

INCH-POUND

MIL-DTL-32223

31 October 2006

W/CHANGE 11 25 March 2011

DETAIL SPECIFICATION

SANDWICH, BREAKFAST, SHELF STABLE, FOR OPERATIONAL RATIONS

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers a shelf stable breakfast sandwich in a flexible pouch intended for use by the Department of Defense as a component of operational rations.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

Comments, suggestions, or questions on this document should be addressed to US Army Research, Development and Engineering Command, Natick Soldier Center, AMSRD-NSC-CF-F, 15 Kansas St., Natick, MA 01760-5018 or emailed to Raymond.Valvano@natick.army.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil/>.

AMSC N/A

FSC 8940

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. None.

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

U.S. DEPARTMENT OF AGRICULTURE (USDA)

Meat and Poultry Inspection Regulations promulgated thereunder (9 CFR Parts 300-599)

(Copies of these documents are available online at www.usda.gov or from the Superintendent of Documents, ATTN: New Orders, P.O. Box 371954, Pittsburgh, PA 15250-7954.)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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

(Copies of this document are available online at www.gpoaccess.gov/nara or from the Superintendent of Documents, ATTN: New Orders, P.O. Box 371954, Pittsburgh, PA 15250-7954.)

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

National Primary Drinking Water Regulations

(Copies of this document are available online at www.epa.gov or from the Office of Drinking Water, Environmental Protection Agency, WH550D, 401 M Street, SW, Washington, DC 20460.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

AOAC INTERNATIONAL

Official Methods of Analysis (OMA) of the AOAC International

(Copies of this document are available from www.aoac.org or AOAC International, 481 North Frederick Avenue, Suite 500, Gaithersburg, MD 20877.)

AMERICAN ASSOCIATION OF CEREAL CHEMISTS (AACC)

Approved Methods of the American Association of Cereal Chemists

(Copies of this document are available from www.aaccnet.org or American Association of Cereal Chemists, 3340 Pilot Knob Road, St. Paul, MN 55121.)

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/ASQ Z1.4 Sampling Procedures and Tables for Inspection by Attributes

(Copies of this document are available from www.asq.org or ASQ, 600 North Plankinton Ave., Milwaukee, WI 53203.)

NATIONAL ACADEMY OF SCIENCES

Food Chemicals Codex

(Copies of this document are available from www.nap.edu or National Academy Press, 2101 Constitution Avenue, N.W. Washington, DC 20418.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Product standard. When specified (see 6.1), a sample shall be subjected to first article (FA) or product demonstration model (PDM) inspection as applicable, in accordance with 4.2. 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 non comparable to the product standard, the contractor shall arrange for a new or alternate FA or PDM approval. In any event, all product produced must meet all requirements of this document including product standard comparability.

3.2 Ingredients. All ingredients shall be clean, sound, wholesome, and free from foreign material, evidence of rodent or insect infestation, extraneous material, off-flavors, off-odors, and off-colors. All ingredients shall meet and be in accordance with good commercial manufacturing practices.

3.2.1 Flour. The flour shall be matured, bleached, enriched, hard wheat flour, which will produce a product in compliance with 3.5. Alternatively, unenriched flour may be used provided the equivalent enrichments required in the Code of Federal Regulations (CFR) for Standard of Identity for Enriched Flour (21 CFR, Part 137.165) are added at the time of production of the finished product. The flour used for preparation of the dough shall have a protein content of not less than 12.5 percent. Amylolytic enzyme activity, as determined by the “falling number” method shall not be less than 225. Flour not meeting protein requirements but otherwise in compliance may be supplemented with vital wheat gluten to the required protein level.

