PROJECT MANAGER SOLDIER EQUIPMENT
NEW EQUIPMENT TRAINING
HAYMARKET, VA 20169

PROGRAM OF INSTRUCTION (POI) / LESSON PLAN (LP)

FOR

Generation III
Extended Cold Weather Clothing System

OPERATOR COURSE

LENGTH:	**2 Hours**
DATE:	**June 2008**
APPROVED BY:	

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

Program of Instruction for Extended Cold Weather Clothing System Operator's Course

SECTION I. ADMINISTRATIVE DATA

All Courses Including This Lesson

Course Number	Version	Course Title
N/A	A	Gen III Extended Cold Weather Clothing System Operator's Course

Task(s) Taught (*) or Supported

Task Number	Task Title
N/A	N/A

Reinforced Task(s)

Task Number	Task Title
N/A	N/A

Academic Hours

The academic hours required to teach this lesson are as follows:

	Resident Hours/Methods
	2 hrs Conference / Discussion / Demonstration
	0 hrs
Test Review	0 hrs
Total Hours:	2 hrs

Test Lesson Number

	Hours	Lesson No.
Testing	N/A	N/A

Prerequisite Lesson(s)

None

Clearance Access

Security Level: Unclassified

Foreign Disclosure Restrictions

The course developers in coordination with Fort Belvior, foreign disclosure authority, have reviewed this publication. This publication is releasable to students from all requesting foreign countries without restrictions.

References

Number	Title	Date
Additional Information		
FM 42-414, Append E	Tactics, Techniques, and procedures for QuarterMaster Field Service Company, Direct Support	July 3, 1998

Student Study Assignments

None

	ID Name	Stu Ratio	Instr Ratio	SPT	QTY	EXP
Equipment Required	Slideshow projection device (i.e. View Sonic)	1	1/12		1	N
	Extended Cold Weather Clothing System Lesson Plan	12/12	1/2		12	N
Materials Required	Sign-In Roster	2/12	1/2		2	y
	Student Guides	12/12	1/2		12	N
	Student Evaluation Forms	12/12	1/1		12	N
	Pen and Note Pad	12/12	1/1		12	N
	GEN III ECWCS	12/12	1/1		1	N

Classroom, Training Area, and Range Requirements	General Instruction Building, classroom/training area suitable for student population.
Ammunition Requirements	None
Instructional Guidance	Before presenting this lesson, instructors must thoroughly prepare by studying this lesson and identified reference material. Ensure sufficient student handouts are available, (see materials required for the instruction). The subject matter in this POI is setup for routine training of the Generation III Extended Cold Weather Clothing System. When using this Lesson Plan, the method of presentation may be tailored to accommodate training situation.

Proponent Lesson Plan Approvals	Name	Rank	Position	Date

SECTION II. INTRODUCTION (Non – Academic)

Method of Instruction: Conference / Demonstration

Instructor to Student Ratio: 1:12

Time of Instruction: 0.083 minutes

Media: Power Point slides

Security Classification: Unclass

Introduction

NOTE: Show VG – Gen III Extended Cold Weather Clothing System (ECWCS) 1.

Good morning/afternoon, I'm _____, and I would like to welcome you to the Generation III Extended Cold Weather Clothing System (ECWCS) Operators Course.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System (ECWCS) 2. **Motivator.**

The Army's goal is to create (Polartec®) products that would provide the War-fighter with gear that delivers performance, comfort, and protection from the threats of the battlefield, and towards the use of technical next-to-skin fabrics that increase comfort, safety, and performance for soldiers in the field. Polartec® Power Dry fabric®) was found best to meet the operational needs of the Soldiers.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System (ECWCS) 3. **Terminal Learning Objective.**

Action:	Identify the Characteristics, components, Proper Wear of the GEN III Extended Cold Weather Clothing System (ECWCS), and Preventative Maintenance Checks and Services (PMCS) procedures.
Conditions:	In a classroom environment, given instructor guidance and student Handouts.
Standards:	In accordance with (IAW) instructor guidance and student handouts, students' will demonstrate the skills necessary to correctly wear and maintain the GEN III ECWCS.

