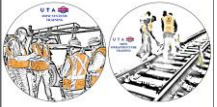














MOW 000220 Radio Communication
220.1 through 220.309



Slide	Narrator/Sam	AI	Essential Questions	Assessment Question
 <p>MOW 220 Radio Communication</p> <p>1</p>				
 <p>2</p>	<p>Welcome to M.O.W.'s Two Twenty Radio Communication Training. I will be your narrator through this tutorial, which is approximately 10 minutes in length.</p>			
 <p>3</p>	<p>Our story begins with Sam and Alyson. They are new employees in the M.O.W. department. They are learning effective ways to communicate and U.T.A.'s expectations for use of a radio.</p>			
 <p>4</p>	<p>Sam- This is a lot to remember. Did you understand everything they spoke about this morning with Radio communication?</p> <p>What does Scope mean?</p>	<p>Most of it. I think I have a good grasp regarding expectations.</p> <p>That is the extent of this rule on Radio Communication. It is all of the relevant information we discussed, which represents the minimum requirements for wireless communication.</p>	<p>220. 1 What is the scope of railroad communication?</p>	<p>Does the scope prescribe the minimum requirements for the use of wireless communications?</p> <p>A. Yes !</p> <p>B. No</p>


			<p>220.7 Can penalties be assessed for gross negligence or repeated violations that cause harm?</p>	<p>Can penalties be assessed for gross negligence or repeated violations that cause harm?</p> <p>A. Yes! B. No</p>
 <p>5</p>	<p>Oh, I understand. They also talked about penalties. Can you really be given a penalty for something at work?</p> <p>The fines are substantial. What did they say? \$892, or up to over \$29,000 per violation? It sounds like I must really focus at work, not be negligent and make sure problems are fixed the first time so there is not a repeat of an issue. When we were told that penalties count as a separate offense each day the problem occurs, it really concerned me.</p>	<p>Yes. They can be assessed for gross negligence or repeated violations when they cause harm to someone.</p> <p>Just listen and read the code and you will be a great rail worker.</p>		<p>Penalties count as one offense regardless if it occurs day after day.</p> <p>A. True B. False !</p>
 <p>6</p>	<p>Did you understand who has to carry a radio?</p> <p>So I should always carry a radio?</p>	<p>C.F.R. code requires one radio in each vehicle. U.T.A gives each of us our own radio, so that exceeds, C.F.R. code.</p>	<p>220.11 What are the radio requirements for roadway workers?</p>	<p>MOW operators and passengers in a vehicle must all be carrying a radio.</p> <p>A. True B. False !</p>

		<p>Yes. That is the intent. We want to be able to communicate. The reason for one in each truck is the ability for intra-group communication. This means each vehicle must have a way to communicate with others.</p>		
 <p>7</p>	<p>What if I get out of the truck and work by myself in another area of the track.</p> <p>Got it. Thanks.</p>	<p>Then you would be considered a lone worker and would need to have a radio capable of monitoring transmissions from train movements in the area.</p>		<p>Each MOW group shall have intra-group communications capability upon arriving at a work site.</p> <p>A. True ! B. False</p>
 <p>8</p>	<p>Yes, I was given a copy of the C.F.R., G-CORE and SSI when I was hired. I am still learning the difference between them.</p> <p>I have not read through all of them yet. They may be in my locker.</p>	<p>Do you have a copy of the operating rules? I know each employee who a railroad authorizes to use a radio is provided with a copy.</p> <p>Have you read through them?</p> <p>We were just instructed on proper Use of radio communication, and will be tested on it periodically.</p>	<p>220.11 Do lone workers or on-track safety workers need a radio?</p>	<p>On-track safety workers or a lone worker must have access to a radio capable of monitoring transmissions from train movements in the vicinity.</p> <p>A. True B. False</p>

