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TITLE 3—THE PRESIDENT

EXECUTIVE ORDER 10052

ENLARGING NAVAL PETROLEUM RESERVE NO. 1; REVOKING IN PART PUBLIC LAND ORDER NO. 460 OF APRIL 1, 1948

CALIFORNIA

By virtue of the authority vested in me as President of the United States, and in effectuation of the purposes of the act of June 17, 1944, 58 Stat. 280 (34 U. S. C. 524), relating to the conservation, care, custody, protection, and operation of the naval petroleum and oil shale reserves, it is ordered as follows:

SECTION 1. The exterior boundaries of Naval Petroleum Reserve No. 1 are hereby extended to include the following-described public lands and private lands in Kern County, California:

MOUNT DIABLO MERIDIAN

T. 30 S., R. 22 E.,
Secs. 12 and 14;
Sec. 13, S $\frac{1}{2}$ SW $\frac{1}{4}$;
Sec. 23, N $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$;
Sec. 28, NE $\frac{1}{4}$.
T. 30 S., R. 23 E.,
Sec. 8.

The areas described, including both public and non-public lands, aggregate 2,280 acres.

Sec. 2. Subject to valid existing rights, the public lands within the above-described areas are hereby withdrawn from all forms of appropriation under the public-land laws, including the mining and mineral-leasing laws, and reserved as a part of the said Naval Petroleum Reserve No. 1.

Sec. 3. Public Land Order No. 460 of April 1, 1948, which was revoked in part by Public Land Order No. 543 of December 30, 1948, is hereby revoked so far as it affects any of the above-described lands.

HARRY S. TRUMAN

THE WHITE HOUSE,
April 20, 1949.

[F. R. Doc. 49-3170; Filed, Apr. 20, 1949; 3:27 p. m.]

EXECUTIVE ORDER 10053

REGULATIONS GOVERNING THE TRANSPORTATION OF HOUSEHOLD GOODS OF MEMBERS OF THE AIR FORCE, ARMY, NAVY, MARINE CORPS, COAST GUARD, COAST AND GEODETIC SURVEY, AND PUBLIC HEALTH SERVICE

By virtue of and pursuant to the authority vested in me by section 12 of the Pay Readjustment Act of 1942, 56 Stat. 364, as amended by section 205 of the act approved August 2, 1946, 60 Stat. 860, and as President of the United States, I hereby approve the attached regulations prescribed by the heads of the departments and agencies concerned, governing the transportation of household goods of members of the Air Force, Army, Navy, Marine Corps, Coast Guard, Coast and Geodetic Survey, and Public Health Service.

The provisions of these regulations shall be applicable, with respect to such household goods, to (1) packing, crating, and unpacking performed, (2) shipments and drayage commencing, and (3) storage accruing, on or after February 1, 1949.

HARRY S. TRUMAN

THE WHITE HOUSE,
April 20, 1949.

REGULATIONS GOVERNING THE TRANSPORTATION OF HOUSEHOLD GOODS OF MEMBERS OF THE AIR FORCE, ARMY, NAVY, MARINE CORPS, COAST GUARD, COAST AND GEODETIC SURVEY AND PUBLIC HEALTH SERVICE

Prescribed Pursuant to Section 12 of the Pay Readjustment Act of June 16, 1942, 56 Stat. 364, as Amended by Section 205 of the Act of August 2, 1946, 60 Stat. 860

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1949 Edition

CODE OF FEDERAL REGULATIONS

The Code of Federal Regulations, 1949 Edition, contains a codification of Federal administrative rules and regulations issued on or before December 31, 1948, and in effect as to facts arising on or after January 1, 1949.

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- Title 7, Parts 1-20T (\$4.25).

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1. **Definitions.**—Unless otherwise indicated, in these regulations the following terms are used as defined in this paragraph.

a. **Household goods:** Household goods, clothing, baggage, and all other personal effects of a similar character (including professional books, papers and equipment—see par. 3), except the following:

- (1) Personal baggage when carried free on tickets.
- (2) Automobiles (act June 30, 1932; 47 Stat. 405).
- (3) Other motor vehicles.
- (4) Trailers, with or without other property.
- (5) Boats.
- (6) Wines and/or liquors.
- (7) Animals not necessary in the performance of official duties.
- (8) Birds.
- (9) Groceries and provisions other than those for consumption by the owner and his immediate family.

(10) Articles acquired after the effective date of change of station orders, except that household goods include otherwise proper articles purchased in the United States, when shipped overseas after approval by the Service of which the owner is a member (27 Comp. Gen. 171).

(11) Articles intended directly or indirectly for persons other than the owner and his immediate family, or articles for sale.

b. **Professional books, papers, and equipment.**—Professional books, and papers, including standard works of fiction; professional instruments (not office equipment); and professional equipment of chaplains, including but not restricted to communion sets, stereopticons and slides, folding organs, motion picture projectors and film, and printing outfits. All items must be required by the individual for reference or other purposes in the performance of official duties.

c. **Duty Station.**—A place to which an individual is actually assigned for duty, including a place from which he commutes daily to his assigned station or, for personnel on sea duty, the home yard or home port of the vessel or mobile unit to which the individual is assigned. The place where a vessel is building or fitting out will be considered as the home yard or the home port of the vessel until the date of commissioning, at which time the home yard or home port assigned to such vessel will be the new duty station.

d. **Home.**—The place presently recorded as the home of the individual when ordered to the relevant tour of active duty (see Comp. Gen. B-41281, 12 July 1944); except that, in connection

with retirement of members of the Regular Services subject to these regulations the term, "home" means the place which the individual, within the time limit, selects as his home for the purpose of receiving mileage allowance or transportation, as the case may be, for his personal travel (see MS Comp. Gen. A-92607, 29 March 1938 and 26 Comp. Gen. 18).

e. *United States.*—The area included within the boundaries of the forty-eight states and the District of Columbia.

f. *Permanent change of station.*—Assignment, detail, or transfer of an individual or unit to a different duty station (even though within the same city, town or metropolitan area), under competent orders which neither specify the duty as temporary, nor provide for further assignment to a new station, or direct return to the old duty station (see 24 Comp. Gen. 667). It includes a change in the home yard or home port of a vessel or mobile unit. For certain individuals (see paragraph 10), it also includes the change from home to the first permanent duty station when ordered to active duty other than training duty, and from the last permanent duty station to home upon relief from such active duty, including retirement (see d above), or transfer to a Reserve Component.

g. *Place of Storage.*—The term "storage" refers to the place where household goods are stored, whether in a storage warehouse or residence or at any point other than the duty station.

h. *Services.*—Air Force, Army, Navy, Marine Corps, Coast Guard, Coast and Geodetic Survey, and Public Health Service.

i. *Reserve Components.*—The National Guard of the United States, Organized Reserve Corps, Regular Army Reserve, Air Force Reserve, Naval Reserve, Marine Corps Reserve, Coast Guard Reserve, Reserve Corps of the Public Health Service, and persons inducted in the service of the United States under the Selective Training and Service Act of 1940 (Public Law 783—76th Congress) as amended.

j. *Shipment of household goods.*—Transportation, including packing, crating, drayage (at point of shipment and at destination), temporary storage, and unpacking, at Government expense, unless otherwise stated.

2. *Authorized weight allowances.*—Household goods of Air Force, Army, Navy, Marine Corps, Coast Guard, Coast and Geodetic Survey, and Public Health Service personnel, not in excess of the weight limits in pounds herein prescribed, may be shipped at Government expense in accordance with the provisions of these regulations. The weight allowances set forth are exclusive of baggage that is transported free of charge on a commercial ticket. The allowances set forth are intended to represent the actual net weights of household goods authorized to be shipped at Government expense. When any portion of the movement is made by water the allowance is increased 40 percent to cover the weight of materials used in packing for water shipment. When shipment is made by rail, or motor freight (general freight haulers, as distinguished from specialized household goods-motor carriers), or combination thereof, the allowance is increased 25 percent to cover the weight of

materials used in packing and crating for freight shipment. When shipment is forwarded by commercial van, such allowance is increased 5 percent to cover the weight of materials used in packing and crating for van shipment. If the actual weight of a van shipment is unobtainable, weight of shipment will be determined by cubic measurement on the basis of 7 pounds per cubic foot. Whenever shipment is by mixed method, a portion by freight and a portion by van, the total net unpacked weights will be compared with the net weight allowance to determine the amount of excess weight, if any. On any occasion when it is necessary to ascertain the net, unpacked weight of household goods already packed, $\frac{2}{3} \left(\frac{40\%}{140\%} \right)$ will be subtracted from gross weight of such household goods when shipped by means involving water movement, or $\frac{1}{3} \left(\frac{25\%}{125\%} \right)$ from gross weight of such household goods shipped by rail or motor freight, or $\frac{1}{21} \left(\frac{5\%}{105\%} \right)$ from gross weight of such household goods shipped by van. Where shipments involve weights in excess of the prescribed allowance and/or contain unauthorized articles the transportation charges on such excess weights and/or unauthorized articles will be borne by the owner. When the prescribed weight allowance has been exhausted by previous shipments any subsequent shipments on the same orders will be arranged at the expense of the owner and will be made under commercial bills of lading.

WEIGHT ALLOWANCES

Army, Air Force, and Marine Corps	Services and grade ¹		Temporary change of station weight allowance	Permanent change of station weight allowance
	Navy, Coast Guard, and Coast and Geodetic Survey	Public Health Service		
General and General of the Army	Admiral		2,000	24,000
Lieutenant General	Vice Admiral		1,500	18,000
Major General	Rear Admiral (upper half)	Surgeon General, Deputy Surgeon General, and Assistant Surgeon General (Maj. Gen. grade)	1,000	14,500
Brigadier General	Rear Admiral (lower half) Commodore	Assistant Surgeon General (Brig. Gen. grade)	1,000	12,000
Colonel	Captain	Director	800	11,000
Lieutenant Colonel	Commander	Senior grade	800	10,000
Major, Commissioned Warrant Officer (Marine Corps) after 20 years commissioned service, and Chief Warrant Officer, 4th pay period (Army and Air Force)	Lieutenant Commander and Commissioned Warrant Officer after 20 years commissioned service.	Full grade	800	9,000
Captain, Commissioned Warrant Officer (Marine Corps) after 10 years commissioned service and Chief Warrant Officer, 3d pay period (Army and Air Force)	Lieutenant and Commissioned Warrant Officer after 10 years commissioned service.	Senior Assistant	600	8,500
First Lieutenant, Contract Surgeon, Commissioned Warrant Officer (Marine Corps) with less than 10 years commissioned service, and Chief Warrant Officer (Army and Air Force)	Lieutenant (Junior Grade) and Commissioned Warrant Officer with less than 10 years commissioned service.	Assistant	600	7,500
Second Lieutenant, Officer Graduate of the U. S. M. A., Flight Officer, Warrant Officer (Marine Corps) and Warrant Officer, Junior Grade (Army and Air Force)	Ensign, Officer Graduate of the U. S. Naval Academy, Officer Graduate of the Coast Guard Academy, and Warrant Officer.	Junior Assistant	600	6,000
Noncommissioned Officer (first, second, and third grade)	Enlisted Personnel (first, second, and third pay grades)		400	4,500
Noncommissioned Officer (fourth grade)	Enlisted Personnel (fourth pay grade)		400	3,000
Aviation Cadet	Aviation Cadet		400	400

¹ Members of Reserve Components of the Services concerned, and officers holding temporary commissions in the Army of the United States, are entitled to weight allowances for corresponding relative grades listed. The weight allowance of an individual is based upon his grade or rating at the time of his detachment from the last duty station. (M/S Comp. Gen. A51525—14 Nov. 1933).

² Exception to this limitation may be authorized by the respective Secretaries for the Chiefs of Staff, U. S. Air Force, and Army, and Chief of Naval Operations in such additional amounts, not exceeding 2,000 pounds, as they may consider appropriate.

3. *Professional books, papers, and equipment.*—When certified by the individual as necessary in the performance of his official duties, shipment of professional books, papers, and equipment under these regulations shall be in the

same manner and under the same conditions as other household goods except that the weight thereof shall be without charge against the prescribed weight allowance. As used in these regulations, authorizations and limitations pertain-

ing to household goods within prescribed weight allowances shall be considered as applying to professional books, papers and equipment under the same conditions but without limitation as to the weight of such books, papers, and equip-

ment unless otherwise specified. Such books, papers, and equipment will be packed separately and the containers will be marked, "Professional books, papers, and equipment." The weight of such containers will be shown separately on the bills of lading or other shipping documents.

