Another Source)	10% (N=41)	11% (N=40)	13% (N=52)
Total Aware	53% (N=213)	28% (N=101)	55% (N=220)
Did Not Hear/Receive At All	46% (N=185)	72% (N=259)	45% (N=181)
Don't Know/Refused	1% (N=2)	* (N=1)	* (N=1)

Recall Levels – Sirens

Method of Recall	Siren		
	Surry	North Anna	VCS
Direct (Heard/Received Self)	36% (N=143)	23% (N=84)	38% (N=151)
Indirect (Heard/Received From Another Source)	13% (N=53)	14% (N=51)	12% (N=49)
Total Aware	49% (N=196)	37% (N=135)	50% (N=200)
Did Not Hear/Receive At All	51% (N=204)	62% (N=224)	50% (N=200)
Don't Know/Refused	* (N=1)	1% (N=2)	* (N=2)

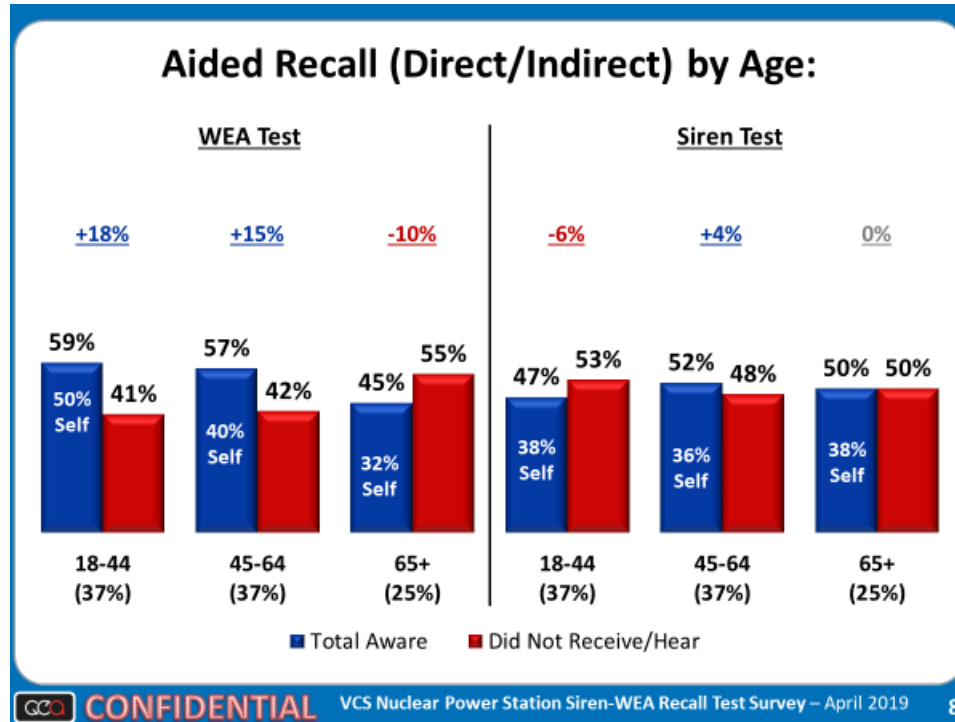
Recall Levels – Comparison

Plant	Method of Recall & Total Aware		
	WEA	Siren	Difference
Surry	53% (N=213)	49% (N=196)	4%
North Anna	28% (N=101)	37% (N=135)	9%
VC Summer	55% (N=220)	50% (N=200)	5%

