SECTION CC-1 ITEM DESCRIPTION

PCR-E-001, EGGS, SCRAMBLED, COOKED, DEHYDRATED, PACKAGED IN A BRICKPACK POUCH, SHELF STABLE

Types.

- Type I - Scrambled Eggs
- Type II - Scrambled Eggs with Bacon Pieces
- Type III - Scrambled Eggs with Cheese, Western-style

Styles.

- Style A - Meal, Cold Weather (MCW), Packaged in a White Brickpack Pouch
- Style B - Food Packet, Long Range Patrol (LRP), Packaged in a Subdued Colored Brickpack Pouch

Unless otherwise specified the following applies to all types:

Each component is consumed by combat personnel under worldwide environmental extremes as part of an operational ration, and is a source of nutritional intake.

C-2 PERFORMANCE REQUIREMENTS

A. Product standard. A sample shall be subjected to first article or product demonstration model inspection as applicable, in accordance with the tests and inspections of Section E of this Performance-based Contract Requirements document.

B. Shelf life. The packaged food shall meet the minimum shelf life requirement of 36 months at 80°F.

C. Dehydrated product.

(1) Appearance.

a. General. The dehydrated product shall be free from foreign materials.

b. Type I. The dehydrated scrambled egg shall be a mixture of cooked egg pieces that have been dehydrated. The egg pieces shall be medium yellow color.

c. Type II. The dehydrated scrambled egg with bacon pieces shall be a mixture of cooked egg and bacon flakes. The egg pieces shall be medium yellow color. The bacon flakes shall be a medium brown color.

d. Type III. The dehydrated scrambled egg with cheese western style shall be a mixture of cooked egg pieces, cheese, ham dices, green and red pepper dices and onion pieces. The egg pieces shall be medium yellow color. The cheese pieces shall be a medium orange to orange color. The diced ham shall be a cooked meat color. The vegetables shall have the characteristic color of the appropriate cooked dehydrated vegetables.

(2) Odor.

a. Type I. The odor shall be characteristic of cooked, dehydrated scrambled eggs.

SECTION C CONTINUED

b. Type II. The odor shall be characteristic of cooked dehydrated scrambled eggs with smoked bacon.

c. Type III. The odor shall be characteristic of cooked dehydrated scrambled eggs with cheese, ham, and green and red peppers.

d. Foreign. The dehydrated product shall be free from foreign odors.

(2) Texture.

a. General. The product shall be fully dehydrated.

b. Type I. There shall be discernable pieces of egg.

c. Type II. There shall be discernable pieces of egg and bacon.

d. Type III. There shall be discernable pieces of egg, cheese, ham, and green and red peppers.

(4) Weight. The average net weight of the pouched product shall be not less than 75 grams.

(5) Nutrient content. The nutrient content for the packaged food is as follows:

<u>Entree</u>	<u>Protein</u> not less than	<u>Fat</u> not greater than	<u>Salt</u> not greater than
Type I	34.0 percent	44.0 percent	4.0 percent
Type II	34.0 percent	40.0 percent	6.0 percent
Type III	34.0 percent	36.0 percent	5.0 percent

(6) Moisture content. The moisture content of the dehydrated product shall not exceed 2.5 percent.

(7) Microbiological. The aerobic plate count shall not be greater than 75,000 per gram in four of five samples, and not greater than 150,000 per gram in any sample. The E. coli count shall be less than 3 per gram (no positives in the standard 3 tube MPN technique) in four of five samples and not greater than 10 per gram in any sample. The product shall be free of Salmonella.

D. Rehydrated product.

(1) Appearance.

a. General. The rehydrated product shall be free from foreign materials.

b. Type I. The overall appearance shall be characteristic of scrambled eggs that have been frozen and reheated.

c. Type II. The overall appearance shall be characteristic of scrambled eggs that have been frozen and reheated. The bacon pieces shall resemble flakes.

SECTION C CONTINUED

d. Type III. The overall appearance shall be characteristic of scrambled eggs with cheese that have been frozen and reheated. The ham shall be piece sizes typically produced by a 3/8 inch dicer setting. The cooked ham shall be free of bone or bone fragment, cartilage, coarse connective tissue, tendons or ligaments, and glandular material. The green and red peppers shall be piece sizes typically produced by a 3/8 inch dicer setting. The vegetables shall be the characteristic color for the appropriate vegetable.

(2) Odor and flavor.

a. Foreign. The packaged food shall be free from foreign odors and flavors.

b. Type I. The product shall have an odor and flavor characteristic of frozen and reheated cooked eggs.

c. Type II. The product shall have an odor and flavor characteristic of frozen and reheated cooked eggs and smoked bacon.

d. Type III. The product shall have an odor and flavor characteristic of frozen and reheated cooked eggs with cheese, ham, and peppers.

