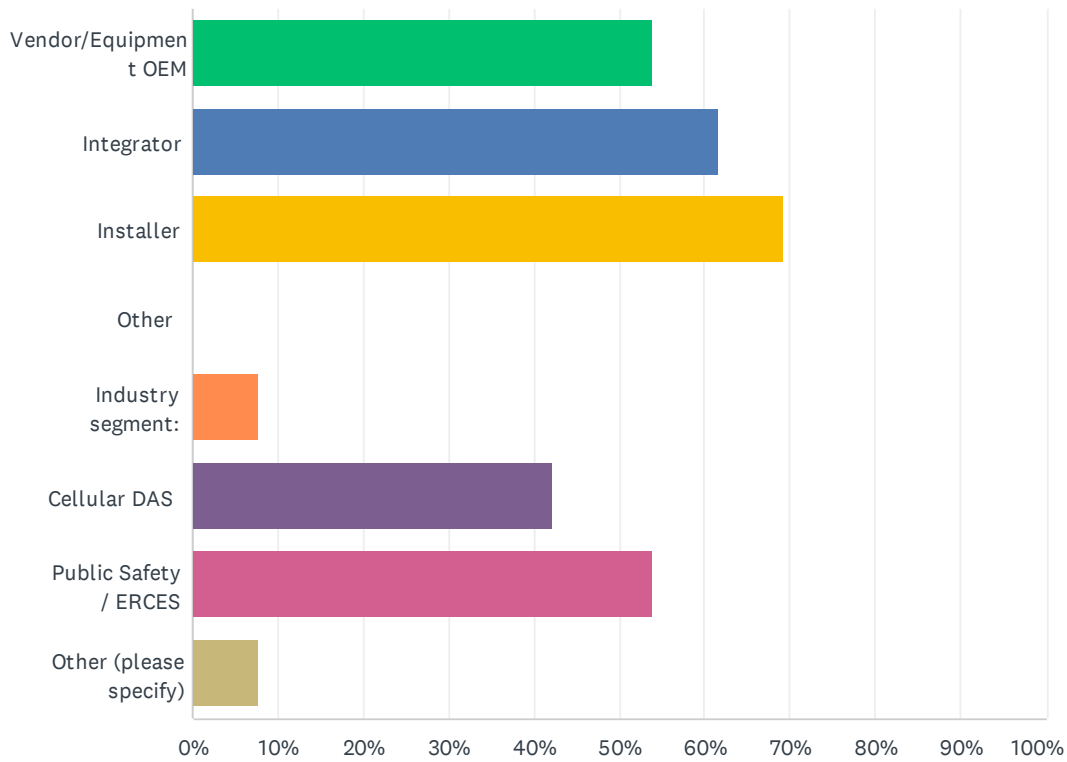


### Q1 Please describe your entity's business type (check all that apply):

Answered: 26 Skipped: 0

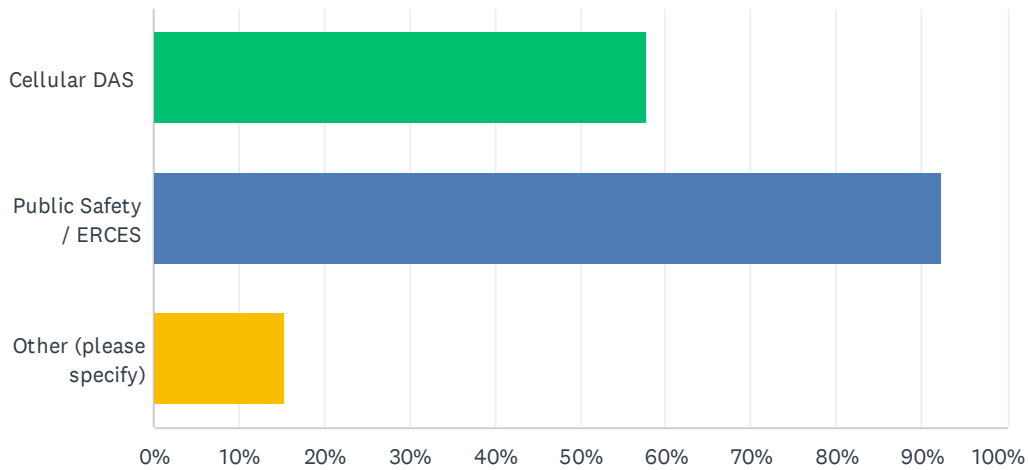


ANSWER CHOICES	RESPONSES
Vendor/Equipment OEM	53.85% 14
Integrator	61.54% 16
Installer	69.23% 18
Other	0.00% 0
Industry segment:	7.69% 2
Cellular DAS	42.31% 11
Public Safety / ERCES	53.85% 14
Other (please specify)	7.69% 2
Total Respondents: 26	

#	OTHER (PLEASE SPECIFY)	DATE
1	SMR-Carriers	1/4/2022 2:44 PM
2	LMR/DMR Solutions Provider	10/18/2021 5:55 PM

## Q2 Please describe your entity's industry segment (check all that apply):

Answered: 26 Skipped: 0

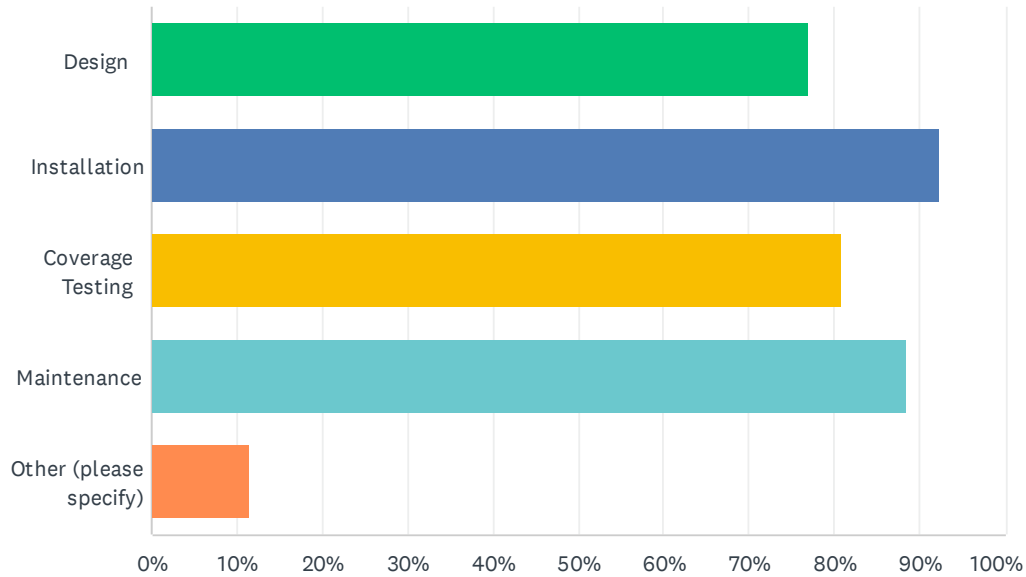


ANSWER CHOICES	RESPONSES
Cellular DAS	57.69% 15
Public Safety / ERCES	92.31% 24
Other (please specify)	15.38% 4
Total Respondents: 26	

#	OTHER (PLEASE SPECIFY)	DATE
1	SMR Part 90/ Part 22 CMRS/PMRS	1/4/2022 2:44 PM
2	LMR/DMR Solutions Provider	10/18/2021 5:55 PM
3	Industrial and Commercial Communications	10/7/2021 11:06 AM
4	I/B	10/7/2021 10:25 AM

### Q3 Please describe your entity's area of specialization (check all that apply):

Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES
Design	76.92% 20
Installation	92.31% 24
Coverage Testing	80.77% 21
Maintenance	88.46% 23
Other (please specify)	11.54% 3
Total Respondents: 26	

#	OTHER (PLEASE SPECIFY)	DATE
1	SPECTRUM LEASING	1/4/2022 2:44 PM
2	manufacturing	11/2/2021 11:38 AM
3	Usage	11/2/2021 11:04 AM