4. *Shipment of household goods, for personnel not having a prescribed weight allowance.*—Persons for whom no weight allowance has been prescribed in paragraph 2, will make every reasonable effort to check personal baggage in baggage service on their personal transportation tickets. If, despite such efforts, it is impracticable for personal baggage to accompany the individual, checked in baggage service, such baggage not to exceed two hundred (200) pounds, may be shipped at Government expense by means ordinarily used for such shipments. If necessary in a particular case, shipment may be made at Government expense by railway express rather than by ordinary means if specifically authorized or approved in writing by the commanding officer of the installation from which the individual departs, or by a member of his immediate staff authorized to issue travel orders. Reference to such authorization, including its date, will be indicated under "Authority for Shipment" on bills of lading issued for shipments under these provisions.

5. *Packing, crating, unpacking, and uncrating*—a. *At Government expense.*—Upon temporary or permanent change of station, the prescribed change of station weight allowance of household goods will be packed, crated, unpacked, and uncrated at Government expense. Where any existing facilities of the Services subject to these regulations are available and adequate for such packing, crating, unpacking, and uncrating, those facilities may be used reciprocally by any such Services. The requiring Service will submit written application to the commanding officer of the installation at which the facilities are located.

b. *Bills to be rendered.*—(1) When such functions are performed by a Service other than the requiring Service, the Service performing the work will bill the requiring Service for the actual cost of materials and all labor and service incident thereto. In computing such cost, overhead charge will not be included. Such bill should be rendered within ten days after completion of the work and will be paid promptly by the requiring Service. The requiring Service will be responsible for the computation and collection of excess costs, if any, from the owner.

(2) The cost of packing, crating, unpacking, and uncrating professional books, papers, and equipment, will be computed separately from the cost of such functions in connection with household goods. When such cost is billed between Services, it will appear as a separate item on the bill.

c. *Record of cost to be kept.*—A careful record of all property packed, either with Government labor or by commercial firms, with all costs pertaining thereto, will be kept by the installation at which performed, in accordance with directives

of the Services concerned. When the packing is performed by use of Government owned materials and/or Government labor, the record will be complete as to the period of labor, the quantities of all materials used, and the itemized value thereof.

d. *Property packed by owner.*—The Government will assume no risk for damage to property attributed to faulty packing or crating when packed or crated by the owner or his agents and accepted by carriers for transportation.

e. *Method of packing.*—Packing and crating of all household goods will be performed or contracted for by the Services in accordance with their respective current directives.

f. *Excess costs.*—The cost of packing, crating, and unpacking any unauthorized articles or weight in excess of prescribed weight allowance will be borne by the owner. See also paragraphs 20 and 21 below.

6. *Drayage or hauling*—a. *Authorized.*—Necessary drayage or hauling of household goods within prescribed weight allowances, is authorized at Government expense in connection with temporary or permanent change of station. Such drayage or hauling includes handling into or out of quarters, and, if necessary, the employment of special rigging and equipment in connection with heavy or delicate articles. It also includes but is not limited to the following (either singly or in combination) at:

- (1) Point of origin, such as—
 - (a) From quarters to packing and crating facility and/or to storage.
 - (b) From packing and crating facility to quarters, when a portion of the property, after being packed and crated, is to be joined with the remainder of the property.
 - (c) From packing and crating facility to place of storage.
 - (d) To carrier's station, from quarters, packing and crating facility, and/or place of storage.
- (2) En route or intransit, when the cost is not absorbed by carrier concerned, such as—
 - (a) From incoming carrier's station to place of storage.
 - (b) From place of storage to outgoing carrier's station.
 - (c) From incoming carrier's station direct to outgoing carrier's station.
- (3) Destination, such as—
 - (a) From carrier's station to quarters and/or place of storage.
 - (b) From place of storage to quarters.
- (4) Intracity.—From one area to another area within the same city, town, or metropolitan area, when in connection with a permanent change of station or upon the retirement or death of the owner.

b. *How procured.*—Unless carriers' free pick-up and delivery service includes handling into or out of quarters, packing and crating facility, and/or place of storage, such carriers' free service will not be utilized. When carriers' free pick-up or delivery is not used, such drayage or hauling will be performed by Government owned vehicles of the respective Services, whenever available. When such Government vehicles are not available, commercial vehicles may be used.

c. *Bills of lading to be annotated.*—Where drayage service for household goods is not furnished by the carrier, bills of lading issued in connection with rail shipments will be annotated to show that pick-up service at point of origin or delivery at destination (as the case may be) was by the Government or its agent.

d. *Excess costs.*—The cost of draying or hauling unauthorized articles or any weight in excess of prescribed weight allowances will be borne by the owner. See also paragraphs 20 and 21 below.

7. *Storage*—a. *Temporary Storage.*—

(1) When authorized.—Whenever necessary in connection with a permanent change of station, because of conditions beyond control of the owner (including but not limited to directed surrender of quarters, arrival of shipment at destination before arrival of owner, or non-availability of quarters at destination) temporary storage of household goods within prescribed weight allowances is authorized at Government expense. Such storage includes all necessary in and out handling charges. Government facilities of the respective Services will be used for such storage in all cases when available. In case such Government facilities are not available, commercial facilities may be used. Owners will not arrange for temporary storage in contemplation of subsequent storage under provisions of b below. Temporary storage at Government expense will not exceed a total of six months in connection with one permanent change of station and must accrue during any one or combination of the following periods:

(a) After pick-up of property at quarters and before dispatch of shipment from carrier's station at point of origin.

(b) While shipment is in transit or en route, and storage is not furnished free of charge by carrier concerned.

(c) After arrival of shipment at carrier's destination station and before delivery of shipment into quarters.

(2) *Excess costs.*—Storage costs on weight in excess of prescribed allowances or for time in excess of six months will be borne by the owner. See also paragraphs 20 and 21 below.

(3) *Notation on payment voucher.*—Vouchers covering payment of commercial storage at Government expense will be supported by a certificate of properly designated authority that such storage is necessary.

b. *Non-temporary storage.*

(1) *Household goods.*—Persons for whom a weight allowance has been prescribed may apply for storage, at an installation of the Service concerned, of their household goods (see also pars. 8 e and f and 10b (2) and (7) below). Storage of automobiles is not authorized. The granting of a request will depend upon whether facilities are available and any storage furnished will be subject to the time limit prescribed in (2) below. Owners will not arrange for temporary storage mentioned in a above in contemplation of subsequent storage under these provisions. Applications for storage will contain owner's agreement that whenever household goods are not withdrawn within the prescribed time limit or promptly upon request of the

commanding officer of the storage facility concerned, such household goods will be placed in commercial storage to the account and in the name of the owner. Applications for storage will be made only—

(a) Upon retirement.

(b) Upon being detached under orders from a permanent duty station—

1. And ordered to temporary duty.
2. And ordered to temporary duty pending further assignment.

3. For further assignment to sea duty.
4. For further assignment to duty outside the United States, as a permanent change of station.

5. To await further orders or detail.
6. To proceed to the United States.

(c) Upon assignment as student to pursue a course of study of 5 months or more duration.

(d) Upon being ordered direct to sea duty or direct to duty outside the United States.

(e) Upon discharge for personnel mentioned in paragraph 10f below.

(2) *Time limit.*—Except as provided in (3) below, storage herein authorized will not extend beyond the following dates:

(a) *Upon retirement.*—One year from date of retirement, or one year after the termination of World War II, whichever is later.

(b) *Upon detachment under orders from a permanent duty station.*—One year from date of detachment under orders from permanent duty station.

(c) *Sea duty.*—One year from the date of return from sea duty.

(d) *Duty outside the United States.*—One year from date of return from overseas service.

(e) *Upon assignment as student.*—One year from date of separation from school.

(f) *Upon discharge.*—One year from date of discharge under paragraph 10f below.

(3) *Exceptions to fixed periods of time limit.*—(a) *Hospitalization.*—If the individual is confined in a hospital or in its vicinity undergoing medical treatment on the date of retirement, and continuously thereafter during the period defined in (2) (a) above, the duration of storage may be extended 60 days from the date of discharge from such medical treatment. When the owner requests such extension of time, he will furnish the officer in charge of the storage facility concerned, if so requested, a copy of the statement of hospitalization by the responsible medical officer.

c. Household goods not withdrawn from Service storage within the prescribed time limit, or not withdrawn upon request of the commanding officer of the storage facility concerned, will be placed in commercial storage to the account and in the name of the owner, at owner's expense.

8. *Shipments under Temporary Change of Station or Temporary Duty Orders.*—a. The weight allowances indicated may be shipped at Government expense for individuals under temporary change of station orders or temporary duty orders as described in the following paragraphs:

5. When a member of a Reserve Component is ordered to active duty for

training purposes, shipment of his temporary change of station weight allowance is authorized from his home to the place ordered for training duty and return to his home upon completion of such training duty.

c. When under competent temporary duty orders, temporary additional duty orders, temporary to permanent duty orders, or a combination thereof, individuals for whom a weight allowance has been prescribed may have their temporary change of station weight allowance of household goods shipped between any points, subject to the following limitations in cost as applicable.

(1) From permanent duty station to temporary duty station;

(2) Between temporary duty stations;

(3) From last temporary duty station to old permanent duty station, provided a new permanent duty station has not been assigned; otherwise to the new permanent duty station. When an individual is ordered from a temporary duty station to a new permanent duty station or, when a temporary duty station becomes a new permanent duty station, the shipments authorized herein are in addition to the weight authorized for such permanent change of station.

d. When an individual is ordered to temporary duty in connection with the building, fitting out, or conversion of a vessel, and such orders direct duty on board when commissioned, the permanent change of station weight allowance of household goods may be shipped from the old permanent duty station to any point in the United States, as desired by the owner. (See also par. 9 below.)

e. When an individual is detached under orders from a permanent duty station and ordered to temporary duty pending further assignment to duty abroad, or to temporary duty pending further assignment to sea duty, his household goods within the prescribed permanent change of station weight allowance may be shipped to any point in the United States, or such household goods may be packed, drayed, and placed in storage facilities of the Service concerned under provisions of paragraph 7b above. When such facilities are not available, his household goods may be packed, drayed, and placed in commercial storage, in which case all costs other than those of packing and draying will be at owner's expense.

f. When an individual is detached under orders from a permanent duty station and ordered to temporary duty, or to temporary duty for further assignment, his household goods, within prescribed permanent change of station weight allowance, may be packed, drayed, and placed in storage under storage provisions of e above.

g. Household goods which have been placed in storage under provisions of e or f above, may be shipped to any subsequent permanent duty station. Shipment may also be made to any point in the United States under provisions of paragraph 10 b (2) below, when applicable.

9. *Shipment when detached from permanent station to await orders, detail, or assignment, or to proceed to the United States.*—a. When an individual is

detached from a permanent station within the United States and directed to await orders, detail, or assignment, household goods, within the prescribed permanent change of station weight allowance, may be packed, crated, drayed, and placed in storage facilities of the Service concerned, if available, under provisions of paragraph 7b. When such facilities are not available, household goods may be packed, crated, drayed, and commercially stored at Government expense within the time limit prescribed for temporary storage in paragraph 7a above. Upon receipt of orders assigning the new permanent duty station, shipment of such household goods is authorized from point of storage or previous permanent duty station to the new permanent duty station.

b. When an individual is detached from an overseas permanent duty station and directed to proceed to the United States, household goods, within the prescribed permanent change of station weight allowance, may be shipped at government expense from the permanent duty station to the point in the United States to which ordered to report. The movement of household goods is thus permitted even though the new permanent duty station is, for the time being, indeterminate. If orders to new permanent duty station are not available upon arrival of the household goods at the point to which shipped, and such household goods cannot be placed in storage facilities of the Service concerned, the household goods may be placed in commercial storage at Government expense within the time limit prescribed for temporary storage in paragraph 7a above. Upon receipt of further orders fixing the new permanent duty station, the same property may be reshipped, the allowable cost being limited to the transportation cost from the reshipping point to the new permanent duty station. In these circumstances, the orders involving detachment and the orders fixing the new permanent duty station are considered to be one set of orders for a permanent change of station. Therefore, if the owner takes physical possession of the household goods at the reshipping point, the Government will not assume the cost of shipping such household goods from the reshipping point, since household goods may not be reshipped under identical orders for the convenience of the owner. See also c and paragraph 13 below.

c. All commercial storage furnished at Government expense under provisions of a or b above will not exceed a total of six months duration in connection with one transfer between the last permanent duty station and the new permanent duty station.