(3) Texture.

a. General. The product shall rehydrate within ten minutes.

b. Ham. The ham shall be moist and tender.

c. Vegetables. The vegetables shall be slightly soft to slightly firm.

d. Bacon. The bacon flakes shall be tender.

e. Eggs. The egg product shall be moist, slightly spongy, and shall not be rubbery.

(4) Palatability and overall appearance. The finished product shall be equal to or better than the approved product standard in palatability and overall appearance.

C-3 MISCELLANEOUS INFORMATION

THE FOLLOWING IS PROVIDED FOR INFORMATION ONLY TO PROVIDE THE BENEFIT OF PAST GOVERNMENT EXPERIENCE. THIS IS NOT A MANDATORY CONTRACT REQUIREMENT.

A. Scrambled Eggs (Type I)

(1) Scrambled eggs ingredients/formulation. Ingredients and formulation percentages for scrambled eggs may be as follows:

<u>Ingredient</u>	<u>Percent by weight</u>
Eggs, whole liquid or frozen	78.50

Water	15.76
Oil, vegetable	2.00
Maltodextrin	1.50
Stabilizer compound	0.80
Salt	0.70
Flavoring, egg, natural	0.40
Xanthan gum	0.25
Pepper, white, ground	0.09

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SECTION C CONTINUED

B. Scrambled Eggs with Bacon Pieces (Type II).

(1) Scrambled eggs ingredients/formulation. Ingredients and formulation percentages for scrambled eggs for Type I may be used.

(2) Product ingredients/formulation. Ingredients and formulation percentages for scrambled eggs and bacon pieces may be as follows:

<u>Ingredient</u>	<u>Percent by weight</u>
Dehydrated scrambled eggs	84.0
Bacon pieces, shelf stable	16.0

C. Scrambled Eggs with Cheese, Western-style (Type III).

(1) Scrambled eggs with cheese, ingredients/formulation. Ingredients and formulation percentages for scrambled eggs with cheese, may be as follows:

<u>Ingredient</u>	<u>Percent by weight</u>
Eggs, whole liquid or frozen	72.50
Water	18.41
Cheese, cheddar, sharp, dehydrated, uncolored	4.00
Oil, vegetable	2.00
Maltodextrin	1.00
Stabilizer compound	0.80
Salt	0.50
Flavoring, egg, natural	0.45
Xanthan gum	0.25
Pepper, white, ground	0.09

(2) Product ingredients/formulation. Ingredients and formulation percentages for scrambled eggs with cheese, western-style, may be as follows:

<u>Ingredient</u>	<u>Percent by weight</u>
Dehydrated scrambled eggs with cheese	74.9
Dehydrated ham	22.0
Dehydrated green peppers	1.5
Dehydrated red peppers	1.5
Dehydrated onions, chopped	0.1

SECTION D

D-1 PACKAGING

Product shall be filled into pouches in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCTS IN A BRICKPACK POUCH.

D-2 LABELING

Each pouch shall be labeled in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCTS IN A BRICKPACK POUCH.

D-3 PACKING

Packing for shipment to ration assembler shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCTS IN A BRICKPACK POUCH.

D-4 MARKING

Marking of shipping containers shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCTS IN A BRICKPACK POUCH.

SECTION E INSPECTION AND ACCEPTANCE

Inspection for packaging, labeling and packing, and marking shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCTS IN A BRICKPACK POUCH.

E-6 QUALITY ASSURANCE PROVISIONSDefinitions.

(1) Critical defect. A critical defect is a defect that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the item; or a defect that judgment and experience indicate is likely to prevent the performance of the major end item, i.e., the consumption of the ration.

(2) Major defect. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(3) Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

Quality Assurance Provisions.

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required.

A. Classification of inspections. The inspection requirements specified herein are classified as follows:

(1) Product standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this Performance-based Contract Requirements document and evaluated for overall appearance and palatability. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection.

(2) Conformance inspection. Conformance inspection shall include the product examination and the methods of inspection cited in this section.

B. Product examination. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Performance-based Contract Requirements document utilizing the double sampling plans indicated in ANSI/ASQC Z1.4 - 1993. The lot size shall be expressed in pouches. The sample unit shall be the contents of one pouch. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms

of defects per hundred units, shall be 1.5 for major defects and 4.0 for minor defects. Defects and defect classifications are listed in Table I.