 <p>9</p>	<p>They are most likely in here. I keep everything work related here.</p>	<p>Let's walk over and see if they are in your locker.</p> <p>I would suggest taking them home and studying them tonight. Make sure you keep them with you while at work. You will need to read them as you will be tested on the material.</p>	<p>220.25 Does an employee who uses a radio need access to a copy of the railroad's operating rules?</p>	<p>An employee who uses a radio must be:</p> <ul style="list-style-type: none"> A. Provided with a copy of the railroads operating rules governing the use of radio communication B. Instructed in the proper use of radio communication C. Periodically tested under the operational testing requirements D. All of the above !
<p>Slides 10-17 are the quiz questions here and above.</p>			<p>What tools and equipment must be in your possession?</p>	<p>A MOW employee operating a radio must have a radio and current rulebook in their possession.</p> <ul style="list-style-type: none"> A. True ! B. False
 <p>18</p>	<p>Narrator: It had been raining for days, and Sam had been out checking tracks for flooding. Yesterday there was an earthquake that had caused</p>			

	substantial damage. One of the issues was a water main break. Sam went to the area of the break, to see the direction of the flow of water.			
 19	Sam followed the water path as he knew it would lead to tracks. Sure enough, there was water built up in the tracks from the flooding. This is something a train could navigate, but he continued to follow the flow of the water			
 20	As Sam walked further, he saw what looked like a washout, in an area of old track. It is used periodically during events, but it is not regularly maintained. He needed to call it in, as he had no idea when this area may be used.		220.13 What is the timeframe for reporting hazards on or near the rails?	Employees shall immediately report derailments, collisions, storms, wash-outs, fires, track obstructions and other hazards which could result in injury, damage or disruption of railroad operations. A. True B. False
 21	He pulled out his radio. He listened to ensure the channel he was using was not already in use. He identified his name, station, and location.			

 <p>22</p>	<p>Al, heard him and within a few minutes, was there to help.</p>		<p>220.13 (c) What information must employees report?</p>	<p>Employees shall describe as completely as possible the nature, degree and location of the hazard.</p> <p>A. True ! B. False</p>
 <p>23</p>	<p>I have not heard back either. Can you believe that water could do this much damage?</p>	<p>Wow, this is severe. You were right to call this in. I did not hear control respond.</p> <p>Water can do substantial damage. I would call again.</p> <p>We were told if the control center is unmanned or unable to receive radio transmission, we should try an alternate means of communication. You keep trying to reach them on the radio and I will make some calls.</p>	<p>If control center is unmanned or unable to receive radio transmissions, is an alternative means of communication required?</p>	<p>If control center is unmanned or unable to receive radio transmissions, is an alternative means of communication required?</p> <p>A. Yes ! B. No</p>
 <p>24</p>	<p>Great idea. Thanks for coming over here. Are you also going to use your radio?</p> <p>Sam then checked his radio, and Al checked her radio to see if they were on the appropriate channel</p>	<p>I will use my U.T.A. cell phone, if we cannot get through on the radio.</p>	<p>220.43 Radio communications consistent with Fed. Regulations and RR operating rules</p>	<p>A citizen's band radio can be used for railroad communication.</p> <p>A. True B. False !</p>

	<p>I know one thing we could not use. A CB radio. Remember those when we were kids?</p> <p>They both chuckled.</p>	<p>Barely, but my father had one.</p>		
 <p>25</p>	<p>Sam got on the radio again. He listened to ensure that the channel was not already in use.</p> <p>U.T.A. M.O.W. three 29 to U.T.A. Warm Springs Control, Over!</p> <p>U.T.A. M.O.W. three 29 reports a washout under tracks between.....</p> <p>As Alyson listened, she heard Sam identify himself, state his location and the issue. He also stated: OVER! after each message. He was doing well. Dispatch responded. They acknowledged the call, identified Sam's station and repeated his information.</p> <p>That is correct. M.O.W. Three 29, Out.</p>	<p>U.T.A Warm Springs control, over.</p> <p>Well done Sam. I could not have done it better.</p>	<p>220.39 Continuous radio monitoring</p>	<p>Each radio used in a railroad operation shall be turned on to the appropriate channel and adjusted to receive communication.</p> <p>A. True ! B. False</p>



26

I read the rules again and it began to make sense. They did not understand my location so I needed to use a phonetic alphabet, for the word. I stated the word and then spelled it with the phonetic words. I am so glad you suggested I read up on the rules last night.

