

SECTION C

C-1 ITEM DESCRIPTION

PCR-S-008, SPAGHETTI WITH MEAT SAUCE, COOKED, DEHYDRATED, PACKAGED IN A BRICKPACK POUCH, SHELF STABLE

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

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 spaghetti with meat sauce shall be a mixture of cooked, spaghetti or vermicelli and beef pieces in Italian style, tomato-based sauce with cheese, that has been dehydrated. The dehydrated product shall be free from foreign materials.

b. Spaghetti or vermicelli. The spaghetti or vermicelli shall be enriched, macaroni product and shall be characteristic of cooked, dehydrated spaghetti or vermicelli. The macaroni product shall be light tan to off-white color.

c. Beef. The beef pieces shall be a medium brown color and shall be characteristic of cooked dehydrated beef.

d. Tomato product. The tomato product shall be a combination of tomato puree and tomato paste and shall be characteristic of cooked, dehydrated tomato puree and tomato paste.

e. Cheese. The cheese shall be grated Parmesan cheese or a combination of grated Parmesan and Romano cheese.

(2) Odor.

a. General. The odor shall be characteristic of cooked, dehydrated spaghetti with beef in Italian style, tomato-based sauce with cheese.

b. Foreign. The dehydrated product sauce shall be free from foreign odors.

(3) Texture. The product shall be fully dehydrated. There shall be discernible spaghetti or vermicelli and beef pieces. There may be flecks of herbs and spices.

(4) Weight.

a. Net weight. No individual pouch shall weigh less than 122 grams.

(5) Nutrient content.

a. Protein content. The protein content shall be not less than 20.0 percent.

b. Fat content. The fat content shall be not greater than 28.0 percent.

c. Sodium content. The sodium content shall be not greater than 2000 mg per 100 grams.

(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 have no positive tubes in the standard three tube most probable number (MPN) technique.

D. Rehydrated product.

(1) Appearance.

a. General. The rehydrated spaghetti with meat sauce shall be a mixture of spaghetti or vermicelli and beef pieces in Italian style, tomato-based sauce with cheese. The overall appearance shall be characteristic of spaghetti and beef in tomato-based sauce that has been frozen and reheated. The rehydrated product shall be free from foreign materials.

b. Spaghetti or vermicelli. The spaghetti or vermicelli shall be enriched, macaroni product. The spaghetti or vermicelli shall be strands that readily separate. The cooked spaghetti or vermicelli shall be light tan to off-white color.

c. Beef. The cooked beef shall be pieces typically produced by a 3/8 inch machine setting and shall be medium brown color. The cooked beef shall be free of bone or bone fragment, skin, cartilage, coarse connective tissue, tendons or ligaments, and glandular material.

d. Sauce. The sauce shall be a mixture of tomato puree, tomato paste, and grated Parmesan cheese or a combination of grated Parmesan and Romano cheese. The sauce shall be reddish tan and may have flecks of herbs and spices.

(2) Odor and flavor.

a. General. The spaghetti with meat sauce shall have an odor and flavor characteristic of cooked spaghetti or vermicelli and beef in Italian style, tomato-based sauce.

b. Foreign. The rehydrated product shall be free from foreign odors and flavors.

(3) Texture.

- a. General. The product shall rehydrate within ten minutes.
- b. Spaghetti or vermicelli. The spaghetti or vermicelli shall be slightly soft to slightly firm.
- c. Beef. The beef shall be moist and tender.
- d. Sauce. The sauce shall be moderately thick and may have flecks of herbs and spices.

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

Spice and seasoning mix

<u>Ingredient</u>	<u>Percent by weight</u>
Cheese, Parmesan, grated	45.0
Salt	22.0
Onion powder	15.0
Garlic powder	14.0
Oregano, ground	1.2
Pepper, black, ground	1.0
Allspice, ground	1.0
Basil, ground	0.6
Bay leaves, ground	0.2

Product formulation.