SECTION E CONTINUED

TABLE I. Product defects 1/ 2/

<u>Category</u>		<u>Defect</u>
<u>Major</u>	<u>Minor</u>	
		<u>Dehydrated Product</u>
		<u>Appearance</u>
101		Glazed surface area measuring more than 0.5 inch in any dimension. <u>3/</u>
102		Dark colored core in any dimension. <u>3/</u>
	201	Egg pieces not medium yellow color or not characteristic of cooked dehydrated eggs (Type I, Type II, and Type III).
	202	Bacon flakes not medium brown color (Type II).
	203	Ham not cooked meat color or not characteristic of cooked dehydrated meat (Type III).
	204	Cheese pieces not medium orange to orange color (Type III).
	205	Peppers not red or green color (Type III).
		<u>Odor</u>
103		Not characteristic of dehydrated scrambled eggs (Type I).
104		Not characteristic of dehydrated scrambled eggs and bacon (Type II).
105		Not characteristic of dehydrated scrambled eggs with cheese, ham, and peppers (Type III).
		<u>Texture</u>
106		Wet spots or soft spots. <u>4/</u>
	206	Less than 70 percent of product, by weight, retained on a U.S. Standard 1/4 inch sieve (Type I). <u>5/</u>
	207	Less than 58 percent of product, by weight, retained on a U.S. Standard 1/4 inch sieve (Type II). <u>5/</u>

208 Less than 65 percent of product, by weight, retained on a U.S. Standard 1/4 inch sieve (Type III). 5/

Weight

209 Net weight less than 75 grams. 6/

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SECTION E CONTINUED

TABLE I. Product defects 1/ 2/ (cont'd)

Category Defect

Major Minor

Rehydrated Product 7/ 8/

Appearance

107 Bone or bone fragment measuring more than 0.3 inch in any dimension (Type III).

108 Type I product not discernable egg pieces.

109 Type II product not a mixture of egg pieces and bacon flakes.

110 Type III product not a mixture of egg pieces, cheese pieces, diced ham, diced green and red peppers, and onion pieces.

210 Total weight of cartilage, coarse connective tissue, sections of tendons or ligaments, and glandular material more than 1.0 ounce (Type III).

Odor and flavor

111 Type I product odor or flavor not characteristic of frozen and reheated cooked eggs.

112 Type II product odor or flavor not characteristic of frozen and reheated cooked eggs and smoked bacon.

113 Type III product odor or flavor not characteristic of frozen and reheated cooked eggs with cheese, ham, and peppers.

Texture

114 Hard cores due to incomplete water penetration. 9/

211 Ham not moist or not tender (Type III).

212 Vegetables not slightly soft to slightly firm (Type III).

213 Bacon flakes not tender (Type II).

214 Scrambled egg not moist or not slightly spongy

1/ Presence of any foreign materials such as, but not limited to dirt, insect parts, hair, glass, wood, or metal, or foreign odors, and flavors such as but not limited to burnt, scorched, rancid, sour, or stale shall be cause for rejection of the lot. Foreign flavor is not applicable to dehydrated product.

2/ Finished product not equal to or better than the approved product standard in palatability and overall appearance shall be cause for rejection of the lot.

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SECTION E CONTINUED

3/ Evidence of faulty dehydration.

4/ Evidence of incomplete dehydration.

5/ The contents of two randomly selected pouches shall be mechanically shaken for thirty seconds for sieve testing.

6/ If the sample average net weight is less than 75 grams, the lot shall be rejected.

7/ Rehydrate according to pouch instructions. Product that does not rehydrate within ten minutes shall be cause for rejection of the lot.

8/ Machine setting requirement for ham and green and red pepper dices shall be verified with the producer's certificate of conformance.

9/ Dry areas attributable to gristle and similar materials in the ham or bacon shall not be considered as defects because they do not necessarily rehydrate properly.

C. Methods of inspection.

(1) Shelf life. The contractor shall provide a certificate of conformance that the product has a 3 year shelf life when stored at 80°F. Government verification may include storage for 6 months at 100°F or 36 months at 80°F. Upon completion of either storage period, the product will be subjected to a sensory evaluation panel for appearance and palatability and must receive an overall score of 5 or higher based on a 9 point hedonic scale to be considered acceptable.

(2) Net weight. The net weight of the filled and sealed pouches shall be determined by weighing each sample unit on a suitable scale tared with a representative empty pouch. Results shall be reported to the nearest gram.

(3) Nutrient content. The sample to be analyzed shall be a composite of eight filled and sealed pouches which have been selected at random from the lot. The composited sample shall be prepared (see NOTE) and analyzed for protein content, fat content and salt content in accordance with the following methods of the Official Methods of Analysis of AOAC International:

<u>Test</u>	<u>Method Number</u>
Protein	988.05, 992.15
Fat	925.32
Salt	935.47, 933.06C

Test results shall be reported to the nearest 0.1 percent. Any result not conforming to the requirements specified in Section C of this Performance-based Contract Requirements shall be cause for rejection of the lot.

NOTE: The USDA will use AOAC method 983.18 for preparation of the sample.

