TL ROW Access Only Training
E-learning Script

Ref #	Image Names	On-Screen Graphics	On-Screen Text	Narration	Revised Narration
1.1		Title slide and welcome screen	Transmission Line Right-of-Way Access Only ROW Entry and Safety Procedures	Music and no narration	
1.2		Transmission line right-of-way (Float in 1-5)	Title: Course Introduction 1. Safely enter and exit a Transmission Line Right-of-Way 2. Make a visual check for any safety hazards 3. Comply with applicable regulatory requirements 4. Identify voltages and maintain appropriate distances 5. Execute emergency communication procedures	This course will prepare you for safely entering and exiting a Transmission Line Right-of-Way in order to do the work assigned to you:	This course will prepare you for entering and exiting a Transmission Line Right of "Way", so you can safely do the work assigned to you. We'll cover the topics shown "here". There will be some review questions throughout the program to help prepare you for the final evaluation.
1.3		Generic background	Title: Course Topics 1. List expectations for working on GTC construction and maintenance projects. 2. Demonstrate understanding of basic federal, state, and local regulatory requirements. 3. Explain communication requirements for working on GTC transmission line right-of-ways.	As we move through this module, we will cover each of these course objectives. List expectations for working on GTC construction and maintenance projects. Demonstrate basic understanding of federal, state, and local regulatory requirements. Explain communication requirements for working on GTC transmission line right-of-ways. Review site conditions (i.e., other utilities, gas pipe lines,	1.3a As we complete this program, we'll cover a number of course objectives. Click the document icon to view these. Then, when you're ready, click Next to continue. List expectations for working on GTC construction and maintenance projects. Demonstrate basic understanding of federal, state, and local regulatory requirements.

			4. Review site conditions (i.e., other utilities, gas pipe lines, environmental protected areas, anchor & guy wires, etc.). 5. Explain proper communication involved in GTC emergency reporting procedures. 6. Identify the potential for induced voltage and be aware of hazardous areas. 7. Demonstrate familiarity with High Voltage Safety Act. 8. Demonstrate proper right-of-way etiquette. 9. Obey all GA 811 requirements (call before you dig). 10. Exhibit a basic understanding of the Integrated Transmission System (I.T.S.) electric system operating procedures. 11. Explain transmission line voltages and minimum approach distance (MAD) for personnel and equipment.	environmental protected areas, anchor & guy wires, etc.). Explain proper communication involved in GTC emergency reporting procedures. Identify the potential for induced voltage and be aware of hazardous areas. Demonstrate familiarity with High Voltage Safety Act. Demonstrate proper right-of-way etiquette. Obey all GA 811 requirements (call before you dig). Exhibit a basic understanding of the Integrated Transmission System (I.T.S.) electric system operating procedures. Explain transmission line voltages and minimum approach distance (MAD) for personnel and equipment. There will be some review questions throughout the program to help prepare you for the final evaluation.	Explain communication requirements for working on GTC transmission line right-of-ways. Review site conditions (for example, other utilities, gas pipe lines, environmental protected areas, anchor and guy wires, et cetera). 1.3b Explain proper communication involved in GTC emergency reporting procedures. Identify the potential for induced voltage and be aware of hazardous areas. Demonstrate familiarity with the High Voltage Safety Act. Demonstrate proper right-of-way etiquette. Obey all Georgia "8 1 1" requirements, often referred to as "call before you dig". Exhibit a basic understanding of the Integrated Transmission System or I.T.S., electric system operating procedures. Explain transmission line voltages and minimum approach distance for personnel and equipment.
1.4		(Generic nav instructions)	Title: Navigation	Want to learn about course navigation? Click the NAV button for a walkthrough.	Click the nav button to learn about course navigation.
1.5			Let's Get Started Transmission Line Right-of-Way Safety and Entry Procedures	Now, let's get started with Transmission Line Right-of-Way Safety and Entry Procedures.	Now, let's get started with Transmission Line Right-of-Way Safety and Entry Procedures.

2.1 Section: Preparing to Access a Transmission Line Right-of-Way					
2.2	2.1	Show generating plant, transmission line, and substation	Title: Transmission Line Right-of-Ways High-voltage transmission lines deliver electricity over long distances – from generating plants to distribution substations.	High-voltage transmission lines deliver electricity over long distances, from generating plants to distribution substations serving large industries and residential customers. When your job duties require you to visit a transmission line right-of-way, you must know the proper safety procedures, communications guidelines, and potential hazards in the area.	High-voltage transmission lines deliver electricity over long distances from generating plants to distribution substations serving large industries and residential customers. When your job duties require you to visit a transmission line right of way, you must know the proper safety procedures, communications guidelines, and potential hazards in the area.
2.3	2.2.1 2.2.2	High Voltage Sign	Title: High Voltage Safety Act	These safety procedures are guided by Georgia's High-Voltage Safety Act that requires any work activities planned to occur adjacent to, parallel, or in close proximity to a high-voltage transmission line to be coordinated and communicated with the utility owner prior to commencing such work.	These safety procedures are guided by Georgia's High-Voltage Safety Act. This act requires communication and coordination with the utility owner prior to commencing any work activities that are planned to occur adjacent to, "parallel with", or in close proximity to a high-voltage transmission line.
2.4				This act extends to any work that takes place on a transmission line right-of-way. Before you enter or perform ANY work on a GTC transmission line right-of-way, you MUST ensure your work is planned and authorized.	The act extends to any work that takes place on a transmission line right of way. Before you enter or perform "ANY" work on a GTC transmission line right-of-way, you "MUST" ensure your work is planned and authorized.