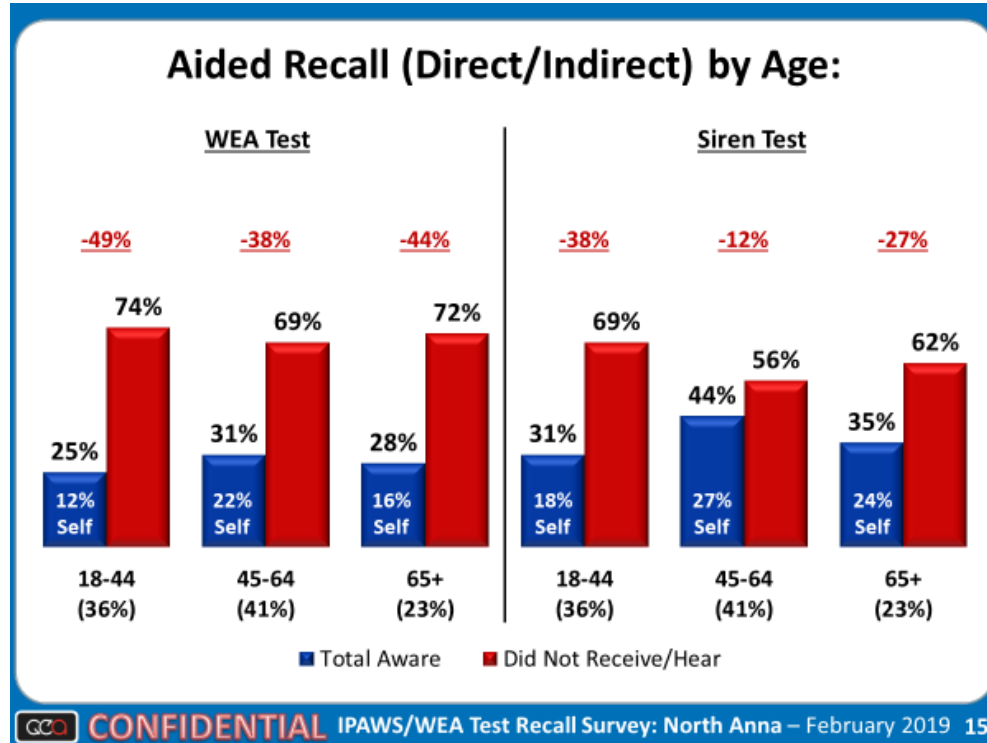
Recall Levels – Comparison

Direct (Heard/Received Self) Combo WEA/Siren Recall	Surry	North Anna	VCS
WEA & Siren Both	24% (N=97)	8% (N=29)	25% (N=102)
WEA Only	19% (N=75)	9% (N=32)	16% (N=66)
Siren Only	11% (N=46)	15% (N=55)	12% (N=48)