SECTION E CONTINUED

(4) Moisture content testing. Eight filled and sealed pouches shall be selected at random from the lot regardless of lot size. The contents of each pouch shall be blended to uniformity using a blender or a food processor. The blending must be rapid and conducted in such a way that minimum heat is transferred to the product and that the product has minimum exposure to atmospheric moisture. Each sample shall be tested for moisture content in accordance with the Official Methods of Analysis of the AOAC method 925.45/A (except that the temperature-time cycle for moisture analysis shall be modified by using a temperature of 70°C for 16 hours at a pressure of not more than 100 mm of mercury. Test results shall be reported to the nearest 0.1 percent. Any result not conforming to the requirements specified in Section C of this Performance-based Contract Requirements document shall be cause for rejection of the lot.

(5) Microbiological testing. Five filled and sealed pouches of finished product shall be selected at random from the lot regardless of lot size. The contents of each sample pouch shall be tested for aerobic plate count and E. coli in accordance with the Official Methods of Analysis of the AOAC, methods 966.23 and 966.24. The diluent shall be added to each sample of dry product and allowed to stand for 15 minutes before the blending of that sample. Continue as directed. Salmonella testing shall be in accordance with the Official Methods of Analysis of AOAC, method 967.26. Any result not conforming to the requirements specified in Section C of this Performance-based Contract Requirements document shall be cause for rejection of the lot.

SECTION J REFERENCE DOCUMENTS

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ANSI/ASQCZ1.4-1993 - Sampling Procedures and Tables for Inspection by
Attributes

AOAC INTERNATIONAL - Official Methods of Analysis of the AOAC
International

PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCT
IN A BRICKPACK POUCH

SECTION D

D-1 PACKAGING

A. Packaging. The specified net weight of product (see section C of applicable product document) shall be packed in a barrier pouch as described below.

(1) Pouches. The pouch is intended to be used as a unit pack and as a rehydrating pouch that is used for consumption of the entree.

a. Pouch material. The pouches shall be fabricated from 0.0035 inch thick linear low density polyethylene sealant layer laminated or extrusion coated to 0.00035 inch thick aluminum foil which is then bonded with 10 pound per ream low density polyethylene to 0.0006 inch thick biaxially oriented nylon. The three plies shall be laminated with the nylon on the exterior of the pouch. Alternatively, pouches may be fabricated from 0.0035 inch thick linear low density polyethylene sealant layer laminated or extrusion coated to 0.0006 inch thick biaxially oriented nylon, which is laminated to 0.00035 inch thick aluminum foil which is bonded to 0.0005 inch thick polyester. The linear low density polyethylene sealant film shall be heat sealable and capable of producing a fusion seal or shall be heat sealable and peelable. All tolerances for thickness of pouch materials shall be plus or minus 20 percent. The structure shall be approved for food contact with the addition of near boiling water. For Style A, Meal Cold Weather, the complete exterior surface of the pouch shall be colored white overall with a color in the range of 37778 through 37886 of FED-STD-595, Colors Used in Government Procurement. For Style B, Food Packet Long Range Patrol, the complete exterior surface of the pouch shall be uniformly colored in the range of 20219, 30219, 30279, 30313, 30324, or 30450 of FED-STD-595. The material shall show no evidence of delamination, degradation, or foreign odor when heat sealed or fabricated into pouches. The material shall be suitably formulated for food packaging and shall not impart an odor or flavor to the product.

b. Pouch construction. The pouch shall be a prefabricated, square bottom gusset style bag having inside dimensions of 3-3/8 inches (+ 1/8 inch) for the face width, 2-9/16 inches (+ 1/8 inch) for the gusset width, and 10 inches (+ 1/8 inch) in length. The pouch shall be fabricated by heat sealing a fin seal down the length of the pouch and a bottom seal along the face of the pouch. Heat seals shall have a minimum width of 1/4 inch. The fusion heat

seal shall have an average seal strength of not less than 7 pounds per linear inch and no individual specimen shall have a seal strength of less than 6 pounds per linear inch when tested as specified in section E,E-5,A.(3)a. The peelable heat seal shall have an average seal strength of not less than 6 pounds per linear inch with no individual sample less than 5 pounds per linear inch and no individual sample greater than 14 pounds per linear inch when tested in accordance with section E,E-5,A.(3)a. Fusion heat sealed pouches shall be provided with appropriate tear nicks, notches or serrations to facilitate easy opening of the pouch. Suggested tear notch locations are provided in figure 1.

c. Pouch filling and sealing. The pouch shall be filled with the specified net weight of product (see section C of applicable product document). The filled pouches shall be sealed under a vacuum level of 23 inches of mercury. The sealed pouches shall show no evidence of material degradation, or delamination. The closure seal shall be free of foldover wrinkles or entrapped matter that reduces the effective closure seal to less than 1/16 inch. Seals shall be free of impression or design on the seal

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PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCT IN A BRICKPACK POUCH

SECTION D CONTINUED

surface that would conceal or impair visual detection of seal defects. The fusion heat seal shall have an average seal strength of not less than 7 pounds per linear inch and no individual specimen shall have a seal strength of less than 6 pounds per linear inch when tested as specified in section E,E-5,A.(3)b. The peelable heat seal shall have an average seal strength of not less than 6 pounds per linear inch with no individual sample less than 5 pounds per linear inch and no individual sample greater than 14 pounds per linear inch when tested in accordance with section E,E-5,A.(3)a or b. The filled pouch shall have a minimum 1/8 inch width heat seal.