3.2.2 Water. Water used for formulation and washing shall conform to the National Primary Drinking Water Regulations.

3.2.3 Pre-cooked bacon. Bacon shall be sliced, skinless, fully cooked. The maximum fat content of the precooked bacon shall not be more than 45 percent. The maximum sodium content shall be not more than 2000 mg/100g. The cooked bacon shall have a water activity and not more than 0.88. The sliced bacon shall comply with all applicable Federal and State mandatory requirements and regulations relating to the preparation, packaging, labeling, storage, distribution, and sales of the precooked, sliced bacon within the commercial marketplace. Delivered precooked, sliced bacon shall comply with all applicable provisions of the Federal Food, Drug, and Cosmetic Act and regulations promulgated there under.

3.2.4 Cheddar flakes. Cheddar flakes shall be a yellow orange color with a salty mildly sharp cheddar flavor and creamy texture. A flake size of 0.4 by 0.4 by 0.1 inches (10 by 10 by 2.5 mm) has been shown to disperse in the dough to meet end item requirements. (see 6.2.2).

3.2.5 Shortening. The shortening shall be refined, hydrogenated vegetable oil or a combination of refined, hydrogenated vegetable oils which are commonly used by the baking industry and shall have a stability of not less than 100 hours as determined by the active oxygen method (AOM) or a free fatty acid content of less than or equal to 0.04. Shortening used for greasing dough trough, dough pieces, or baking molds shall conform to the above requirements.

3.2.6 Glycerol. The glycerol shall comply with the Food Chemicals Codex.

3.2.7 Yeast. Yeast shall be active dry baker’s yeast. Compressed yeast shall not be used.

3.2.8 Salt. Salt shall be iodized, white, refined sodium chloride with or without anti-caking agents.

3.2.9 Emulsifier. The emulsifier shall be sucrose fatty acid esters complying with the 21 CFR, Part 172.859 and shall be limited to sucrose ester stearate having an Hydrophilic-Lipophilic Balance (HLB) number of approximately 16 (see 6.2.3).

3.2.10 Gum arabic. Gum arabic shall comply with the Food Chemicals Codex and shall have been produced from a solution of gum arabic which has been spray dried.

3.2.11 Calcium sulfate. The calcium sulfate shall comply with the Food Chemicals Codex.

3.2.12 Xanthan gum. Xanthan gum shall comply with the Food Chemicals Codex.

3.2.13 Butter flavor. The butter flavor shall be sprayed dried butter flavor (see 6.2.4).

3.2.14 Glucono-delta lactone, encapsulated. Encapsulated glucono-delta-lactone shall comply with the Food Chemicals Codex. The encapsulated glucono-delta-lactone shall consist of 70 ± 2 percent glucono-delta-lactone and 30 ± 2 percent vegetable oil. The vegetable oil shall have a melting point of 141°F to 147°F (60° C to 64°C) (see 6.2.5).

3.2.15 Sorbic acid, encapsulated. Encapsulated sorbic acid shall comply with the Food Chemicals Codex. The encapsulated sorbic acid shall consist of 70 ± 2 percent sorbic acid and 30 ± 2 percent vegetable oil. The vegetable oil shall have a melting point of 141°F to 147°F (61°C to 64°C). (see 6.2.6)”

3.2.17 Vital wheat gluten. Vital wheat gluten shall be a cream to tan colored powder produced from wheat flour by drying freshly washed gluten under temperatures sufficiently low to preserve the vital characteristics of gluten. Vital wheat gluten shall have a protein content (N x 5.7) of not less than 71.0 percent and a moisture content of not more than 6.5 percent.

3.2.18 Oxidizer/conditioner/mix reducer. The Oxidizer/conditioner/mix reducer shall be Improve 200 or equal complying with the Food Chemicals Codex (see 6.2.8).

3.3 Preparation and processing.

3.3.1 Preparation of bread.

3.3.1.1 Preparation of bread. The bread shall be formulated from the following ingredients in the proportions specified:

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<u>Ingredient</u>	<u>Percent by weight</u>
Flour, bread <u>1/</u>	47.92
Water <u>1/</u>	26.6
Cheddar flakes	7.5
Glycerol	6.0
Shortening	5.6
Yeast (instant dry) <u>1/</u>	2.0
Salt	1.1
Sucrose ester	1.0
Oxidizer/conditioner/mix reducer	0.5
Gum arabic	0.5
Butter flavor	0.4
Glucono delta lactone, encapsulated	0.28
Calcium sulfate	0.25
Xanthan gum	0.25
Sorbic acid, encapsulated	0.10

1/ The percent by weight of flour, water, and yeast may be adjusted, if necessary, to compensate for in-plant processing equipment, humidity and temperature conditions.