10. *Shipment under permanent change of station orders.*—The permanent change of station weight allowance of household goods may be shipped at Government expense for the classes of personnel indicated below under the following terms and conditions:

a. *Upon being ordered to active duty.*—(1) For contract surgeons of the Services subject to these regulations; members of Reserve Components of such Services when ordered to active duty for

not less than six months; members of the National Guard when inducted into Federal service for not less than six months; civilians commissioned as temporary officers or appointed as temporary warrant officers in the Army of the United States when ordered to active duty for a period of not less than six months; from home to the first or any subsequent permanent duty station.

(2) For retired personnel recalled to active duty, to the first permanent duty station from home or, in the case of personnel recalled to active duty within one year after retirement who did not ship their household goods in connection with such retirement, from the last permanent duty station or place of storage prior to retirement. The provisions of this subparagraph apply to such personnel ordered to or relieved from active duty in connection with Organized Reserves and/or Citizens Military Training activities only when and to the extent that transportation of household goods in such circumstances is permissible under applicable appropriation acts.

b. *Upon permanent change of station.*—(1) For personnel on active duty, from the last duty station to the new duty station. In case an individual does not desire to ship his authorized weight allowance, or any portion thereof to his new permanent duty station, he is not thereby precluded from making later shipment thereof, from that former permanent station to some subsequent permanent duty station within authorized weight allowance under travel orders to the latter station. As used in this subparagraph "former permanent duty station" includes the home of an individual for whom shipment from home is authorized under subparagraph *a* above.

(2) On transfer or assignment to sea duty; to duty in connection with building, fitting out, or conversion of a vessel; to duty overseas; or to places where their dependents are not, for military reasons, permitted to accompany them or join them within five months or where the commanding officer has determined that quarters for dependents, if authorized, are not available; from the last duty station to such locations in the United States as may be designated by the person concerned. Upon subsequent transfer to a duty station which is not subject to such military restrictions or, upon removal of such restrictions without change of station, from such designated locations to the current duty station.

(3) For officers commissioned and warrant officers appointed permanently or temporarily in the Regular Services from the ranks (including graduates from Officer Candidate Schools), from home and/or the last permanent duty station to the new permanent duty station.

(4) For officers commissioned and warrant officers appointed permanently or temporarily in the Reserve components of the Services concerned from the ranks (including graduates from Officer Candidate Schools), from home and/or last permanent duty station to the new permanent duty station (see 8 Comp. Gen. 507).

(5) For members of the graduating classes, of the Academies of the Services

concerned who are commissioned as officers, from home of the individual and/or the academy from which the individual is graduated to the first permanent duty station (see act June 27, 1944; 58 Stat. 283).

(6) *For hospital patients.* (The provisions of paragraph 15c (3) below do not apply to shipments authorized in this subparagraph.)

(a) *To hospitals.*—For personnel on active duty who are transferred from either a permanent or temporary duty station, or from a hospital where they are listed as patients, to a hospital for further observation and treatment, from the last or any previous permanent duty station and/or points of storage to the city or town in which such hospital is located, but not to the hospital itself, as for a permanent change of station, provided that the commanding officer of the hospital, after an evaluation of the case, certifies that the period of treatment in that hospital can be expected to be prolonged. This certificate will be furnished in addition to other supporting papers required with the application for transportation of household goods (Form OF 1, 1 March 1948 (Armed Forces)). See also paragraphs 15f and 16c below.

(b) *From outside the United States.*—For personnel on active duty who are transferred as patients from outside the United States to a hospital within the United States for further observation and treatment, from foreign or oversea points to the city or town in which the hospital is located, but not to the hospital itself. At the owner's option, shipment may instead be forwarded to another point within the United States designated by him. In the case of shipment from overseas, the owner will bear the cost of transportation from the port through which the shipment entered the United States to the point designated, in excess of that which would have been allowed at Government expense had shipment been made from the same port to the city or town in which the hospital is located. In connection with overland shipments from Canada or Mexico, the owner will bear the cost of transportation from the original point of shipment to the point designated, in excess of that which would have been allowed at Government expense had shipment been made from the same point of origin to the city or town in which the hospital is located. The certificate prescribed in (a) above is not required to support these types of shipments. In the case of an individual who did not take his household goods with him overseas, shipment may be made from the place of storage (see (2) above) or from any previous permanent duty station to the city or town in which the hospital is located, but not the hospital itself. The certificate prescribed in (a) above is required to support this type of shipment.

(c) *When discharge from hospital is ordered.*—For personnel on active duty, who are discharged as patients from a hospital and ordered home for separation from the service, or restored to duty, from the city or town in which the hospital is located or from a designated

place in lieu thereof (see (b) above) to such home or to any subsequently assigned permanent duty station. The owner will bear the cost of transportation from the designated place to the home or permanent duty station, in excess of that which would have been allowed at Government expense had shipment been made from the city or town in which the hospital is located to such home or permanent duty station. Shipment to the home of the individual under this subparagraph is limited to those individuals for whom shipment from the last permanent duty station to home is authorized. See also *d* and *f* below and paragraph 15 *e*.

(7) *Upon assignment as student.*—

(a) For all personnel on active duty, when ordered upon change of station to a Service school or civilian educational institution as a student to pursue a prescribed course of study therein of not less than five months' duration, from the last permanent duty station to such school or to a designated place of storage when no Service storage facilities are available therefore at the last permanent duty station.

(b) Upon subsequent transfer from said school or institution, from the school, former permanent duty station, and/or place of storage to the new permanent duty station, within authorized weight allowance to the new permanent duty station.

c. *Upon termination of active duty other than by resignation, discharge from the Regular Services, or retirement.*—For contract surgeons of the Regular Services subject to these regulations; members of Reserve components of such Services who were ordered to active duty for not less than six months; members of the National Guard in the service of the United States for a period of not less than six months; temporary commissioned and temporary warrant officers of the Army of the United States reverting to civilian status from a tour of active duty of not less than six months; from the last or any previous permanent duty station to home. For time limitation, see paragraph 12 below.

d. *Upon being ordered home for discharge.*—(1) *From stations outside the United States.*—For enlisted personnel of the first four grades who are detached from permanent duty stations outside the United States, for discharge, from points outside the United States to the place to which ordered for discharge (see also par. 15e below). If such personnel reenlist in a grade for which shipment of household goods is authorized under continuous service (within 90 days from date of discharge) at the place of discharge, then, upon receipt of orders assigning them to a new permanent duty station, from such place of discharge to the new permanent duty station. For time limitation see paragraph 12 below.

(2) *From stations within the United States.*—For enlisted personnel of the first four grades who are detached from a permanent duty station within the United States for discharge, but reenlist in a grade for which shipment of household goods is authorized under continuous service (within 90 days from date of discharge) at place of discharge, upon

receipt of orders assigning them to a new permanent duty station, from the last permanent duty station to the new permanent duty station.

e. *Upon retirement or transfer to the Fleet Reserve.*—For all personnel on active duty, under retirement orders, orders to home to await retirement, or orders to transfer to the Fleet Reserve, from the last and/or any previous permanent duty station to home. If the individual is retired or transferred to the Fleet Reserve at a permanent duty station outside the United States or is ordered from such station to the United States for retirement or transfer to the Fleet Reserve, from the last and/or any previous permanent duty station and any one or more places of storage to home. For time limitation, see paragraph 12 below. Officers wholly retired under R. S. 1252 are not entitled to shipment of household goods.

f. *Upon discharge under honorable conditions.*—(1) From the last or any previous permanent duty station to home for—

(a) Enlisted persons of the first four grades on active duty who, having served ten or more years in the Service concerned, are discharged on account of disability incurred in the line of duty. See Sec. 1, act 29 August 1916 (39 Stat. 633; 10 U. S. C. 823; M. L., 1939 sec 1461).

(b) Individuals inducted in the Service of the United States under the Selective Training and Service Act (see also par. 15 below).

(2) No excess weight will be shipped under the provisions of this subparagraph.

(3) For time limitation, see paragraph 12 below.

11. *Shipment upon decease.*—Effects of personnel who die while on active duty, other than training duty, may be transported only if authorized by, and subject to the provisions of, regulations issued by the Service concerned under pertinent laws.

12. *Time limitations.*—a. Subject to exceptions shown in b below, a period ending one year after the termination of World War II or one year after the date specified below, whichever is later, is fixed as the time within which household goods or personal effects will be turned over by the owner to a transportation officer or to a carrier for shipment at Government expense (25 Comp. Gen. 6).

(1) *Termination of active duty.*—Date of relief from active duty under provisions of paragraph 10 c above.

(2) *Ordered home for discharge.*—Date orders to home for discharge are effective under provisions of paragraph 10 d above.

(3) *Retirement or transfer to Fleet Reserve.*—Date of retirement or transfer to Fleet Reserve under provisions of paragraph 10 e above.

(4) *Discharge.*—Date of discharge under provisions of paragraph 10 f above.

b. *Exceptions to time limitations.*—(1) *Hospitalization.*—If the individual is confined in a hospital or in its vicinity undergoing medical treatment on the date of termination of active duty status, or on the date ordered to home for discharge, retirement, or transfer to Fleet Reserve, or on the date of discharge, and

continuously thereafter during the period defined in a above, shipment of household goods may be made within 60 days from the date of discharge from such medical treatment as shown in a certificate of the responsible medical officer stating the period of such medical treatment.

13. *Reshipment of same property within one allowance.*—a. Unless otherwise specifically provided herein, authority contained in these regulations for shipment of household goods at Government expense extends only to the through shipment to authorize ultimate destination of the same lot of household goods. Shipment may not be made for the convenience of the owner to some other place for re-shipment later to such authorized ultimate destination.

b. When household goods within prescribed weight allowance, or personal baggage not to exceed 200 pounds for personnel not having a prescribed weight allowance, have been improperly shipped or otherwise unavoidably separated from the owner, not because of fault of the owner, it may be forwarded to the proper destination at Government expense upon approval of the Service concerned.

c. In case personal baggage is shipped as part of an organized troop movement but the name of the individual owner of such baggage has been deleted from the movement order, railway express instead of means ordinarily required may be used to return or forward such baggage to the duty station of such owner when authorized or approved in writing by the commanding officer of the installation or area at which received. Where an officer on the immediate staff of the commanding officer is authorized to issue travel orders, the commanding officer may delegate to such staff officer the authority to authorize the return or forwarding of such shipments by express. Reference to such authorization, including its date, will be indicated under "Authority for Shipment" on bills of lading issued for shipments made under these provisions.

d. Shipment of household goods, made after receipt of competent change of station orders but before the effective date thereof, will be forwarded or returned to proper destination at Government expense in case such orders are subsequently amended or cancelled, provided such shipment is made in the best foreseeable interest of the Government and the owner. (See also par. 15 below).

14. *When shipment not authorized.*—Shipment of household goods at Government expense is not authorized in the following cases:

a. Prior to receipt of orders.
b. Upon joining for duty on first appointment in the Regular Services, except for contract surgeons (see also par. 10 above).

c. Permanent change of station weight allowance for members of Reserve components when ordered to active duty for less than six months (see also pars. 8 b and 10 above). Shipment of temporary change of station weight allowance is not prohibited under these provisions.

d. For retired members ordered to active duty, or upon relief therefrom after having been ordered to active duty, when shipment is not permissible under appli-

cable appropriation acts (see also par. 10 above).

e. Upon reinstatement or reappointment, for all members of Regular Services.

f. Upon transfer from one station to another, solely for the convenience and at the written request of the individual transferred, when travel orders indicate shipment is not authorized at Government expense.

g. By commercial means of transportation to home upon retirement where the place selected as home is in the same city or town as the last permanent duty station (see also par. 6 above).

h. Upon resignation, for all members on active duty.

i. For all officers wholly retired under R. S. 1252 (see also par. 10 above).

j. Upon discharge, for—
(1) All members when discharged under conditions other than honorable.

(2) Members of the Regular Services, except—enlisted men of the first four grades on active duty, who, having served ten or more years in the Service concerned, are discharged on account of disability incurred in the line of duty (see also par. 10 above).

k. For members who are dropped, dismissed, sent to prison under sentence, or transferred as prisoners to a place of detention.

l. Pursuant to furlough or recall therefrom.

m. For deserters or stragglers.
n. For members transferred to a different ship or station to await trial by court-martial.

o. Permanent change of station weight allowance for students detailed to pursue courses of less than 5 months' duration at Service schools or civilian educational institutions (see also par. 10 above). Shipment of temporary change of station weight allowance is not prohibited under these provisions.

p. By commercial means of transportation upon change of assignment or duty without change of station.