D-2 LABELING

A. Pouches. Each pouch shall be clearly printed or stamped, in a manner that does not damage the pouch, with a food compatible, permanent black ink, or other dark, contrasting color, which is free carcinogenic elements or ingredients. The information shall be located on the body of the pouch opposite the fin seal, and not closer than 1/16 inch to any seal. If a non-contact type printer is used, the information may be located anywhere on the pouch (in one complete print), except the fin seal face and the closure seal area. The label shall contain the following information:

NAME OF ENTREE
ADD 16 OUNCES HOT WATER (~3/4 CANTEEN CUP) TO POUCH. STIR, WAIT ~10 MINUTES. HOT WATER MAY BE ADDED IN STAGES TO KEEP FOOD HOT
Ingredients
Date 1/
Net weight
Official establishment number
Contractor's name and address
"Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable FDA/USDA regulations

1/ Each pouch shall have the date of pack noted by using a four digit code beginning with the final digit of the current year followed by the three digit Julian day code. For example, 9 December 1997 would be coded as 7343. The Julian day code shall represent the day the product was packaged into the pouch.

B. Pouches with peelable seals shall be clearly printed, not more than ½ inch from the closure seal as follows:

PEELABLE SEAL (letters not less than 1/8 to 7/16 inch block letters)

D-3 PACKING

A. Packing for shipment to ration assembler. Not more than 35 pounds of pouched product shall be packed in layers in a fiberboard shipping container constructed in accordance with an appropriate style, class, variety, and grade of ASTM-D-5118, Standard Practice for Fabrication of Fiberboard Shipping Boxes. Each container shall be securely closed in accordance with an appropriate annex of ASTM-D-1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers. When metal fasteners are used in the box manufacturer's joint or set-up, the fasteners on the inside of the box shall be covered with tape to protect the contents from mechanical damage.

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PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCT
IN A BRICKPACK POUCH

