SECTION C

This document covers dehydrated uncooked pork loin patties, chunked and formed packaged in a No. 10 metal can for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PCR-P-051, PORK LOIN PATTIES, CHUNKED AND FORMED, SEASONED, DEHYDRATED, UNCOOKED, PACKAGED IN A No. 10 METAL CAN, SHELF STABLE

C-2 PERFORMANCE REQUIREMENTS

A. Product standard. A sample shall be subjected to first article (FA) or product demonstration model (PDM) inspection as applicable, in accordance with the tests and inspections of Section E of this Performance-based Contract Requirements (PCR) document. The approved sample shall serve as the product standard. Should the contractor at any time plan to or actually produce the product using different raw material or process methodologies from the approved product standard, which result in a product noncomparable to the product standard, the contractor shall submit a replacement FA or PDM for approval. In any event, all product produced must meet all requirements of this document including product standard comparability.

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

C. Dehydrated product.

(1) Pork loin patties. The finished product shall be chunked and formed, seasoned, dehydrated, uncooked pork loin patties. The product shall be fully dehydrated. Each individual No. 10 metal can shall contain not less than 20 intact pork loin patties that weigh approximately 1.0 ounce (± 0.2 ounce) each. The finished product shall be approximately circular in shape and not less than 3 inches (± 1/8 inch) in diameter and 3/4 inches (± 1/8 inch) thick. The dehydrated product shall have a pale pink to light tan natural pork color. The packaged food shall be free from foreign materials.

(2) Texture. The product shall not have wet or soft spots indicating incomplete dehydration.

(3) Net weight. The average net weight shall be not less than 16.6 ounces (470 grams). The net weight of an individual can shall be not less than 16.0 ounces (453 grams).

D. Rehydrated product.

(1) Appearance. The overall appearance shall be of rehydrated, uncooked pork loin patties. The pork loin patties shall remain intact after rehydration. The rehydrated product shall have a light tan, natural pork color. The rehydrated pork loin patties shall be practically free of bone or bone fragments. The packaged food shall be free from foreign materials.

(2) Odor. The rehydrated pork loin patties shall have an odor of mildly seasoned, uncooked pork. The packaged food shall be free from foreign odors.

(3) Texture. The product shall fully rehydrate within three minutes.

E. Rehydrated cooked product.

(1) Appearance. The rehydrated cooked pork loin patties shall have a light to medium tan, cooked pork color. The rehydrated cooked product shall be free from foreign materials.

(2) Odor and flavor. The rehydrated cooked pork loin patties shall have a cooked, mildly seasoned, browned pork odor and flavor. The rehydrated cooked pork loin patties shall be free from foreign odors and flavors.

(3) Texture. The rehydrated cooked pork loin patties shall be slightly firm, slightly tender to chewy, and may have a fibrous texture.

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

G. Analytical Requirements.

(1) Protein. The protein content shall be not less than 66.0 percent.

(2) Fat. The fat content shall be not less than 5.5 and not greater than 9.0 percent.

(3) Sodium. The sodium content shall be not less than 975 and not greater than 1475 mg per 100 grams.

(4) Moisture. The moisture content of the dehydrated product shall not exceed 3.0 percent.

(5) Oxygen. The oxygen content of the headspace gas in the metal can shall not exceed 2.0 percent.

H. Microbiological requirements.

(1) Aerobic plate count. The aerobic plate count shall be not greater than 75,000 Colony Forming Units (CFU) per gram in four of five samples and not greater than 150,000 CFU per gram in any individual sample.

(2) *Escherichia coli (E. coli)* count. *E. coli* shall have less than 10 Colony Forming Units (CFU) per gram or less than 3 Most Probable Number (MPN) per gram, where findings indicate zero colonies CFU per plate or zero tube producing gas for MPN.

(3) *Salmonella*. The *Salmonella* test shall be negative for each of five cans tested per production lot.

C-3 MISCELLANEOUS INFORMATION

THE FOLLOWING INGREDIENTS ARE FOR INFORMATION ONLY. THIS IS NOT A MANDATORY CONTRACT REQUIREMENT.

A. Ingredients. Ingredients may be as follows: Chunked and formed pork patty, (pork loin, less than 2 percent of the following: rice starch, sea salt, turbinado sugar, sodium carbonate, and natural flavor).

SECTION D

D-1 PACKAGING

A. Packaging. The dehydrated product shall be packaged in a No. 10 metal can with an oxygen scavenger so that the oxygen content of the gases in the filled and sealed container shall not exceed 2.0 percent when tested after 96 hours of packing. The filled and sealed can shall conform to the United States Standards for Condition of Food Containers. The can shall not leak when tested in accordance with E-5, B(7).