2.5	2.3.1 2.3.2	Entrance to ROW	Title: Accessing the Right-of-Way	A right-of-way (ROW) is a type of easement or agreement that grants the utility a special right to access and use their equipment, structures, or conductor. It also gives the authority to maintain the width and danger trees adjacent to transmission lines on the property according to the terms of the easement.	A right of way is a type of easement or agreement that grants a utility the special right to "access" and use its equipment, structures, or conductor. According to the terms of the easement, a right of way also gives the authority to maintain the right-of-way width and to cut dangerous trees near transmission lines on the property.
2.6				This easement is typically granted by property owners to an electric utility for the purpose of designing, constructing, operating and maintaining power lines and communications. Only-authorized and approved contractors may enter or perform work in the right of ways maintained by Georgia Transmission Corporation.	This easement is typically granted to an electric utility by property owners for the purpose of designing, constructing, operating, and maintaining power lines and communications. Only authorized and approved contractors may enter or perform work in the right of ways maintained by Georgia Transmission Corporation.
2.7	2.4	(Float in steps 1-3)	Title: Before You Enter: First Steps Steps: 1. Complete a visual inspection 2. Sign onto the transmission line right of way. 3. Ensure you are wearing the required PPE.	Before you can enter the transmission line right-of-way, there are three key steps you'll always take to ensure your safety: One: conduct a visual inspection. Two: Sign onto the transmission line right-of-way. Three: Make sure you are wearing the required personal protective equipment or PPE.	Before you can enter the transmission line right-of-way, there are three key steps you'll always take to ensure your safety: One: Complete a visual inspection. Two: Sign onto the transmission line right-of-way . And, Three: Make sure you're wearing the required personal protective equipment, or "PPE". Click on each step to learn more.
2.8	2.5	Visual Inspection of Outside Transmission Line right-of-way	Title: Before You Enter: Step 1 Step 1: Conduct visual inspection	Let's break these down further, starting with the visual inspection. When pulling up to a transmission line right of way, perform a visual	Perform a visual and an audio scan to ensure that it's safe to approach.

			Look for the following: ● Downed Lines, ● Broken porcelain, and ● Cracked polymer. Listen for abnormal sounds. Buzzing sounds on line or insulators are normal.	and audio scan to ensure that it's safe to approach. Look for downed lines and listen for any abnormal sounds. It is common to hear buzzing sounds from some high- voltage transmission lines.	When pulling up to a transmission line right of way, look for downed lines and listen for any abnormal sounds other than the common buzzing noises from some high-voltage transmission lines.
2.9	2.6	GSOC Control Center	Title: Before You Enter: Step 2 Step 2: Sign onto the transmission line right of way. Provide the following information: ● Name and Company Name ● Contact Number ● Name and location of TL/structure numbers ● Number of workers ● Purpose of visit	The second step is to sign onto the transmission line right of way either via the SENT app or by calling GSOC Transmission Control Center or your EMC Dispatcher. GSOC's number is 1-800-241-5375. Provide GSOC with the following information: Your name and company name, your contact number, the I.T.S. name and location of the transmission line you are working on (including structure numbers or section), the number of workers present, and the purpose of the on-site visit.	The second step is to sign onto the transmission line right of way either via the SENT app or by calling GSOC Transmission Control Center or your EMC Dispatcher GSOC's number is 1 eight-hundred, 2 4 1, 5 3 7 5. Provide GSOC with the following information: Your name and company name, your contact number, the I.T.S. name and location of the transmission line you are working on, including the structure numbers or section, the number of workers present, and the purpose of your on-site visit.
2.10		Avatar with PPE for minimum entry. Can place avatar outside a transmission line right of way.	Title: Before You Enter: Step 3 Step 3: Ensure you are wearing the required PPE Minimum PPE required for entry: ● Hard hat ● Safety glasses (as needed) ● Appropriate clothing (100% natural fiber)	The third step is to make sure you have all of the required personal protective equipment before entering the transmission line right of way. Inspect each piece of PPE to ensure it is in good working condition. The minimum PPE required for entry includes:	The third step is to make sure you have all of the required personal protective equipment before entering the transmission line right of way. The minimum PPE required for entry includes: Hard hat, safety glasses (as needed, based on work requirements), appropriate clothing

			● High-visibility vest ● Protective work boot	Hard hat, safety glasses (as needed, based on work requirements), appropriate clothing (100% natural fiber), high-visibility vest, and protective work boots.	(100% natural fiber), high-visibility vest, and protective work boots. Inspect each piece of PPE to ensure it is in good working condition.
3.1 Section: Site Conditions and Hazards					
3.2	2.8.1 2.8.2 2.8.3	High voltage transmission line		You've done your visual inspection, signed onto the transmission line right of way, and made sure you have the proper PPE, but there are still a few more things to consider. You need to know the conditions of the site.	You've done your visual inspection, signed onto the transmission line right of way, and made sure you have the proper PPE, but there are still a few more things to consider. To begin, you need to know the conditions of the site.
3.3			Title: Site Conditions Site conditions could include the following: ● Hazardous conditions ● Potential for induced voltage ● Environmental protected areas ● High voltage transmission line ● Guy wires ● Challenging terrain	Site conditions could include potential hazards, potential for induced voltage, environmentally-protected areas, high voltage transmission lines, guy wires, and challenging terrain. You should understand where these items may be present and avoid contact or encroachment.	Site conditions could include potential hazards, potential for induced voltage, environmentally-protected areas, high voltage transmission lines, guy wires, and challenging terrain. You should understand where these items may be present and avoid contact or encroachment.
3.4			Title: Potential Hazards What are some potential hazards in a transmission line right-of-way? Click on each tab to find out. Tab 1: Wildlife Tab 2: Environmental conditions Tab 3: Energized lines	Now, let's explore hazards a bit more. Hazard identification is recognizing potential sources of harm, and taking steps to mitigate or eliminate them. What are some potential hazards in a transmission line right-of-way? Click on each tab to find out.	Now, let's explore hazards a bit more. Hazard identification is recognizing potential sources of harm, and taking steps to mitigate or eliminate them. What are some potential hazards in a transmission line right-of-way? Let's take a look.