SECTION II—SHIPPING PROCEDURES

	Paragraph
Requirements, responsibilities, and privileges of owner.....	15
Application for shipment.....	16
Method of shipment.....	17
Shipment by Government vessel.....	18
Shipment by commercial vessel.....	19

15. *Requirements, responsibilities, and privileges of owner.*—a. Except as provided in c below, the owner is required to turn over at one time to the shipping officer at each point of origin all of his household goods (except articles of gold and silver and articles of extraordinary value) thereat, which he expects to ship within any prescribed weight allowance and under the terms and conditions therefor, in connection with his orders for change of station, retirement, or to home for discharge.

b. In the event there should be a change in orders after shipment has been requested, it is the responsibility of the owner upon receipt of such change to notify immediately shipping officers at point of origin (or port, if any), and destination, requesting that such shipment be diverted or reconsigned to any new destination which may be necessi-

APPLICATION FOR TRANSPORTATION OF HOUSEHOLD GOODS
THIS INSTRUMENT IS SUBJECT TO THE PROVISIONS OF THE APPLICABLE ACTS

1. CITY OR STATION WASHINGTON, D.C.	2. DATE 15 MARCH 1947	3. OFFICER NO. (SEE REGULATIONS FOR LISTING)	4. STATE TEMPORARY OR PERMANENT CHANGE PERMANENT
5. NAME (LAST NAME - FIRST NAME - MIDDLE INITIAL) OLD HOWARD N	6. SERVICE SERIAL NO. 2393	7. MAIL ADDRESS SAULEGER DR	
8. TO (ESIMATE TO PREPARE SHIPPING OFFICER'S) CHIEF OF TRANSPORTATION U.S. PHS. Room 306 Headquarters, WASHINGTON, D.C.			
9. IT IS REQUESTED THAT ACTION BE TAKEN TO HAVE HOUSEHOLD GOODS TRANSPORTED AS PROVIDED BY LAW AND REGULATIONS BASED ON CHANGE OF STATION ORDERS ISSUED BY OFFICE OF THE SURGEON GENERAL AT WASHINGTON, D.C. ORDER DATE OF 25 MARCH 1947 PARCEL NUMBER NONE ADDRESS NUMBER TA 4389 WHICH SHOULD BE TO DUTY AT CHICAGO, ILL.			
10. TO BE SHIPPED FROM (STREET ADDRESS) 6639-37th STREET NW WASHINGTON D.C.	11. CITY OR TOWN WASHINGTON D.C.	12. DATE INSTRUCTION MAY BE MADE Upon Call	13. TELEPHONE NO. VI-0120
14. TO BE SHIPPED TO (STREET ADDRESS) 5618 SHERMAN RD	15. CITY OR TOWN EVANSTON, ILL.	16. DESIGNATED AGENT TO RECEIVE PROPERTY AT DESTINATION MRS MARY B OLD WIFE	17. NAME OF PERSON TO BE NOTIFIED AT DESTINATION MRS MARY B OLD WIFE
18. APPROXIMATE WEIGHT OF PROFESSIONAL BOOKS, PAPERS, AND EQUIPMENT TO BE SHIPPED 7 POUNDS	19. APPROXIMATE WEIGHT OF HOUSEHOLD GOODS TO BE SHIPPED 19.00 POUNDS	20. METHOD OF SHIPMENT REQUESTED (CHECK ONE) <input checked="" type="checkbox"/> BY AIR REGULARLY SCHEDULED SERVICE <input type="checkbox"/> BY AIR REGULARLY SCHEDULED SERVICE <input type="checkbox"/> BY AIR REGULARLY SCHEDULED SERVICE <input type="checkbox"/> BY AIR REGULARLY SCHEDULED SERVICE	21. DATE INSTRUCTION TO BE TICKETS OF THE OFFICIAL WORK VAR TO 8 APR 47 PHILADELPHIA, PENN.
22. I CERTIFY THAT THE ABOVE REQUESTED SHIPMENT CONSISTS OF HOUSEHOLD GOODS WHICH BELONG TO ME AND HAS BEEN IN USE BY MYSELF (OR FAMILY) PREVIOUS TO DATE OF THIS REQUEST AND IS NOT INTENDED DIRECTLY OR INDIRECTLY FOR ANY OTHER PERSON OR PERSONS OR FOR SALE.			
23. I FURTHER CERTIFY THAT THE ABOVE REQUESTED PROFESSIONAL BOOKS, PAPERS, AND EQUIPMENT, ARE IN FACT PROFESSIONAL BOOKS, PAPERS, AND EQUIPMENT WHICH ARE NECESSARY IN THE PERFORMANCE OF MY DUTY AS DESIGNATED BY THE SHIPPING OFFICER TO BEST SERVE THE INTERESTS OF THE UNITED STATES AND WISELY, OR WILL PAY ANY EXCESS COSTS OCCURRED BY MY COLLECTION OF ANY OTHER METHOD.			
24. I WILL PAY ALL HANDLING, STORAGE, OR OTHER COSTS, OR OTHER COSTS, NOT AUTHORIZED BY REGULATIONS.			
25. IF MY ORDERS ARE MODIFIED OR CANCELLED AND AFFECT THIS SHIPMENT, I WILL NOTIFY IMMEDIATELY SHIPPING OFFICERS AT POINT OF ORIGIN (OR PORT, IF ANY), AND DESTINATION.			
26. IN THE EVENT OF DAMAGE TO THE PART OR WHOLE, OR IN ORDER TO RETURN TO THE SHIPPING OFFICER AT DESTINATION WITH PROMPT REGULAR INSTRUCTIONS, I HEREBY REQUEST THAT THE PROPERTY BE PLACED IN LOCK, COMMERCIAL STORAGE IN MY NAME AND FOR MY ACCOUNT AND RISK.			
27. UPON RECEIPT OF STATEMENT SHOWING EXCESS COSTS, I WILL REIMBURSE AN AMOUNT SUFFICIENT TO COVER SUCH COSTS, OR PERMIT THE APPLICATION OF SO MUCH OF MY PAY AS MAY BE NECESSARY TO COVER SUCH COSTS. IN THE EVENT OF DAMAGE TO THE PROPERTY, I WILL REIMBURSE THE SHIPPING OFFICER AT DESTINATION FOR THE COST OF THE PROPERTY TO THE COMMERCIAL GENERAL, AND THE COSTS OF REIMBURSEMENT AFTER SUCH PAYMENT OF REDEMPTION AND DELIVERY TO THE SHIPMENT OFFICER AT DESTINATION TO BE UNDERSTOOD.			
28. HOUSEHOLD SHIPMENTS UNDER FEDERAL ORDER NO. 277 ARE SUBJECT TO "TARIFFS"	29. PROFESSIONAL BOOKS, PAPERS, AND EQUIPMENT TO BE SHIPPED (SEE REGULATIONS FOR LISTING)	30. HOUSEHOLD GOODS TO BE SHIPPED (SEE REGULATIONS FOR LISTING)	31. PROFESSIONAL BOOKS, PAPERS, AND EQUIPMENT TO BE SHIPPED (SEE REGULATIONS FOR LISTING)
FORM (a) WASHINGTON, D.C.	(b) CHICAGO, ILL.	(c) M-28762	(d) NONE
SIGNATURE OF APPLICANT <i>Old</i>			
25. CERTIFICATE IN FULL OF SIGNATURE ON THIS FORM IS REQUIRED WITH REGULATIONS TO AUTHORIZE: (1) IN ACCOMPLISHING DUTY BY THE COMMANDING OFFICER, OR HIS AUTHORIZED REPRESENTATIVE, OR HIS AUTHORIZED REPRESENTATIVE, BY SIGNATURE OR OFFICIAL SEAL.			
THE PROPERTY IS PERSONAL BAGGAGE, HOUSEHOLD GOODS, OR PROFESSIONAL BOOKS, PAPERS, AND EQUIPMENT REGISTERED TO BE SHIPPED AT DESTINATION OFFICE.			
REASON FOR NON-RELIABILITY OF SIGNATURE			
NECESSITY FOR SHIPMENT			
CERTIFIED BY (SIGNATURE AND TITLE)			
SIGNATURE OF SHIPPING OFFICER			
BILL OF LADING NUMBER			
METHOD OF SHIPMENT USED			
CONTRACT NUMBER			
EXCESS COST OF PACKING, CREATING AND BILLING, WHEN REQUIRED BY THE SERVICE (EXPLAIN)			
METHOD OF PAYMENT <input type="checkbox"/> GOVERNMENT <input type="checkbox"/> COMMERCIAL			
PAYMENT HOUSEHOLD GOODS			
SIGNATURE OF SHIPPING OFFICER			

GENERAL INSTRUCTIONS

The original and necessary copies of this form (in pre-assembled sets) will be prepared. When more than one shipment is made, a separate set of this form will be used for each such shipment and each application will be numbered consecutively in chronological order of application dates.

1. Certified copies of travel orders or other authority for shipment.
2. Certified copies of authority for shipment at Government expense by means other than that ordinarily required, in cases wherein reference on Bill of Lading to appropriate paragraph of regulations does not constitute complete evidence of such authority.
3. Certified copies of the Power of Attorneys, time extension certificate, hospitalization certificate, or any other certificate or document required in special cases.
4. Copies of OP Form No. 2, 1 March 1948, (Armed forces), inventory of household goods (in pre-assembled sets) prepared by the applicant. This form is required only when more than three different articles are involved in the application.

DETAILED INSTRUCTIONS FOR USE OF THIS FORM

- ITEMS 1 and 2 - Self-explanatory.
- ITEM 3 - Indicate consecutive number of shipment in chronological order of date application was issued. If excess weight is involved, excess cost is computed on the shipment covered by the last numbered application.
- ITEM 4 to 12 INCLUSIVE - Self-explanatory.
- ITEM 13 - Was so more than three different articles are involved in the same application, they will be listed in this space and so inventory of household goods, OP Form No. 2, 1 March 1948, (Armed forces), is required. When OP Form No. 2, is used, all information called for in this item will be shown. Later in C any other article which requires special handling such as stove, console radio, etc. ITEM 14 - Applicant will indicate acceptance of Shipping Officer's designation or otherwise. Excess cost probably will be incurred if the method of shipment selected differs from the one designated by the Shipping Officer.
- ITEM 15 - Self-explanatory.
- ITEM 16 - For regular personnel, Official Home is that indicated in official personnel records of the Service concerned. For Reserves, it is the place currently recorded in the personnel records of the Service concerned as the home of the owner when called to the relevant tour of active duty.
- ITEMS 17 to 23 INCLUSIVE - Read very carefully.
- ITEM 24 - If any previous shipments have been made under the orders used for this shipment, indicate previous shipments showing Bill of Lading, Contract, or Purchase Order Number in Column (c).
- ITEM 25 - Self-explanatory, and executed by Commanding Officer or his authorized representative in certain cases.
- ITEM 26 - Self-explanatory, and executed by the Shipping Officer.

(See reverse side of OP-1)

Official No. 1
Name (Print)

(2) Commanding Officers of installations or their authorized representatives, who will execute certificate showing necessity for shipment, reasons for non-availability of the owner's application and will indicate determination that property to be shipped is household goods or effects authorized to be shipped at Government expense in case—

(a) Personal property of evacuees is received at ports of embarkation or other seaports and is required to be forwarded to inland points.

(b) Personal property has been left at installations because compliance with proper orders has allowed insufficient time for the owner to submit the application and the owner has furnished informal information as to disposition.

(c) Other Service exigencies preclude the preparation and submission of the application by the owner.

b. *To whom submitted.*—Except for shipments under the Missing Persons Act, the applications for which will be submitted as directed by the Service concerned, applications will be submitted to the nearest shipping officer. A shipping officer receiving an application for transportation of household goods which does not pertain to his jurisdiction will immediately forward it by indorsement to the proper shipping officer having jurisdiction, if known, otherwise to shipping officer as directed by the Service concerned. Shipping officers will promptly inform applicants of action to be taken and of papers and documents required to support their applications in accordance with these regulations.

c. *Supporting papers required.*—Among supporting documents and papers required to support applications are:

(1) Certified copies of orders or other authority for shipment.