B. Oxygen scavenger. The oxygen scavenger shall be constructed of materials that are safe for direct food contact. The oxygen scavenger shall be in compliance with all applicable Food and Drug Administration (FDA) regulations.

D-2 LABELING

A. Metal cans. The metal cans shall be labeled in accordance with DLA Troop Support Form 2997, Labeling of Metal Cans for Subsistence. The following information shall be included on a label or printed directly on one end of the can:

(1) PORK LOIN PATTIES, SEASONED, DEHYDRATED, UNCOOKED
(2) Net weight
(3) Number of pieces
(4) Name and address of processor
(5) Date of packaging (day-month-year)
(6) Lot number (concurrent with dehydration load)
(7) Inspection legend
(8) Official establishment number
(9) Safe Handling Instructions
(10) Ingredients statement

(11) Directions for use:

Remove and discard oxygen scavenger packet(s). Rehydrate the pork loin patties as soon as can is opened by covering with lukewarm (90°-100°F) water, keep submerged. Soak for approximately 3 minutes or until all portions are soft, then drain excess water. If possible, cover and place patties in refrigerator overnight to equilibrate moisture.

Grill: Cook the rehydrated pork loin patties approximately 3 minutes 45 seconds per side on a griddle at 375°F until the internal temperature reaches 160°F minimum as measured by a food thermometer. Turn pork loin patties over at least twice during cooking.

Oven: Place the rehydrated pork loin patties on a baking pan and cook for 10 minutes at 350°F until the internal temperature reaches 160°F minimum as measured by a food thermometer.

NOTE: Use 1 pound of dehydrated product for 4 pounds uncooked pork loin patties.

Yield per No. 10 can: 20 portions of 1 patty each.

D-3 PACKING

A. Packing. Not more than 40 pounds of product shall be packed in a fiberboard shipping box constructed in accordance with style RSC of ASTM D5118/D5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The fiberboard shall conform to type CF, class D, variety SW, minimum burst grade 200 or ECT 32 of ASTM D4727/D4727M, Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes. Each box shall be closed in accordance with ASTM D1974/D1974M, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

D-4 UNITIZATION

A. Unit loads. Unit loads shall be as specified in accordance with DLA Troop Support Form 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items.

D-5 MARKING

A. Shipping containers and unit loads. Shipping containers and unit loads shall be marked in accordance with DLA Troop Support Form 3556, Marking Instructions for Boxes, Sacks, and Unit Loads of Perishable and Semiperishable Subsistence.

SECTION E INSPECTION AND ACCEPTANCE

The following quality assurance criteria, utilizing ANSI/ASQ Z1.4, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, single sampling plans indicated in ANSI/ASQ Z1.4 will be utilized. When required, the manufacturer shall provide the Certificate(s) of Conformance to the appropriate inspection activity. Certificate(s) of Conformance not provided shall be cause for rejection of the lot.

A. 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.

B. 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 document and evaluated for appearance, odor, flavor, and texture. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection of the lot.

(2) Periodic review evaluation. The approved first article or product demonstration model shall be used as the product standard for periodic review evaluations. All food components that are inspected by the USDA shall be subject to periodic review sampling and evaluation. The USDA shall select sample units during production of contracts and submit them to the following address for evaluation:

COMBAT CAPABILITIES DEVELOPMENT COMMAND (DEVCOM) SOLDIER CENTER
FCDD-SCC-EMR
10 GENERAL GREENE AVENUE
NATICK, MA 01760-5000

One lot shall be randomly selected during each calendar month of production or as otherwise specified in the contract. Two (2) sample units shall be randomly selected from that one production lot. The two (2) sample units shall be shipped to Natick within five (5) working days from the end of the production month from which they are randomly selected and upon completion of all USDA inspection requirements. The sample units will be evaluated for overall quality against the current first article or product demonstration model.

(3) Conformance inspection. Conformance inspection shall include the examinations/tests and methods of inspection cited in this section.

E-5 QUALITY ASSURANCE PROVISIONS (PRODUCT)

A. 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. The lot size shall be expressed in cans. The sample unit shall be the contents of one can. 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 6.5 for minor defects. Defects and defect classifications are listed in table I.

TABLE I. Product defects 1/ 2/

Category		Defect
Major	Minor	
		Dehydrated product
101		Product not chunked and formed or not seasoned or not dehydrated or not uncooked pork loin patties. 3/
102		No. 10 metal can does not contain intact oxygen scavenger(s). 4/
103		Tear or hole or open seal in oxygen scavenger.