You are doing this correctly. You must have learned something yesterday or red the rules last night.

220.31 Initiating a radio transmission.

What are the steps to follow when initiating a radio call?

- Before transmitting by radio, an employee shall
- a. Listened to ensure that the channel is not already in use
 - b. Identify the employee's station
 - c. Verify that the employee has made radio contact with the person or station
 - d. All of the above !

220.27 Identification.



What are the identifiers that are used in radio communication?



- What are the identifiers that are used in radio communication? (Check all that apply)
- A. Name of railroad
 - B. Train name or number or unit designation
 - C. Location
 - D. All of the above !





220.33 Receiving a radio transmission


What are the steps to follow when receiving a radio call?



- When receiving a radio call, an employee shall:
- A. Acknowledge the call
 - B. Identify the employee's station



				<p>C. Repeat it to the transmitting party</p> <p>D. All of the above !</p>
			<p>220.29 Statement of Letters and Numbers used in radio communication</p>	<p>If necessary, a phonetic alphabet shall be used to pronounce any letter.</p> <p>A. True !</p> <p>B. False</p>
			<p>When spelling a name, is it first pronounced, then spelled?</p>	<p>When spelling a name, is it first pronounced, then spelled?</p> <p>A. Yes !</p> <p>B. No</p>
<p>Slides 27-36 are quiz questions here and above. Slide 28 is the score, slide 29 is the closure of the tutorial, part 1.</p>				
<p>Module 2:</p> 				
 <p>2</p>				



 <p>3</p>	<p>The following week, employees were in a morning briefing, and reminded they must test the equipment prior to heading out on assignment. This is important to ensure there is a way to communicate</p> <p>The M.O.W. team is about to watch a video, demonstrating radio communication when taking control, to work on a switch. You guessed it, the team is going to be working on switches today.</p>			
<p>4 Vyond Video for control of a switch</p>				
 <p>5</p>	<p>Yes, it was. I can't remember if I said "over" and "out" when I spoke with control yesterday, but I remember them stating those terms.</p> <p>That's a helpful way to remember the terms. Thanks.</p>	<p>Was the video helpful?</p> <p>Practice. Just remember that "Over" means you are done with your statement and expecting a response. "Out" means you are ending the transmission. Like you are out of there.</p>	<p>220.35 Ending a radio transmission</p> <p>What is the correct term for ending a transmission?</p>	<p>What is the correct term for ending a transmission when you expect a response?</p> <ul style="list-style-type: none"> A. The End B. Close C. Over ! D. Out


 <p>6</p>	<p>As he was leaving, he saw Al and Tim testing radios. They set their channel and spoke. One did not seem to be working well.</p>			<p>What is the correct term for ending a transmission when you DO NOT expect a response?</p> <p>A. The End B. Close C. Over D. Out !</p>
 <p>7</p>	<p>They verified the channel, listened for anyone talking and then tried it again. Still nothing. They decided to try another channel, and once again tried to communicate, nothing. Tim checked to make sure his radio was on, and checked the batteries. All looked good.</p>		<p>220.37 Testing radio and wireless communication equipment. Is it necessary to test radio and wireless communication?</p>	<p>It is not necessary to test radio equipment prior to a work assignment.</p> <p>A. True B. False !</p>
 <p>8</p>	<p>Tim contacted his supervisor and shared that his radio did not seem to be working. The radio was removed from service, and Tim was issued another radio.</p>			
<p>Slides 9-12 are quiz slides covering the questions listed in the previous slides.</p>				
 <p>13</p>	<p>During a meeting the following week, the MOW team had learned that a crew member had a heart attack yesterday</p>		<p>220.38 Communication Equipment Failure</p>	<p>Which of the following steps are followed when there is radio equipment failure:</p>