NOTE: Show VG –. Gen III Extended Cold Weather Clothing System (ECWCS) 4, **Training Considerations.**

Safety Requirements: Specific safety warnings and caution notes annotated in the GEN III ECWCS lesson plan and student hand-out will be emphasized by the instructor at the appropriate time.

Risk Assessment Level: Conducted at the unit level prior to conducting training.

Environmental Considerations: It is the responsibility of all Soldiers and DA civilians to protect the environment from damage.

Evaluation: The student must demonstrate sufficient proficiency in the proper donning of the GEN III ECWCS.

SECTION III. PRESENTATION

Enabling Learning Objective #1

Learning Step / Activity 1 (ANNEX A1). Gen III Extended Cold Weather Clothing System

Define how the GEN III Extended Cold Weather Clothing System product materials protect the soldier in cold weather environment.

Method of Instruction: Conference / Discussion

Instructor to Student Ratio: 1:12

Time of Instruction: 0.416 minutes

Media: Power Point slides

Security Classification: Unclass

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 5. **Instructional Lead In:** "During Operation Mountain Lion I found myself praying for bad weather, the first time in my military career I was actually begging for a cold front to come through. I knew my Soldiers could handle it and the enemy couldn't. ECWCS allowed my men to out last the enemy on their own terrain. When the enemy was forced out of the mountains due to the bitter cold to take shelter, that's when we got them."

LTC Christopher Cavoli
Commander
1-32 IN BN, 10th MTN

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 6**. Enabling Learning Objective #1.**

Action:	Define how the GEN III ECWCS product materials protect the soldier in cold weather environments.
Conditions:	In a classroom environment, and instructor discussion.
Standards:	IAW instructor guidance and student handouts, the student will comprehend how the GEN III ECWCS product materials protect against cold weather environments.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 7**. System Overview**

The ECWCS GEN III is a **multi-layered**, versatile, insulating system that allows the Soldier to adapt to varying mission requirements and environmental conditions.

The twelve different components of the GEN III ECWCS consist of:
- 2 x Lightweight Cold Weather Undershirts/ Drawers
- 1 x Mid-weight Cold Weather Shirt/ Drawers
- 1 x Fleece Cold Weather Jacket
- 1 x Wind Cold Weather Jacket
- 1 x Soft Shell Cold Weather Jacket/ Trousers
- 1 x Extreme Cold/Wet Weather Jacket/ Trousers
- 1 x Extreme Cold Weather Parka/Trousers

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 8.

System Overview, Cont

Designed to be broken down into several possible configurations.

.

Example #1

- Base Layer
  - Light Weight Cold Weather Undershirt
  - Light Weight Cold Weather Drawers
- Insulation Layer: None
- Outer Shell:
  - Wind Cold Weather Jacket
  - Soft Shell Trouser

Example #2

- Base Layer
  - Light Weight Cold Weather Undershirt
  - Mid Weight Cold Weather Drawers
- Insulation Layer: Fleece Jacket
- Outer Shell:
  - Soft Shell Jacket
  - Soft Shell Trouser

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 9. **System Overview, Cont**

- The versatility of the GEN III ECWCS Layer system:
  - Insulation
    - Resist the transmission of heat.
    - Traps air
    - Wicks moister away from your body
  - Layers
    - Increases air space.
    - Allows you to easily adjust to activity level.
    - wind/water proof
  - Ventilation
    - Vents unneeded heat.
    - Allows moisture to escape

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 10**. How does it work?**

How Does It Work?

Moisture and high relative humidity next to the skin causes discomfort. Polartec® Power Dry® keeps the skin dry through three complimentary mechanisms:

1. The fabric is highly breathable and does not restrict the movement of moisture vapor.
2. "Touch points"on the fabric's inner surface draw off the sweat. Sweat is wicked off the skin to the outside of the fabric where it spreads rapidly for evaporation. Polartec® Power Dry® fabrics move at least 30% more moisture away from the skin than single component fabrics.
3. When the sweat reaches the outside of the fabric, it spreads out to many times its original surface area, enabling it to dry at least 2 times faster than cotton.