Beef, raw, ground	45.0
Spaghetti (or vermicelli), dry	15.0
Tomato puree (10.2-15.0 % solids)	15.0
Tomato paste (24-28 % solids)	10.0
Water	10.0
Spice and seasoning mix	5.0

SECTION D

D-1 PACKAGING

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

D-2 LABELING

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

SECTION E INSPECTION AND ACCEPTANCE

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

E-6 QUALITY ASSURANCE PROVISIONS

Definitions.

(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 ANZI/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 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.

TABLE I. Product defects 1/ 2/ 3/ 4/

Category		Defect
<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>5/</u>
102		Dark colored core in any dimension. <u>5/</u>
	201	Spaghetti or vermicelli not light tan to off-white color or not characteristic of cooked, dehydrated spaghetti or vermicelli.
	202	Beef not medium brown color or not characteristic of cooked, dehydrated beef pieces.
	203	Tomato product not characteristic of cooked, dehydrated tomato puree and tomato paste.
		<u>Odor</u>
103		Not characteristic of cooked, dehydrated spaghetti or vermicelli and beef in Italian style, tomato-based sauce with cheese.

TABLE I. Product defects 1/ 2/ 3/ 4/ - Continued

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Texture</u>
104		Wet spots or soft spots. <u>6/</u>
		<u>Weight</u>
	205	Net weight of an individual pouch less than 122 grams.
		<u>Rehydrated product 9/10/</u>
		<u>Appearance</u>
105		Bone or bone fragment measuring more than 0.3 inch in any dimension.
106		Product not a mixture of spaghetti or vermicelli and beef in Italian style, tomato-based sauce with cheese.
	206	Total weight of skin, cartilage, coarse connective tissue, tendons or ligaments, and glandular meat more than 0.20 ounce.
	207	Spaghetti or vermicelli not separate strands or not light tan to off-white.
	208	Beef not medium brown color.

209 Sauce not reddish tan color or not a mixture of tomato puree, tomato paste, and grated Parmesan cheese or a combination of grated Parmesan and Romano cheese.

Odor and flavor

107 Odor or flavor not characteristic of frozen and reheated spaghetti and beef in Italian style, tomato based sauce with cheese.

Texture

108 Hard cores due to incomplete water penetration. 11/

210 Spaghetti or vermicelli not slightly soft to slightly firm.

211 Beef not moist or not tender.

212 Sauce not moderately thick.

1/ Presence of foreign material such as, but not limited to dirt, insect parts, hair, glass, wood or metal, or presence of foreign odor or flavor (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. Palatability is not applicable to dehydrated product.

3/ Enriched macaroni product shall be verified with the ingredients' statement on the pouch.

4/ Cheese type(s) shall be verified with the statement of ingredients on the label.

5/ Evidence of faulty dehydration.

6/ Evidence of incomplete dehydration.

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

10/ Machine setting requirement for beef pieces shall be verified with a producer's certificate of conformance.

11/ Dry areas attributable to gristle and similar materials in the meat 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.

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(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 that have been selected at random from the lot. The composited sample shall be prepared (see NOTE) and analyzed for protein content, fat content, and sodium content in accordance with the following methods of the Official Methods of Analysis of AOAC International:

<u>Test</u>	<u>Method Number(s)</u>
Protein	988.05, 991.20
Fat	925.12, 2008.06
Sodium	985.35, 984.27

Test results for protein and fat shall be reported to the nearest 0.1 percent. Test results for sodium content shall be reported to the nearest 1.0 mg per 100 grams. 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.

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

(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 926.08, 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 in accordance with the Official Methods of Analysis of the AOAC, method 966.23 or method 990.12, and E. coli in accordance with the Official Methods of Analysis of the AOAC, methods 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. 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

For DLA Troop Support Website Posting

RDNS-SEC-EM

12 August 2016

TO: Defense Logistics Agency (DLA) - Troop Support - Subsistence DSCP-FTRE

SUBJECT: ES16-037 (DSCP-SS-16-01015); Document change; United States Department of Agriculture (USDA) recommendation to add an additional Official Method of Analysis (OMA) of the Association of Official Analytical Chemists (AOAC) International Fat Test Method 2008.06 to fourteen individual and group ration documents.