	<p>while out working. The crew member will recover but this prompted the supervisor to share a video of an emergency response example, on the FrontRunner line. In addition, one radio had not been working last week, so the supervisor also shared a video of a radio check.</p>		<p>What is the process followed when there is equipment failure?</p>	<ul style="list-style-type: none"> A. Device removed from service B. Dispatcher or other designated employee notified C. If on a locomotive, it may continue en route until the next calendar day or the nearest forward point for repair or replacement. D. All of the above !
<p>14 Vyond Video Radio Check and Emergency. (This video also has Trax info).</p>			<p>220.47 Emergency radio transmissions</p> <p>What is said on the radio when there is an emergency?</p>	<p>The word “emergency” is repeated three times when initiating a radio transmission regarding an emergency.</p> <ul style="list-style-type: none"> A. True ! B. False
 <p>15</p>	<p>Sam raised his hand and asked about the priority of an emergency call. The supervisor responded that an emergency call is a top priority over any other conversation.</p>		<p>What is the priority of an emergency call?</p>	<p>An emergency transmission is treated like any other call and must wait its turn while others transmit messages.</p> <ul style="list-style-type: none"> A. True B. False !
<p>Slides 16-17 are quiz questions.</p>				



<p>18</p> 	<p>That morning Al was working on a rail near Warm Springs.</p>			
<p>19</p> 	<p>A Frontrunner came in and asked another employee to guide him as he backed into a passenger rail car. Al had never watched this before, and it was great to experience so she would not throw a switch or foul a track at a poor time.</p> <p>Engineer: Hey Ernest, will you guide me as I back up to the car? Thanks.</p> <p>He backed up and came to a stop at about 20'.</p>	<p>Ernest: Sure, You have 40' to the car.</p>	<p>220.49 Radio Communication used in shoving, backing or pushing movements</p> <p>What are the rules regarding shoving, pushing and backing?</p>	<p>An employee directing the movement of on-track equipment (shoving, pushing, backing) must specify the distance of the movement.</p> <p>A. True ! B. False</p>
<p>20</p>	<p>Al wondered why he stopped, but then remembered about reading that a train may go 50% of the distance of the movement specified.</p>			<p>A train may go _____ of the distance of the movement specified.</p> <p>A. 100%</p>

	<p>The engineer smiled and backed up another 10'. Al watched him until the car was connected. The engineer thanked Ernest.</p>	<p>Looks good. You have another 20'.</p>		<p>B. 50% ! C. 25% D. 75%</p> <p>If the instructions are not understood, the movement shall be stopped immediately. A. True ! B. False</p>
 <p>21</p>	<p>Al walked over to Ernest and chatted for a minute. He told her a story of another person in the yard and all he would do is wave. The engineers had no idea what the worker was communicating so they stopped the movement immediately. We had to educate him on the protocol for backing up, as engineers need to know the distance and instructions must be very clear and understood.</p>			

<p>22</p> 	<p>In a short time, Al's supervisor contacted her. It was a mandatory directive that came through with Al's name, ID, location and readiness to be in Roy in 30 minutes. She acknowledged and copied back to her supervisor.</p> <p>MOW 456 Copy. I will provide it. Out.</p>	<p>M.O.W. five two six copy. Please send me a written copy since I will be responsible for on-track safety. Over.</p>	<p>220.61 Radio transmission of mandatory directives What is the procedure for transmitting a mandatory directive?</p>	<p>Any mandatory directive must be acknowledged by the intended employee and copied back to the dispatcher or transmitter.</p> <p>A. True ! B. False</p>
<p>23</p> 	<p>Al got in her truck and headed up to Roy. As she drove, she listened to her supervisor contact control.</p> <p>MOW: UTA M.O.W. four, five, six to UTA Warm Springs Control over. Controller: UTA Warm Springs Control over. MOW: UTA M.O.W. four, five, six requests track and time at control points Roy South to Roy North on all tracks until One Zero Two Zero, over. (10:20) Controller: M.O.W. four, five, six is granted track and time at control points Roy South to Roy North on all tracks with authority number 6 until One Zero Two Zero (10:20) over.</p>			<p>A mandatory directive must state the employee's name, ID, location and readiness.</p> <p>A. True ! B. False</p>