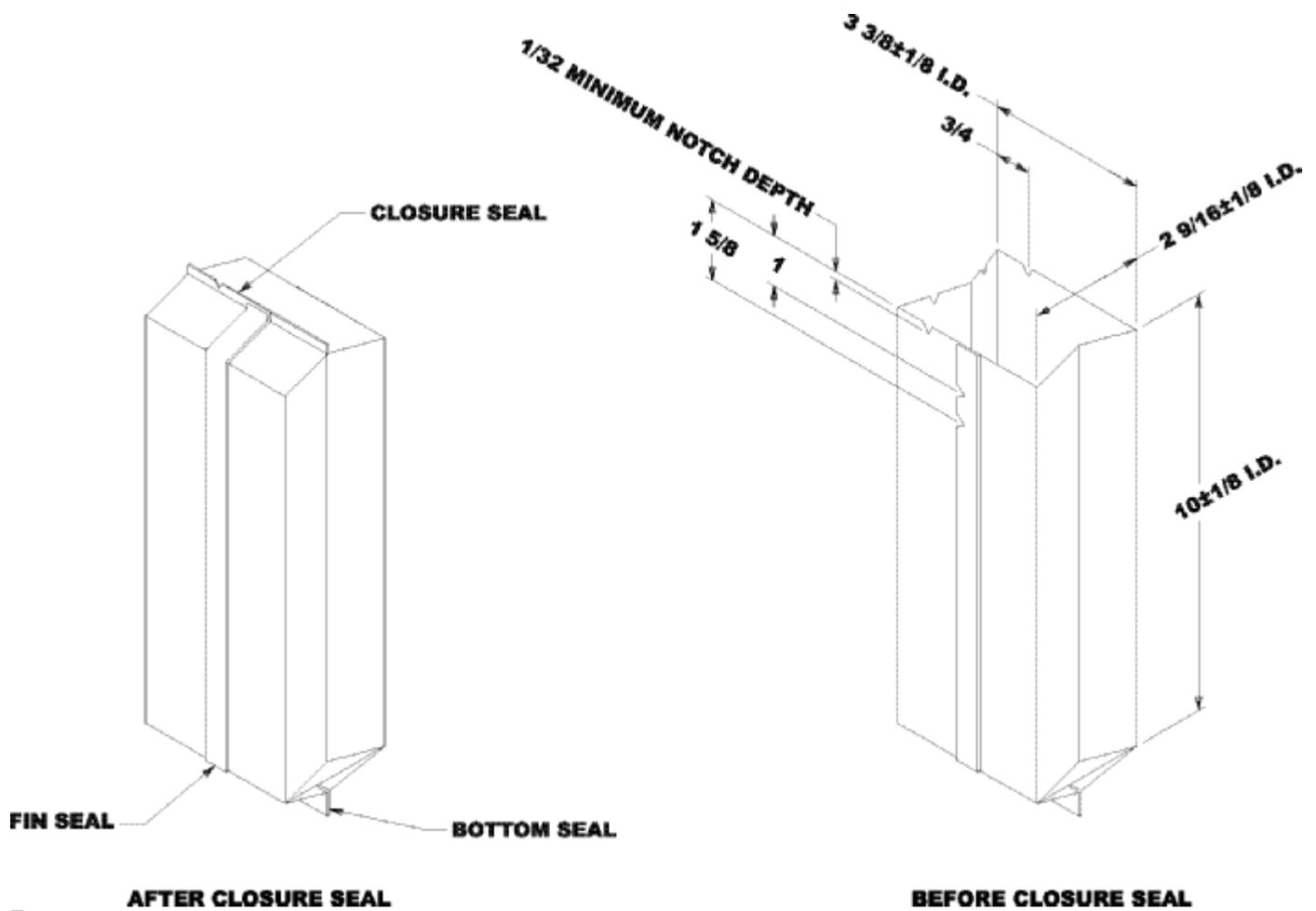
SECTION D CONTINUED

D-4 MARKING

A. Shipping containers. Shipping containers shall be marked in accordance with DPSC Form 3556, Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence.

PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCT
IN A BRICKPACK POUCH

SECTION D CONTINUED



□

PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCT
IN A BRICKPACK POUCH

SECTION E INSPECTION AND ACCEPTANCE

E-5 PACKAGING AND PACKING MATERIALS

Definitions.

(1) Major defect. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(2) Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

Quality Assurance Provisions.

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required.

A. Packaging.

(1) Pouch material certification. Material listed below may be accepted on the basis of a contractor's certification of conformance (CoC) to the indicated requirements. Compliance to 21 CFR substances in contact with near boiling water (< 212 °F) may be verified by CoC. In addition, compliance to the requirements for inside pouch dimensions and dimensions of manufacturer's seals may be verified by CoC.

<u>Requirement</u>	<u>Requirement Paragraph</u>	<u>Test procedure</u>
Thickness of films	D-1,A.(1)a	As specified in L-P-378 1/ except that for laminated material a machinists' micrometer may be used provided that its graduations and accuracy conform to the requirements of L-P-378

Aluminum foil thickness	D-1,A.(1)a	As specified in ASTM-B-479 <u>2/</u>
Laminated material identification and construction	D-1,A.(1)a	Laboratory evaluation
Color of laminated material	D-1,A.(1)a	Visual evaluation by FED-STD-595 <u>3/</u>

1/ FED L-P-378, Plastic Sheet and Strip, Thin Gauge, Polyolefin

2/ ASTM-B-479, Specification for Annealed Aluminum Foil For Flexible Barrier Application

3/ FED-STD-595, Colors Used in Government Procurement

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PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCT IN A BRICKPACK POUCH

SECTION E CONTINUED

(2) Filled and sealed pouch examination. The filled and sealed pouches shall be examined for the defects listed in table I. The lot size shall be expressed in pouches. The sample unit shall be one pouch. The inspection level shall be general inspection level I and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 0.65 for major defects and 4.0 for minor defects.

TABLE I. Filled and sealed pouch defects 1/

<u>Category</u>		<u>Defect</u>
<u>Major</u>	<u>Minor</u>	
101		Tear, hole, or open seal.
102		Seal width less than 1/16 inch. <u>2/</u>
103		Presence of delamination. <u>3/</u>
104		Unclean pouch. <u>4/</u>
105		Pouch has foreign odor.
106		Any impression or design on the heat seal surfaces which conceals or impairs visual detection of seal defects. <u>5/</u>
107		Any evidence of loss of vacuum. <u>6/</u>
108		Peelable pouch does not open where indicated.
	201	Label smudges, is missing, incorrect, or illegible.
	202	Tear nick, notch or serrations missing or does not facilitate easy opening (applicable to fusion sealed pouches only).

203 Seal width less than 1/8 inch but greater than 1/16 inch.

204 Presence of delamination. 3/

1/ Any evidence of rodent or insect infestation shall be cause for rejection of the lot.

2/ The effective closure seal is defined as any uncontaminated, fusion bonded, continuous path, minimum 1/16 inch wide, from side seal to side seal that produces a hermetically sealed pouch.