Technical Highlights:

- Patented bi-component construction keeps your skin dry when you sweat
- Highly breathable to provide comfort in all activities; does not restrict the movement of moisture vapor
- Dries quickly
- Provides very good sun protection (SPF 15) in most styles
- Soft surface next to skin provides all-day comfort
- Machine washable

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 11. **How does it work (cont?)**
Does It Work (cont)?

4. The 100% polyester proprietary fibers and high-pile-velour surface create a fabric that is at least 30 times more durable than bargain fleece. These fabrics offer excellent breathability and dry quickly.
5. The velour back traps air to retain body heat, providing outstanding warmth without weight. Unlike conventional fleece fabrics, Polartec® Thermal Pro® fabrics maintain their insulating ability and non-pilling appearance after repeated laundering and represents the state of the art in fleece fabrics.

Technical Highlights:

- The most durable fleece fabric available; Polartec® Thermal Pro® fabrics provide many years of service without appreciable wear or loss of appearance.
- Provides warmth without the weight and bulk of traditional insulating fabrics.
- Highly breathable to provide comfort in all activities; does not restrict the movement of moisture vapors.
- Dries quickly to minimize **heat loss**.
- Machine washable.
- Versatile; appropriate for a broad range of activities.

NOTE: Show VG - Gen III Extended Cold Weather Clothing System12. **Comparisons of the ECWCS**

NOTE: *Discuss slide with students.*

NOTE: Show VG - Gen III Extended Cold Weather Clothing System13. **Check on Learning**

NOTE: Ask for questions and then conduct a check on learning by asking question and then summarize the learning activity.

QUESTION: What level of sun protection does the Polartec® fabric allow?

ANSWER: SPF 15

QUESTION: How much faster does the Polartec® fabric dry versus cotton?

ANSWER: Two times faster than cotton,

QUESTION: Does the Jacket Soft Shell have a “hid-away” hood?

ANSWER: Yes

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 14. **SUMMARY.**

During this presentation, we have discussed the basic concepts and factors of how the ECWCS GEN III product material can protect the soldier against cold weather environments.

Our next lesson will be a discussion on the GEN III ECWCS components.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 15. **Enabling Learning Objective #2.**

Learning Step / Activity 2 (ANNEX A2). Identify ECWCS GEN III Components.

Method of Instruction: Conference / Demonstration

Instructor to Student Ratio: 1:12

Time of Instruction: 0.416 Minutes

Media: Power Point slides

Security Classification: Unclass

Enabling Learning Objective #2

Action:	Identify ECWCS GEN III Components.
Conditions:	In a classroom environment, instructor discussion and student handout's.
Standards:	IAW instructor guidance and student hand-out's, the student's will be able to identify all components of the ECWCS GEN III.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System16. **Component Description**
NOTE: Read slide to students.

The ECWCS GEN III was designed to be functional in multiple cold weather climates and activities.

New materials offer a greater range of breathability and environmental protection providing much Greater versatility to the Soldiers needs.
The twelve components of the GEN III ECWCS consist of:

- Light Weight Cold Weather Under Layers Shirt and Drawers
- Mid Weight Cold Weather Shirt and Drawers
- Fleece, Cold Weather, Jacket
- Wind, Cold Weather, Jacket
- Soft Shell Jacket and Trousers
- Extreme Cold Wet Weather Jacket and Trousers
- Loft Layer Jacket and Trousers

The ECWCS has been designed to be broken down into several different wearing configurations.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 17**. ECWCS Components, Lightweight, Cold Weather Undershirt/Drawers.**

- Long sleeve top and full-length bottom garments constructed out of "silk weight" moisture wicking polyester.
  The undershirt has a crewneck with long sleeves. Flat seam construction reduces chafing.
- Aids in the movement of moisture from the skin to the outer layers both while the wearer is moving or static. The drawers have an elastic waistband and standard front fly opening.