3.4a	2.10.1 2.10.2	Yellow jackets, snakes, deer ticks, gopher tortoise	Tab 1 Title: Wildlife Hazards Snake chaps and snake boots offer a layer of protection against snake bites. Additional hazards include: ● Ticks ● Wasps ● Bees ● Hornets Don't disturb animal habitats.	Wildlife is often present on the transmission line right-of-way. Stay alert at all times. Snake chaps and snake boots can provide a level of protection against snake bites, but ticks, wasps, bees, and hornets may also be in the area.	Wildlife is often present on the transmission line right-of-way. Stay alert at all times. Snake chaps and snake boots can provide protection against snake bites, but ticks, wasps, bees, and hornets may also be in the area.
3.4b				In addition, there may be federally protected wildlife habitats on the ROW that must not be disturbed. For example, gopher tortoises are a protected species in Georgia, and they should not be disturbed.	In addition, there may be protected wildlife habitats on a "row" that must not be disturbed. For example, gopher tortoises are considered a Georgia threatened species. Both the animals and their burrows must be protected from damage.
3.4c	2.11.1 2.11.2	Flooding or swamp area in transmission line right-of-way	Tab 2 Title: Environmental Conditions Some hazardous environmental conditions may include: ● Fallen trees ● Holes ● Flooding or swampy region ● Tall or thick vegetation	Some hazardous environmental conditions may include: fallen trees, holes, jurisdictional wetlands, flooding or swampy regions, tall or thick vegetation, and much more.	Hazardous environmental conditions may include: fallen trees, holes, jurisdictional wetlands, flooding or swampy regions, tall or thick vegetation, and much more.
3.4d	2.12	Transmission Lines	Tab 3 Title: Energized Lines Energized lines and equipment create the potential for an electrical contact or induced voltage. Always be aware of your position and the position of your	Energized transmission lines are present on the ROW. Energized lines and equipment create the potential for an electrical contact and/or contact with induced voltage. You must always be aware of your position and the position of your equipment relative to any energized parts, staying a minimum of 20' away. We will cover the hazards of	Energized transmission lines are present on the "row". Energized lines and equipment create the potential for an electrical contact or contact with induced voltage. You must always be aware of your position and the position of your equipment relative to any energized parts, staying a minimum of twenty feet away.

			equipment, staying a minimum of 20’ away.	an energized environment in more detail later in the module.	We'll cover the hazards of an energized environment in more detail later in this program. Now, let's review some other important aspects of ensuring your safety.
4.1 Section: Hazard Mitigation					
4.2	2.13	Hazard information sheet	Title: Hazard Information Sheet (show image of sheet, don’t use any additional text)	GTC completes an in-depth Information Transfer process prior to authorizing any work. The goal of this process is to ensure workers have a clear understanding of the scope of work, the work environment, any potential hazards on the system, and emergency reporting expectations.	GTC completes an in-depth Information Transfer process prior to authorizing any work. The goal of this process is to ensure workers have a clear understanding of the scope of work, the work environment, any potential hazards on the system, and emergency reporting expectations.
4.3				The hazard information sheet is used to communicate characteristics of the work site. Whenever you get to a new worksite, review the hazard information sheet. It will allow you to become familiar with the potential hazards at that specific worksite.	When you arrive at any new worksite, review the hazard information sheet. This document communicates characteristics of the work site and will familiarize you with the potential hazards "present" there.
4.4	2.14	Transmission line near roadside	Title: Situational Awareness	When you are working adjacent to energized lines, you must practice a high level of situational awareness. Situational awareness requires that you continuously watch out for what is occurring in your environment.	When "ever" you are working adjacent to energized lines, you "must" practice a high level of situational awareness. Situational awareness requires that you continuously watch out for what is occurring in your environment.

4.5			Ask yourself these questions: ● Where are you working? ● Who is the owner of the ROW? ● What hazards may be present? ● Are you near a roadside? ● Where are you at on the system?	Ask yourself these questions: ● Where are you working? ● Who is the owner of the ROW? ● What hazards may be present? ● Are you near a roadside? ● Where are you on the system? Understanding the answers to these questions can help you be better prepared for any situation you may encounter during your work.	Ask yourself these questions: Where am I working? Who is the owner of the "row"? What hazards may be present in this location? Am I near a roadside? Where am I on the system? Noting the answers to these questions can help you be better prepared for safety situations encountered during your work.
4.6	2.15 - missing	Job briefing and GTC job briefing sheet	Title: Daily Job Briefing Your job briefing should include: ● Potential hazards ● Work tasks ● Emergency Plan	Once you've evaluated your work environment, you must communicate the conditions and potential hazards by holding a job briefing. A job briefing must be held before you begin work and when work conditions change.	Once you've evaluated your work environment, you must communicate the conditions and potential hazards to others by holding a job briefing. A job briefing must be held each day before work is begun, and if work conditions change during the day, another briefing must be completed.
4.7			●	During the job briefing you'll share the potential hazards and review the tasks you're there to do. You should also identify a plan of action in case of emergency, noting your physical location as well as the closest medical facilities. If you're by yourself, there's no need to have a documented job briefing, but you should still be aware of potential hazards.	During the job briefing you'll share the potential hazards and review the tasks you are there to do. You should also identify a plan of action in case of emergency, noting your physical location as well as the closest medical facilities. If you're by yourself, there's no need to have a documented job briefing, but you should still be aware of potential hazards.
4.8	2.16	Vehicle clearance of 20' horizontally and vertically from energized equipment	Title: Vehicle Safety	We've talked about what to do before entering a transmission line ROW prior to beginning work. What	We've talked about what to do before entering a transmission line right of way prior to beginning

			Maintain a minimum distance of 20’ vertically and horizontally of energized equipment.	we haven’t discussed yet are special considerations for your vehicle.	work. What we "haven’t" discussed yet are special considerations for your vehicle.
4.9			Always ensure sufficient overhead clearance for the vehicle. Do not hook to a tower to winch away!	If you’re driving a vehicle inside of a transmission line right-of-way, make sure to maintain a minimum distance of 20 feet vertically and horizontally from energized equipment at all times and always ensure sufficient overhead clearance for the vehicle. In addition, there may be washes, holes, and areas of uneven terrain. Navigate the ROW carefully. Also, never hook to a tower to winch away.	If you’re driving a vehicle inside of a transmission line right-of-way, make sure to maintain a minimum distance from energized equipment of 20 feet both vertically and horizontally at "all" times. Always ensure sufficient overhead clearance for the vehicle. As you're driving, remember that there may be washes, holes, and areas of uneven terrain. Navigate the "row" carefully. Note that if a vehicle "does" get stuck, you must "never" hook to a tower to winch "away."
5.1	Section: Right-of-Way Etiquette				
5.2	3.1	Right-of-way property	Title: Right-of-Way Etiquette Golden Rules: ● You are working on someone’s property.	In addition to the many safety considerations, when you are working on a transmission line right of way, it is important to remember a few obvious rules. ● You are working on someone’s property. ●	In addition to practicing safety, when you are working on a transmission line right of way, it's important to be aware of a few important rules of etiquette. First and foremost, remember at all times that you are working on "someone’s property."