3.3.1.2 Preparation of dough. The bread shall be manufactured by the straight dough method or any other method yielding an equivalent product. Commonly used dough improvers, yeast foods or dough relaxers are permitted. The sucrose ester emulsifier shall be dry blended with the flour. All ingredients except the cheddar flakes shall then be combined and sufficiently mixed to develop the dough. The cheddar flakes shall be incorporated at the dough stage as a last ingredient, after mixing is completed. The dough shall relax for 15 minutes before sheeting.

3.3.2 Preparation of sandwich.

3.3.2.1 Sheeting and filling sandwich. The proofed dough shall be sheeted into pieces of sufficient weight and filled with bacon to ensure compliance with finished product net weight requirements. The co-extrusion method may be used as long as all finished product requirements are met.

3.3.2.2 Forming sandwiches. The bacon weight shall be a minimum 0.6 ounces (17 grams). The formed product made with a dough weight of 2.7 ounces (76.5 grams) and bacon weight of 0.6 ounces (17 grams) and a final product weight of 3.4 ounces (96.4 grams) prior to proofing and baking have been shown to meet end item requirement weights.

3.3.2.3 Docking. The formed sandwiches shall be docked prior to proofing.

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3.3.2.4 Proofing. The formed sandwiches shall be proofed at 90°F to 100°F (32°C to 38°C) and 86 to 90 percent relative humidity (RH) for 50 to 60 minutes. Fluctuations due to opening and closing of proof box doors are acceptable as long as end item requirements are met.

3.3.2.5 Baking. The proofed product shall be fully baked to a minimum internal temperature of 185°F (85°C) and until the exterior is a uniform medium golden brown bread crust color with golden cheddar pieces distributed uniformly throughout the bread.

3.4 Packaging methods. Continuous method shall be used. One unit of sandwich and one oxygen scavenger shall be placed into the pouch. The internal temperature of the sandwich shall be not less than 80°F (27°C) or greater than 135°F (57°C).

3.4.1 Oxygen scavenger. The oxygen scavenger shall be FDA approved as suitable for use with food. The oxygen scavenger shall be resistant to the migration of oil, moisture and scavenger components (see 6.3).

3.5 Finished product requirements. The finished product shall comply with the following requirements:

- a. There shall be no foreign materials such as, but not limited to dirt, insect parts, hair, wood, glass, metal or mold.
- b. There shall be no foreign odors or flavors such as, but no limited to burnt, scorched, moldy, rancid, sour or stale.
- c. There shall be no color foreign to the product.
- d. No individual pouch shall contain less than 3.1 ounces (88 grams).
- e. Each pouch shall contain one intact shelf stable breakfast sandwich and one intact oxygen scavenger.
- f. The water activity for any individual pouch shall not be greater than 0.88 when measured at 77°F (25°C). The mean water activity of the individual pouches shall not be less than 0.83 when measured at 77°F (25°C).
- g. The oxygen content of the filled and sealed pouches shall not exceed 0.30 percent after 48 hours from time of sealing.
- h. The pH shall not exceed 5.4.
- i. The texture of the bread shall not be excessively dry, crumbly or gummy. The texture of the bread shall be soft and have a uniform cell structure.

- j. The crust color shall be uniform medium golden brown with golden cheddar pieces, distributed uniformly throughout. There shall be no evidence of compression streaks or excessive dusting of flour on the crust.
- k. The crumb shall be white to off white with golden cheddar pieces distributed uniformly throughout.
- l. Bacon shall be fully enrobed in bread.
- m. The bacon shall be moist and slightly chewy.
- n. The bacon shall be a reddish brown, cured meat color.
- o. The bacon shall have a cured, smoky flavor.
- p. The sandwich bread shall have slight yeast, cheddar cheese and a slight smoked, cured odor and flavor.