Base Layer: Worn next to Skin by itself or in conjunction of Mid Weight Cold Weather Shirt/Drawers for added insulation and to aide in the transfer of moisture.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 18. ***ECWCS Components (cont), Mid Weight Cold Weather Shirt and Drawers "Grid Fleece"***

- Long sleeve top and full-length bottom garments constructed out of polyester "grid" fleece
- Provides light insulation for use in mild climates as well as acting as a layer for colder climates
- Provides an increase of surface area for the transportation of moisture away from the wearer during movement

Base Layer: Worn next to Skin by itself or over Lightweight Cold Weather Undershirt/Drawers.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 19. ***ECWCS Components (cont),*** Fleece, Cold Weather Jacket.

- Acts as the primary insulation layer for use in moderate to cold climate.
- "Thermal Pro," animal fur mimicking insulation provides an increase in the warmth to weight ratio along with a reduction in volume when packed.

NOTE: "Approved to wear as an outer garment!"
Primary Insulation layer worn underneath shell layers or worn as an outer garment for mild cool days.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 20. **ECWCS Components (cont), Fleece, Cold Weather Jacket.**
NOTE: Go over slide with students.
NOTE: Show VG – Gen III Extended Cold Weather Clothing System 21. ***ECWCS Components (cont), Wind, Cold Weather, Jacket.***

- Made of a lightweight, windproof, and water repellant material.
- Acts as a low volume shell layer, optimizing the performance of moisture wicking along with insulation layers when combined with Body Armor and/or Army Combat Uniform.

Shell Layer: Designed for transitional environments such as desert day to desert evening.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System22. ***ECWCS Components (cont), Wind, Cold Weather, Jacket.***
NOTE: Go over slide with student
NOTE: Show VG – Gen III Extended Cold Weather Clothing System 23. ***ECWCS Components (cont), Soft Shell.***

- Made of a highly water resistant, wind proof material that increases moisture vapor permeability over current hard shell garments.
- Provides a reduction in weight, bulk, and noise signature during movement.
- Increase of breath-ability improves performance of insulation layers by decreasing saturation due to moisture vapor accumulation.

Shell Layer: Best used when conditions occur when the average temperature is below 14 degree F. Additional layers are needed to keep warm.

NOTE: Show VG –. Gen III Extended Cold Weather Clothing System 24. ***ECWCS Components (cont), Soft Shell Jacket.***
NOTE: Go over slide with students.
NOTE: Show VG – Gen III Extended Cold Weather Clothing System25. ***ECWCS Components (cont), Soft Shell Trousers.***
NOTE: Go over slide with students.
NOTE: Show VG– Gen III Extended Cold Weather Clothing System26. **ECWCS Components (cont), Extreme Cold Wet Weather Jacket and Trousers.**
"True" waterproof (highly resistant) layer for use in prolonged and/or hard rain and wet conditions.
Shell Layer: Best when temperatures are above 14 degrees F and alternating between freezing and thawing (Freezing and thawing creates mud and slush on the ground).
NOTE: Show VG– Gen III Extended Cold Weather Clothing System27. **Extreme Cold Wet Weather Jacket, cont,**
NOTE: Go over slide with students.
Show VG — Gen III Extended Cold Weather Clothing System28. **Extreme Cold Wet Weather Trousers. cont,**
NOTE: Go over slide with students.
NOTE: Show VG — Gen III Extended Cold Weather Clothing System29. **Extreme Cold Weather Parka and Trousers.**

- Highly water-resistant and windproof in order to provide wind and moderate moisture protection.
- Provides superior warmth with high compact ability, low weight, and low volume.