(2) Certified copies of authority for shipment at Government expense by means other than that ordinarily required in cases wherein reference on bill of lading does not constitute complete evidence of such authority.

(3) Certified copies of the Power of Attorney, time extension certificate, hospitalization certificate, or any other certificate or document required in special cases.

(4) Copies of OF Form No. 2, 1 Mar 48 (Armed Forces) Inventory of household goods, prepared by the applicant (see Fig. 3). This form is required only when more than three different articles are involved in the application. In lieu of OF Form No. 2, Forms presently used by the Services concerned will continue in use until existing supply is exhausted.

17. *Method of shipment*—a. *By railway express* (see par. 15c (3)).—(1) When certain articles are required for use in carrying out assigned duties and shipment by ordinary means will not serve the purpose, shipment of not to exceed a total of 500 pounds is authorized to be made by railway express at Government expense within the United States. This authority is limited to shipments from the old duty station, points of storage, or both, to the new duty station or to or from ports of embarkation in connection therewith. Specific designation of the method of shipment is not required to be made by the shipping officer in such cases. Shipment will be made at the

valuation prescribed in carriers' tariffs for the lowest applicable transportation rate. Such express shipment may consist of household goods, or of professional books, papers, and equipment, or of both. Whenever a combination of household goods and professional books, papers and equipment is shipped, the weight of each type of property will be shown separately on the bill of lading. The weight of household goods shipped by express under these provisions will be charged against the prescribed change of station weight allowance.

(2) Articles of gold or silver, paintings, and other articles, the extraordinary value of which prohibits shipment by ordinary means under carriers' tariffs, may be shipped by railway express. The weight of such articles is a part of (not in addition to) the 500 pound weight allowance by express provided in (1) above and when such type shipment is authorized. Such articles may be shipped under a commercial express receipt or a Government bill of lading as part of the authorized change of station weight allowance. Unless extra charges for excess valuation are paid, carriers' liability for express shipments is normally limited to 50 cents a pound. Any such excess valuation charges will be borne by the owner, not by the Government, regardless of the type of bill of lading used. A Government bill of lading covering an express shipment of precious articles will be separate from that used for the other household goods, and professional books, papers, and equipment. Shipment will not be made through any installation of the Services concerned, but will be made direct from and to the owner or his agent at points of origin and destination.

(3) Unless the shipping officer designates railway express as the method of shipment under provisions of b below, the entire transportation cost on weight in excess of the 500 pound weight allowance by express will be borne by the owner. It will be borne by the owner even though the authorized change of station weight allowance is not exceeded.

(b) *By ordinary means*—(1) *By whom and how selected.*—Under provisions of section 205, Public Law 604—79th Congress, shipment may be made by rail, water, or van without regard to comparative cost. Unless shipped by express as authorized by these regulations, any household goods for shipment between the same point of origin and destination may be shipped as consolidated shipments or as separated shipments, whichever manner is considered by the shipping officer as most advantageous to the Government and the owners, without delaying the arrival of shipment at destination. The shipping officer will select the means of transportation, ordinary rail and/or water freight, ordinary motor freight (general freight haulers as distinguished from specialized household goods motor carriers), railway express, freight forwarders, or commercial van carrier, which in his judgment will serve the best foreseeable interest of the Government and the owners of the property. Among the particulars to be considered are:

(a) Location of the property at point of origin and the availability of packing, crating, drayage, and handling facilities thereat.

(b) The condition of the property presented for transportation, that is, whether already in packed and crated form.

(c) Final destination of the property and the availability of drayage, unpacking, uncrating, and handling facilities thereat.

(2) *Method authorized at Government expense, how established.*—The selection by the shipping officer of the appropriate means of transportation establishes the method of shipment authorized at Government expense. The shipping officer will inform the person requesting shipment of the means of transportation authorized at Government expense, and that the use of a different method may result in excess cost to the owner.

c. *By air.*—Shipment may be made by air when most economical, or upon owner's request and written agreement to pay excess costs, if any, thereby incurred.

d. *Routing.*—When necessary to provide timely arrival of household goods at ultimate destination, shipment may move via a route or port different from that used by the traveler.

e. *Valuation.*—Shipment will be made at the valuation prescribed in carriers' tariffs for the lowest applicable transportation rate.

18. *Shipment by Government vessel.*—a. Water shipment of household goods normally will be made by Government vessel. When a Service is unable to use its vessels for this purpose, shipments may be made on vessels of another Service; the actual cost, if any, will be reimbursed by the requesting Service. The requesting Service will advise the weight and cubic measurements of the household goods to be shipped. The Service whose vessel is used will furnish appropriate shipping instructions. Weight shipped by Government vessel will be counted toward exhausting the owner's authorized weight allowance. When no actual or reasonably computable cost arises thereby, weight in excess of prescribed allowances may accompany household goods on Government vessels.

b. When available space on Government vessels will not meet the needs of the requiring Service, shipment of household goods within prescribed weight allowance may be made by commercial means, at Government expense.

c. Shipments forwarded by Government vessel are not subject to general average. See paragraph 19 below.

19. *Shipment by commercial vessel*—a. *When permitted.*—When space on Government vessel is not available, or, when space which is available will not meet the needs of the requiring Service, household goods within the prescribed weight allowance may be shipped at Government expense by commercial vessel. Transportation costs on unauthorized articles or on weight in excess of prescribed weight allowances will be borne by the owner. Bills of lading covering shipment by commercial vessel will bear a notation with reference to this paragraph. Such reference will constitute complete evi-

dence of authority for shipment by commercial vessel.

b. *General average.*—Shipments by commercial vessel are subject to general average. General average, in maritime law, is a contribution by the several interests engaged in a maritime adventure to make good the loss of one of them for voluntary sacrifices of part of the ship or cargo to save the residue of the property and/or the lives of those on board from an impending peril, or for extraordinary expenses necessarily incurred for the common benefit and safety of all the interests in the adventure. The doctrine of general average is founded upon the principle that whatever is sacrificed for the benefit of all should be made good by the contribution of all. The obligation to contribute in general average rests upon the vessel, the cargo and freight, and the owners of such interests.

c. *Insurance.*—Under a decision of the Comptroller General (18 Comp. Gen. 164), the owner of the property is the party liable for contribution in general average and this rule is applicable to shipments of household goods of officers and enlisted men on change of station. It is, therefore, advisable for owners of household goods to procure insurance covering the risk for their protection.

d. *Required action.*—When a vessel and cargo which includes household goods shipped at Government expense becomes subject to general average, the consignee, upon receipt of such information, will notify the owner of household goods or his agent. The owner must take action along the following lines in order to obtain release of the household goods at the port of discharge:

(1) an average agreement which is submitted by the average adjuster must be promptly executed;

(2) if insurance is carried, the average agreement including the statement as to the value of the household goods should be signed and forwarded to the insurance company for direct handling with the average adjuster;

(3) if no insurance is carried, the owner must make a deposit by cash or check to the average adjusters in such amount as is determined by using the percentage furnished by the average adjusters times the value of the household goods stated in the average agreement.

The Transportation Officer, or other congeneric officer, of the installation to which the household goods have been consigned should be notified of the action taken.

SECTION III—EXCESS COSTS

	Paragraph
Excess costs.....	20
Payment of excess costs.....	21

20. *Excess costs—*a. *Circumstances in which incurred.*—Costs in excess of those authorized in these regulations will be paid by persons for whom shipments are made (For examples of computations, see par. 22 below). Among the circumstances in which such excess costs may be incurred are:

(1) When transportation cost of method used at request of applicant exceeds the cost of method designated by shipping officer.

(2) When special services, specific routing, or specific loading, not pro-

vided under ordinary rates, are furnished at the request of applicant.

(3) When shipments are made in separate lots between the same points.

(4) When shipments are made from and/or to points other than those authorized in these regulations.

(5) When, at the request of applicant, shipments are released at a valuation which exceeds that prescribed for the lowest applicable transportation rate in carriers' tariffs.

(6) When household goods in excess of the prescribed weight allowance are packed, unpacked, drayed, stored, or shipped (See also b and c below).

(7) When unauthorized articles are shipped.

b. *Cost equalization prohibited.* Whenever weight in excess of the prescribed weight allowance is shipped at a transportation rate which is less than that applicable from the authorized point of origin to the authorized destination, equalization of cost is not allowed. An excess of weight remains an excess. A lesser transportation rate than that authorized is a Government gain. The same principle is applicable in connection with a shipment of less than the prescribed weight allowance which is forwarded to a destination subject to a higher transportation rate than that applicable to the authorized destination. The lesser weight than that prescribed is a Government gain. The higher rate remains an excess.

c. *Shipments charged chronologically against prescribed weight allowance.* Whenever there are two or more shipments on the same change of station orders, they will be numbered on Form OF 1, 1 Mar 48, (Armed Forces) Application for Transportation of Household Goods, in the chronological order of application dates. See also paragraph 16 above. In the event excess weight is shipped, the excess cost will be computed on the shipment which contained the excess weight as determined from the chronological sequence of the application. For example:

(1) An officer has a prescribed weight allowance of 7,500 pounds and submits applications as follows:

	Pounds
Application marked "Shipment No. 1" (shipment moved via Navy vessel).....	5,000
Application marked "Shipment No. 2" (shipment moved via rail carrier).....	5,000
<hr/>	
Total weight shipped.....	10,000
Minus prescribed weight allowance.....	7,500
Excess weight.....	2,500

Excess cost of transportation will be computed on shipment No. 2.

(2) An officer has a prescribed weight allowance of 7,500 pounds and submits applications as follows:

	Pounds
Application marked "Shipment No. 1" (shipment moved via rail carrier).....	5,000
Application marked "Shipment No. 2" (shipment moved via Navy vessel as authorized by the Service concerned).....	5,000
<hr/>	
Total weight shipped.....	10,000
Minus prescribed weight allowance.....	7,500
Excess weight.....	2,500

Excess weight was included in shipment No. 2. See provisions of paragraph 18 above.

(3) If both shipments in the above examples had been made by commercial carrier, transportation cost on excess weight would have been computed in connection with shipment No. 2. Such computation would have been based on the transportation rate applicable to shipment No. 2. Therefore, when different rates apply to shipments made, and excess weight is involved, it is in the interest of the owner to forward lower-rated shipments after higher-rated shipments, thereby incurring the least excess cost.

21. *Payment of excess costs.* a. The officers designated by the Service concerned will determine any excess costs incurred in connection with shipments of household goods and will notify owners of the amount payable and method of payment. See also paragraphs 5, 6, and 15 above.

b. Promptly upon receipt of such notification, the owner will remit the amount so determined in the manner prescribed. If, after making remittance, the owner for any reason considers the amount remitted to be erroneous, he may file a claim with the General Accounting Office, Washington 25, D. C., for refund of such amount as he may consider to be due him.

SECTION IV—CLAIMS

	Paragraph
Claims for reimbursement.....	22
Claims for loss or damage.....	23

22. *Claims for reimbursement—*a. *Not ordinarily authorized.* The reimbursement of individuals who have shipped their household goods at their personal expense is not ordinarily authorized. Except for shipments likely to involve excess costs upon separation from active duty of persons who will not thereafter be in a pay status of the Service concerned (which shipments at personal expense and reimbursement therefor are directed in par. 15 e above), shipments of household goods will ordinarily be made through a shipping officer. In case an emergency or other compelling reason existed for failure to have the shipping officer arrange for shipment of the household goods, the appropriate authority of the Service concerned may ratify the shipment and direct reimbursement of transportation charges to the owner.

b. *Form used; how prepared and submitted.* Claims for reimbursement will be stated on Standard Form No. 1012, Voucher for Per Diem and/or Reimbursement of Expenses Incident to Official Travel (see fig. 4). Such forms will be prepared in the number of copies required by the Service concerned, properly executed, and submitted through official channels to the appropriate authority of the Service concerned. When the owner of household goods is at an overseas station, has been transferred to sea duty, or transferred to places where his dependents are not for military reasons permitted to accompany him, claims for reimbursement may be submitted by his wife or other dependent member of the household. The claim will be submitted and signed in the name of the owner by the wife or other dependent

established by the Service concerned. In estimating the cost of rail transportation, the following allowances will be included:

1. **Packing and crating allowance.** No constructive allowance is authorized for packing and crating if any, performed at Government expense. A constructive allowance is authorized for such service when performed by the carrier, owner, or otherwise, without expense to the Government.