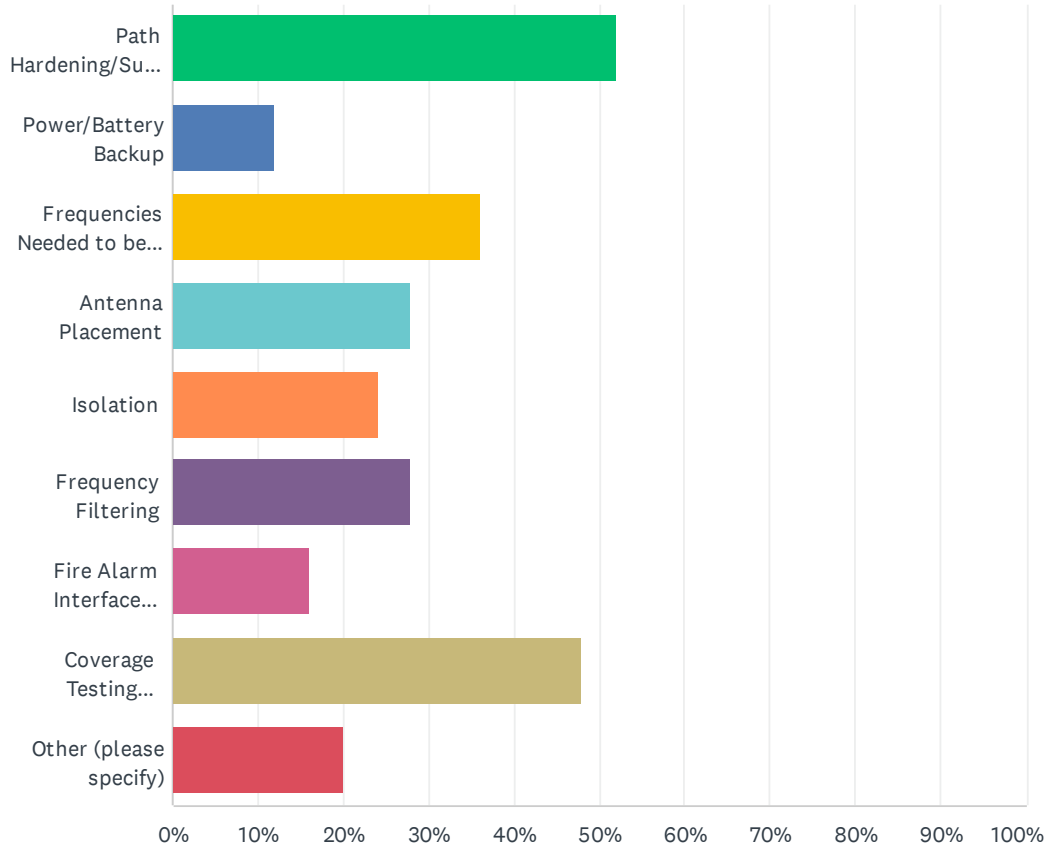
## Q4 Please describe your entity's primary service area

Answered: 24 Skipped: 2

#	RESPONSES	DATE
1	Design public safety	1/12/2022 3:10 PM
2	Gulf Coast Center on Houston TX	1/4/2022 2:44 PM
3	100 Mile Radius Wichita, KS	12/22/2021 3:06 PM
4	Two Way non public safety radio communications	11/2/2021 2:41 PM
5	North & South America	11/2/2021 11:38 AM
6	Statewide - NC	11/2/2021 11:04 AM
7	MASS,RI,NH	10/29/2021 9:33 PM
8	Minneapolis Metro and southeastern MN	10/20/2021 10:21 AM
9	Building DAS system installations and services	10/20/2021 10:00 AM
10	Southern US	10/19/2021 11:37 AM
11	Southeast US	10/19/2021 11:11 AM
12	State of Ohio	10/19/2021 10:03 AM
13	West Coast: WA, OR, ID, CA, UT. Provide services for specific clients nationwide and international.	10/18/2021 5:55 PM
14	NY/CT/MA/NJ/RI	10/15/2021 1:23 PM
15	NY, NJ, CT, MA, PA, RI	10/15/2021 12:26 PM
16	20 counties in north central Iowa	10/11/2021 6:46 PM
17	Metro Detroit. State of michigan	10/8/2021 12:04 PM
18	South Carolina	10/8/2021 9:44 AM
19	Nationwide	10/7/2021 12:45 PM
20	Southeast	10/7/2021 11:27 AM
21	Western NYS and Northwestern PA	10/7/2021 11:06 AM
22	SE Florida	10/7/2021 10:52 AM
23	Chicagoland	10/7/2021 10:34 AM
24	Western & Central New York State	10/7/2021 10:25 AM

### Q5 What are the biggest challenges (most problematic issues) with the interpretation of the fire code within an AHJ that you have come across during implementation of ERCES Systems? Check all that apply:

Answered: 25 Skipped: 1



ANSWER CHOICES	RESPONSES	
Path Hardening/Survivability	52.00%	13
Power/Battery Backup	12.00%	3
Frequencies Needed to be installed in ERCES	36.00%	9
Antenna Placement	28.00%	7
Isolation	24.00%	6
Frequency Filtering	28.00%	7
Fire Alarm Interface requirements	16.00%	4
Coverage Testing Requirements	48.00%	12
Other (please specify)	20.00%	5
Total Respondents: 25		

#	OTHER (PLEASE SPECIFY)	DATE
1	Need to learn current requirements	11/2/2021 2:41 PM
2	unknown	11/2/2021 11:38 AM
3	Justification - some code requires BDA based on building size and not the actual need. The closest radio tower could be less than a mile.	11/2/2021 11:04 AM
4	The lack of anyone recommending or enforcing anything in rural Iowa.	10/11/2021 6:46 PM
5	AHJ don't know the radio system, frequencies or tower locations	10/7/2021 12:45 PM

## Q6 If there is one major challenge that should be eliminated today to enhance ERCES/In-Building wireless activities, what would be that single objective?

Answered: 18 Skipped: 8

#	RESPONSES	DATE
1	frequency Standardization, i.e. having a block of 32 frequencies for use with a channelized BDA system.	1/4/2022 2:44 PM
2	Lack of AHJS knowledge and understanding of their radio systems, utilization and options.	12/22/2021 3:06 PM
3	A standard code nationally that spells out how the systems are to be designed and installed	11/23/2021 4:06 PM
4	Standard use to be -90 dbm inbuilding. That needs to be met.	11/2/2021 2:41 PM
5	Codes should be written to test the need for an in-building system prior to installation.	11/2/2021 11:04 AM
6	RADIO INTERFERENCE FROM IMPROPERLY INSTALLED BDA	10/29/2021 9:33 PM
7	Standardise and simplify the codes	10/20/2021 10:21 AM
8	Not enough donor signal outside to amplify	10/20/2021 10:00 AM
9	Consistency. some AHJ's are engaged, some aren't and some are over-engaged with additional requirements.	10/19/2021 11:11 AM
10	Different requirements from AHJs	10/19/2021 10:03 AM
11	Have the most recent IFC/NFPA code be automatically recognized as the most current code requirement. Second issue, if an industry recognized product is now available, ie: UL2196, 2hr rated, plenum coax, it should automatically be approved to use for pathways. AHJ shouldn't have to pre-approve it's use, if the standards meet the code. Causes delays and competitive advantage/disadvantages by being ambiguous to it's approval.	10/18/2021 5:55 PM
12	Clear understanding of what is required/covered under AHJ	10/15/2021 1:23 PM
13	Clearer requirements for survivability. Standards conflict with each other.	10/15/2021 12:26 PM
14	Path Hardening/Survivability seems to drive cost excessively	10/11/2021 6:46 PM
15	How the different AHJ's interpret the fire code.	10/8/2021 9:44 AM
16	Local laws to insist on in building coverage in government, school and large industrial buildings	10/7/2021 11:06 AM
17	AHJ's need to appreciate and partner with knowledgeable integrators. We need a program to help achieve this mutual partnership.	10/7/2021 10:52 AM
18	noise floors need to be lowered	10/7/2021 10:25 AM