- insulation.
- Trouser design will incorporate full side zips to allow for rapid donning and doffing over soft shell trousers.
- Insulation equivalent to 6.0 oz Primaloft quilted for warmth and durability.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System30. Cont' **Extreme Cold Weather Parka:**
NOTE: Go over slide with students.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System31. Cont' **Extreme Cold Weather Trousers**

NOTE: Show VG -- Gen III Extended Cold Weather Clothing System32. **CHECK ON LEARNING.**

NOTE: Ask for questions and then conduct a check on learning by asking question and then summarize the learning activity.

QUESTION: What ECWCS GEN III component provides "reduced" noise signature?

ANSWER: Soft Shell Jacket

QUESTION: What ECWCS Component is designed to reduce "Pit Zips"?

ANSWER: Soft Shell Jacket

QUESTION: What ECWCS component has been designed to provide better capability with body armor?

ANSWER: Wind, Cold Weather, Jacket

NOTE: Show VG– Gen III Extended Cold Weather Clothing System33.**Summary.**

During this presentation, we have identified the components of the ECWCS GEN III.
Our next lesson will be a demonstration on how to properly Donn the components of ECWCS GEN III.

Enabling Learning Objective #3

Learning Step / Activity 3 (ANNEX A3).

Demonstrate proper Donning Procedures of the ECWCS GEN III

Method of Instruction: Conference / Demonstration

Instructor to Student Ratio: 1:12

Time of Instruction: 0.416 Minutes

Media: Power Point slides

Security Classification: Unclass

NOTE: Show VG-.Gen III Extended Cold Weather Clothing System 34. **Enabling Learning Objective**

Action:	Demonstrate proper Donning procedures of the ECWCS GEN III.
Conditions:	In a classroom environment, instructor discussion, demonstration and student hand-out's.
Standards:	IAW instructor guidance and student hand-out's, the student's will be able to correctly Donn the ECWCS GEN III components.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 35. (ECWCS Donning Procedures)

NOTE: Use student's as demonstrators when discussing how to correctly Donn the ECWCS GEN III.

Donning Procedures:

1. Light Weight Cold Weather Under Layer Shirt and Drawers
2. Mid Weight Cold Weather Shirt and Drawers
3. Fleece, Cold Weather, Jacket
4. Wind, Cold Weather, Jacket
5. Soft Shell Jacket and Trousers
6. Extreme Cold Wet Weather Jacket and Trousers
7. Loft layer Jacket and Trousers

NOTE: Donning procedures is at the soldier's discretion (and can be command based).

NOTE: Show VG –– Gen III Extended Cold Weather Clothing System 36. **Check on Learning**

1. **Question**: What is the first ECWCS GEN III layer to be donned?

   Answer: Light Weight Cold Weather Under Layer Shirt and Drawers.

2. **Question:** Does it take more than one person to donn the ECWCS system?

   Answer: No

3. **Question:** Do all of the ECWCS components have to be worn together?

   Answer: No

NOTE: Show VG –– Gen III Extended Cold Weather Clothing System 37**. Summary**

During this presentation, we have demonstrated how to properly donn the GEN III ECWCS.

Our next lesson will be a discussion on Preventative Maintenance Checks and Services (PMCS) for the GEN III ECWCS.

Enabling Learning Objective #4

Learning Step / Activity4 (ANNEX A3).

Demonstrate proper Donning Procedures of the ECWCS GEN III

Method of Instruction: Conference / Discussion

Instructor to Student Ratio: 1:12

Time of Instruction: 0.416 Minutes

Media: Power Point slides

Security Classification: Unclass

NOTE: Read Slide

NOTE: Show VG –**Enabling Learning Objective #4** Gen III Extended Cold Weather Clothing System38. **Preventative Maintenance Checks and Services**

ACTION:	Communicate proper Preventative Maintenance Checks and Services (PMCS) for the ECWCS GEN III.
CONDITIONS:	In a classroom environment, instructor discussion, demonstration and student hand-outs
STANDARDS:	IAW instructor guidance and student hand-outs, the student's will be able to correctly perform PMCS on the ECWCS GEN III.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 39. **(ECWCS PMCS)**
Fleece Jacket:

- Machine or Hand Wash Warm Water
- Tumble Dry on Low Heat or Line Dry
- **DO NOT BLEACH OR DRY CLEAN**
- **DO NOT DRY CLEAN**
- **DO NOT IRON**
- **AVOID USE OF FABRIC SOFTENERS!**

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 40. **(ECWCS PMCS), cont.**
Wind, Cold Weather Jacket:

- Home Laundering;
  - The garment shall be machined laundered using the delicate/gentle fabric cycle or by hand.
  - Use cold water (90oF/32oC) and cold water laundry detergent (i.e., Liquid Tide or Era Plus). Rinse in clean cold water.
  - **DO NOT STARCH OR BLEACH!**
  - Dry in tumble dryer at temperatures not exceeding 130oF/54oC as degradation of the component materials will result. Avoid over drying. To drip dry, place on a rust proof hanger. **DO NOT PRESS!**
- Field laundering;
  - The garment shall be fielding laundered using Formula II of FM 42-414, Appendix E.
  - **DO NOT STARCH OR BLEACH!**

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 41. **(ECWCS PMCS), cont.**
Soft Shell Jacket and Trousers:

- The garment shall be machine laundered using the delicate/gentle fabric cycle or by hand.
- Use warm cold water (90oF/32oC) and cold water laundry detergent (i.e., Liquid Tide or Era Plus).
- Rinse in clean cold water.
- **DO NOT STARCH!**
- **DO NOT OR BLEACH!**
- **DO NOT USE FABRIC SOFTENER!**
- **DO NOT DRY CLEAN!**

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 42. **(ECWCS PMCS), cont.**
Soft Shell Jacket and Trousers, cont:

- Dry in tumble dryer at temperatures not exceeding 130oF/54oC as degradation of the component materials will result. Avoid over drying. To drip dry, place on a rust proof hanger.
- **DO NOT PRESS!**
- Field laundering:

The garment shall be field laundered using Formula II of FM 42-414, Appendix E.

- **DO NOT STARCH OR BLEACH!**

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 43. **(ECWCS PMCS), cont.**
Extreme Cold Wet Weather Jacket and Trousers:

- Home Laundering (machine/Hand) Delicate/gentle fabric cycle or hand washing using a detergent. Rinse thoroughly in warm water. Note: Any residual detergent on the jacket or trousers will decrease the water repellency. Zippers, Velcro and snaps shall be closed during wash and drying. **DO NOT BLEACH! DO NOT USE FABRIC SOFTENER, and DO NOT PRESS!**
- Home Drying: Tumble dry on permanent press setting. To drip dry, place on a rust-proof hanger.
- Field Laundry: The garment shall be field laundered using Formula II of FM 42-414, Appendix E.
- Field Drying: Tumble dry at low heat setting. Remove immediately from dryer. Do not over heat or over dry.
- Field restoration of Water Repellent: Jacket and Trousers shall be laundered utilizing Formula XII of FM 42-414, Appendix E. Dry jacket and trousers at a temperature not to exceed 150o F.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 44. **(ECWCS PMCS), cont.**
Extreme Cold Weather Parka and Trousers:
Home Laundering;

- The garment shall be machine laundered using the delicate/gentle fabric cycle or by hand. Use cold water (90oF/32oC) and cold water laundry detergent (i.e. Liquid Tide or Era Plus).
- Rinse in clean cold water.
- **DO NOT STARCH, DO NOT BLEACH, and** DO **NOT USE FABRIC SOFTENER!**
- Dry in tumble dryer at temperatures not exceeding 130oF/54oC as degradation of the component materials will result.
- Avoid over drying.
- To drip dry, place on a rust proof hanger.
- DO NOT **PRESS!**

Field laundering;

- The garment shall be field laundered using Formula II of FM 42-414, Appendix E.
- **DO NOT STARCH OR BLEACH!**

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 45. **(ECWCS PMCS), cont.**
Extreme Cold Weather Parka and Trousers:
Repair:

- Small rips and tears can be hand or machine stitched.
- The Extreme Cold/Wet Jacket and Trousers use a laminated fabric to provide waterproofness.
- Repaired rips and tears must be sealed with commercial seam sealant or with commercially available sealant patches.
- Refer to TM 10-8400-201-23, General Repair Procedures for Clothing, Chapter XX, for materials, sources and detailed repair procedures.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 46. **(ECWCS PMCS), cont**

GEN III ECWCS Repair

Rips and Tears Underwear, polyester shirt liners, etc.
1. To mend a ripped seam, overlap the two edges and sew with straight and small stitches.
2. To repair a tear, place the two edges together on the wrong side (inside), and sew together.
3. To mend a frayed edge, turn the frayed edge under and sew.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 47. **(ECWCS PMCS), cont**
Parka/Trousers
1. Field expedient or temporary measures:
a. Stitch. Loosely whip stitch the rip or tear, keeping the seam as flat as possible. Trim all thread ends.
b. Field tape. Turn the garment inside out, keeping the rip or tear as flat as possible. Cut the appropriate size of tape to cover the rip or tear. Round the edges of the tape to reduce fraying. Place the tape over the rip or tear and press firmly.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 48. **(ECWCS PMCS), cont**

GEN III ECWCS Repair

2. Permanent repairs. More permanent repair measures involve a seam tape patch and a cross-over sealer. Refer to TM 10-8400-201-23 for additional repair procedures involving the cross-over sealer.

All other items of the GENIII ECWCS are considered non-reparable and should be turned in when unserviceable.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 49. **(ECWCS PMCS), cont**
Draw cords
1. Draw cords are found on the following garments:

ITEM	TYPE OF DRAW CORD
Hoods	Tape with barrel locks
Hems of Jackets	Elastic with barrel locks
Waist of Parka	Elastic
Waist of Trousers	Elastic with barrel locks

2. Replace missing or defective elastic draw cords in lengths to match original. If barrel lock is broken, tie ends of draw cords into large knots until a new draw cord can be obtained from the organizational supply unit.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 50. **(ECWCS PMCS), cont**
GEN III ECWCS Repair
Zippers
If the zipper works stiffly, rub a thin coating of wax or lead-pencil graphite on each side of the track and work zipper back and forth a few times. The wax or graphite lubricates the zipper and allows it to open or close more easily.
Maintenance Turn In
Turn in clothing to supply points for exchange when:
1. Ripped or torn beyond immediate repair
2. Any snap fastener, zipper, or hook and pile fastener tape is torn, damaged, or will not hold.
3. Elastic webbing is torn or frayed beyond immediate repair.
4. Clothing is so badly soiled that it cannot be cleaned adequately.
5. Closures or snaps do not function properly.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 51, **(ECWCS PMCS), cont**
C.O.L.D.:

C- Keep GEN III ECWCS CLEAN: Clothing keeps you warm by trapping warm air against your body and in the pores of the clothing itself. If these pores become filled with dirt, sweat, or other grime, the clothing will not be able to do its job efficiently. Therefore, your clothes should be kept as clean as possible to keep you as warm as possible.

O- Avoid OVERHEATING: The key is not to be hot, but *comfortably cool*; not cold, but cool. If at any time you are sweating, you are too hot. Sweating is a sign that your body wants, and needs, to cool down. Let the environment cool you down, not sweat. This may be as simple as opening buttons or unzipping the underarms of the Soft shell parka, instead of removing a whole layer of clothing. Once you stop your work, or feel yourself getting cold, bundle up again just enough to keep cool.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System 52. **(ECWCS PMCS), cont**
C.O.L.D. (cont):

L- Wear clothing LOOSE and LAYERED: Clothes should fit loosely for comfort. The more layers used, the more warm air will be trapped. Tight clothing will also prevent air from becoming trapped between your body and clothes. It is the warm air that keeps you warm, not the clothes. Several thin layers working together will work better than one thick layer alone.