2. **Drayage and hauling allowance.** When carriers' free pick-up service at point of origin and/or delivery service at destination does not include handling into or out of residence and facilities of the Service concerned are not available for such drayage, a constructive drayage allowance in lieu thereof is authorized.

3. **Rail transportation allowance.** The cost of ordinary rail freight will be allowed, using the basis which in accordance with carriers' tariffs produces

the lowest cost for the shipment. Whenever excess weight may be shipped with the prescribed weight allowance on a carload basis, the weight allowance and the actual weight will be used as factors in prorating the total charge for the carload to determine the owner's share and the Government's share of the expense.

4. **Unpacking and uncrating allowance.**—A constructive allowance for uncrating and uncrating the shipment at destination is authorized, where facilities of the Service concerned are not available.

(d) **Example and formula.** An example and formula, giving application to constructive allowances as authorized in these regulations, is shown below. It is based on the prescribed permanent change of station weight allowance of an Army captain. The shipment consisted of 8980 pounds of household goods and 665 pounds of professional books, papers, and equipment.

VAN SHIPMENT OF AN ARMY CAPTAIN'S HOUSEHOLD GOODS

Scale weight:	Consist:	Cost of shipment:	
Gross..... 18,965 lbs.	Prof. books, papers, etc..... 665 lbs.	Line-haul..... \$42.00	
Tare..... 8,420 lbs.	Other articles..... 8,980 lbs.	Packing and crating..... 71.40	
Net..... 9,645 lbs.	Total weight of shipment..... 9,645 lbs.	Total cost..... 713.40	
Prescribed weight allowance:			
By van..... 8,995 lbs.	By rail..... 8,500 lbs. plus 25% or..... 10,625 lbs.		
Prof. books, papers and equipment..... 665 lbs.	Prof. books, papers and equipment..... 665 lbs.		
Total van allowance..... 9,500 lbs.	Total rail allowance..... 11,290 lbs.		
Relative gross rail weight:	Net weight..... 11,355 lbs.		
Gross weight by van..... 8,980 lbs. less 1/21 or (428 lbs.) = 8,552 lbs., plus 25% or (2,138 lbs.) = 10,690 lbs.	Relative rail weight..... 665 lbs.		
665 lbs. professional books, papers, and equipment..... 665 lbs.			
9,645 lbs.			

MAXIMUM AMOUNT AUTHORIZED AT GOVERNMENT EXPENSE

(Based on authorized weight allowance by rail)

Packing and crating costs: 11,290 lbs. authorized weight @ 2.75 per cwt. (see (c) 1 above) (Army facilities)..... \$310.48
None..... None
Pick-up costs: 11,290 lbs. Army drayage facilities available (see (c) 2 above)..... 177.78
Rail transportation costs: 11,290 lbs. shipped as 12,000 lbs. (C/L minimum weight) at commercial rate \$1.49 per cwt. or \$178.80 - Allowance..... 11,290 X \$178.80 (total cost of shipment) (see (c) 3 above)..... 45.16
Actual weight 11,355 lbs. (total cost of shipment) (see (c) 3 above)..... 67.74
Delivery costs: 11,290 lbs. authorized weight @ 4¢ cwt. (see (c) 2 above)..... 601.16
Unpacking and uncrating costs: 11,290 lbs. authorized weight @ 6¢ cwt. (see (c) 4 above)..... 601.16
Maximum amount authorized at Government expense.....

(2) **Express shipment exceeding maximum authorized by that method.** 745 lbs. @ \$7.43 per cwt.; \$55.35. Maximum amount authorized at Government expense: 500 lbs. @ \$7.43 per cwt. (see par. 17a (3) above); \$37.15.

(3) **When special services have been furnished.** In connection with a permanent change of station, general freight motor carrier (not commercial van) was designated as the means of transportation at Government expense. An emergency arose and the owner made his own shipment. He requested and was

furnished exclusive vehicle service. The transportation cost was 3,200 lbs. as 5,000 lbs. (min. weight for exclusive vehicle service) @ \$2.74 per cwt.; \$137.00.

Maximum amount authorized at Government expense, based on cost if shipped without special service—3,200 lbs. actual weight @ \$2.99 per cwt.; \$95.68.

(4) **When shipment is made in separate lots.** The household goods of a Marine Corps captain, within his authorized allowance of 10,645 lbs. (8,500 lbs. plus 25%) was shipped by rail from Fort Benning, Georgia to Pottstown, Pennsylvania as indicated:

10 Oct 1945, 1,013 lbs. @ \$2.20 per cwt. \$22.29
13 Nov 1945, 2,361 lbs. @ 2.20 per cwt. 51.94
7 Jan 1946, 2,178 lbs. @ 2.20 per cwt. 47.92
12 May 1946, 4,356 lbs. @ 2.20 per cwt. 95.83
9,908 lbs.

Total cost of services rendered \$217.98

Maximum amount authorized at Government expense, based on cost if shipped in one lot—9,908 lbs. as 12,000 lbs. (C/L minimum weight) @ \$1.54; \$194.80.

(5) **When shipment is made from or to points other than those stated in travel orders.** Shipment was made from St. Paul, Minn. to Goldsboro, N. C.—857 lbs. @ \$3.41 per cwt., total cost of shipment: \$29.22.

Maximum amount authorized at Government expense, based on cost if shipped from the last permanent duty station, Chanute Field, Ill., to the new permanent duty station, Atlantic City, N. J., 857 lbs. @ \$2.14 per cwt.; \$18.34.

Total Authorized weight 8970 lbs. X (Total cost of shipment) \$196.80 = \$177.30

Total weight shipped 9956 lbs.

(b) **By commercial van carrier.** In an emergency, a petty officer 3/c U. S. N., personally made a shipment of household goods on a permanent change of station by commercial van carrier. Such means of transportation was the one designated for use at Government expense. The shipment weighed 3964 pounds, of which 306 pounds were professional books, papers, and equipment. The cost of the shipment was stated as follows:

Transportation:	Authorized weight 3456 lbs. X (Cost of line haul) \$264.00 = \$930.17
	Weight shipped 3964 lbs.
Maximum amount authorized at Government expense.....	\$958.82

(6) **When shipment is made under reduced valuation other than that prescribed for the lowest applicable transportation rate.** A shipment released to value exceeding 20 cents but not exceeding 50 cents per lb., from Fort Oglethorpe, Ga., to San Antonio, Texas, is rated 525 lbs. @ \$5.33 per cwt., total cost of shipment: \$27.98.

Maximum amount authorized at Government expense, based on cost if released at valuation (10¢ per pound) for lowest applicable transportation rate 525 lbs. @ \$3.55 per cwt.; \$18.64.

(7) **When household goods in excess of weight allowance are shipped.**—(a) **Single ownership, in carload or truckload lots.** A Junior Assistant Surgeon of the Public Health Service shipped by rail (the means designated at Government expense) 8486 pounds of household goods and 1470 pounds of professional books, papers and equipment or a total weight of 9956 pounds, from Cameron, Virginia to Monroe, Georgia on a permanent change of station. The transportation charges were 9956 lbs. as 12,000 (C/L minimum weight) @ \$1.64 per cwt.; \$196.80.

Maximum amount authorized at Government expense, based on authorized weight allowance:

6,000 lbs. plus 25 percent for packing materials..... 7500
Professional books, papers, and equipment..... 1470
Total weight allowance..... 8970

Packing and crating service..... \$23.65

Transportation (line-haul)..... 264.00

Total cost of services rendered. 287.65

Maximum amount authorized at Government expense based on authorized allowances:

Prescribed weight allowance (3,000 lbs. plus 5%)..... 3,150
Professional books and papers..... 306
Total authorized weight allowance by van..... 3,456
Packing and crating cost..... \$23.65

(c) A portion by commercial van carrier; remainder by rail. An ensign of the Coast and Geodetic Survey was ordered to make a permanent change of station. He shipped a portion of his household goods by commercial van carrier. The remainder, which was packed and crated in accordance with carrier's requirements without expense to the Government, he forwarded by rail freight. Methods of transportation at Government expense designated by the Service concerned were those used by the owner. The cost of transportation was:

FIRST SHIPMENT	
6,090 lbs. by van (per contract) line-haul.....	\$230.00
Packing charges.....	10.00
Total cost by commercial van carrier.....	240.00
SECOND SHIPMENT	
2,125 lbs. by rail freight (actual cost) Pick-up service at origin @ 40¢ per cwt.....	\$8.50

Authorized weight 250 lbs. × (Total cost of shipment) \$53.13 = \$6.25
Actual weight 2,125 lbs.

Summary of maximum amount at Government expense.
1st shipment 5,800 lbs. net weight... \$240.00
2d shipment 200 lbs. net weight... 6.25

Total amount authorized at Government expense..... 246.25

(d) Shipments of more than one ownership, in carload or truckload lots. Three petty officers 3/c USCG were ordered from Cleveland, Ohio to Washington, D. C., on permanent change of station. In an emergency, they shipped their own household goods and professional books, papers, and equipment. The less-than-carload rate was \$1.40 per hundredweight, whereas the carload rate was \$1.19 per hundredweight with 12,000 pounds minimum per car. To save transportation costs, all shipments were consolidated into one carload and forwarded by rail freight under one name as consignor and consignee. Rail freight

SECOND SHIPMENT—Continued
Line-haul transportation @ \$1.20 per cwt..... \$25.50
Delivery at destination @ 35¢ per cwt..... 7.44
Unpacking at destination @ 55¢ per cwt..... 11.69

Total cost by rail freight..... 53.13
Total cost of all transportation..... 283.13
Maximum amount authorized at Government expense, based on prescribed net weight allowance of 6,000 pounds.
Relative net weight shipped:

Actual weight (pounds)	Relative net weight (pounds)
1st shipment, 6,090 lbs. by van (minus 21 or 290 lbs.).....	5,800
Remainder of prescribed net weight allowance.....	200
Government portion of second shipment—200 lbs. plus 25% (or 50 lbs.) = 250 lbs.	6,000

was designated as the means of transportation at Government expense.

Transportation charges were:
Actual weight of shipment by lots:

Lot "A": Household goods.....	Pounds	3,000
Prof. books, papers, and equipment.....		300
(Within authorized allowance).....		3,300
Lot "B": Household goods.....		3,200
Prof. books, papers, and equipment.....		200
(Within authorized allowance).....		3,400
Lot "C": Household goods.....		4,000
Prof. books, papers, and equipment.....		400
(250 lbs. excess weight involved).....		4,400
Total weight of all property shipped.....		11,100

Transportation costs: 11,100 lbs. as 12,000 lbs. (C/L Min. Weight) @ \$1.19 per cwt. = \$142.80.

Distribution of Transportation charges—

Lot "A" Weight of portion 3,300 lbs. × \$142.80 (Total cost of shipment) = \$42.45 Weight of shipment 11,100 lbs.	Lot "B" Weight of portion 3,400 lbs. × \$142.80 (Total cost of shipment) = \$43.74 Weight of shipment 11,100 lbs.
Lot "C" (GOVERNMENT PORTION) Weight of portion 4,150 lbs.* × \$142.80 (Total cost of shipment) = \$53.39 Weight of shipment 11,100 lbs.	Lot "C" (EXCESS COST) Excess weight 250 lbs. × \$142.80 (Total cost of shipment) = \$3.22 Weight of shipment 11,100 lbs.
Total cost of shipment.....	\$142.80

*Maximum portion of Lot "C" authorized at Government expense, based on authorized weight allowance:
Authorized allowance, 3,000 lbs. plus 25% or 750 lbs.----- 3,750
Professional books, papers, and equipment..... 400
----- 4,150

(8) When shipment contains both excess weight and unauthorized articles. An Army captain shipped by rail from Camp Carson, Colorado to Jefferson Barracks, Missouri on permanent change of station:—

Household goods (excess weight).....	Pounds	12,434
Professional books (authorized).....		1,013
Automobile (unauthorized).....		3,350
Total weight.....		16,797
Transportation charges assessed were 16,797 lbs. as 20,000 lbs. (C/L minimum weight) @ 90¢ per cwt.: \$180.00 Maximum amount authorized at Government expense, based on authorized allowances: 8,500 lbs. plus 25% for packing materials..... 10,625 Professional books and papers..... 1,013 Total weight authorized..... 11,638 Authorized weight 11,638 lbs. × (Total cost of shipment) \$180.00 = \$124.72 Total weight shipped 16,797 lbs.		