TABLE I. Product defects 1/ 2/ - Continued

Category		Defect
Major	Minor	
104		Product not fully dehydrated. 5/
105		Less than 20 intact pork loin patties per individual No. 10 metal can. 6/
	201	Finished product not dimensions as specified. 7/
	202	Product not a pale pink to light tan or not a natural pork color.
		Texture
106		Product has wet or soft spots indicating incomplete dehydration.
		Net weight
	203	Net weight of an individual can less than 16.0 ounces (453 grams). 8/
		Rehydrated product 9/
107		Overall appearance not rehydrated or not uncooked pork loin patties.
108		Product does not remain intact after rehydration. 10/
109		Bone or bone fragment measuring more than 0.3 inch in any dimension.
110		Product does not have the odor of mildly seasoned, or not an uncooked pork odor.
	204	Product not a light tan or not a natural pork color.
		Rehydrated and cooked product 11/
111		Product not a light to medium tan or not a cooked pork color.
112		Product not a cooked or not a mildly seasoned or not a browned pork odor and flavor.
	205	Product not slightly firm or not slightly tender to chewy texture.

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

3/ Requirement that pork loin patties shall be produced from USDA certified NAMI Item No. 413, Pork Loin, Whole, Boneless, shall be verified by a Certificate of Conformance (CoC).

4/ Construction of the oxygen scavenger and compliance with FDA regulations will be verified by CoC.

5/ Presence of dark colored cores or a glazed surface area more than 0.5 inch any dimension.

6/ Not intact is defined as more than two dehydrated pork loin patties in an individual can broken into two or more pieces.

7/ Verification that the dehydrated, uncooked pork loin patties meet the size requirements of 3 inches (± 1/8 inch) in diameter and 3/4 inches (± 1/8 inch) in thickness inch shall be verified by USDA on the first production lot of a contract cycle or in the case a new pork supplier is obtained. A CoC for the size requirements of diameter and thickness shall be provided on all future lots produced using the same pork supplier.

8/ Sample average net weight less than 16.6 ounces (470 grams) shall be cause for rejection of the lot.

9/ Prior to conducting the rehydrated product examination, the product shall be reconstituted per can instructions. Product that does not rehydrate within three minutes shall be cause for rejection of the lot. Rehydrate in lukewarm water at a temperature of 90° to 100°F for 3 minutes.

10/ Verification that the pork loin patties remain intact after rehydration shall be verified by by visual examination.

11/ When the product is rehydrated in lukewarm water at a temperature of 90° to 100°F for 3 minutes, drained, and grilled for 3 minutes 45 seconds per side on a 375°F griddle and internal temperature reaches 160° minimum as measured by a food thermometer, the resulting product shall meet the requirements in section C-2,E(1), (2), and (3).

B. Methods of inspection.

(1) Shelf life. The contractor shall provide a Certificate of Conformance that the product has a 36 month 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 quality scale to be considered acceptable.

(2) Net weight. The net weight of the filled and sealed can shall be determined by weighing each sample unit on a suitable scale tared with a representative empty can, lid and appropriate number of oxygen scavengers. Results shall be reported to the nearest 0.1 ounce or to the nearest 1 gram.

(3) Analytical. The sample to be analyzed shall be a one-pound composite of three filled and sealed cans that have been selected at random from one production lot. The composite sample shall be prepared and analyzed in accordance with the following methods of the Official Methods of Analysis (OMA) of AOAC International:

Test	Method Number
Protein	992.15, or 2007.04
Fat	991.36, 2007.04, or 2008.06
Sodium	985.35, 984.27, 2011.14, or 2011.19

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. Government verification will be conducted through actual testing by a Government laboratory. Any result not conforming to the analytical requirement shall be cause for rejection of the lot.

(4) Moisture testing. The sample to be analyzed shall be a one-pound composite of three filled and sealed cans that have been selected at random from one production lot. The composite sample shall be tested for moisture content in accordance with the Official Methods of Analysis (OMA) of AOAC International 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), method 2007.04 or 2008.06 are also acceptable indirect methods. Test results shall be reported to the nearest 0.1 percent. Government verification will be conducted through actual testing by a Government laboratory. 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) Oxygen content in the headspace gas examination. The oxygen test shall be performed within 96 hours of packaging. The determination of the oxygen content in the

headspace gas shall be by using an electronic oxygen analyzer which operates on the principle of the difference in partial pressure of oxygen between the oxygen reference and the oxygen content of the sample as detected by a porous zirconia sensor, such as the Illinois Instrument Analyzer or its equivalent, or on the principle of paramagnetic resonance such as the Servomex analyzer, or its equivalent. The oxygen analyzer shall be calibrated to a known standard prior to testing the headspace gas of the product. Any result not conforming to the oxygen in headspace requirement in C-2, G(5) shall be classified as a major defect. The lot size shall be expressed in units of cans. The sample unit shall be one filled and sealed can. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 1.5. Test results shall be reported to the nearest 0.1 percent.