D- Keep clothing DRY: Clothing must be kept dry from the outside, such as putting on rain gear during wet conditions, and from the inside, such as taking a layer off when you start to sweat. Once your clothes are wet, the water or sweat starts to evaporate, drawing warmth away from your body.

NOTE: Show VG — Gen III Extended Cold Weather Clothing System53. **(ECWCS PMCS), cont**

Reminders:

- Clean ECWCS clothing items regularly when is use. Dirty clothes wear out quickly because dirt cuts textile fibers and retains moisture from perspiration.
- Prior to laundering and drying, make sure all the draw cords are tied together, all zippers are zipped and all snaps and hooks are fastened. Securing these items will result in a better laundered garment.
- Excessive amounts of liquid detergent is not recommended for use when cleaning the Soft Shell Jacket and Trouser system and Extreme Cold Wet Weather Jacket and Trousers.
- High Heat such as a Dryer (Not Ironed) increases the water proofness of the Extreme Cold Wet Weather and Jacket and Trousers material.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System54. **(ECWCS PMCS), cont**

- Use a "clear" mild detergent when washing other components of the ECWCS.
- Brush off all dirt and debris before use or storage.
- ECWCS can be stored in patrol packs, rucksacks, wet weather bags, laundry bags, etc.
- The ECWCS **should not** be stored in any plastic material that could induce moisture.
- Rips or tears to the ECWCS should be reported to the unit supply.
- Do not use fabric softener on the under layers; inhibits ability in wick away moisture.

SECTION IV. SUMMARY

TERMINAL LEARNING OBJECTIVE SUMMARY

Method of Instruction: Conference / Demonstration

Instructor to Student Ratio: 1:12

Time of Instruction: 0.083

Media: Power Point slides

Security Classification: Unclass

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 55.

CHECK ON LEARNING.

QUESTION: Can you use fabric softeners when laundering the ECWCS components?

ANSWER: NO

QUESTION: How should the ECWCS be stored?

ANSWER: ECWCS should be stored in patrol packs, rucksacks, wet weather bags, laundry bags, etc.

QUESTION: Can you repair small rips and tears to the ECWCS Parka and Trousers?

ANSWER: Yes small rips and tears can be hand or machine stitched.

NOTE: Show VG– Gen III Extended Cold Weather Clothing System 56. Summary
During this presentation, we have communicated how to properly perform PMCS on the ECWCS GEN III.
NOTE: Show VG – Gen III Extended Cold Weather Clothing System 57 .**TLO Check on learning**

QUESTION: Do all of the ECWCS components have to be worn together?

ANSWER: No

QUESTION: What ECWCS component has been designed to provide better capability
Body Armor?

ANSWER: Wind, Cold Weather, Jacket

QUESTION: How much faster does the Polartec® fabric dry versus cotton?

ANSWER: Two times faster than cotton

Show VG – Gen III Extended Cold Weather Clothing System 58**. TLO Summary**

Terminal Learning Objective Summary.

Today what we discussed was:

Action:	Identify the Characteristics, components, Proper Wear of the GEN III Extended Cold Weather Clothing System (ECWCS), and Preventative Maintenance Checks and Services (PMCS) procedures
Conditions:	In a classroom environment, given instructor guidance and student Handouts.
Standards:	In accordance with (IAW) instructor guidance and student handouts, students' will demonstrate the skills necessary to correctly wear and maintain the GEN III ECWCS. .

SECTION V. STUDENT EVALUATION (Non – Academic)

Method of Instruction: Practical Exercise

Instructor to Student Ratio: 1:12

Time of Instruction: 0.083 Hour

Media: Evaluation Form

Security Classification: Unclass

NOTE: Each Soldier will fill out one instructor/ presentation critique. Some questions have multiple answers and the form is two sided.

NOTE: Rapid, immediate feedback is essential to effective learning. Schedule and provide feedback on any information to help answer student's questions about the class. Provide remedial training as needed.

NOTE: Show VG – Gen III Extended Cold Weather Clothing System 59. **POINTS OF CONTACT.**

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