23. Claims for loss or damage—A. General. A claim for loss of, or damage to, household goods in transit is primarily a matter entirely between the owner and the carrier. Care should be taken by the owner to make demand in writing upon the last carrier known or believed to have handled the shipment. If more than one bill of lading, contract, or other shipping document was issued in connection with the shipment, a separate written demand should be made upon the last carrier under each such document. Such demand should be made upon the carrier within the time limit prescribed by statute, by regulations of the Interstate Commerce Commission or by other applicable limitation and, in any event

within 9 months after delivery of the shipment or, if no portion of the shipment was delivered, within 9 months after the date when delivery would have been made in the normal course. The liability of the carrier is governed by the terms of the bill of lading, contract, or other shipping document, and is usually limited to a specified amount per pound according to the valuation at which released by the owner. It is important that the owner accept from the carrier any payment correctly deter-

mined in satisfaction of the carrier's limited liability as above outlined. Copies of the claim and any subsequent demands with related correspondence, as well as the originals of any replies, should be retained by the owner for presentation with any claim subsequently filed against the Government under provisions of *e* below.

b. *Form of demand on carrier.* It is suggested that demands on carriers be made by letter in substantially the following form:

DEMAND ON CARRIER

(Date) _____

(Name of carrier) _____

(Address) _____

GENTLEMEN: Claim is presented by the undersigned for _____ (Loss or damage)

in connection with the following shipment

from _____ (Consignor) _____ (City, town or station)

to _____ (Consignee) _____ (City, town or station)

in connection with _____ No. _____ dated _____

(Bill of lading, contract, or baggage check)

covering shipment of _____

(Household goods, footlocker, flight bag, etc.)

described as follows:

Description of container (or of article if uncrated)	Approximate weight (lbs.)	Nature and extent of damage	Amount claimed
_____	_____	_____	\$ _____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Total amount of claim	_____	_____	_____

Detailed description of property lost or damaged, including identifying marks on containers:

Remarks:

Yours very truly _____

(Name)

 (Address)

c. *Surveying officer not to be appointed.* A surveying officer will not be appointed in cases of damage to or loss of household goods in transit: but an

officer will in each case investigate the matter and make report in the manner prescribed by the Service concerned.

d. *Payment to carrier not to be sus-*

pending or withheld. Payment to carrier cannot be suspended nor can money due carriers be withheld for the purpose of adjusting claims or reimbursing owners for loss or damage (15 Comp. Dec. 38; MS Comp. Gen. B-11970, 9 September 1940; and B-14598, 17 February 1941). The consignee will annotate bills of lading, contracts, or other shipping documents as prescribed by the Service concerned, and will notify the owner that this has been done. So as not to delay payment, owners will promptly certify such bills as may be required in connection with any accessorial services.

e. *Claims payable by Government in certain circumstances.* In certain circumstances, the Air Force, Army, Navy, Marine Corps, Coast Guard and Public Health Service are permitted by law to pay claims for loss of or damage to household goods. Such claims may be filed, in the manner and in circumstances prescribed by the Service concerned, for amounts not recoverable from the carrier. In the event the carrier denies liability it will be presumed that no amount is recoverable, and if the carrier fails to reply to the owner's demand or claim within a reasonable time it will be presumed that the carrier denies liability. Copies of such demand and of any subsequent demands and related correspondence, as well as originals of any replies, will accompany claims filed with the Service concerned. In cases where, under the provisions of *a* above, demand on a carrier is required and the owner fails to make such demand seasonably or fails to make reasonable efforts to collect the amount recoverable from the carriers, the amount otherwise payable under these provisions will be reduced by the maximum amount recoverable from the carrier if claim therefor had been filed with such carrier within the time limit, provided that it is not found that a demand in any event was impracticable or would have been unavailing.

[F. R. Doc. 49-3169; Filed, Apr. 20, 1949; 3:27 p. m.]

RULES AND REGULATIONS

TITLE 7—AGRICULTURE

Chapter I—Production and Marketing Administration (Standards, Inspection, Marketing Practices), Department of Agriculture

PART 51—FRUITS, VEGETABLES AND OTHER PRODUCTS (GRADING, CERTIFICATION AND STANDARDS)

UNITED STATES STANDARDS FOR POTATOES

On March 4, 1949, a notice of rule making was published in the FEDERAL REGISTER (F. R. Doc. 49-1618; 14 F. R. 988) regarding proposed revision of United States Standards for Potatoes. After consideration of all relevant mat-

ters, including the proposals set forth in the aforesaid notice, the following revised United States Standards for Potatoes are hereby promulgated under the authority contained in the Department of Agriculture Appropriation Act, 1949 (Pub. Law 712, 80th Cong., 2d Sess., approved June 19, 1948).

§ 51.366 *Standards for potatoes—*
 (a) *General.* (1) All percentages shall be calculated on the basis of weight.

(2) The tolerances for the standards are on a container basis. However, individual packages in any lot may vary from the specified tolerances as stated below, provided the averages for the entire lot, based on sample inspection, are within the tolerances specified.

(3) When the tolerance specified is 10 percent or more, individual packages in any lot may contain not more than one and one-half times the tolerance specified, except that at least one defective and one off-size specimen shall be permitted in a package.

(4) When the tolerance specified is less than 10 percent, individual packages in any lot may contain not more than double the tolerance specified, except that for frozen potatoes or those affected by soft rot or wet breakdown, not more than one-tenth of the packages may contain more than double the tolerance but not more than four times the tolerance specified, and except that one defective and one off-sized specimen shall be permitted in a package.

(b) *Grades*—(1) *U. S. Fancy*. U. S. Fancy shall consist of potatoes of one variety or similar varietal characteristics which are firm, mature, bright, well shaped, not frozen; which are free from freezing injury, blackheart, late blight, southern bacterial wilt, ring rot, shriveling, sprouting, soft rot or wet breakdown, hollow heart, and internal discoloration, and free from injury caused by dirt or other foreign matter, sunburn, second growth, growth cracks, air cracks, cuts, external discoloration, scab, dry rot, rhizoctonia, other disease, wireworm, other insects or mechanical or other means.

(i) The diameter of each potato shall be not less than 2 inches.

(ii) For long varieties such as Burbank, Russet Burbank, Early Ohio, White Rose, or other similar varieties, not less than 40 percent of the potatoes in any lot shall be 6 ounces or more in weight.

(iii) For round or intermediate shaped varieties such as Irish Cobbler, Katahdin, Bliss Triumph, Green Mountain, or other similar varieties, not less than 60 percent of the potatoes in any lot shall be $2\frac{1}{4}$ inches or larger in diameter.

(iv) The size of the potatoes may be stated in terms of minimum diameter or minimum weight, or of range in diameter or weight, or of a certain percentage over a certain size, following the grade name, but in no case shall the potatoes be below the sizes specified for this grade. (See *Tolerance for Size*.)

(v) *Tolerance for defects*: In order to allow for variations other than size, incident to proper grading and handling, not more than a total of 6 percent of the potatoes in any lot may fail to meet the requirements of the grade, but not more than 3 percent shall be allowed for potatoes affected by southern bacterial wilt, ring rot, or late blight, and including not more than 1 percent for potatoes which are frozen, or affected by soft rot or wet breakdown.

(2) *U. S. Extra No. 1*. U. S. Extra No. 1 shall consist of potatoes of one variety or similar varietal characteristics which are fairly well shaped, fairly clean, not frozen; which are free from freezing injury, blackheart, late blight, southern bacterial wilt, ring rot, and soft rot or wet breakdown, and from damage caused by sunburn, second growth, growth cracks, air cracks, hollow heart, internal discoloration, external discoloration, cuts, shriveling, sprouting, scab, dry rot, rhizoctonia, other disease, wireworm, other insects or mechanical or other means. (See *Skinning Classification*.)

(i) Unless otherwise specified, size of potatoes (See *Size Classification and Tolerance for Size*) shall be as follows:

(ii) The diameter of each potato shall be not less than $1\frac{1}{8}$ inches.

(iii) For long varieties such as Burbank, Russet Burbank, Early Ohio, White Rose, or other similar varieties, not less than 60 percent of the potatoes in the lot shall be 6 ounces or larger, of which not less than one-half, or 30 percent, shall be 10 ounces or more in weight.

(iv) For round or intermediate shaped varieties, such as Irish Cobbler, Katahdin, Bliss Triumph, Green Mountain or other similar varieties, not less than 60 percent of the potatoes in the lot shall

be $2\frac{1}{4}$ inches or larger, of which not less than one-half, or 30 percent, shall be $2\frac{3}{4}$ inches, or larger in diameter.

(v) *Tolerance for defects*: In order to allow for variations other than size, hollow heart, and internal discoloration, incident to proper grading and handling, not more than a total of 6 percent of the potatoes in any lot may fail to meet the requirements of the grade, but not more than 3 percent shall be allowed for potatoes affected by southern bacterial wilt, ring rot, or late blight, and including not more than 1 percent for potatoes which are frozen, or affected by soft rot or wet breakdown. In addition, not more than 5 percent may be damaged by hollow heart, and internal discoloration.

(3) *U. S. No. 1*. U. S. No. 1 shall consist of potatoes of one variety or similar varietal characteristics which are fairly well shaped, not frozen; which are free from freezing injury, blackheart, late blight, southern bacterial wilt, ring rot, and soft rot or wet breakdown, and from damage caused by dirt or other foreign matter, sunburn, second growth, growth cracks, air cracks, hollow heart, internal discoloration, external discoloration, cuts, shriveling, sprouting, scab, dry rot, rhizoctonia, other disease, wireworm, other insects or mechanical or other means. (See *Skinning Classification*.)

(i) Unless otherwise specified the diameter of each potato shall be not less than $1\frac{1}{8}$ inches. (See *Size Classification and Tolerance for Size*.)

(ii) *Tolerance for defects*: In order to allow for variations other than size, hollow heart, and internal discoloration, incident to proper grading and handling, not more than a total of 6 percent of the potatoes in any lot may fail to meet the requirements of the grade, but not more than 3 percent shall be allowed for potatoes affected by southern bacterial wilt, ring rot, or late blight, and including not more than 1 percent for potatoes which are frozen, or affected by soft rot or wet breakdown. In addition, not more than 5 percent may be damaged by hollow heart and internal discoloration.

(4) *U. S. Commercial*. U. S. Commercial shall consist of potatoes which meet the requirements for U. S. No. 1 grade except that they shall be free from serious damage by dirt and except for the increased tolerance for defects specified below. (See *Skinning Classification*.)

(i) Unless otherwise specified, the diameter of each potato shall be not less than $1\frac{1}{8}$ inches. (See *Size Classification and Tolerance for Size*.)

(ii) *Tolerance for defects*: In order to allow for variations other than size and sprouting, incident to proper grading and handling, not more than a total of 20 percent of the potatoes in any lot may fail to meet the requirements of the grade, but not more than 5 percent may be seriously damaged by hollow heart and internal discoloration and not more than 6 percent may fail to meet the remaining requirements of U. S. No. 2 grade, but not more than one-half of this amount, or 3 percent, shall be allowed for potatoes affected by southern bacterial wilt, ring rot, or late blight and including not more than 1 percent for potatoes which are frozen, or affected by

soft rot or wet breakdown. In addition, not more than 10 percent of the potatoes may have sprouts over $\frac{3}{4}$ inch long, but which are not seriously damaged by shriveling, provided, that if all of the 20 percent tolerance is not used for other defects, the unused part of the tolerance may also be used for potatoes having sprouts over $\frac{3}{4}$ inch long but which are not seriously damaged by shriveling.

(5) *U. S. No. 2*. U. S. No. 2 shall consist of potatoes of one variety or similar varietal characteristics which are not seriously misshapen, or frozen; which are free from freezing injury, blackheart, late blight, southern bacterial wilt, ring rot, and soft rot or wet breakdown, and from serious damage caused by dirt or other foreign matter, sunburn, second growth, growth cracks, air cracks, hollow heart, internal discoloration, external discoloration, cuts, shriveling, scab, dry rot, other disease, wireworm, other insects or mechanical or other means. (See *Skinning Classification*.)

(i) Unless otherwise specified the diameter of each potato shall be not less than $1\frac{1}{2}$ inches. (See *Size Classification and Tolerance for Size*.)

(ii) *Tolerance for defects*: In order to allow for variations other than size, hollow heart, and internal discoloration, incident to proper grading and handling, not more than a total of 6 percent of the potatoes in any lot may fail to meet the requirements of the grade, but not more than 3 percent shall be allowed for potatoes affected by southern bacterial wilt, ring rot, or late blight, and including not more than 1 percent for potatoes which are frozen, or affected by soft rot or wet breakdown. In addition, not more than 5 percent may be seriously damaged by hollow heart and internal discoloration.