(6) Microbiological testing. Five filled and sealed cans shall be selected at random from the lot regardless of lot size. The product shall be individually tested for microbiological levels in accordance with the Official Methods of Analysis (OMA) of AOAC International or the Food and Drug Administration (FDA) Bacteriological Analytical Manual (BAM). Government verification will be conducted through actual testing by a Government laboratory. 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.

Test	Method Number
Aerobic Plate Count	966.23, 990.12, or BAM, Ch. 3
E. coli	966.24, 991.14, 992.30, or BAM, Ch. 4
Salmonella	967.26, 967.28, 986.35, 991.13, 2003.09, 2004.03, 2013.09, or BAM Ch. 5

(7) Can leakage examination. Cans shall be inspected for leakage. The sample unit shall be one filled and sealed can. The lot size shall be expressed in cans. The sealed cans shall be examined for leakage by submerging the can in water contained in a vacuum desicator, Mead Tester, or equivalent device, and drawing a vacuum of 10 inches of mercury (atmospheric pressure 29.9 inches of Hg) for at least 30 seconds. A leak is indicted by a steady progression of bubbles and is a major defect. Isolated bubbles caused by air entrapped in the double seam are not considered signs of leakage. The inspection level shall be S-2 and the AQL, expressed as defects per hundred units, shall be 1.5.

E-6 QUALITY ASSURANCE PROVISIONS (PACKAGING AND PACKING MATERIALS, No. 10 METAL CAN)

A. Packaging.

(1) Can condition examination. Examination of filled and sealed cans shall be in accordance with the United States Standards for Condition of Food Containers. In addition,

scratches, scuffs or abrasions that occur on the outside coating as a result of the filling, sealing, and processing of the cans shall not be scored as a defect.

(2) Can closure examination. Can closures shall be examined visually and by teardowns in accordance with the can manufacturer's requirement and 21 CFR, Part 113, Subpart D, or 9 CFR, Part 318, Subpart G, as applicable. Any nonconformance based on observation of can seam teardowns or on record of can seam teardowns shall be classified as a major defect and shall be cause for rejection of any involved product.

B. Labeling.

(1) Can labeling examination. The can labeling shall be examined in accordance with the requirements of DLA Troop Support Form 2997, Labeling of Metal Cans for Subsistence. Any nonconformance shall be classified as a major defect.

C. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table II. 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.

TABLE II. Shipping container and marking defects

Category		Defect
Major	Minor	
101		Marking missing or incorrect or illegible.
102		Inadequate workmanship. 1/
	201	More than 40 pounds of product.

1/ Inadequate workmanship is defined as, but not limited to, incomplete closure of container flaps, loose strapping, inadequate stapling, improper taping, or bulged or distorted container.

D. Unitization.

(1) Unit load examination. The unit load shall be examined in accordance with the requirements of DLA Troop Support Form 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items. Any nonconformance shall be classified as a major defect.

SECTION J REFERENCE DOCUMENTS

Unless otherwise specified, the applicable version of these documents is that which is active on the date of the solicitation or contract.

DLA Troop Support Forms

Form 2997	Labeling of Metal Cans for Subsistence
Form 3507	Loads, Unit: Preparation for Semiperishable Subsistence Items
Form 3556	Marking Instructions for Boxes, Sacks, and Unit Loads of Perishable and Semiperishable Subsistence

GOVERNMENT PUBLICATIONS

Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder (21 CFR Parts 1-199) and (9 CFR Parts 1-391)

U.S. Standards for Condition of Food Containers

FOOD AND DRUG ADMINISTRATION	Bacteriological Analytical Manual (BAM) http://www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalManualBAM/default.htm

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ) www.asq.org

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

AOAC INTERNATIONAL www.aoac.org

Official Methods of Analysis (OMA) of AOAC International

ASTM INTERNATIONAL www.astm.org

D1974/D1974M	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes

D4727/D4727M	Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes
D5118/D5118M	Standard Practice for Fabrication of Fiberboard Shipping Boxes

NORTH AMERICAN MEAT INSTITUTE (NAMI) www.meatinstitute.org

Meat Buyers Guide