## Q7 Are there certain parts of the fire code that you see interpreted differently across AHJs?

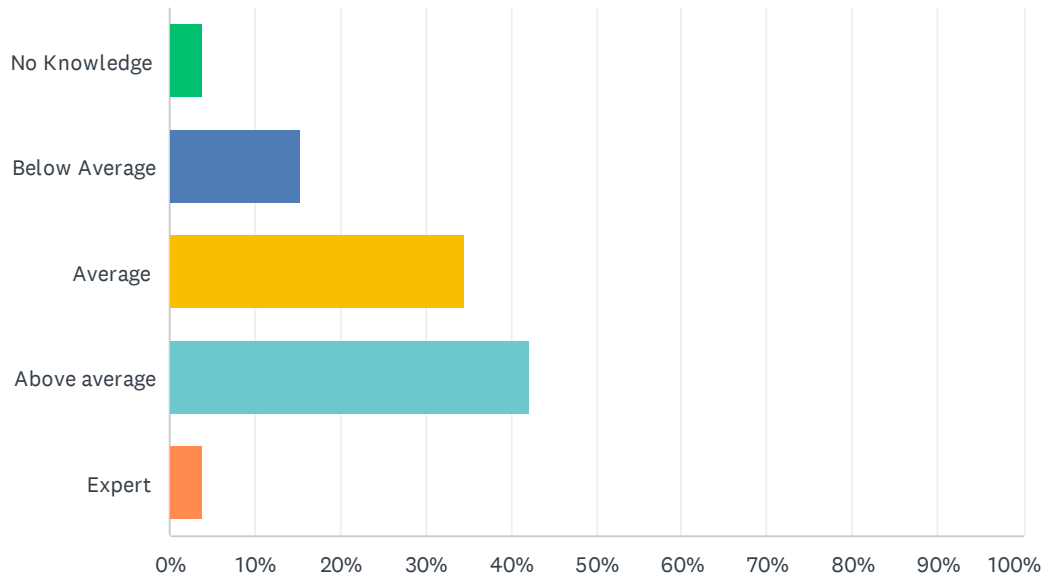
Answered: 20 Skipped: 6

#	RESPONSES	DATE
1	coaxial cables fire ratings	1/12/2022 3:10 PM
2	Yes	1/4/2022 2:44 PM
3	Alarm monitoring, Survivability, testing	12/22/2021 3:06 PM
4	NFPA 1221 specifically on survivability	11/23/2021 4:06 PM
5	Need to learn current requirements	11/2/2021 2:41 PM
6	simplex operation vs network connectivity	11/2/2021 11:38 AM
7	Frequencies needed. Some interpret the system to only cover the voice need provided in Land Mobile Radio, others include paging systems, and the most inclusive include FirstNet and other cellular.	11/2/2021 11:04 AM
8	Survivability standards of cable. Conduit vs plenum cable. Size of building structures. Also, if there isn't enough donor signal outside, can not amplify any signal that doesn't exist	10/20/2021 10:00 AM
9	Most AHJ's don't really understand the NFPA requirements so they are misled by the cheapest solution providers.	10/19/2021 11:11 AM
10	Alarm reporting	10/19/2021 10:03 AM
11	Adding to above statement. it's a challenge to figure out which code version to follow. AHJ's are not always on current code.	10/18/2021 5:55 PM
12	Some AHJ's are enforcing the fire rated cable requirements differently. Is it the \$4.50/ft Plenum or the new \$150/ft Firecable?	10/15/2021 1:23 PM
13	Some AHJ's impose their own standards on top of the code requirements.	10/15/2021 12:26 PM
14	With no AHJ involvement I have used recommendation of OEM	10/11/2021 6:46 PM
15	Dragon skin	10/8/2021 12:04 PM
16	Yes	10/8/2021 9:44 AM
17	#1) Pathway survivability (no one knows what the "building's fire rating" means); #2) not applying NFPA 72 fire alarm requirements to IFC 2018 ERRCS (should rely on NFPA 1221); #3) qualifications for the designer, installer and tester; #4) requiring electrical permits b/c AHJ's/Cities don't understand ERRCS is low voltage and NOT a fire alarm	10/7/2021 12:45 PM
18	code requirement for DAQ vs AHJ requiring -95dBm signal level	10/7/2021 11:27 AM
19	No	10/7/2021 11:06 AM
20	Minimum signal level. Pass % of normal and critical areas.	10/7/2021 10:52 AM



### Q8 How knowledgeable are you regarding the codes and requirements put in place by the local Authorities Having Jurisdiction (AHJ) in the areas that you service?

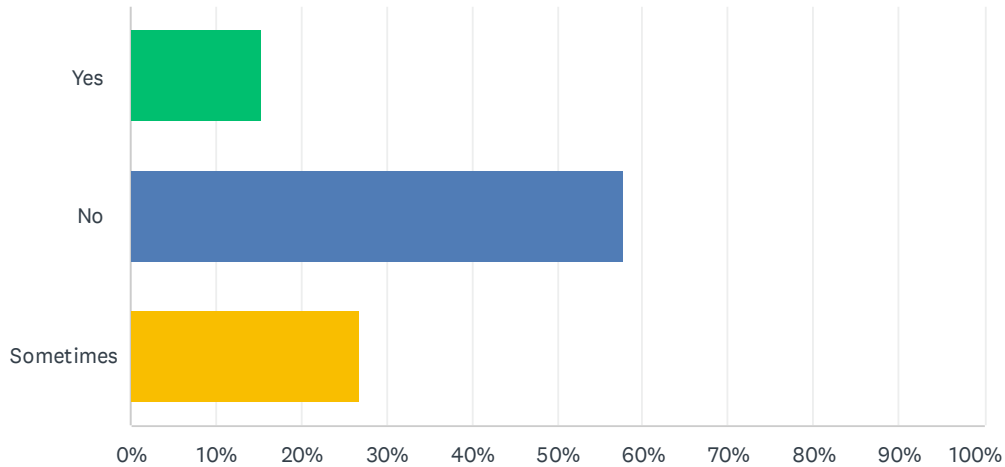
Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES
No Knowledge	3.85% 1
Below Average	15.38% 4
Average	34.62% 9
Above average	42.31% 11
Expert	3.85% 1
<b>TOTAL</b>	<b>26</b>

### Q9 Do you limit your service area (cities/jurisdictions that you do business in) to areas where you know the codes/requirements?

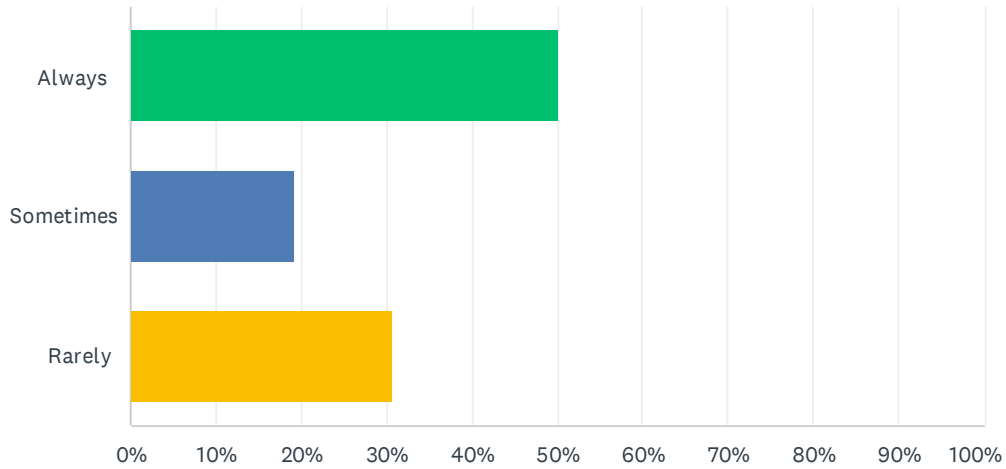
Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES
Yes	15.38% 4
No	57.69% 15
Sometimes	26.92% 7
TOTAL	26

# Q10 Do you conduct an inspection with Radio System Operators prior to turning on the ERCES?

Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES	
Always	50.00%	13
Sometimes	19.23%	5
Rarely	30.77%	8
TOTAL		26

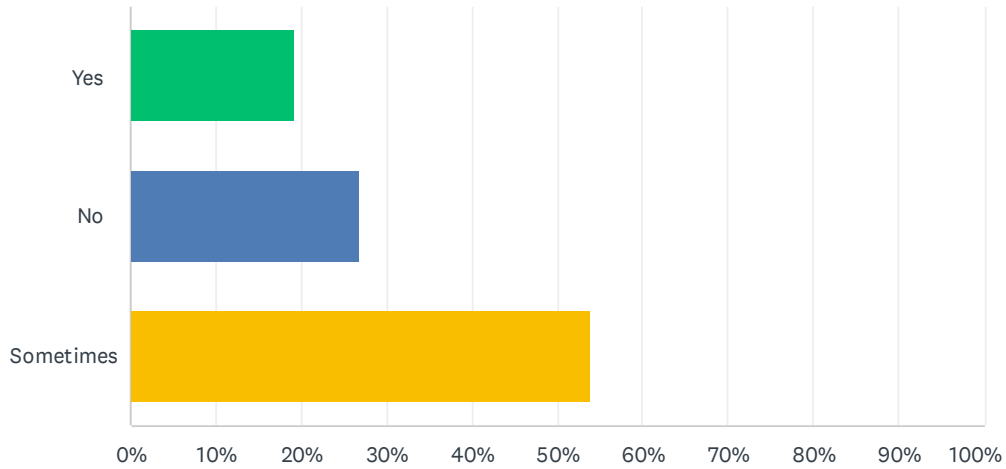
## Q11 What do you inspect? For example, antenna placement, frequencies provisioned, antenna isolation, uplink noise, etc. Please describe:

Answered: 18 Skipped: 8

#	RESPONSES	DATE
1	equipment fire retarding capabilities location, isolation, frequencies required to pass AHJ's inspection	1/12/2022 3:10 PM
2	All of the above, plus equipment placements,	1/4/2022 2:44 PM
3	operation of system	12/22/2021 3:06 PM
4	antenna placement, frequencies provisioned, antenna isolation, uplink noise	11/23/2021 4:06 PM
5	All the above to meet the present Code	11/2/2021 2:41 PM
6	all	11/2/2021 11:38 AM
7	Simple push-to-talk test. Nothing technical with the end-users (actual police and fire officers).	11/2/2021 11:04 AM
8	all	10/20/2021 10:21 AM
9	all the above	10/20/2021 10:00 AM
10	We do a complete design from initial site walks with PCTel device to measure building losses and design using iBWave to acceptance coverage testing.	10/19/2021 11:11 AM
11	DB Readings prior to activation	10/19/2021 10:03 AM
12	basically everything listed here.	10/18/2021 5:55 PM
13	We have our technicians walk with spectrum analyzers and take measurements. (I am not the technical brother)	10/15/2021 1:23 PM
14	Generally coverage with the AHJ / users.	10/15/2021 12:26 PM
15	IBWAVE DESIGN as close as it can be. Isolation and gain settings. Correct frequencies. Code requirements met (risers, signal levels, battery back up, alarming). Sweep donor lines for resonance and return loss.	10/8/2021 12:04 PM
16	Signal level, antenna placement inside and out and isolation	10/8/2021 9:44 AM
17	frequencies and antenna isolation	10/7/2021 11:06 AM
18	All installation components, isolation, uplink power level, donor antenna placement, grounding, building internal coverage, documentation package.	10/7/2021 10:52 AM