5.3			• GTC may only have an easement. • Show respect to the property owners. If you damage property, report and repair it ASAP.	• GTC may only have an easement. • Show respect to the property owners. If you damage property, report the damage to the GSOC Transmission Control Center, and repair it as soon as possible.	GTC may only have an easement. Show respect to the property owners. If you damage property, report the damage to the GSOC Transmission Control Center, and repair it as soon as possible.
5.4	3.2	No trespassing sign on fence	Title: No Trespassing If a property owner will not allow access onto the tranmission line right-of-way, then notify the inspector and/or project manager. GTC only has the right to construct, operate, maintain, and remove its facilities.	If a property owner will not allow access onto the transmission line right-of-way, then notify the inspector, maintenance personnel and/or the project manager. You do not want to trespass onto someone's property or allow the situation to escalate. GTC only has the right to construct, operate, maintain, and remove its facilities.	If a property owner will not allow access onto the transmission line right-of-way, then notify the inspector, maintenance personnel, or the project manager. You do not want to trespass onto someone's property or allow the situation to escalate. GTC has the right only to construct, operate, maintain, and remove its facilities.
6.1 Section: Check Your Knowledge					
6.2			Review question	You just pulled up to a transmission line right-of-way. What are the very first things you need to do? Select all that apply. a. Perform a visual inspection. b. Check your safety glasses for cracks c. Inspect your hard hat. d. Sign onto the transmission line ROW. Conduct a job briefing.	

				Answers: A & D	
6.3			Review question	True or False? You don't have to have a documented job briefing if you're by yourself, but you still must identify hazards. Answer: True	
6.4			Review question	What information should you give the GSOC Transmission Control Center when signing in? (check all that apply) ✔ Name ✔ Company name ✔ Location ✔ Phone number Email Answer: name, company name, location, phone number	
6.5			Review question	What should you do if you damage or break guy wires on transmission line? a. Leave the guy wire or damaged anchor and move on. b. Call the GSOC Transmission Control Center immediately, and move to a safe area. c. Tie the guy off to the pole or structure. d. Attempt to excavate the anchor. Answer: B	

7.1	Section: Transmission Line Components				
7.2	4.1	Transmission Line Components		We've discussed the safety guidelines, hazards, and etiquette you should know when entering a transmission line right-of-way. Next we will talk about the types of equipment you may see in this environment. Let's look at a couple of key components that are present on GTC's transmission lines.	We've discussed the safety guidelines, hazards, and etiquette you should know when entering a transmission line right-of-way. Next we'll talk about the types of equipment you may see in this environment. Let's look at a couple of key components that are present on GT sees transmission lines.
7.3	4.2.1 4.2.2 4.2.3 4.2.4	Transmission Line photo diagrammed	Title: Transmission Line Components	When you look at a transmission line, you'll notice poles or structures, guy wires and anchors, the conductor, lightning arrestors, and insulators. Each component has a specific purpose.	When you look at a transmission line, you'll notice poles or structures, guy wires and anchors, the conductor, lightning arrestors, and insulators. Each component has a specific purpose.
7.4				As a reminder, make sure you maintain a Minimum Approach Distance of at least 20 feet from energized equipment. This includes your body and any equipment that you might be using. We will cover Minimum Approach Distance in more detail later in the program.	As a reminder, make sure you maintain a Minimum Approach Distance of at least 20 feet from energized equipment. This includes both your body and any equipment you might be using. We will cover Minimum Approach Distance in more detail later in the program..
7.5	4.3.1 4.3.2	Pictures of transmission lines	Title: Transmission Lines Network transmission lines: 115, 230, and 500 kV	In the transmission line right-of-way, you might see transmission lines with various voltages. Here are a few lines you may see. (pause) Network transmission lines may also have energized distribution lines underbuilt, parallel, or adjacent. Be aware of your position relative to all energized lines.	In the transmission line right-of-way, you might see transmission lines with various voltages. Here are a few lines you may see. Network transmission lines may also have energized distribution lines underbuilt, parallel or adjacent. Be aware of your position relative to all energized lines.

7.6				By looking at the number of insulators, it can provide a good indication of the line voltage, but there may be lines that are over-insulated and operating at a lower voltage. During the job briefing, you should ensure you understand and indicate the voltages.	Observing the number of insulators can provide a good indication of the line voltage. Note, though, that there may be lines that are over-insulated and operating at a lower voltage. During the job briefing, ensure that you understand and indicate the voltages.
7.7	5.1.1 5.1.2	Transmission switch number	Title: Transmission Switch Number Located or adjacent to the equipment in the field will consist of blue-black digits on a whole background.	Transmission lines and their associated switches use diagrams and a numbering system as identifiers. The transmission switch numbers that are located or adjacent to the equipment in the field will consist of blue-black digits on a whole background.	Transmission lines and their associated switches are identified by diagrams and a numbering system. In the field, transmission switch numbers are located on or adjacent to the equipment, and consist of blue-black digits on a white background.
7.8	5.2	One-line diagram and a line diagram	Title: One-line Diagrams One-line diagrams provide the following information: ● system voltage ● equipment identification numbers ● network connections A line diagram will give you total line length	One-line diagrams provide system voltage, equipment identification numbers, and network connections. A line diagram will give you total line length.	One-line diagrams provide system voltage, equipment identification numbers, and network connections. A line diagram will give you total line length.
8.1	Section: I.T.S. Operations Overview				

8.2	6.1	I.T.S. substation	Title: I.T.S. Operation Specific PPE and qualification training is required in order to operate equipment on the I.T.S. or enter a substation. A 5-Day Qualified Operator course must be successfully completed to allow you to operate on the system. This training does not permit you to operate ANY equipment or enter a substation.	GTC's transmission lines are part of the Integrated Transmission System, often referred to as the I.T.S.. Specific PPE and qualification training is required in order to operate equipment on the I.T.S. or enter a substation. A 5-Day Qualified Operator course must be successfully completed to allow you to operate on the system. This training does not permit you to operate ANY equipment and only authorizes you to enter a transmission line right of way.	GT sees transmission lines are part of the Integrated Transmission System, often referred to as the I.T.S.. Specific PPE and qualification training are required to enter a substation or to operate equipment on the I.T.S.. A 5-Day Qualified Operator course must be successfully completed to allow you to operate on the system. This right-of-way Access training does not permit you to operate "ANY" equipment. It authorizes you only to "enter" a transmission line right of way.
8.3				In all situations, before beginning any work on a transmission line ROW, make sure you understand the scope of work and a qualified operator has been involved in the work planning to determine if further operational arrangements should be made.	In all situations, before beginning any work on a transmission line right-of-way, make sure you understand the scope of work. Also confirm that a qualified operator has been involved in the work plan to determine if further operational arrangements should be made.
8.4	6.2	The Redbook	Title: The Redbook The purpose of Redbook is to provide a set of guidelines for: • Safe operation of the Integrated Transmission System (I.T.S.)	The Integrated Transmission System (I.T.S.) is governed by a set of guidelines known as the Integrated Transmission System Electric System Operating Procedures, commonly known as the Redbook. The purpose	The I.T.S. is governed by a set of guidelines known as the Integrated Transmission System Electric System Operating Procedures. This is commonly known as the "Redbook". The purpose of the Redbook is to provide a set of