3/ Delamination defect classification:

Major - Delamination of the outer ply in the pouch seal area that can be propagated to expose aluminum foil at the food product edge of the pouch after manual flexing of the delaminated area. To flex, the delaminated area shall be held between the thumb and forefinger of each hand with both thumbs and forefingers touching each other. The delaminated area shall then be rapidly flexed 10 times by rotating both hands in alternating clockwise-counterclockwise directions. Care shall be exercised when flexing delaminated

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PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCT IN A BRICKPACK POUCH

SECTION E CONTINUED

areas near the tear notches to avoid tearing the pouch material. After flexing, the separated outer ply shall be grasped between thumb and forefinger and gently lifted toward the food product edge of the seal or if the separated area is too small to be held between thumb and forefinger, a number two stylus shall be inserted into the delaminated area and a gentle lifting force applied against the outer ply. If separation of the outer ply can be made to extend to the product edge of the seal with no discernible resistance to the gentle lifting, the delamination shall be classified as a major defect. Additionally, spot delamination of the outer ply in the body of the pouch that is able to be propagated beyond its initial borders is also a major defect. To determine if the laminated area is a defect, use the following procedure: Mark the outside edges of the delaminated area using a bold permanent marking pen. Open the pouch and remove the contents. Cut the pouch transversely not closer than 1/4 inch (+ 1/16 inch) from the delaminated area. The pouch shall be flexed in the area in question using the procedure described above. Any propagation of the delaminated area, as evidenced by the delaminated area exceeding the limits of the outlined borders, shall be classified as a major defect.

Minor - Minor delamination of the outer ply in the pouch seal area is acceptable and shall not be classified as a minor defect unless it extends to within 1/16 inch of the food product edge of the seal. All other minor outer ply delamination in the pouch seal area or isolated spots of delamination in the body of the pouch that do not propagate when flexed as described above shall be classified as minor defects.

4/ Outer packaging shall be free from foreign matter which is unwholesome, has the potential to cause pouch damage (for example, glass, metal filings) or generally detracts from the clean appearance of the pouch. The following examples shall not be classified as defects for unclean:

a. Foreign matter which presents no health hazard or potential pouch damage and which can be readily removed by gently shaking the package or by gently brushing the pouch with a clean dry cloth.

b. Dried product which affects less than 1/8 of the total surface area of one pouch face (localized and aggregate).

c. Water spots.

5/ If doubt exists as to whether or not the sealing equipment leaves an impression or design on the closure seal surface that could conceal or impair visual detection of seal defects, samples shall be furnished to the contracting officer for a determination as to acceptability.

6/ The filled and vacuum sealed pouches shall be visually examined for conformance to the vacuum requirement in section D,D-1,A.(1)c not less than 96 hours after filling and sealing. The sealed pouch shall continue to exhibit tight adherence to the surface contours of the contents when a pulling force is applied at the top and bottom seal. This force shall be applied by holding the top and bottom seal between the thumb and forefinger of each hand, while simultaneously exerting a slight pull with both hands. Any evidence of loss of vacuum shall be classified a major defect.

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PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCT IN A BRICKPACK POUCH

SECTION E CONTINUED

(3) Seal testing. The pouch seals shall be tested for seal strength as required in a or b.

a. Unfilled preformed pouch seal testing. The seals of the unfilled preformed pouch shall be tested for seal strength in accordance with ASTM F 88, Seal Strength of Flexible Barrier Materials. The lot size shall be expressed in pouches. The sample size shall be the number of pouches indicated by inspection level S-1. Three adjacent specimens shall be cut from the sealed side or end of each pouch in the sample. The average seal strength shall be calculated by averaging the three specimens cut from that side or end. When testing the end seal of the pouch, one of the three specimens shall be cut from the center of the seal incorporating the folded fin seal juncture of the heat seal. For fusion heat seals, any average seal strength of less than 7 pounds per linear inch or any test specimen with a seal strength of less than 6 pounds per linear inch shall be cause for rejection of the lot. For peelable heat seals, any average seal strength of less than 6 pounds per linear inch or any test specimen with seal strength of less than 5 pounds per linear inch or greater than 14 pounds per linear inch shall be cause for rejection of the lot.

b. Pouch closure seal testing. The closure seals of the pouches shall be tested for seal strength in accordance with ASTM F 88, Seal Strength of Flexible Barrier Materials. The lot size shall be expressed in pouches. The sample size shall be the number of pouches indicated by inspection level S-1. For the closure seal on preformed bags, three adjacent specimens shall be cut from the closure seal of each pouch in the sample. One of the specimens shall be cut from the center of the seal incorporating the folded fin seal juncture of the heat seal. The average seal strength of any side, end or closure shall be calculated by averaging the three specimens cut from that side, end or closure. For fusion heat seals, any average seal strength

of less than 7 pounds per linear inch or any test specimen with a seal strength of less than 6 pounds per linear inch shall be cause rejection of the lot. For peelable heat seals, any average seal strength of less than 6 pounds per linear inch or any test specimen with seal strength of less than 5 pounds per linear inch or greater than 14 pounds per linear inch shall be cause for rejection of the lot.