## Q12 Does the AHJ inspect the installation before you conduct any final testing?

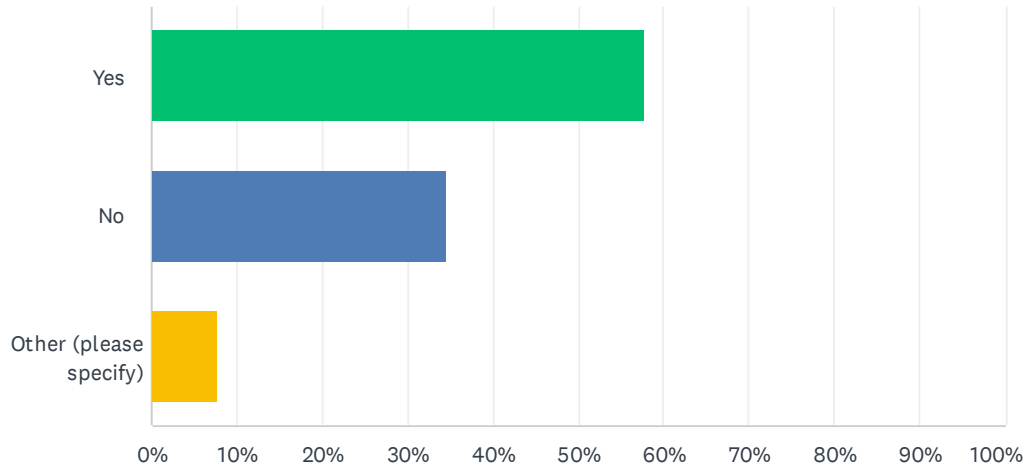
Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	19.23%	5
No	26.92%	7
Sometimes	53.85%	14
<b>TOTAL</b>		<b>26</b>

### Q13 Do you conduct testing with either the AHJ or Radio System Operator before commissioning the ERCES System?

Answered: 26 Skipped: 0

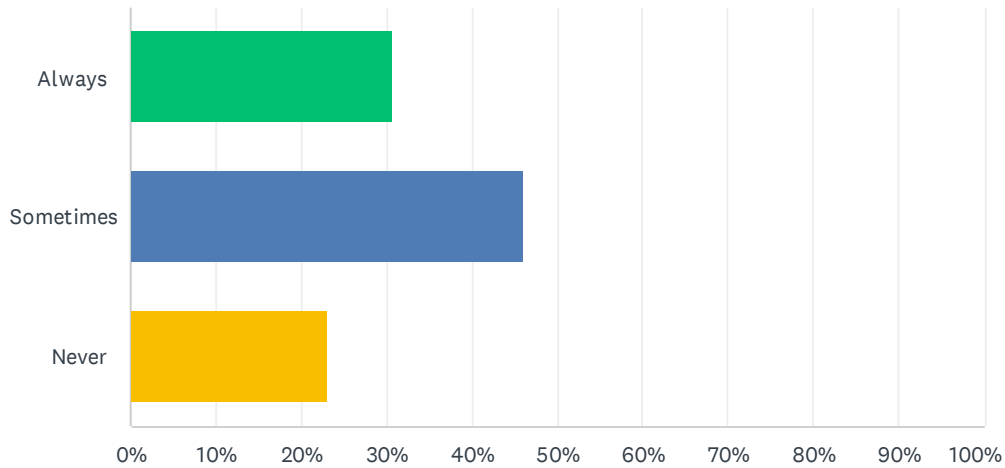


ANSWER CHOICES	RESPONSES
Yes	57.69% 15
No	34.62% 9
Other (please specify)	7.69% 2
<b>TOTAL</b>	<b>26</b>

#	OTHER (PLEASE SPECIFY)	DATE
1	have requested. Sometimes they do or don't. Separate entities	12/22/2021 3:06 PM
2	Sometimes. There's no rhyme or reason but every AHJ policy is totally different so there's no standardization	10/7/2021 12:45 PM

### Q14 How often do your building owners/customer/ERCES Property Owner have a signed agreement (i.e., Rebroadcasting Agreement) with an AHJ or Radio System Operator when installing the ERRCS, with the frequency license holder?

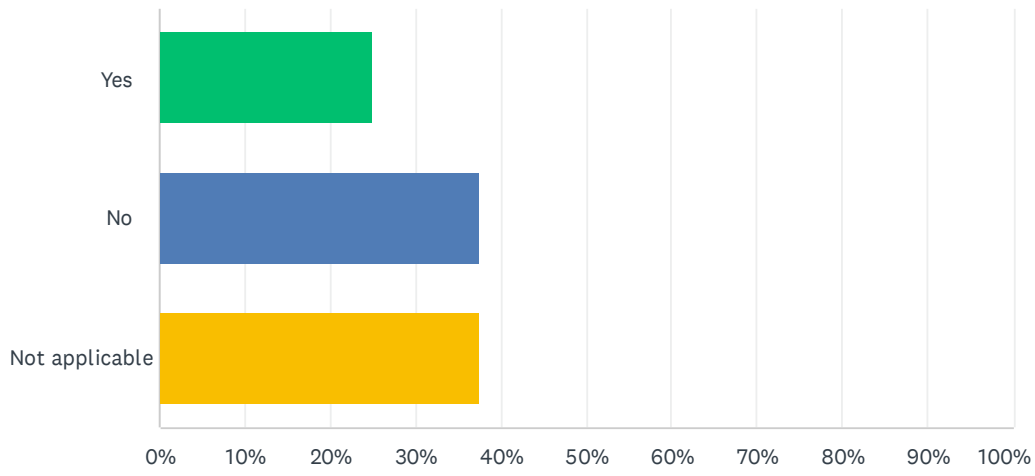
Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES	
Always	30.77%	8
Sometimes	46.15%	12
Never	23.08%	6
<b>TOTAL</b>		<b>26</b>

### Q15 Is the agreement renewed?

Answered: 24 Skipped: 2

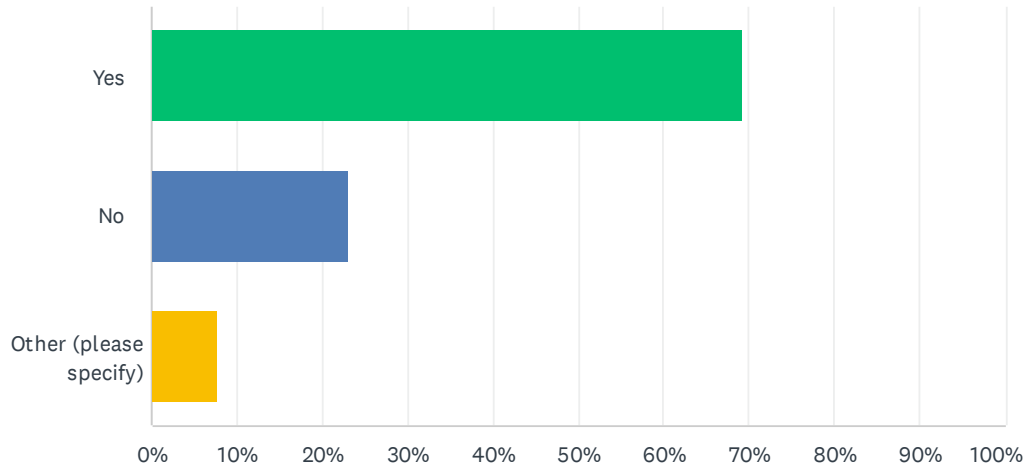


ANSWER CHOICES	RESPONSES	
Yes	25.00%	6
No	37.50%	9
Not applicable	37.50%	9
<b>TOTAL</b>		<b>24</b>



## Q16 Do you conduct coverage testing with either the AHJ or Radio System Operator before commissioning the ERCES System?

Answered: 26 Skipped: 0

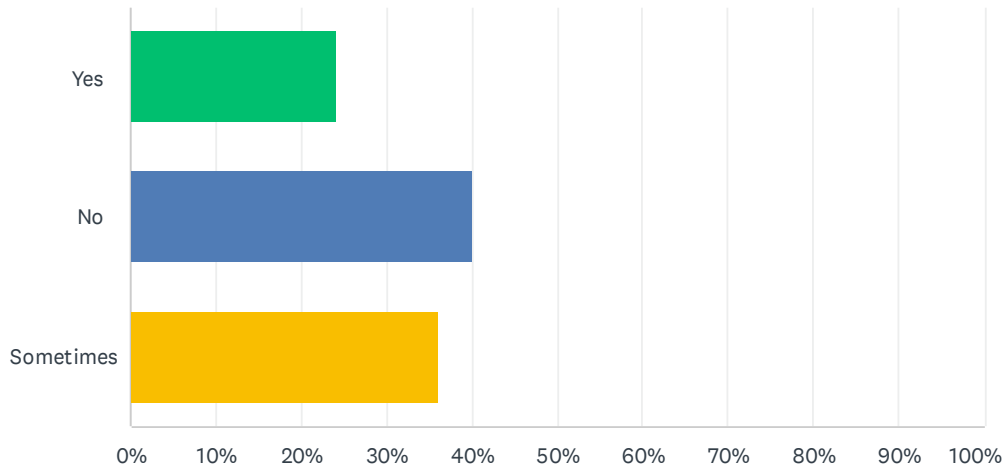


ANSWER CHOICES	RESPONSES
Yes	69.23% 18
No	23.08% 6
Other (please specify)	7.69% 2
<b>TOTAL</b>	<b>26</b>

#	OTHER (PLEASE SPECIFY)	DATE
1	No, but after passing UL testing and getting authorization for system to be powered on.	10/18/2021 5:55 PM
2	Sometimes. There's no rhyme or reason but every AHJ policy is totally different so there's no standardization	10/7/2021 12:45 PM

### Q17 Following system installation approval, does the jurisdiction (AHJ) require an installation, testing and maintenance (ITM) service agreement to be provided by the building owner?