1. Reference: Memo from RDNS-SEC-EM to DSCP-FTRE, dated 1 March 2016, SUBJECT: ES16-022 (DSCP-SS-16-00433); Document change; USDA Proposal to add an additional Official Method of Analysis (OMA) of the Association of Official Analytical Chemists (AOAC) International Fat Test Method 2008.06 to four bakery documents
2. Natick received an Engineering Support Case (ES Case) from DLA - Troop Support stating the USDA Laboratory has made a recommendation to add an additional method for fat testing, Official Method of Analysis (OMA) of the Association of Official Analytical Chemists (AOAC) International Fat Test Method 2008.06, to fourteen individual and group ration specifications.
3. In addition, Natick is deleting OMA of the AOAC fat test method number 985.15 from eight of the fourteen individual and group ration specifications. The Agriculture Marketing Service laboratory no longer performs test method 985.15 for fat as it requires a toxic solvent that is no longer used in the laboratory.
4. The fourteen specifications are listed below under each individual or group ration:
 - a. Meal, Cold Weather/Food Packet, Long Range Patrol (MCW/LRP):** PCR-B-015, Beef Stew, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; PCR-B-016, Beef Stroganoff with Noodles, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; PCR-C-025, Chicken and Rice, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; PCR-C-026, Chicken, Spicy Oriental with Rice, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; PCR-C-073, Chili Macaroni with Beef, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; PCR-E-001, Eggs, Scrambled, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; PCR-R-011, Rice and Chicken, Mexican Style, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; PCR-S-017, Seafood Chowder, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; PCR-S-008, Spaghetti with Meat Sauce, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; and PCR-T-002, Turkey Tetrazzini, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable.
 - b. Meal, Ready-to-Eat (MRE):** PCR-G-003A, Granola, Packaged in a Flexible Pouch, Shelf Stable.
 - c. Unitized Group Ration - Heat & Serve (UGR-H&S):** PCR-B-052, Beef and Potatoes in Cream Gravy, Packaged in a Polymeric Tray, Shelf Stable; and PCR-B-039A, Buffalo Style Chicken, Packaged in a Polymeric Tray, Shelf Stable.
 - d. Unitized Group Ration - Marine (UGR-M):** PCR-C-059, Chili Con Carne with Beans, Cooked, Dehydrated, Packaged in a No. 10 Can, Shelf Stable.

5. Natick Research Chemists reviewed this request and concur with USDA's recommendation to add AOAC of the OMA Fat Test Method 2008.06 as an additional fat test method to the fourteen subject documents.

6. Natick submits the following changes to subject documents for all current, pending, and future procurements until the document is formally amended or revised:

a. Meal, Cold Weather/Food Packet, Long Range Patrol (MCW/LRP):