B. Packing.

(1) Shipping container examination. The filled and sealed shipping containers shall be examined for the defects listed below. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container fully packed. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total defects.

Major: National stock number, item description, contract number,
name and address of producer, or date of pack missing,
incorrect or illegible
Container not properly closed
Components missing, damaged, or not as specified

Minor: Other required markings missing, incorrect, or illegible
More than 35 pounds of product

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PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR DEHYDRATED PRODUCT
IN A BRICKPACK POUCH

SECTION J REFERENCE DOCUMENTS

DPSC FORM

DPSC FORM 3556 Marking Instructions for Shipping Cases, Sacks and
Palletized/Containerized Loads of Perishable and Semiperishable
Subsistence, May 96

FEDERAL SPECIFICATION

L-P-378 - Plastic Sheet and Strip, Thin Gauge, Polyolefin

FEDERAL STANDARD

FED-STD-595 - Colors Used in Government Procurement

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ANSI/ASQCZ1.4-1993 - Sampling Procedures and Tables for Inspection
by Attributes

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

B 479 - Specification for Annealed Aluminum Foil For Flexible
Barrier Application

D 5118 - Standard Practice for Fabrication of Fiberboard Shipping
Boxes

D 1974 - Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers

F 88 - Seal Strength of Flexible Barrier Materials

AOAC INTERNATIONAL

Official Methods of Analysis of the AOAC International

AMSSB-RCF-F(N)(Friel/4261)

9 November 2000

TO: DSCP-HRAC(Lowry/7773)

ES01-008

SUBJECT: Request for Engineering Support; Packaging Requirements and Quality Assurance Provisions for Dehydrated Product in Brickpack Pouch; and Scrambled Eggs, PCR-E-001; DSCP# 1-R-033-00

1. Date received: 7 November 2000

Date due: ASAP

Date replied: 9 November 2000

2. Natick concurs with the request for changes to the subject documents based on information received from DSCP, the contractor and USDA.

3. Natick requests that for the current contract, a stick on label shall be used to correct the rehydration instructions. Since the brick package's closure seal is the peelable seal and the exact location is not easily controllable in production, a measurement from the top of the bag is more producible.

For filled bags the label shall be applied on a flat surface at the upper middle of the brick pouch such that the closure seal is not covered.

For unfilled bags the printed rehydration instructions shall be covered with the stick on label with the new information.

4. The following changes are provided to Packaging Requirements and Quality Assurance Provisions for Dehydrated Product in Brickpack Pouch for all current, pending and future procurements until the document is formally amended or revised:

a. Section D-2, A., make the following changes:

(1) line 9, between "NAME OF ENTRÉE" and "ADD 16 OUNCES---", insert "FOR MEAT ENTRES"

(2) line 11, insert new statement:

"FOR EGG ENTREES: ADD 8 OUNCES OF HOT WATER (~1/3 CANTEEN CUP) TO POUCH. STIR, WAIT ~5-10 MINUTES. HOT WATER MAY BE ADDED IN STAGES TO KEEP FOOD HOT."

b. Section D-2, B., line 1, delete "1/2 inch from the closure seal", insert "1-1/2 inch from the top of the unfilled pouch".

5. Natick has reviewed Scrambled Eggs, PCR-E-001 and submits the correct rehydration instructions for egg entrees.

Current sieve requirements correlated with MIL-SPEC formulations. Combinations of differences in stabilizer compounds, percentages of bacon bits in Type II product and the vacuum brickpack without the rehydration bag have shown that the percentage retained on the sieve requires adjustments.

Data received from USDA on sieve testing was statistically analyzed to determine sample variation and normality of curve and visual inspection of sample product was conducted.

6. The following changes are provided to Scrambled Eggs, PCR-E-001 for all current, pending and future procurements until the document is formally amended or revised:

a. Section E-6, B., Table I, make the following changes:

(1) In Minor Defect 206, delete "70 percent of product", insert "46 percent of egg ingredient"

(2) In Minor Defect 207, delete "58 percent of product", insert "46 percent of egg ingredient"

(3) In Minor Defect 208, delete "65 percent of product", insert "46 percent of egg ingredient plus 95 percent of ham and vegetable ingredients"

DONALD A. HAMLIN
Team Leader
Food Engineering Services Team
Combat Feeding Program

ES REQUIRED

MFriel

CF:

Alyward
Richards
Valvano
Sherman
A. Konrady
M. Konrady
Hamlin
Hoffman
Beward
Wagner
H. Richardson
Salerno
M.Malason
D.Anthony
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D.Kavanagh
D.Arthur
A.Lowry