	<p>MOW: M.O.W. four, five, six understands that track and time has been granted with authority number 6 at control points Roy South to Roy North on all tracks until One Zero Two Zero (10:20) over.</p> <p>Controller: M.O.W. four, five, six that is correct. You're ok time is One Zero Zero Five (10:05) by Controller Five Seven Two (572) over.</p> <p>MOW: M.O.W. four, five, six understands that my ok time is One Zero Zero Five (10:05) by Controller Five Seven Two (572) over.</p> <p>Controller: That is correct. Control out.</p>			
 <p>24</p>	<p>The dialogue from the supervisor to Control was clear and understood. Had it not been, the request would not have been acted upon, and treated as though it was not sent. As Al is driving, she remembers a video they were shown last week during a morning briefing.</p>			<p>For on-track equipment, before a mandatory directive is acted upon, the employee responsible for on-track safety shall have a written copy of the mandatory directive.</p> <p>A. True ! B. False</p>
<p>25 Vyond Video</p>				

 <p>26</p>	<p>Al had 15 minutes to complete the task once she arrived at Roy, just before 10:05.</p>			
 <p>27</p>	<p>As she finishes at Roy, she lets her supervisor know and within a minute, she hears the call.</p> <p>MOW: UTA MOW 456 to UTA Warm Springs control over. U.T.A. Warm Springs Control over.</p>		<p>220.45 Radio communication shall be complete Must all radio communication be clear and understood?</p>	<p>Any radio communication that is not fully understood or completed, shall not be acted upon and be treated as though it was not sent.</p> <p>A. True ! B. False</p>
 <p>27 cont.</p>	<p>MOW: UTA MOW 327 to UTA Warm Springs control over.</p> <p>MOW: MOW 456 would like to release track and time with authority number 6 between Roy South and Roy North at this time over.</p> <p>Controller: Control understands that MOW four, five, six is releasing track and time between Roy South and Roy North with authority number 6 at One Zero One Eight (10:18) over</p> <p>MOW: That is correct. MOW four, five, six out.</p>			

 <p>No information may be given by radio to a train or engine crew about the position or aspect of a fixed signal.</p> <p>28</p>	<p>While she is loading up her equipment, a FrontRunner comes in to the station. The operator flags her over.</p> <p>Hi, I had something in my eye, its watering badly and wondered if you would let me know when the signal upgrades so I know when to leave?</p> <p>She felt badly but she read the rules and knows that she is unable to share information about any position or display by a fixed signal.</p>	<p>Sorry, I am not able to do that. I cannot transmit information about any position or aspect displayed by a fixed signal. I wish you the best. Hope your eye feels better.</p>	<p>220.51 Radio communications and signal indications</p>	<p>Information can be transmitted to a train or engine crew about the position or aspect displayed by a fixed signal.</p> <p>A. True B. False !</p>
 <p>29</p>	<p>As she returns to the Frontrunner yard to finish what she had begun earlier, she thinks she will love this job. It is only 10:30 and she has been very busy and able to work outside. What a great job.</p>			
<p>Slides 30-36 are quiz questions.</p> <p>Slide 37 is the quiz results page</p> <p>Slide 38 is the Congratulations page.</p>				
<p>Subpart C:</p>				

**220.301 Electronic
Devices (completed.
See other attachment)**