- (1) In PCR-B-015, Beef Stew, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 6, Section E-6, Paragraph C(3), under column for Fat Test Method Number(s), after "925.12" insert ", 2008.06".
- (2) In PCR-B-016, Beef Stroganoff with Noodles, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 6, Section E-6, Paragraph C(3), under column for Fat Test Method Number(s), after "925.12" insert ", 2008.06".
- (3) In PCR-C-025, Chicken and Rice, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 6, Section E-6, Paragraph C(3), under column for Fat Test Method Number(s), after "925.12" insert ", 2008.06".
- (4) In PCR-C-026, Chicken, Spicy Oriental with Rice, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 6, Section E-6, Paragraph C(3), under column for Fat Test Method Number(s), after "925.12" insert ", 2008.06".
- (5) In PCR-C-073, Chili Macaroni with Beef, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 10, Section E-5, Paragraph B(3), under column for Fat Test Method Number, after "925.12 or" delete "985.15" insert "2008.06".
- (6) In PCR-E-001, Eggs, Scrambled, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 7, Section E-6, Paragraph C(3), under column for Fat Test Method Number, after "925.32" insert ", 2008.06".
- (7) In PCR-R-011, Rice and Chicken, Mexican Style, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 10, Section E-5, Paragraph B(3), under column for Fat Test Method Number, after "925.12," delete "985.15" insert "2008.06".
- (8) In PCR-S-017, Seafood Chowder, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 9, Section E-5, Paragraph B(3), under column for Fat Test Method Number, after "925.12," delete "985.15" insert "2008.06".
- (9) In PCR-S-008, Spaghetti with Meat Sauce, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 6, Section E-6, Paragraph C(3), under column for Fat Test Method Number(s), after "925.12" insert ", 2008.06".
- (10) In PCR-T-002, Turkey Tetrazzini, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable, on Page 6, Section E-6, Paragraph B(3), under column for Fat Test Method Number(s), after "925.12" insert ", 2008.06".

b. Meal, Ready-to-Eat (MRE):

- (1) In PCR-G-003A, Granola, Packaged in a Flexible Pouch, Shelf Stable, on Page 12, Section E-5, Paragraph B(3), under column for Fat Test Method Number, delete "985.15" insert "945.38, 960.39, 2008.06".

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c. Unitized Group Ration - Heat & Serve (UGR-H&S):

- (1) In PCR-B-052, Beef and Potatoes in Cream Gravy, Packaged in a Polymeric Tray, Shelf Stable, on Page10, Section E-5, Paragraph B(5), under column for Fat Test Method Number, delete "985.15" insert "991.36, 2008.06".
- (2) In PCR-B-039A, Buffalo Style Chicken, Packaged in a Polymeric Tray, Shelf Stable, on Page10, Section E-5, Paragraph B(5), under column for Fat Test Method Number, delete "985.15" insert "991.36, 2008.06".

d. Unitized Group Ration - Marine (UGR-M):

- (1) In PCR-C-059, Chili Con Carne with Beans, Cooked, Dehydrated, Packaged in a No. 10 Can, Shelf Stable, on Page 10, Section E-5, Paragraph B(7), under column for Fat Test Method Number, delete "985.15" insert "925.12, 991.36, 2008.06".

7. The following documents with Changes highlighted and dated 12 August 2016 are attached: **Meal, Cold Weather/Food Packet, Long Range Patrol (MCW/LRP):** Change 02, PCR-B-015, Beef Stew, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; Change 03, PCR-B-016, Beef Stroganoff with Noodles, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; Change 02, PCR-C-025, Chicken and Rice, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; Change 03, PCR-C-026, Chicken, Spicy Oriental with Rice, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; Change 01, PCR-C-073, Chili Macaroni with Beef, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; Change 06, PCR-E-001, Eggs, Scrambled, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; Change 01, PCR-R-011, Rice and Chicken, Mexican Style, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; Change 01, PCR-S-017, Seafood Chowder, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; Change 02, PCR-S-008, Spaghetti with Meat Sauce, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; and Change 03, PCR-T-002, Turkey Tetrazzini, Cooked, Dehydrated, Packaged in a Brickpack Pouch, Shelf Stable; **Meal, Ready-to-Eat (MRE):** Change 03, PCR-G-003A, Granola, Packaged in a Flexible Pouch, Shelf Stable; **Unitized Group Ration - Heat & Serve (UGR-H&S):** Change 02, PCR-B-052, Beef and Potatoes in Cream Gravy, Packaged in a Polymeric Tray, Shelf Stable; and Change 05, PCR-B-039A, Buffalo Style Chicken, Packaged in a Polymeric Tray, Shelf Stable; **and Unitized Group Ration - Marine (UGR-M):** Change 01, PCR-C-059, Chili Con Carne with Beans, Cooked, Dehydrated, Packaged in a No. 10 Can, Shelf Stable.