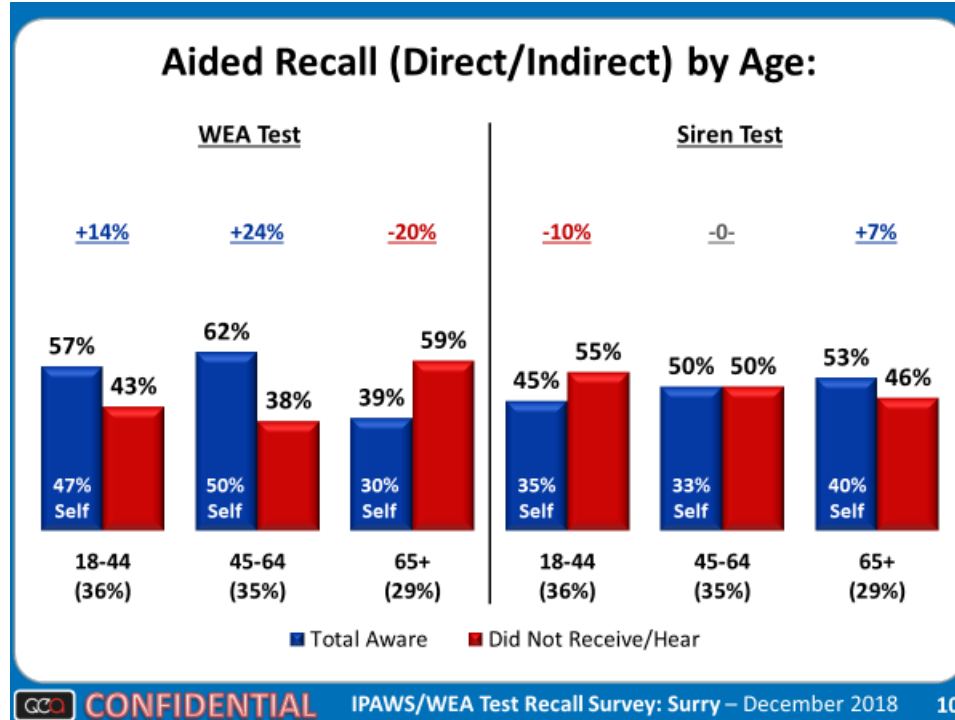
VCS Recall Level by Age



North Anna Recall Level by Age



Surry Recall Level by Age



Knowledge Levels – Sirens

Know What Actions to Take When Siren Goes Off	Among Heard the Siren (Direct/Indirect)			Total Population		
	Surry	North Anna	VCS	Surry	North Anna	VCS
Yes	43% (N=84)	45% (N=60)	56% (N=113)	31% (N=124)	36% (N=131)	44% (N=176)
No	50% (N=98)	52% (N=71)	40% (N=80)	64% (N=255)	62% (N=223)	53% (N=212)
Don't Know	7% (N=14)	3% (N=4)	4% (N=7)	5% (N=21)	2% (N=7)	3% (N=14)

Knowledge Levels – Sirens cont

Among Yes, Know What Actions to Take	Among Know What to Do			Total Population		
(coded verbatim responses)	Surry	North Anna	VCS	Surry	North Anna	VCS
Correct Response	52%	42%	17%	16%	15%	6%
Incorrect Response	48%	58%	83%	15%	21%	31%

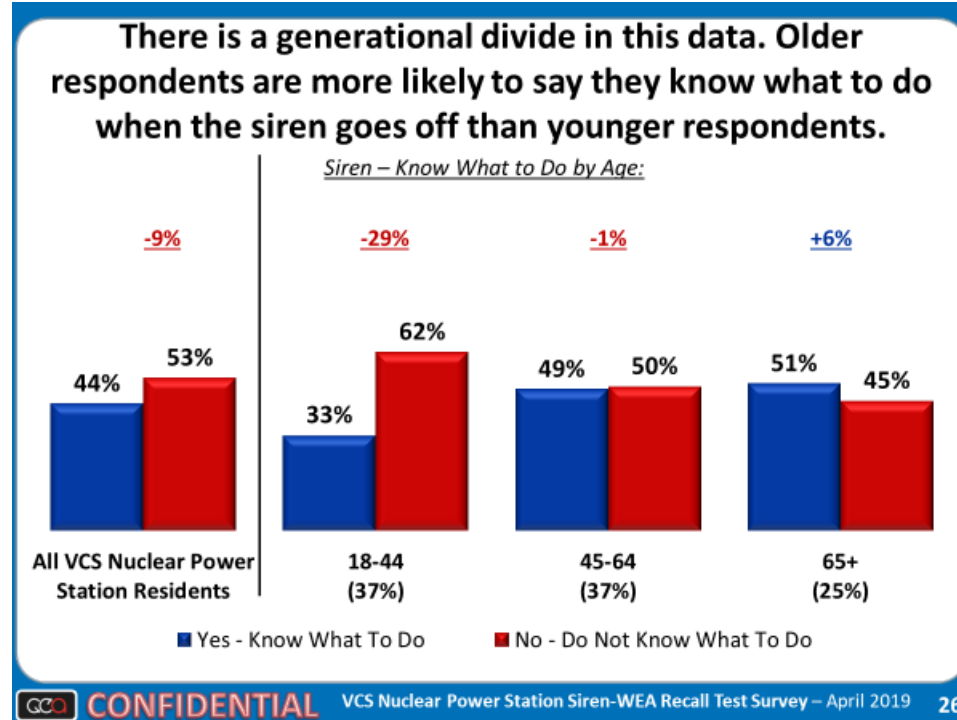
Correct Response: Turn on the local news/radio to see if it is a test or not and await further instructions on whether to stay in place or evacuate OR Refer to the calendar that the Surry/North Anna/V.C. Summer (VCS) Nuclear Power Station sends out every year with detailed instructions based on various circumstances.