			• Customer service • Proper use and care for the System's lines and equipment	of Redbook is to provide a set of guidelines for: • Safe operation of the Integrated Transmission System (I.T.S.) • Customer service Proper use and care for the System's lines and equipment	guidelines for: Customer service, safe operation of the I.T.S., and, proper use and care for the System's lines and equipment.
8.5				Conditions may arise which are not covered by these guidelines, or where a deviation from the guidelines may be necessary. Under such conditions, use sound judgment to ensure that no serious risks or hazards to employees or the public are involved.	Conditions that are not covered by these guidelines may arise, or a deviation from the guidelines may be necessary. Under such circumstances, use sound judgment to ensure that no serious risks or hazards to employees or the public, are involved.
8.6				Now, let's review some of the situations you may encounter when working on the I.T.S., such as clearances and hot line tag orders.	Now, let's review some of the situations you may encounter when working on the I.T.S., such as clearances and hot line tag orders.
8.7	missing	Open & tagged line switch or pics of example situations	Title: Clearance	Since you are not authorized or qualified to operate I.T.S. equipment, there are situations where you may need a qualified escort or make pre-arrangements with a qualified operator. In some situations, a clearance may be required in order to safely perform work on the I.T.S..	Since you are not authorized or qualified to operate I.T.S. equipment, there are situations in which you may need a qualified escort or pre-arrangements with a qualified operator. In some situations, a clearance may be required in order to safely perform work on the I.T.S..

8.8			Clearance: Permission to work on a line or apparatus that is isolated from all sources of energy supply.	A clearance is defined as permission to work on a line or apparatus that is isolated from all sources of energy supply and cannot be made hot without manually closing certain tagged disconnecting switches or other visible air, or SF6 gas gap. Since a clearance de-energizes and isolates the affected portion of transmission line, it mitigates the risk of an electrical contact.	A clearance is defined as permission to work on a line or apparatus that is isolated from all sources of energy supply. With a clearance, the dee energized part cannot be made hot without manually closing certain tagged disconnecting switches or other visible air or S F 6 gas gaps. Since a clearance dee energizes and isolates the affected portion of a transmission line, it reduces the risk of an electrical contact.
8.9			Examples of when a qualified operator will need to secure a clearance: ● Grading or clearing is occurring under an energized line. ● Heavy equipment being transported under energized lines ● Core sampling/drilling near energized lines	A clearance may be needed when grading or clearing is occurring under an energized line, heavy equipment is being transported under energized lines, and core sampling or drilling is occurring near energized lines. Keep in mind that there are many other situations when a clearance may be required, and a qualified operator should be consulted before work begins.	When working around energized lines, a clearance may be needed for activities such as: grading or clearing around the lines, transporting heavy equipment under the lines, or core sampling or drilling near the lines. Keep in mind that there are many other situations when a clearance may be required. A qualified operator should be consulted before work begins.
8.10	6.4	A hold tag close up, and perhaps a hold tag on a piece of equipment.	Title: Hold Tags Hold tags are used with clearances to prevent accidental or mistaken application of voltage. Also used to FORBID operation of valves, mechanical devices and controllers, and other non-electrical equipment in accordance with applicable procedures.	Hold tags are used with clearances to prevent accidental or mistaken application of voltage to lines or equipment. An unqualified individual should never remove a hold tag. They are also used to forbid operation of valves, mechanical devices and controllers, and other non-electrical equipment in accordance with applicable procedures.	Hold tags are used with clearances to prevent accidental or mistaken application of voltage to lines or equipment. An unqualified individual should never remove a hold tag. They are also used to forbid operation of valves, mechanical devices and controllers, and other non-electrical equipment in accordance with applicable procedures.
8.11	6.5	Switching Order pad	Title: Switching Orders	The switching order procedure is a process by which permission is	The switching order procedure is a process by which "permission is

			The switching order procedure is a process by which permission is obtained to change the status of equipment or control schemes on the Integrated Transmission System. Switching orders are given by the GSOC Control Center and only provided to qualified operators.	obtained to change the status of equipment or control schemes on the Integrated Transmission System. Switching orders are given by the GSOC Control Center and only provided to qualified operators.	obtained" to change the status of equipment or control schemes on the I.T.S.. Switching orders are given by the GSOC Control Center and provided only to qualified operators.
8.12			Title: Hot Line Tag Orders Hot Line Tag Order: permission to work on, or in close proximity to, ENERGIZED equipment or lines. There may be situations where a GTC associate or system owner may need to acquire a hot line tag order.	Let's take a look at another type of specific switching order – hot line tag orders. A hot line tag order is defined as permission to work on, or in close proximity to, energized equipment or lines. There may be situations where a GTC associate or system owner may need to acquire a hot line tag order to safety perform work.	Let's take a look at another type of specific switching order – hot line tag orders. A hot line tag order is defined as permission to work on, or in close proximity to, energized equipment or lines. There may be situations where a GTC associate or system owner may need to acquire a hot line tag order to safety perform work.
9.1	Section: Considerations for Working around Energized Equipment				
9.2	2.2	High voltage sign Could we use an avatar to graphically represent coming in contact with a transmission line?	Title: Electrical Shock and Arcing The Transmission Line ROW is below high-voltage transmission lines.	Though you won't be working on energized equipment, the ROW is adjacent to high-voltage transmission lines. During the information transfer process, you will be informed of the voltages in the area.	Though you won't be working on energized equipment, the right-of-way is adjacent to high-voltage transmission lines. During the information transfer process, you will be informed of the voltages in the area.