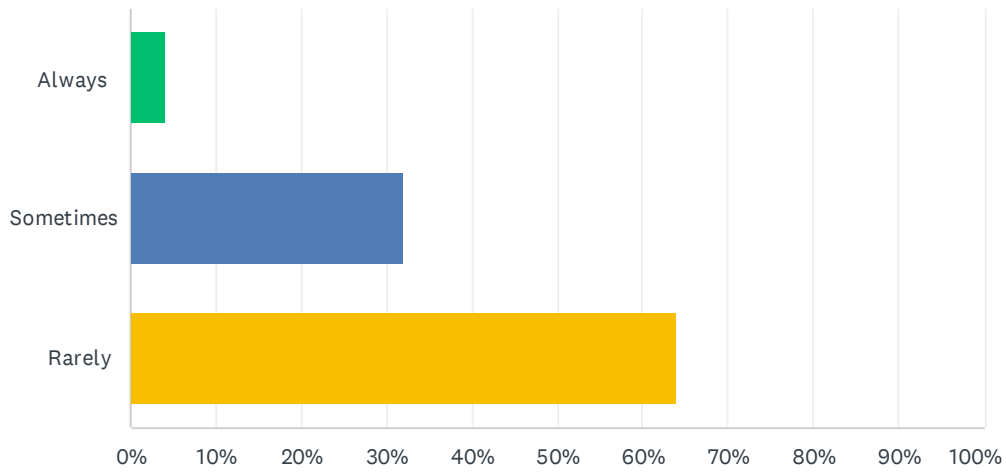
Answered: 25 Skipped: 1



ANSWER CHOICES	RESPONSES
Yes	24.00% 6
No	40.00% 10
Sometimes	36.00% 9
TOTAL	25

## Q18 Does the AHJ require proof of a maintenance agreement?

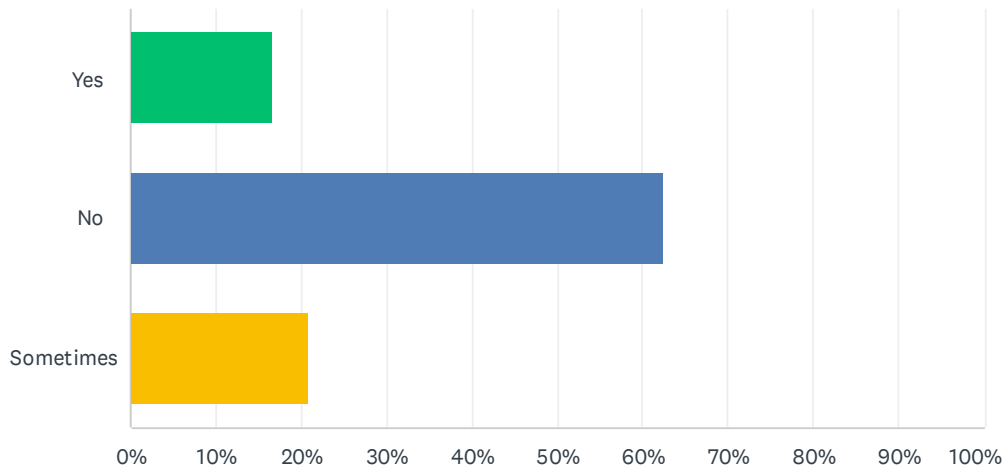
Answered: 25 Skipped: 1



ANSWER CHOICES	RESPONSES
Always	4.00% 1
Sometimes	32.00% 8
Rarely	64.00% 16
<b>TOTAL</b>	<b>25</b>

### Q19 How have you seen it enforced?

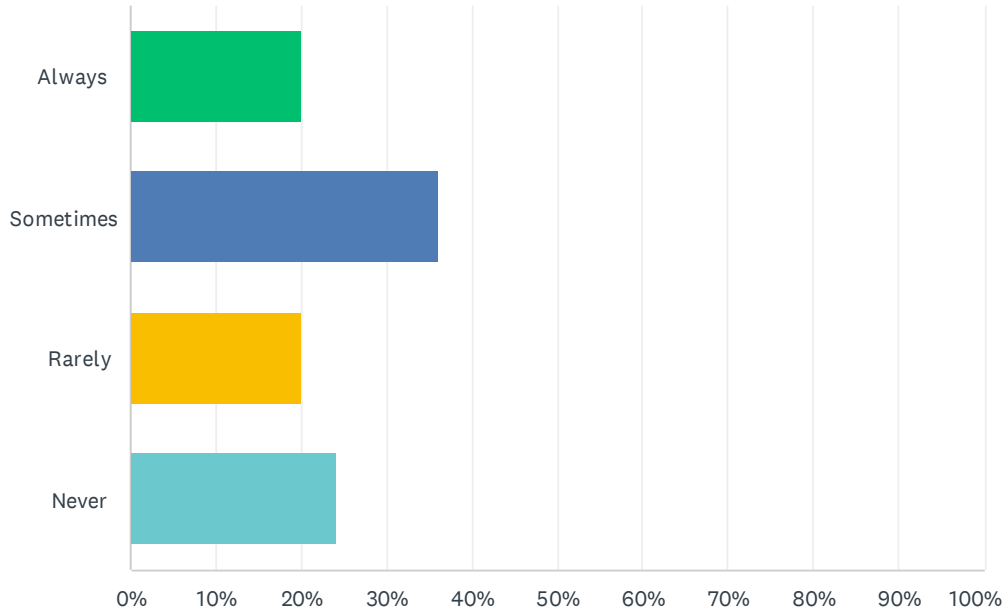
Answered: 24 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	16.67%	4
No	62.50%	15
Sometimes	20.83%	5
<b>TOTAL</b>		<b>24</b>

### Q20 Following a Public Safety DAS installation, how often do you see the jurisdiction (AHJ) require an installation, testing and/or annual inspection/maintenance (ITM) service agreement to be in place with the building owner and a Service Contractor for the DAS?

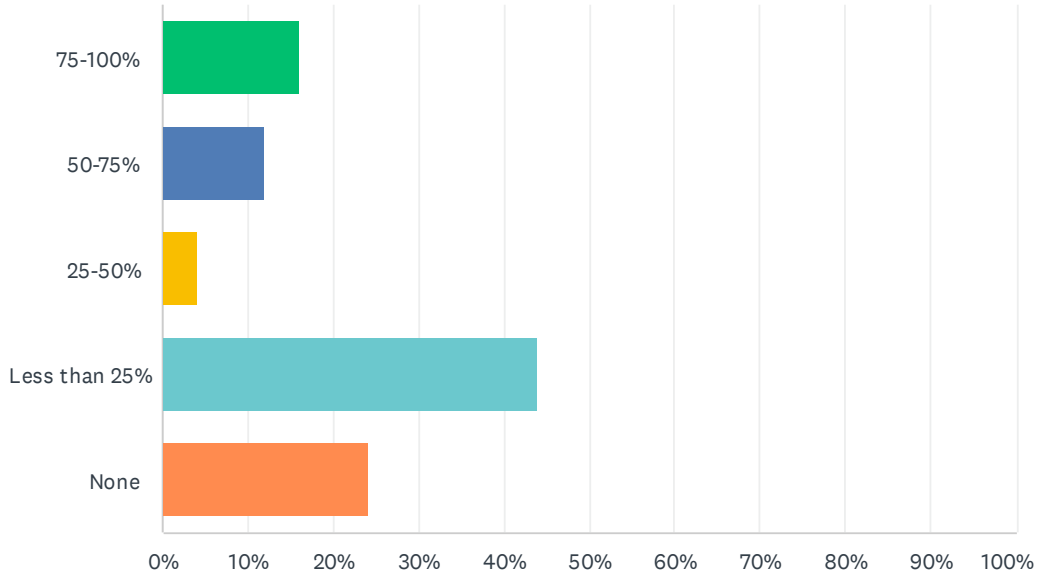
Answered: 25 Skipped: 1



ANSWER CHOICES	RESPONSES	
Always	20.00%	5
Sometimes	36.00%	9
Rarely	20.00%	5
Never	24.00%	6
<b>TOTAL</b>		<b>25</b>

### Q21 For the ERCES you have installed, how many are covered by an inspection, testing and maintenance (ITM) service agreement voluntarily provided by the building owner?