Supposed Siren Knowledge

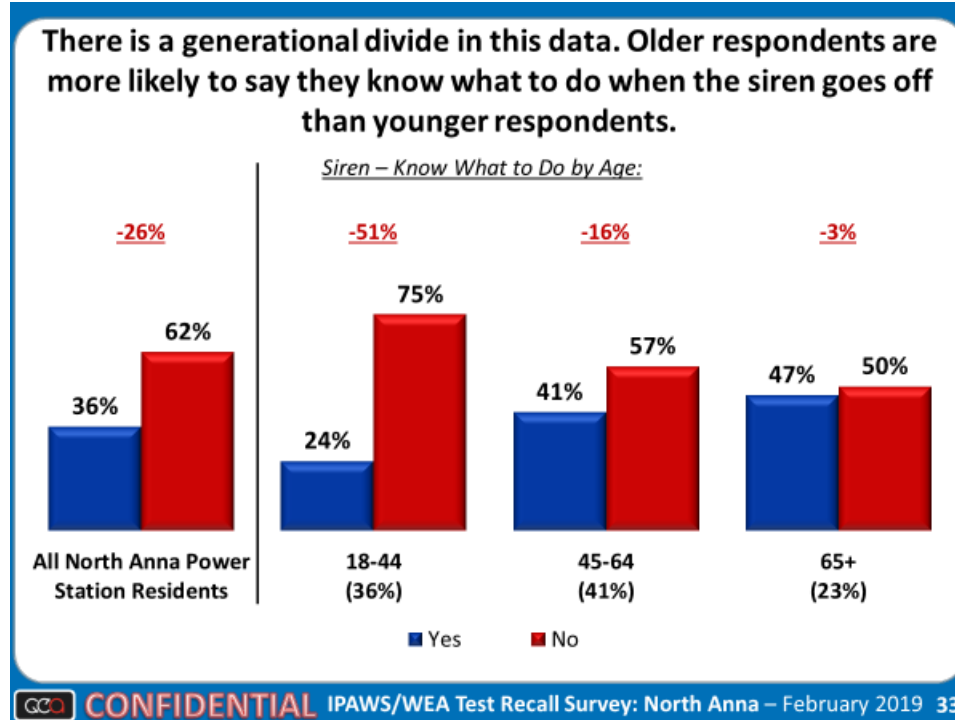
- Evacuate the area. Follow the evacuation signs on the road.
- Go to the nearest shelter.
- Take cover indoors immediately. Seal the house from outside air.
- Put the placard in the window to indicate whether you've received the alert and are safe or need help.
- Take iodine pills.
- Call 911.
- Evacuate the area in the opposite way the wind is blowing.