3.5.1 Overall appearance and palatability. The finished product shall be equal to or better than the approved product standard sample (see 6.1) in palatability and overall appearance.

3.6 Hazard Analysis Critical Control Point (HACCP) Plan. Prior to the first production, the contractor shall provide a written HACCP plan that is specific to each product type produced. The plan will include a process flow diagram, identification of critical control points and critical limits, as well as specific monitoring procedures, corrective actions, documentation and verification procedures. The following are considered by the product developer to be critical control points: pH, water activity (Aw), baking time and temperature, oxygen content of the end-packaged product. If any of these are not addressed in the producers HACCP plan, they will be established and documented as manufacturing process controls in their quality system plan. Other critical control points specific to the manufacturers processes will also be included. Specification limits shall not be used as critical limits for the HACCP plan. When calculating critical limits for analytical requirements, the contractor shall provide sufficient tolerance to account for the variation inherent to their process. The HACCP plan must be submitted to the applicable government inspection agency for approval, and must be approved prior to production of any product offered for acceptance. Contractors may be required to provide records of process capabilities study or related production evaluation to validate critical limits.

3.7 Plant qualifications. The meat component and the finished product shall originate and be produced, processed, and stored in plants regularly operating under Meat and Poultry Inspection Regulations of the U.S. Department of Agriculture. The product shall be prepared, processed and packaged in establishments meeting the requirements of 21 CFR, Part 110, "Current Good

Manufacturing Practice in Manufacturing, Packaging, or Holding of Human Food,” and the plant sanitation requirements of the appropriate government inspection agency.

3.8 Federal Food, Drug, and Cosmetic Act. All deliveries shall conform in every respect to the provisions of the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder.

4. VERIFICATION

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

- a. Product standard inspection (see 4.2).
- b. Conformance inspection (see 4.3).

4.2 Product standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this specification and evaluated for overall appearance and palatability. Any failure to conform to the requirements or any appearance or palatability failure shall be cause for rejection of the lot. The approved product standard shall be used 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:

US Army Research, Development, and Engineering Command
Natick Soldier Center
AMSRD-NSC-CF-F
15 Kansas Street
Natick, MA 01760-5018

One lot shall be randomly selected during each calendar month of production. Six (6) sample units of each item produced shall be randomly selected from that one production lot. The six (6) sample units shall be shipped to Natick within five working days from the end of the production month and upon completion of all USDA inspection requirements. The sample units will be evaluated for the characteristics of appearance, odor, flavor, texture, and overall quality.

4.2.1 Product examination. The filled and sealed pouches shall be conditioned to 70°F to 80°F (21°C to 27°C) and examined for the defects listed in table I. The lot size shall be expressed pouches. The sample unit shall be the contents of one pouch. Utilizing the double sampling plans indicated in ANSI/ASQ Z1.4, 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.

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

Category		Defect
<u>Major</u>	<u>Minor</u>	
101		Product not breakfast sandwich.
102		Pouch does not contain one intact breakfast sandwich or does not contain one intact oxygen scavenger.
103		Crumb not white to off white color or not with golden cheddar pieces distributed uniformly.
104		Evidence of compression streaks.
105		Tear or hole or open seal in oxygen scavenger packet.
	201	Crust color not uniform or not medium golden brown or without golden cheddar pieces.
	202	Excessive dusting of flour on crust.
	203	Bacon not fully enrobed in bread.
	204	Bacon not reddish brown, cured meat color
106		Bread texture excessively dry or crumbly or gummy.
107		Bread texture not soft or not a uniform cell structure.
	205	Bacon not moist or not slightly chewy.
108		Bacon does not have a cured, smoky flavor.
109		Sandwich bread does not have slight yeast, or cheddar cheese or a slight smoked, cured odor or flavor.
	206	Net weight of an individual pouch less than 3.1 ounces (88 grams). <u>4/</u>

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

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 (see 3.5.1).