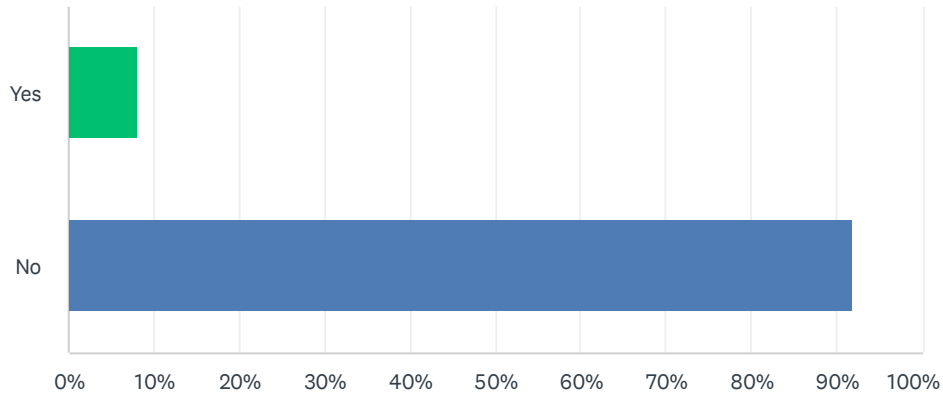
Answered: 25 Skipped: 1



ANSWER CHOICES	RESPONSES
75-100%	16.00% 4
50-75%	12.00% 3
25-50%	4.00% 1
Less than 25%	44.00% 11
None	24.00% 6
<b>TOTAL</b>	<b>25</b>

### Q22 Are you aware of any jurisdiction/AHJ or Radio System Operator that has the ability to remotely turn off your installed ERCES System?

Answered: 25 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	8.00%	2
No	92.00%	23
TOTAL		25

## Q23 If "Yes," please provide the location

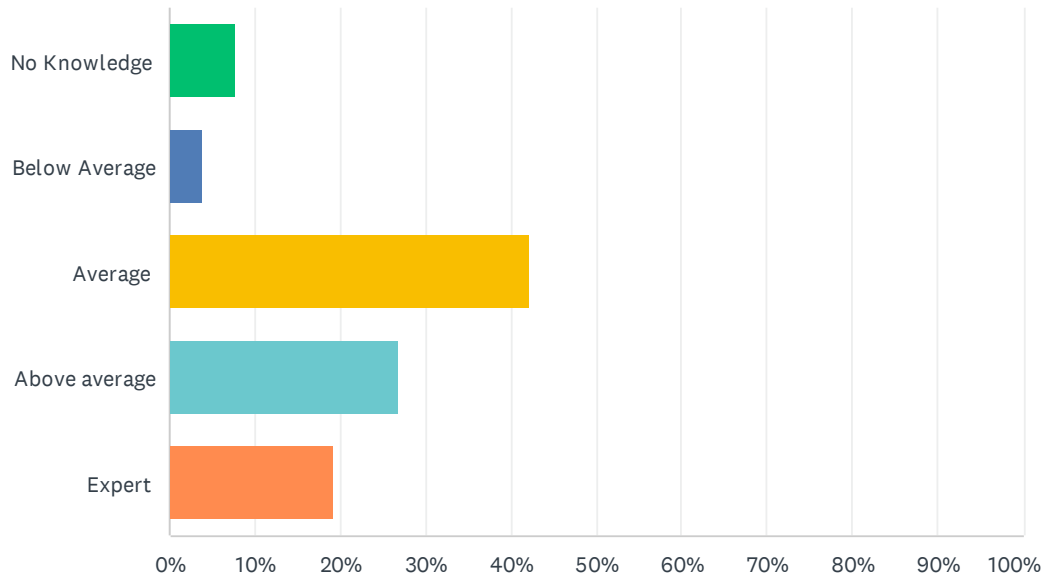
Answered: 2 Skipped: 24

#	RESPONSES	DATE
1	Rarely, in fact only in Santa Clara, CA. Written in their code.	10/18/2021 5:55 PM
2	NYC	10/15/2021 1:23 PM



### Q24 How knowledgeable are you regarding codes and requirements put in place by local the Radio Operators / FCC Licensees (a.k.a. "Radio Shops") in the areas you service?

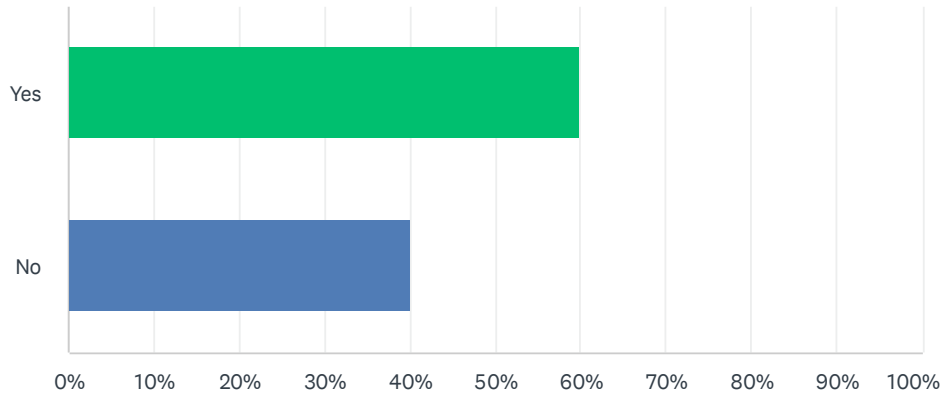
Answered: 26 Skipped: 0



ANSWER CHOICES	RESPONSES
No Knowledge	7.69% 2
Below Average	3.85% 1
Average	42.31% 11
Above average	26.92% 7
Expert	19.23% 5
<b>TOTAL</b>	<b>26</b>

## Q25 Is it mandatory for you to secure a building permit prior to installing cellular DAS and public safety ERCES?

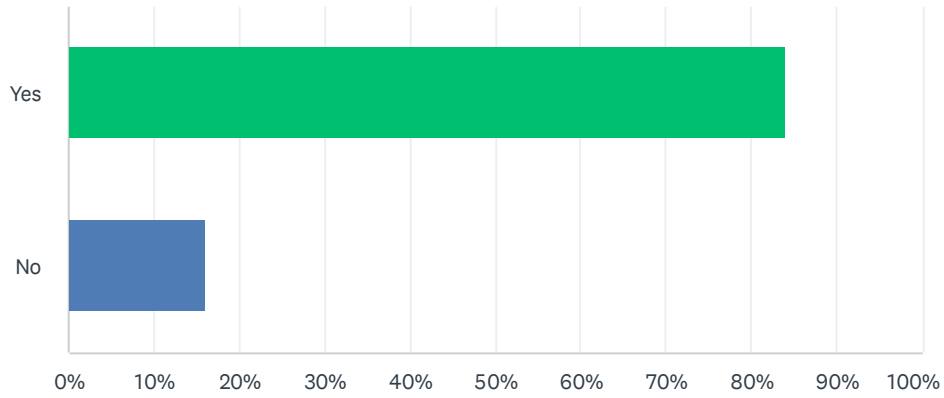
Answered: 25 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	60.00%	15
No	40.00%	10
TOTAL		25

## Q26 Do leave on site system documentation for the equipment you install?

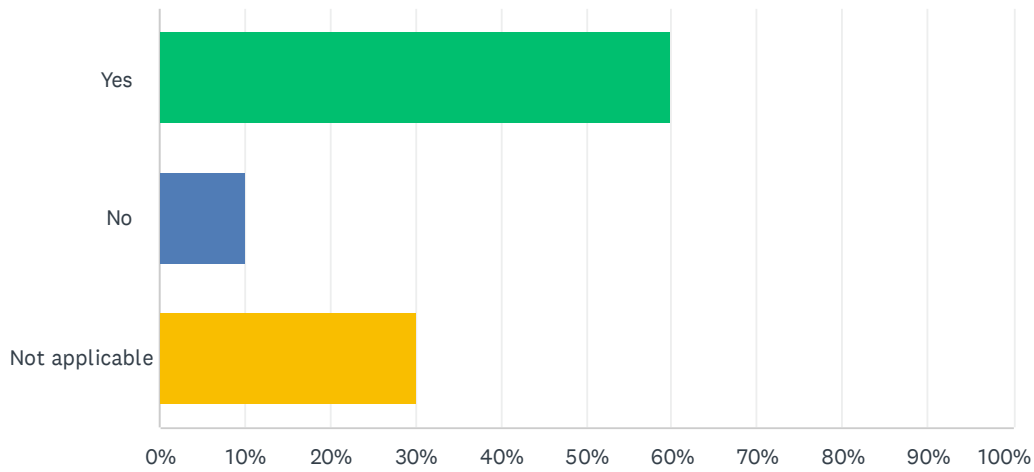
Answered: 25 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	84.00%	21
No	16.00%	4
TOTAL		25

## Q27 If yes, is this documentation left on site used in yearly certifications?

Answered: 20 Skipped: 6



ANSWER CHOICES	RESPONSES	
Yes	60.00%	12
No	10.00%	2
Not applicable	30.00%	6
<b>TOTAL</b>		<b>20</b>