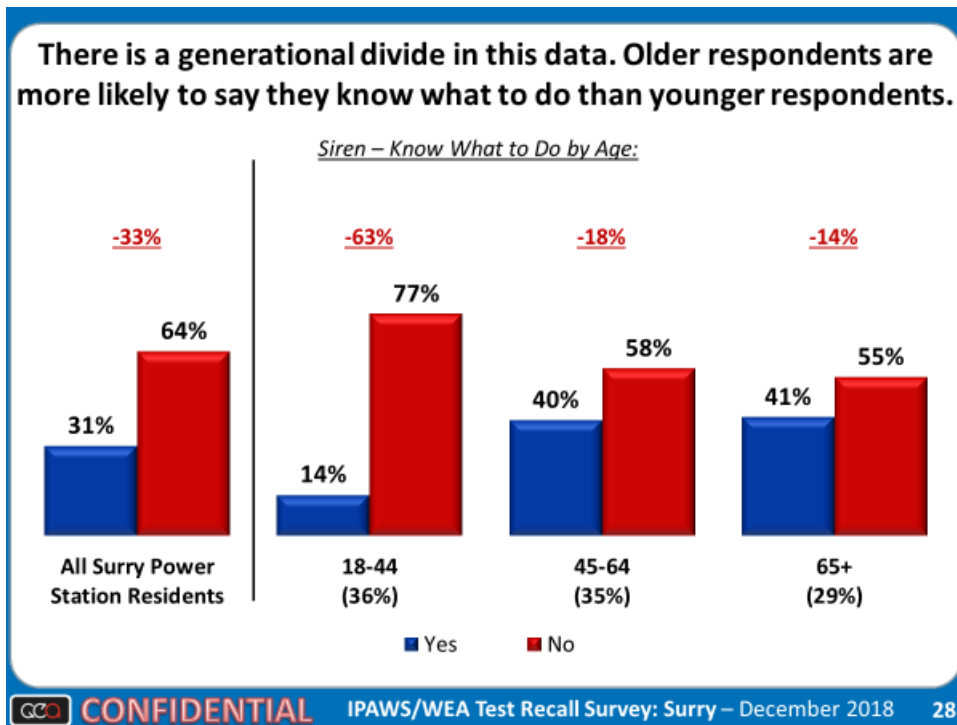
VCS Knowledge Level by Age



North Anna Knowledge Level by Age



Surry Knowledge Level by Age



Knowledge Levels – Wireless Emergency Alerts

Know What WEA Was For	Among Received WEA (Direct/Indirect)		
(Asked of those who said they or someone in their household received WEA)	Surry	North Anna	VCS
Yes	71% (N=133)	73% (N=53)	68% (N=118)
No	27% (N=51)	25% (N=18)	28% (N=49)
Don't Know	2% (N=3)	2% (N=2)	4% (N=6)

Knowledge Levels – Wireless Emergency Alerts

Identified WEA	Among Know What WEA Was For		
(Asked of those who said yes, know what WEA was for)	Surry	North Anna	VCS
Correct Response**	93% (N=124)	97% (N=51)	91% (N=107)
Incorrect Response	7% (N=9)	3% (N=2)	9% (N=11)

****Correct Response:** A test of the Virginia/South Carolina wireless emergency alert system.

Cell Phone Ownership & Coverage

Site	Own a Cellphone	Coverage at residence
Surry	90%	93%
North Anna	93%	87%
VC Summer	93%	96%

Cell Carrier Market Share

Cell Carrier	Surry	North Anna	VCS
Verizon	56%	66%	69%
AT&T	8%	16%	12%
Sprint	14%	9%	3%
T-Mobile	12%	1%	4%
Other	8%	6%	9%

What it all means – North Anna/Surry

North Anna Total Sample Size- 361	Siren	WEA
Heard the Siren/Received the WEA	135 (37%)	101 (28%)
Knew what action to take/Knew what WEA was	15%	71%
Total Alerted	20 individuals 6% Total Population	72 individuals 20% Total Population

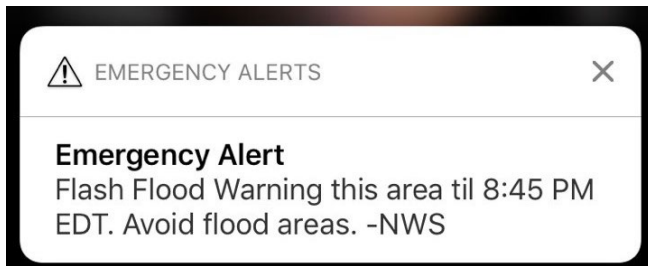
Surry Total Sample Size- 400	Siren	WEA
Heard the Siren/Received the WEA	196 (49%)	213 (53%)
Knew what action to take/Knew what WEA was	16%	66%
Total Alerted	31 individuals 8% Total Population	140 individuals 35% Total Population

What it all means – VC Summer

VCS Total Sample Size- 402	Siren	WEA
Heard the Siren/Received the WEA	200 (50%)	220 (55%)
Knew what action to take/Knew what WEA was	7%	62%
Total Alerted	14 individuals 3% Total Population	136 individuals 34% Total Population

Summary

- There is a need to provide information and guidance on what residents should do at the time an alert is made, not rely on prior knowledge/education
- Wireless Emergency Alerts are a more effective means of alerting and notifying the public as they can provide instructions at the time an alert is made



Questions?

Tyler Swearingen
Nuclear Emergency Preparedness Specialist
Tyler.A.Swearingen@dominionenergy.com
804-432-2634