3/ The bacon requirement shall be verified by Certificate of Analysis (CoA).

4/ The net weight of the filled and sealed pouches shall be determined by weighing each sample on a suitable scale tared with a representative empty pouch and one oxygen scavenger pouch. Results shall be reported to the nearest 0.1 ounce or to the nearest one gram.

4.3 Conformance inspection. Conformance inspection shall include the examinations of 4.2.1, 4.3.1, 4.3.2, and the tests of 4.4.1 through 4.4.3.

4.3.1 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.3.2 Ingredient and component examination. Conformance of ingredients and components to identity, condition, and other requirements specified in 3.2 shall be certified by the ingredient supplier or ingredient manufacturer, and compliance shall be verified by examination of pertinent labels, markings, US Grade Certificates, certificates of analyses, or other such valid documents acceptable to the inspection agency. If necessary, each ingredient shall be examined organoleptically or inspected according to generally recognized test methods such as the standard methods described in the Official Methods of Analysis (OMA) of the Association of Official Analytical Chemists and in the Approved Methods of the American Association of Cereal Chemists, to determine conformance to the requirements. Any nonconformance to an identity, condition, or other requirement shall be cause for rejection of the ingredient or component lot or of any involved product.

4.4 Tests.

4.4.1 Water activity (Aw) testing. Eight filled and sealed pouches shall be selected at random from the lot regardless of lot size. Water activity shall be determined not less than 4 days but not more than 14 days after baking to allow moisture equilibration in the product. The pouched product shall be individually tested for Aw in accordance with the Official Methods of Analysis (OMA) of the AOAC method 978.18, using an electric hygrometer system self temperature controlled at 77°F (25°C) or an equivalent instrument. Each individual sample unit shall be ground prior to Aw analysis. The results of each Aw determination shall be reported to the nearest 0.01. Any test result not conforming to the Aw requirement in 3.5 shall be classified as a critical defect and the lot shall be rejected.

4.4.2 Oxygen content testing. Eight filled and sealed pouches shall be randomly selected from one production lot and individually tested for oxygen content. Testing shall be accomplished after the filled and sealed pouches have been allowed to equilibrate at room temperature for not less than 48 hours from the time of sealing. Test results shall be reported to the nearest 0.01

percent. Any test result not conforming to the oxygen content requirement in 3.5 shall be classified as a major defect and shall be cause for rejection of the lot.

4.4.3 Analytical. 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 composite sample shall be prepared and analyzed in accordance with the following Official Methods of Analysis (OMA) of AOAC International.

<u>Test</u>	<u>Method Number</u>
pH	981.12

The sample shall be ground. Weigh 100 g of sample into a beaker and add 100 mL of CO₂ free water. Mix well with a stirring rod. Let sample rest for 15 – 30 minutes and measure the pH. Test results of pH value shall be reported to the nearest 0.1. Verification will be conducted through actual testing by a Government laboratory. Any result not conforming to the pH requirement in 3.5 shall be cause for rejection of the lot.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.1). When actual packaging of material is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. When other than first article or product demonstration model is required (see 3.1).
- c. Provisions for approved product standard samples (see 3.5.1).
- d. Packaging requirements (see 5.1).

6.2 Ingredient information.

6.2.2 Cheddar flakes. SensoryEffects Somerset cheddar – 12421 regular flakes manufactured by Loders Croklaan, Channahon, IL, 60410-5249 meets the requirements of 3.2.4 and performs satisfactorily in this product.

6.2.3 Emulsifier. Sucrose fatty acid ester S-1670, supplied by Mitsubishi International Corporation, 520 Madison Avenue, New York, NY 10022 meets the requirements of 3.2.9 and performs satisfactorily in this product.

6.2.4 Butter flavor. Butter flavor 411369 manufactured by Edlong, Elk Grove Village, IL 60007 meets the requirements of 3.2.13 and performs satisfactorily in this product.