9.3			If a contact occurs, it can lead to severe tissue, muscle, and skin damage that can cause internal injuries or even death. An arc can reach as much as 5,000 to 35,000 degrees Fahrenheit.	If you or your equipment come in contact with an energized line, the consequences can be catastrophic. Electric shock occurs when current passes through the human body by coming in contact with an energized conductor. Potential damage will depend on the severity and the level of voltage during the shock. As the voltage goes through the body, it can lead to severe tissue, muscle, and skin damage that can cause internal injuries or even death.	If you or your equipment make contact with an energized line, the consequences can be catastrophic. Electric shock occurs when current passes through the human body as a result of exposure to an energized conductor. Potential damage depends on the severity and level of voltage during the shock. As the voltage travels through the body, it can cause significant skin, tissue, and muscle, damage, leading to internal injuries or even death.
9.4				Arcing is defined as dangerous conditions related to the release of energy due to an electric arc. It occurs when any conductive object comes in close proximity to the energized conductor, causing an arc that can reach as much as 5,000 to 35,000 degrees Fahrenheit. Given the potential hazards, when you are inside the transmission line right-of-way, it's important to maintain Minimum Approach Distance (MAD).	Arcing is defined as dangerous conditions related to the release of energy due to an electric arc. It occurs when any conductive object comes in close proximity to the energized conductor, causing an arc that can reach as much as 5,000 to 35,000 degrees Fahrenheit. Given the potential hazards, when you are inside the transmission line right-of-way, it's important to maintain Minimum Approach Distance. Let's take a look at that now.

9.5		Demonstrate with avatar and diagram (similar to the one used in Substation Access Only Module 1); MAD diagram	Title: Minimum Approach Distance (MAD)		Minimum Approach Distance is established to protect workers from a potential electrical contact or arc flash.
9.6	7.3	Use avatar on Transmission line right-of-way to show 20’ of distance from transmission line.	Title: Unqualified Workers MAD You will be working on the transmission line right-of-way as an UNQUALIFIED WORKER. You must maintain a minimum approach distance of 20 feet from energized lines. This includes your body and any equipment that you might be using.	Since you will be considered an unqualified worker who has not been trained to work in and around electrical equipment, you must maintain a minimum approach distance of at least 20 feet from energized equipment. This includes your body and any equipment that you might be using.	Since you will be considered an unqualified worker who has not been trained to work in and around electrical equipment, you must maintain a minimum approach distance of at least 20 feet from energized equipment. This includes your body and any equipment that you might be using.

9.7	.		Minimum Approach Distance (MAD) is the minimum air (or tool) insulation distance plus an additional 1-2 feet for inadvertent movement. *Use a diagram to show safety circle.	For qualified electrical workers, Minimum Approach Distance (MAD) is the minimum air (or tool) insulation distance plus an additional 1-2 feet for inadvertent movement. Minimum Approach Distance is established to protect workers from a potential electrical contact or arc flash. Workers should NOT encroach within the Minimum Approach Distance.	For qualified electrical workers, Minimum Approach Distance is the minimum air, or tool, insulation distance plus an additional one to two feet for inadvertent movement. Workers should "not" encroach within the Minimum Approach Distance.
9.8		**We may need to find a photo of qualified workers working on the line.		Only electrically qualified utility workers are allowed to work in close proximity to these lines with special permission. These qualified workers will be using special insulated tools and equipment. This will include personal protective equipment (PPE) that provides ARC-rated clothing and hard hat with dielectric properties. These tools and equipment are regularly maintained, tested, and inspected. Qualified workers may also coordinate a clearance so they may work on a line while de-energized. We will discuss clearances in further detail later in the program.	Only electrically-qualified utility workers with special permission are allowed to work in close proximity to these lines. These qualified workers use insulated tools and equipment, and must wear specialized PPE including arc-rated clothing and a hard hat with die electric properties. Their tools and equipment are regularly maintained, tested, and inspected. Qualified workers may also coordinate a clearance so they may work on a line while de-energized. We will discuss clearances in further detail later in the program.

9.9	*missing – we still need to identify a good image	Diagrammed Photo	Title: Potential for Induced Voltage Energized transmission lines are capable of producing induced voltage to other conductive materials in close proximity. A pre-job safety briefing should occur daily and if any work conditions change. Do not store equipment or other conductive material near transmission lines. Workers should never be learning on or touching guy wires, anchors, or structures without additional pre-cautions in place.	In addition to the risks associated with an electrical contact, energized transmission lines are capable of producing induced voltage to other conductive materials in close proximity. Therefore, a pre-job safety briefing should occur daily and if any work conditions change throughout the work day. Equipment and other conductive materials should not be store underneath or adjacent to any transmission lines. Additional PPE could be necessary near structure locations. In addition, if there were a fault on the transmission line there is always some risk of step and touch potential hazards. Workers should never be leaning on or touching guy wires, anchors or structures without additional pre-cautions in place.	In addition to the risks associated with an electrical contact, energized transmission lines are capable of producing induced voltage to other conductive materials in close proximity. Therefore, a pre-job safety briefing should occur daily and if any work conditions change throughout the work day. Equipment and other conductive materials should not be store underneath or adjacent to any transmission lines. Additional PPE could be necessary near structure locations. In addition, if there were a fault on the transmission line there is always some risk of step and touch potential hazards. Workers should never be leaning on or touching guy wires, anchors or structures without additional pre-cautions in place.
9.10	7.5	Lift equipment around ROW	Title: Overhead Hazards Overhead power lines can be hazardous when conductive objects are raised into the air. Take care of any safety concerns prior to the start of work.	Overhead power lines can be a hazard in any construction project whenever any conductive objects are raised into the air , such as operating cranes and high-lift equipment. Consult with an electrically qualified person, and take care of any safety concerns prior to beginning work or the arrival of any heavy equipment in order to prevent accidents and avoid job delays.	Overhead power lines can be a hazard in any construction project in which conductive objects are raised into the air. Operating cranes and high-lift equipment are both examples of such "conductive objects". In order to prevent accidents and avoid job delays, consult with an electrically qualified person, and take care of all safety concerns "before" the arrival of any heavy equipment or commencing work.
9.11	7.6.1 7.6.2	Photo examples of each best practice	Title: Best Practices When you're performing your work on the transmission line	When you're performing your work on the transmission line right-of-way, remember the following best practices:	When you're performing your work on the transmission line right-of-way, remember the following best practices:

			right-of-way, remember the following best practices: ● Post warning signs prominently on all cranes or high lift equipment to effectively keep job personnel on the alert for accidental electrical contact and what to do in an emergency. ● Do not stockpile, load, or unload any material near or underneath power lines. ● Treat all power lines as energized until confirmed by a utility employee they are de-energized. ● Exercise caution when working near overhead lines that have long spans between poles. Wind can make them swing laterally. Ice buildup causes sagging. ● During pending stormy weather, it is important to suspend your work and seek shelter in a safe place away from the transmission lines. Always call your GTC contact or the GSOC Transmission Control Center to report any missing ground wires, damaged conductors or other anomalies.	● Post warning signs prominently on all cranes or high lift equipment to effectively keep job personnel on the alert for accidental electrical contact and what to do in an emergency. ● Do not stockpile, load, or unload any material near or underneath power lines. ● Treat all power lines as energized until confirmed by a utility employee they are de-energized. ● Exercise caution when working near overhead lines that have long spans between poles. Wind can make them swing laterally. Ice buildup causes sagging. ● During pending stormy weather, it is important to suspend your work and seek shelter in a safe place away from the transmission lines. ● Always call your GTC contact or the GSOC Transmission Control Center to report any missing ground wires, damaged conductors or other anomalies.	Post warning signs prominently on all cranes or high lift equipment to effectively keep job personnel on the alert for accidental electrical contact and to indicate what to do in an emergency. Do not stockpile, load, or unload any material near or underneath power lines. Treat all power lines as energized until dee energized status has been confirmed by a utility employee. Exercise caution when working near overhead lines that have long spans between poles. Take note of weather conditions. Dangerous situations can result. For example, wind can cause overhead lines to swing laterally, and ice buildup may result in sagging. ● During pending stormy weather, it is important to suspend your work and seek shelter in a safe place away from the transmission lines. Always call your GTC contact or the GSOC Transmission Control Center to report any missing ground wires, damaged conductors or other anomalies.

9.12			Title: What if a contact occurs? During an electrical contact, the equipment and its load may become energized. If this situation occurs, follow these safety steps: • Don't panic. Advise the operator to remain in the machine's cab if safe to do so. • Don't move toward the machine to render aid. • Keep everyone away from the area. The machine, the load, and the ground around it will be energized. • The machine should be moved off and well away from the power line, if possible.	We've talked about methods to mitigate hazards and a potential electrical contact, but what happens if your equipment contacts an energized line? During an electrical contact, the equipment and its load may become energized. If this situation occurs, follow these safety steps: • Don't panic. Advise the operator to remain in the machine's cab if safe to do so. • Don't move toward the machine to render aid. • Keep everyone away from the area. The machine, the load, and the ground around it will be energized. . • The machine should be moved off and well away from the power line, if possible.	We've talked about methods to mitigate hazards and reduce the chance of an electrical contact, but what happens if your equipment contacts an energized line? In an electrical contact situation, the equipment and its load may become energized. If this situation occurs, follow these safety steps: Don't panic. Advise the operator to remain in the machine's cab, if safe to do so. Don't move toward the machine to render aid. Keep everyone away from the area. The machine, the load, and the ground around it will be energized. The machine should be moved off and well away from the power line, if possible.
10.1	Section: Digging/Excavation				
10.2	8.1.1 8.1.2	Georgia 811 logo and Digging photo	Title: Call Before You Dig ● You need a dig ticket prior to starting construction. ● Georgia 811 provides a service called the Positive Response Information System (PRIS) to help you track the status of your locate request.	In some cases, your transmission line right of way work may involve digging and excavation. You must get a dig ticket prior to beginning construction activities. Georgia 811 provides a service called the Positive Response Information System (PRIS) to help you track the status of your locate request.	In some cases, your transmission line right of way work may involve digging and excavation. You must get a dig ticket prior to beginning construction activities. Georgia 8 1 1 provides a service called the Positive Response Information System, or P.R. eye S, to help you track the status of your locate request.
10.3	8.2	Color Code Guide	Title: Uniform Color Code *show diagram with guide	When utility company representatives mark a location, they use colored flags and/or paint to identify the type of underground utility. Here is what the color codes indicate:	When utility company representatives mark a location, they use colored flags, paint, or both to identify the type of underground utility. These indicators are color-coded, as shown here.

10.4	*missing	Screenshot of EDEN application	Title: Checking Status of Dig Ticket To check the status of your locate request, call 888-670-2902. If any line has not been marked by the afternoon of your locate date, please call the Georgia 811 at 811, 1-800-282-7411 or 770-623-4344. You may also download the EDEN application to access PRIS on your phone or iPad.	To check the status of your locate request, call 888-670-2902. If any line has not been marked by the afternoon of your locate date, please call the Georgia 811 at 811, 1-800-282-7411 or 770-623-4344. You may also download the EDEN application to access P.R.I.S. on your phone or iPad.	To check the status of your locate request, call 8 8 8, 6 7 0, 2 9 0 2. If any line has not been marked by the afternoon of your locate date, please call Georgia 8 1 1, at the numbers shown here. You may also download Georgia 8 1 1's Eden app to access P.R.I.S. on your phone or tablet. Take a moment now to note this important information, then click NEXT when you're ready to continue.
10.5	8.4.1 8.4.2	Guy wires	Title: Considerations Around Guy Wires & Anchors Guy wires and anchors are critical to maintaining the stability and integrity of the line The following are a few considerations around guy wires and anchors: 1) Anchors extend 10’- 30’ below grade where they are not visible. 2) Guyed structures MUST have ALL the guy wires to stay upright. 3) On a GTC project heavy equipment and excavators CANNOT be parked near guyed structures.	Guy wires and anchors are part of the transmission line installation, and they are critical to maintaining the stability and integrity of the line. When working on a right-of-way, there are a few specific considerations around guy wires and anchors. 1) Anchors extend 10’- 30’ below grade where they are not visible. 2) Guyed structures MUST have ALL the guy wires to stay upright. 3) On a GTC project, heavy equipment and excavators CANNOT be parked near guyed structures.	Guy wires and anchors are part of the transmission line installation, and they are critical to maintaining the stability and integrity of the line. When working on a right-of-way, there are a few specific considerations regarding guy wires and anchors. Anchors extend 10 to 30 feet below grade, where they are not visible. Guyed structures "MUST" have "ALL" the guy wires to stay upright. On GTC projects, heavy equipment and excavators may "not" be parked near guyed structures.
10.6	8.5	Burnt car in transmission line right-of-way	Title: Report Any Strange Situations	If you happen to see anything that looks out of the ordinary, report it immediately. This could include unauthorized activity, abandoned	During your time at the ROW work location, if you see "any" thing that looks out of the ordinary, report it "immediately". This could include