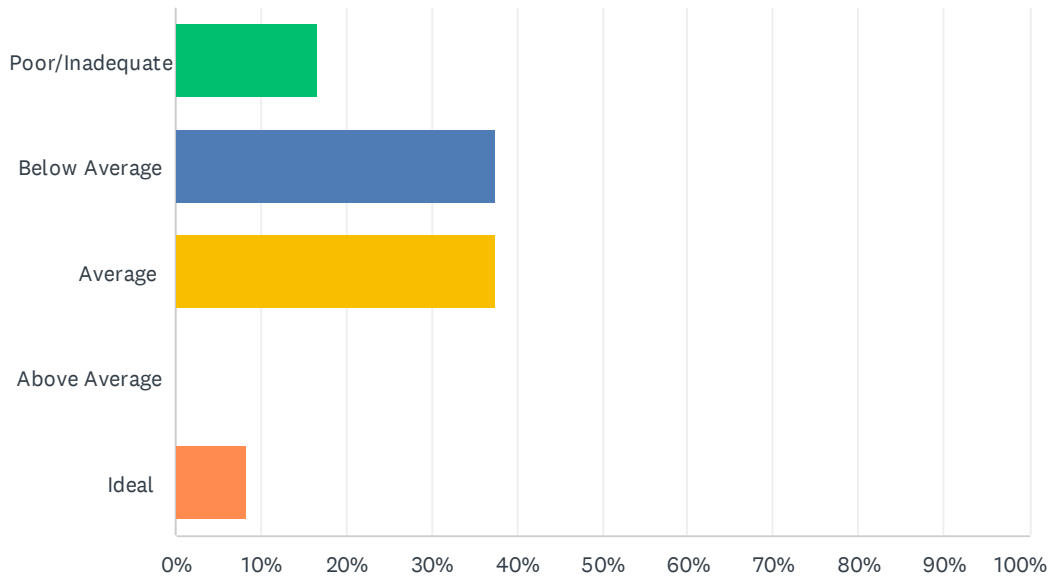
## Q28 What information do you need Radio System Operators to publish regarding their public safety radio systems to make you more successful (successful means the systems don't interfere) with ERCES installation?

Answered: 12 Skipped: 14

#	RESPONSES	DATE
1	tower coordinates, band, channels, bandwidth	1/12/2022 3:10 PM
2	PSAP radio operators need to provide their radio system information required in the code requirements (technical details) and a point of contact for design and installation use.	12/22/2021 3:06 PM
3	All frequencies and band of operation that is needed to be used at the building to provide the utmost protection for the emergency responders.	11/2/2021 2:41 PM
4	LOCATION OF ALL BDA LOCATIONS REGARDLESS OFF TYPE OF SYSTEM	10/29/2021 9:33 PM
5	frequencies and donor site location	10/20/2021 10:00 AM
6	frequencies and donor site locations.	10/19/2021 11:11 AM
7	Frequency Additions	10/19/2021 10:03 AM
8	updated and exact list of freqs required for rebroadcast, especially any local only or tactical freq requirements, ie: fire tactical simplex freqs. Specific testing requirements.	10/18/2021 5:55 PM
9	We usually have to pry the information out of the AHJ. In many cases we give it to the AHJ and then they give it back to us.	10/15/2021 12:26 PM
10	We need confirmation of the radio system(s), control frequency(s) and tower(s) for particular sites within jurisdictions. AHJs don't have this data so we rely on Radio Reference which is not always current or complete. Radio System Operators rarely respond to inquiries about these basic details - so this is the #1 need. Secondly, it would be beneficial to all if the Radio System Operators published their technical requirements for ERRCS equipment and performance standards.	10/7/2021 12:45 PM
11	Sites/Frequencies However, there is a formalized process in SC for application to be made through state for retransmission agreement. Process is in place, it might not be followed statewide but adoption is increasing. State is also providing link to license holders to show where BDAs are installed in their area - along with vendor, type..etc	10/7/2021 11:27 AM
12	Nearest site coordinates	10/7/2021 11:06 AM

### Q29 How adequately documented are most AHJ and Radio Operator / FCC Licensee codes and requirements for governing ERCES design, installation, and operational characteristics of ERCES/BDA equipment?

Answered: 24 Skipped: 2



ANSWER CHOICES	RESPONSES
Poor/Inadequate	16.67% 4
Below Average	37.50% 9
Average	37.50% 9
Above Average	0.00% 0
Ideal	8.33% 2
<b>TOTAL</b>	<b>24</b>

## Q30 What measures, technologies, or best practices do you believe are not being implemented, or not often enough, by AHJs or Radio Operators through their codes and requirements?

Answered: 15 Skipped: 11

#	RESPONSES	DATE
1	alarming cabling to main fire panel alarm	1/12/2022 3:10 PM
2	AHJs and system operators have no technical knowledge, or don't use a RF engineer to review their systems operation, with respect to indoor building coverage and/or use of their systems in limited coverage areas and options to improve their coverage on a system basis.	12/22/2021 3:06 PM
3	RSSI and survivability	11/23/2021 4:06 PM
4	None	11/2/2021 2:41 PM
5	EQUIPMENT LIST AND LOCATIONS	10/29/2021 9:33 PM
6	Registration of DAS systems and permissions from radio system owners to implement a DAS system.	10/19/2021 11:11 AM
7	None	10/19/2021 10:03 AM
8	Monitoring or vetting capabilities of companies/individuals that install, test, certify, perform any work on active system components. There is no testing or certification testing requirements. Still many AHJ, Fire agencies, Operators, that do not have written code or understand code, so cannot give adequate direction to the requirements to be enforced.	10/18/2021 5:55 PM
9	Survivability and code compliance.	10/15/2021 12:26 PM
10	Systems are going up in rural that are not being documented.	10/11/2021 6:46 PM
11	Actual isolation tests.	10/8/2021 12:04 PM
12	As an integrator, we need confirmation of the radio system(s), control frequency(s) and tower(s) for particular sites within jurisdictions. AHJs don't have this data so we rely on Radio Reference which is not always current or complete. Radio System Operators rarely respond to inquiries about these basic details - so this is the #1 need. Secondly, it would be beneficial to all if the Radio System Operators published their technical requirements for ERRCS equipment and performance standards. Also, documentation for the versions of IFC and NFPA the AHJs are enforcing, requirements for pathway survivability and other installation requirements (if permit is required, if PE stamps are required, etc.).	10/7/2021 12:45 PM
13	Approval from license holder for retransmission in most areas is not formalized. In SC a process is in place - coordinated by the State and adoption is increasing. Annual testing, formal permitting process and documented steps for final approval - some city code enforcement is on par but most have not developed a formal process	10/7/2021 11:27 AM
14	Not sure	10/7/2021 11:06 AM
15	Very little consistency between AHJ's.	10/7/2021 10:52 AM

## Q31 What measures, technologies, or best practices that are often being implemented through AHJ or Radio Operator codes and requirements do you believe are either ineffective or cause major impediments to designing, installing, testing, or maintaining ERCES systems?

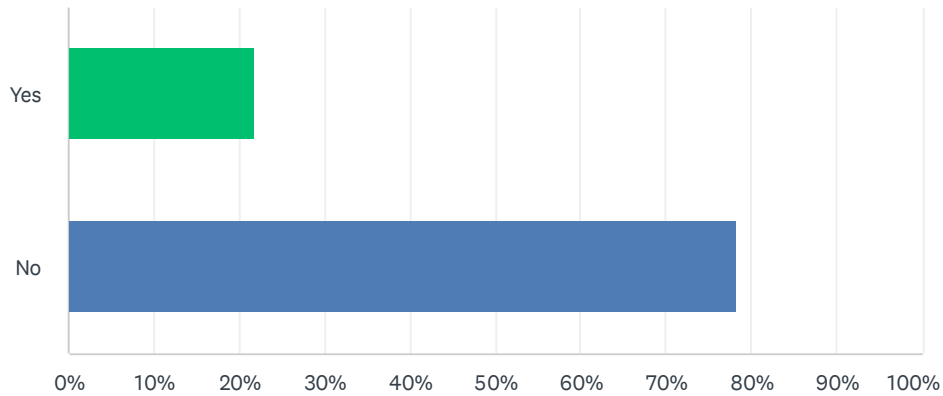
Answered: 12 Skipped: 14

#	RESPONSES	DATE
1	AHJ expects alarm connections for all PSBDA systems to tell them functions or issues that are meaningless for the average fire responder to decipher. IE: Battery low, antenna issue, or battery charge failure. They just need to know working or not working BDA system. They also ask for regular maintenance and such that really isn't a function of Public Safety to dictate to private businesses with a low number of employees and customers.	12/22/2021 3:06 PM
2	lack of standards	11/23/2021 4:06 PM
3	iBWave heat maps in design	11/2/2021 2:41 PM
4	Pre-Test Measurements	10/19/2021 10:03 AM
5	Adding custom requirements that are not in any written code and/or have been proven by current technology to add competitive value to the DAS. Ex: AMS, early adoption of UL2524, were put in place before technology was available to put in place.	10/18/2021 5:55 PM
6	AHJ's that are creating their own versions of the requirements that go beyond the code requirements. The 2 hr cable issue is causing major pushback from the owners.	10/15/2021 12:26 PM
7	IMHO the pathways are over hardened by the guidelines I am hearing about. If the fire is burning that hot and that long there shouldn't be a firefighter in the building.	10/11/2021 6:46 PM
8	Dragon skin, survivability codes.	10/8/2021 12:04 PM
9	As an integrator, we need confirmation of the radio system(s), control frequency(s) and tower(s) for particular sites within jurisdictions. AHJs don't have this data so we rely on Radio Reference which is not always current or complete. Radio System Operators rarely respond to inquiries about these basic details - so this is the #1 need. Secondly, it would be beneficial to all if the Radio System Operators published their technical requirements for ERRCS equipment and performance standards. Also, documentation for the versions of IFC and NFPA the AHJs are enforcing, requirements for pathway survivability and other installation requirements (if permit is required, if PE stamps are required, etc.).	10/7/2021 12:45 PM
10	Cable survivability - Cost/Benefit when internal antennas are not fire rated for survivability - cable survives but antenna has melted.	10/7/2021 11:27 AM
11	Prevailing wage requirements	10/7/2021 11:06 AM
12	Broward County requires a noise floor level test where their representative stands 10ft in front of the donor antenna and measures noise floor increase when the BDA is turned on without the transmitter engaged. This test proves nothing as all devices emit RF when powered on. This has caused local integrators to install a -10dbm pad just to pass this test. This is a bad and unnecessary practice.	10/7/2021 10:52 AM