6.2.5 Glucono-delta-lactone, encapsulated. Encapsulated Glucon-delta-lactone manufactured by Balchem Corporation, Slate Hill, NY 10973 meets the requirements of 3.2.14 and performs satisfactorily in this product.

6.2.6 Sorbic acid, encapsulated. Encapsulated sorbic acid manufactured by Balchem Corporation, Slate Hill, NY 10973 meets the requirements of 3.2.15 and performs satisfactorily in this product.

6.2.8 Oxidizer/conditioner/mix reducer. Im-Prove 200 manufactured by CARAVAN, Totowa, NJ 07512, meets the requirements of 3.2.18 and performs satisfactorily in this product.

6.3 Oxygen scavenger. Oxygen scavenger suitable for the purpose may be obtained from the Multiform Desiccants, Inc., Buffalo, NY 14224. Other approved oxygen scavengers may be used.

6.4 Hazard Analysis Critical Control Point Model. Natick Soldier Center - Combat Feeding Directorate has developed a generic Hazard Analysis Critical Control Point (HACCP) Model for Shelf Stable Breakfast Sandwiches in order to provide a framework that manufacturers may find helpful as they develop their own plant-process-product specific HACCP plan. Copies of this generic model can be obtained at the following address:

US Army Research, Development and Engineering Command
Natick Soldier Center
AMSRD-NSC-CF-F
15 Kansas Street
Natick, MA 01760-5018

6.5 Shelf life. This specification covers items where shelf life is a consideration. Specific shelf-life requirements should be specified in the contract or purchase order. The shelf-life codes are contained in the Federal Logistics Information System Total Item Record. Additive information for shelf-life management may be obtained from DoD 4140.27-M; Shelf-life Management Manual, or the designated shelf-life Points of Contact (POC). The POC should be

contacted in the following order: (1) the Inventory Control Points (ICPs), and (2) the DoD Service and Agency administrators for the DoD Shelf-Life Program. Appropriate POCs for the DoD Shelf-Life Program can be contacted through the DoD Shelf-Life Management website: <http://www.shelflife.hq.dla.mil/>.

6.6 Subject term (key word) listing.

Combat field feeding
Bread

Custodians:

Army - GL
Navy – SA
Air Force - 35

Preparing activity:

Army - GL
(Project 8940-2005-003)

Review activities:

Army - MD, QM
Navy - MC
DLA – SS

Civil agency:

USDA-FV

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil/>.

For DLA Website Posting

RDNS-CFF

25 March 2011

TO: DLA Troop Support- Subsistence DSCP-FTSA

SUBJECT: ES11-062; Document Changes, MIL-DTL-32141 Sandwich, Shelf Stable, For Operational Rations; MIL-DTL-32223 Sandwich, Breakfast, Shelf Stable, For Operational Rations; Add steps to pH test procedure

1. Natick has been in discussions with United States Department of Agriculture (USDA) laboratory regarding the current pH testing methods for shelf stable sandwiches. The USDA lab manager informed Natick that a vendor visited their facility to cover this issue. Based on the meeting, additional informational steps need to be included in the subject document in order to ensure both manufacturer and the USDA are using the same procedures when testing pH.
2. Natick recommends the following document change be incorporated into both subject documents for all current, pending and future procurements until the documents are formally amended or revised.

In 4.4.3 Analytical, Before “Test results...0.1.” insert the following:

“The sample shall be ground. Weigh 100 g of sample into a beaker and add 100 mL of CO₂ free water. Mix well with a stirring rod. Let sample rest for 15 – 30 minutes and measure the pH.”

3. Attached are Change 10, MIL-DTL-32141 Sandwich, Shelf Stable for Operational Rations, dated 25 March 2011 with changes highlighted and Change 11, MIL-DTL-32223 Sandwich, Breakfast Shelf Stable for Operational Rations, dated 25 March 2011 with changes highlighted.