			Do your part & report anything out of the ordinary.	vehicles or equipment, or other abnormal situations. You may end up saving a life or avoiding serious injuries.	unauthorized activity, abandoned vehicles or equipment, or other abnormal situations. You may end up avoiding serious injuries, or saving a life.
10.7	9.1	Leaving the transmission line right-of-way	Title: Before Leaving the Transmission Line Right-of-Way Before you leave a transmission line right-of-way, it is important to do the following: • Check that equipment and materials will not impact the property owner or GTC's access to the structures and/or conductors • Sign off of T/L ROW • Lock the T/L access gates •	Once you have completed your work, it's time to exit the right-of-way. Before you leave a transmission line right-of-way, it is important to: • Check that equipment and materials will not impact the property owner or GTC's access to the structures and/or conductors • Sign off of the transmission line right of way either via the SENT app or by calling the GSOC transmission control center or your EMC dispatcher." • Lock the transmission line access gates •	Finally, once you have completed your work, it's time to exit the right-of-way. Before you depart, you must complete the following steps: Check that stowed equipment and materials will not impact the property owner or limit GT sees access to the structures and conductors. Sign off of the transmission line right of way either via the SENT app or by calling the GSOC transmission control center or your EMC dispatcher.", and, Be sure to lock the transmission line access gates behind you.
Section 11 Check Your Understanding					
11.1			Review question	Transmission line access training gives you authority to enter GTC substations. a. True b. False Answer: false	
11.2			Review question	What is the purpose of the Redbook? a. To define I.T.S. equipment b. To define the I.T.S. equipment limitations	

				c. To provide a set of guidelines for safe operation of the I.T.S. d. None of the above Answer: C	
11.3			Review Question	What is MAD? a. Means Attitude Direction b. Minimum Altitude Distance c. Minimum Aviation Distance d. Minimum Approach Distance Answer: D	
11.4			Review Question	What is the MAD for unqualified workers near energized equipment? a. 25' b. 20' c. 15' d. 10' Answer: B	
11.5			Review Question	What is the uniform color code for sewers and drain lines? a. red b. orange c. green d. blue Answer: C	
11.6			Review Question	Georgia 811 provides a service called the _____ to help you track the status of your locate request. a. PRIS b. GPS c. ROW d. MAD	

				Answer: A	
11.7			Review Question	When you are working on a transmission line right-of-way, are you allowed to park heavy equipment and excavators near guyed structures? a. Yes b. No Answer: No	
12.1	Section: Conclusion				
12.2			Title: GTC Safety Statement At Georgia Transmission, safety is at the core of all that we do. We believe that when we work safe and stay healthy, we are better able to provide the best in reliable service that our members expect, and on which millions of Georgians rely. It is our expectation that our partners and other stakeholders who may work on — or near — our equipment share that belief. When we all work safe — and ensure that others work safe too — we help create a safer and more prosperous Georgia to call home.	At Georgia Transmission, safety is at the core of all that we do. We believe that when we work safely and stay healthy, we are better able to provide the best in reliable service that our members expect, and on which millions of Georgians rely. It is our expectation that our partners and other stakeholders who may work on — or near — our equipment share that belief. When we all work safely — and ensure that others work safely too — we help create a safer and more prosperous Georgia to call home.	In conclusion, let us call to mind that at Georgia Transmission, safety is at the core of all that we do. We believe that when we work safely and stay healthy, we're better able to provide the best in reliable service that our members expect, and on which millions of Georgians rely. It is our expectation that our partners and other stakeholders who may work on, or near, our equipment will share that belief. When we all work safely, and ensure that "others" work safely too, we help create a safer and more prosperous Georgia to call "home".
12.3	missing	Emergency Reporting Procedures Screenshot	Title: GTC Emergency Reporting Procedures Incident Reporting: All significant events causing bodily injury, illness, fatality, property damage, system damage or	If any incident occurs at a jobsite, resulting in bodily injury, illness, fatality, property damage, system damage or sabotage, it must be reported IMMEDIATELY.	To meet our safety commitment, it's critical that you know and follow GT sees incident and emergency procedures. Please take note of the following information.

			sabotage must be reported IMMEDIATELY.	The GTC Emergency Reporting Procedures are a list of things you need to do when certain accidents occur. It is important to know how to proceed when you are having an emergency.	If a jobsite incident resulting in bodily injury, illness, fatality, property damage, system damage, or sabotage occurs, it must be reported "immediately". The GTC Emergency Reporting Procedures provides a list of actions you must take when certain accidents occur.
12.4			If emergency assistance is needed, call 911. Then, contact the Georgia System Operations Corporation (GSOC) Control Center at 1-800-241-5375 or 770-270-7113.	If emergency assistance is needed, call 911. Then, contact the GSOC Transmission Control Center at 1-800-241-5375 or 770-270-7113.	It is important to know how to proceed in an emergency. If emergency assistance is needed, call 9 1 1. Then, contact the GSOC Transmission Control Center at 1 eight hundred, 2 4 1, 5 3 7 5, or 7 7 0, 2 7 0, 7 1 1 3. Make a note of these numbers now, and when you're ready, click next to continue.
12.5		Concluding slide	Title: Congratulations!	To receive credit for viewing this training, you must exit properly.	To receive credit for viewing this training, you must exit properly. Click the NAV button for more information.
12.6			Title: Your final step to secure qualification is to pass the 30-question exam located on your LMS dashboard. Thank you for your participation.	Congratulations! You've now completed this Transmission Line Right-of-Way access only training. As a reminder, the next step in completing your qualification is to take and pass the 30-question exam located on your LMS dashboard. You can proceed with that after exiting this program.	Congratulations! You've now completed this Transmission Line Right-of-Way access only training. As a reminder, the next step in completing your qualification is to take and pass the 30-question exam located on your LMS dashboard. You can proceed with that after closing this program. Thank you for your participation. You may now exit this program.