### Q32 Have you had the experience where an AHJ or Radio System Operator required commercial carrier communications (i.e., FirstNet or Verizon) for Public Safety within the ERRCS/Public Safety DAS installation?

Answered: 23 Skipped: 3



ANSWER CHOICES	RESPONSES	
Yes	21.74%	5
No	78.26%	18
TOTAL		23

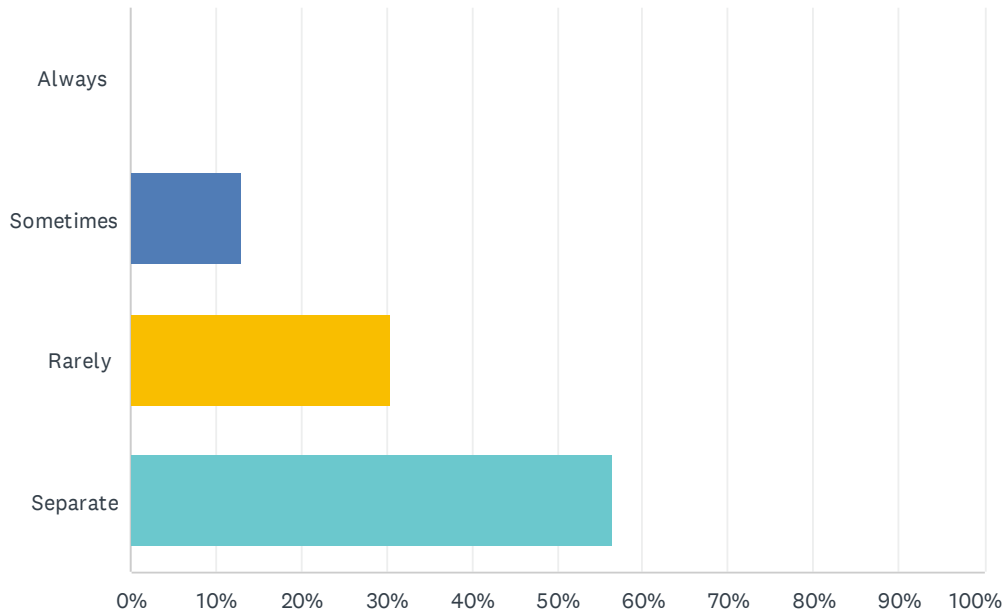
### Q33 If "Yes," please provide the location

Answered: 6 Skipped: 20

#	RESPONSES	DATE
1	City of Houston codes require adequate (tested) coverage on thier PS radio system in all new buildings.	1/4/2022 2:44 PM
2	Broward County	11/23/2021 4:06 PM
3	United States	10/15/2021 1:23 PM
4	Have not been forced to do it yet.	10/15/2021 12:26 PM
5	Local AHJ's require band 14 to be filtered out.	10/7/2021 10:52 AM
6	illinois	10/7/2021 10:34 AM

### Q34 How often is the installation of your ERCES tied to the commercial DAS installations within a building or campus (as opposed to being installed as separate systems)?

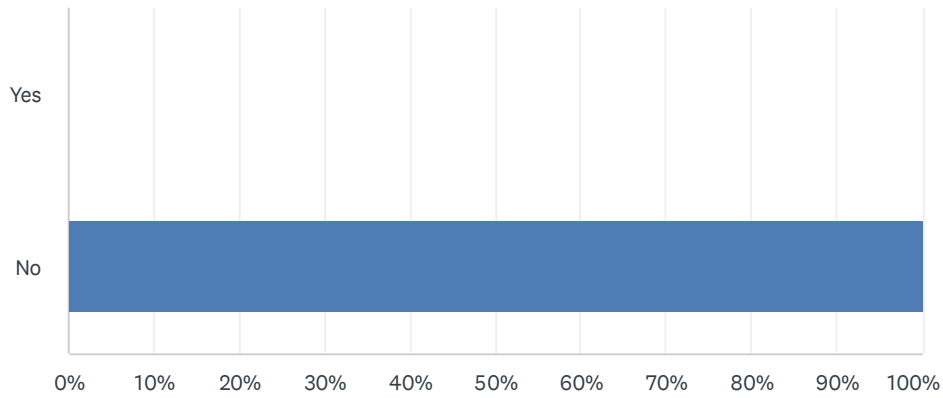
Answered: 23 Skipped: 3



ANSWER CHOICES	RESPONSES
Always	0.00% 0
Sometimes	13.04% 3
Rarely	30.43% 7
Separate	56.52% 13
TOTAL	23

### Q35 If you answered “Always” to the previous question, did they enforce all requirements for hardening and survivability on the commercial carrier BDA/DAS system?

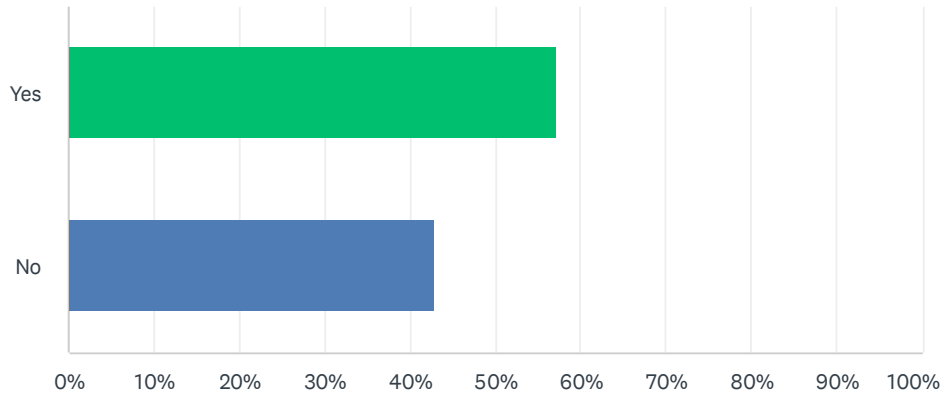
Answered: 3 Skipped: 23



ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	100.00% 3
TOTAL	3

### Q36 Would you be willing to be interviewed to discuss these matters by a Task Force representatives?

Answered: 21 Skipped: 5



ANSWER CHOICES	RESPONSES	
Yes	57.14%	12
No	42.86%	9
TOTAL		21

## Q38 If you have further comments on this topic, please provide them here:

Answered: 8 Skipped: 18

#	RESPONSES	DATE
1	Ira Wisenfeld has the most knowledge on this subject.	12/22/2021 3:06 PM
2	I have been out of this for about 5 years, I am not up to date on any newer Fire Codes.	11/2/2021 2:41 PM
3	Some of the questions were difficult to be specific, because DWS see ERRC systems in many different areas. So, one answer doesn't necessarily apply to all the different locations we serve. Code and enforcement truly varies dramatically across the US. Still some very populated areas of the US that do NOT enforce code or have no written code, but do enforce randomly.	10/18/2021 5:55 PM
4	Really should interview Joey he has vast experience with this.	10/15/2021 1:23 PM
5	In the NY metro area it is the wild west. We offer a code compliant system and get underbid. We couldn't buy the materials for a code compliant system for what they are selling their installed system for. When it doesn't work we wind up back in fixing the mess. The A&E firms routinely specify things that are on the wrong bands and are not code compliant. We are working on our own educational content to combat this issue.	10/15/2021 12:26 PM
6	I never installed a ERCES. I have quoted. I have been called in on two occasions to service systems previously installed.	10/11/2021 6:46 PM
7	We have more problems with AHJ's using the same fire code but interpreted differently. Example with alarms to the fire alarm panel, coax runs inside and out. DAQ is becoming an issue as well.	10/8/2021 9:44 AM
8	Good questions! The right questions! Sounds like we're all struggling with the same issues. The AHJs we work with would all like better clarity and guidance. They're trying to do the right thing but the code confusion gets in the way.	10/7/2021 12:45 PM