(c) *Size classification for all grades except U. S. Fancy*. (1) When the potatoes are designated as "U. S. No. 1," "U. S. commercial," or "U. S. No. 2" without specifying a size classification, it is understood that the potatoes meet the minimum size specified in the grade but that no definite percentage of the potatoes is required to be larger than this minimum size.

(2) When potatoes meet the requirements of Size A or Size B as described below, the size classification may be specified in connection with any of the U. S. grades except U. S. Fancy, as: "U. S. No. 1, Size A"; "U. S. Extra No. 1, Size A"; "U. S. Commercial, Size B"; "U. S. No. 1, Size B"; "U. S. No. 2, Size A"; or "U. S. No. 2, Size B"; in accordance with the facts. When Size A or Size B is used in connection with the grade, it is not permissible to specify any smaller sizes than those specified under these designations.

(3) *Size A*: (i) For long varieties such as Burbank, Russet Burbank, Early Ohio, White Rose, or other similar varieties, the diameter of each potato shall be not less than $1\frac{1}{8}$ inches and not less than 40 percent of the potatoes in the lot shall be 6 ounces or more in weight.

(ii) For round or intermediate shaped varieties such as Irish Cobbler, Katahdin, Bliss Triumph, Green Mountain, or other similar varieties, the diameter of each potato shall be not less than $1\frac{1}{8}$ inches and not less than 60 percent of the

potatoes in the lot shall be $2\frac{1}{4}$ inches or larger in diameter.

(4) Size B: For all varieties the size shall be from $1\frac{1}{2}$ inches to not more than 2 inches in diameter.

(5) Other sizes: When any of the above size designations are not used in connection with U. S. Extra No. 1, U. S. No. 1, U. S. Commercial, or U. S. No. 2 grades, it is permissible to specify any other minimum size such as " $1\frac{1}{2}$ inches minimum," " 2 inches minimum"; or both a minimum and a maximum size as " $1\frac{7}{8}$ inches to 3 inches," " 6 to 10 ounces"; or to specify a certain percentage over a certain size as " 25 percent or more $2\frac{1}{4}$ inches and larger," " 50 percent or more 6 ounces and larger."

(6) Tolerance for size: (i) In order to allow for variations incident to proper sizing, not more than 3 percent of the potatoes in any lot may fail to meet the specified minimum size except that a tolerance of 5 percent shall be allowed for potatoes packed to meet a minimum size of $2\frac{1}{4}$ inches or more in diameter, or 6 ounces or larger in weight. In addition, not more than 15 percent may fail to meet any specified maximum size.

(ii) When a percentage of the potatoes is specified to be of a certain size and larger, no part of any tolerance shall be used to reduce such a percentage for the lot as a whole, but individual containers may have not more than 15 percent less than the percentage required or specified, provided that the entire lot averages within the percentage specified. For example, a lot specified as 25 percent $2\frac{1}{2}$ inches and larger may have containers with not less than 10 percent $2\frac{1}{2}$ inches and larger provided the lot as a whole averages 25 percent $2\frac{1}{2}$ inches and larger.

(d) *Skinning classification.* (1) "Practically no skinning" means that not more than 5 percent of the potatoes in any lot have more than one-tenth of the skin missing or "feathered."

(2) "Slightly skinned" means that not more than 10 percent of the potatoes in any lot have more than one-fourth of the skin missing or "feathered."

(3) "Moderately skinned" means that not more than 10 percent of the potatoes in any lot have more than one-half of the skin missing or "feathered."

(4) "Badly skinned" means that more than 10 percent of the potatoes in any lot have more than one-half of the skin missing or "feathered."

(e) *Unclassified.* Unclassified shall consist of potatoes which have not been classified in accordance with any of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards but is provided as a designation to show that no definite grade has been applied to the lot.

(f) *Definitions.* (1) "Mature" means that the outer skin (epidermis) does not loosen or "feather" readily during ordinary handling and that practically no skin has been removed from the potatoes.

(2) "Bright" means practically free from dirt or other foreign matter, and that the outer skin (epidermis) has the attractive color normal for the variety.

(3) "Well shaped" means the normal shape for the variety and that the potato is not pointed, dumbbell-shaped, excessively elongated, or otherwise ill-formed.

(4) "Soft rot or wet breakdown" means any soft, mushy, or leaky condition of the tissue such as slimy soft rot, leak, or wet breakdown following freezing injury or sunscald.

(5) "Internal discoloration" means discoloration such as is caused by net necrosis or any other type of necrosis, stem-end browning, internal brown spot, or other similar types of discoloration not visible externally, except blackheart.

(6) "Injury" means any defect which more than slightly affects the edible or shipping quality, or the appearance of the individual potato or the general appearance of the potatoes in the container, or which cannot be removed without a loss of more than 2 percent of the total weight of the potato including peel covering defective area.

(7) "Diameter" means the greatest dimension at right angles to the longitudinal axis. The long axis shall be used without regard to the position of the stem (rhizome).

(8) "Fairly well shaped" means that the appearance of the individual potato or the general appearance of the potatoes in the container is not materially injured by pointed, dumbbell-shaped or otherwise ill-formed potatoes.

(9) "Fairly clean" means that from the viewpoint of general appearance, the potatoes in the container are reasonably free from dirt or other foreign matter and that individual potatoes are not materially caked with dirt or materially stained.

(10) "Damage" means any injury or defect which materially injures the edible or shipping quality, or the appearance of the individual potato or the general appearance of the potatoes in the container, or which cannot be removed without a loss of more than 5 percent of the total weight of the potato including peel covering defective area. Any one of the following defects or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect shall be considered as damage:

(i) Second growth or growth cracks which have developed to such an extent as to materially injure the appearance of the individual potato or the general appearance of the potatoes in the container.

(ii) Air cracks which are deep, or shallow air cracks which materially injure the appearance of the individual potato or the general appearance of the potato in the container.

(iii) External discoloration, when skinned areas on individual potatoes are materially affected by dark discoloration, or when the general appearance of the lot is materially affected by discoloration.

(iv) Shriveling, when the potato is more than moderately shriveled, spongy, or flabby.

(v) Sprouting, when more than 10 percent of the potatoes have sprouts over three-fourths of an inch long.

(vi) Surface scab which covers an area of more than 5 percent of the surface of the potato in the aggregate.

(vii) Pitted scab which affects the appearance of the potato to a greater extent than the amount of surface scab permitted or causes a loss of more than 5 percent of the total weight of the potato including peel covering defective area.

(viii) Rhizoctonia, when the general appearance of the potatoes in the container is materially injured or when individual potatoes are badly infected.

(ix) Wireworm, grass root or similar injury, when any hole, on potatoes ranging in size from 6 to 8 ounces, is longer than $\frac{3}{4}$ inch or when the aggregate length of all holes is more than $1\frac{1}{4}$ inches. Smaller potatoes shall have lesser amounts and larger potatoes may have greater amounts, provided that the removal of the injury by proper trimming does not cause the appearance of such potatoes to be injured to a greater extent than that caused by the proper trimming of such injury permitted on a 6 to 8 ounce potato.

(x) Dirt, when the general appearance of the potatoes in the container is more than slightly dirty or stained, or when individual potatoes are badly caked with dirt or badly stained; or other foreign matter which materially affects the appearance of the potatoes.

(11) "Serious damage" means any injury or defect which seriously injures the edible or shipping quality, or the appearance of the individual potato or the general appearance of the potatoes in the container, or which cannot be removed without a loss of more than 10 percent of the total weight of the potato including peel covering defective area. Any one of the following defects or any combination of defects the seriousness of which exceeds the maximum allowed for any one defect shall be considered as serious damage:

(i) Dirt, when the general appearance of the potatoes in the container is seriously affected by tubers badly caked with dirt; or other foreign matter which seriously affects the appearance of the potatoes.

(ii) External discoloration, when skinned areas on individual potatoes are seriously affected by very dark discoloration, or when the general appearance of the lot is seriously affected by discoloration.

(iii) Fairly smooth cuts such as are made by the digger or by a knife to remove injury, when both ends are clipped, or when more than an estimated one-fourth of the potato is cut away, or, in the case of long varieties, when the remaining portion of the clipped potato weighs less than 6 ounces. Irregular types of cuts which seriously affect the appearance of the individual potato, or which cannot be removed without a loss of more than 10 percent of the total weight of the potato including peel covering defective area.

(iv) Shriveling, when the potato is excessively shriveled, spongy or flabby.

(v) Surface scab which covers an area of more than 50 percent of the surface of the potato in the aggregate.

(vi) Pitted scab which affects the appearance of the potato to a greater extent than the amount of surface scab permitted or causes a loss of more than 10 percent of the total weight of the

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

[CGFR 49-21]

MOTORBOAT OPERATORS' EXAMINATIONS; EXAMINATIONS FOR CERTIFICATES OF EFFICIENCY OR SERVICE; ELECTRICAL CONTROL OF VENTILATION SYSTEMS ON MERCHANT VESSELS

A notice regarding proposed changes in the requirements for professional examinations to obtain licenses as motorboat operators, proposed changes in requirements for applicants for certificates of service or efficiency, other than for entry ratings, and proposed changes in the electrical control of ventilation systems on passenger vessels was published in the FEDERAL REGISTER, dated February 26, 1949 (14 F. R. 898), and a public hearing was held by the Merchant Marine Council on March 29, 1949, at Washington, D. C.

The purpose for canceling the exemption for an applicant for a motorboat operator's license who is not able to read or write, if he is qualified in all other respects and possesses extensive experience in the operation of small vessels, is to promote safety. Many written regulations, recommended practices, constructions, safety hints, etc., are being distributed to motorboat operators for their guidance. An operator's inability to read may result in his ignorance of practices essential to safety.

The purpose of the amendments regarding English language requirements for applicants for certificates of service or efficiency, other than for entry ratings, is to improve safety of life at sea, and will require future applicants for ratings as able seaman, lifeboatman, qualified member of engine department, and tankerman to be able to speak and understand the English language, and that any examination conducted in connection therewith will be given only in the English language.

The purpose of the amendment regarding the electrical control of ventilation systems on passenger vessels is that present requirements have specific reference to the control of machinery space ventilation from the fire control room or wheelhouse, which may prove to be hazardous, and further that such location of said control is unnecessary.

These amendments shall become effective ninety days after date of publication of this document in the FEDERAL REGISTER, except for the amendment to 46 CFR 144.25 (j), which shall become effective upon date of publication in the FEDERAL REGISTER because it is a relaxation from present requirements.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by R. S. 4405, as amended, and section 101 of Reorganization Plan No. 3 of 1946, 46 U. S. C. 1, 375, as well as the statutes cited with the regulations below, the following amendments to the regulations are prescribed:

Subchapter B—Merchant Marine Officers and Seamen

PART 10—LICENSING OF OFFICERS AND MOTORBOAT OPERATORS AND REGISTRATION OF STAFF OFFICERS

SUBPART 10.20—MOTORBOAT OPERATORS' LICENSES

Section 10.20-5 (c) is amended to read as follows:

* * * § 10.20-5 Professional examinations.

(c) If the applicant has operated motorboats under the license issued under the act of June 9, 1910, he shall be held to possess the required experience but must qualify in all other respects. (Sec. 17, 54 Stat. 166, as amended; 46 U. S. C. 526 p)

PART 12—CERTIFICATION OF SEAMEN

SUBPART 12.05—ABLE SEAMEN

1. Section 12.05-3 (a) is amended by deleting the word "and" from the end of subparagraph (3), by changing the period at the end of subparagraph (4) to a semicolon, and by adding the word "and" immediately thereafter, and by adding the following new subparagraph (5):

* * * § 12.05-3 General requirements. (a)

(5) Be able to speak and understand the English language as would be required in the rating of able seaman and in an emergency aboard ship. (R. S. 4417a, 4451, as amended, sec. 13, 38 Stat. 1169, 49 Stat. 1544, 1936, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 643, 672, 689, and 50 U. S. C. 1275)

2. Section 12.05-9 (b) is amended by changing the first sentence to read as follows:

* * * § 12.05-9 Examination and demonstration of ability. * * *

(b) The oral or written examination shall be conducted only in the English language and shall consist of questions regarding: * * * (R. S. 4417a, 4451, as amended, sec. 13, 38 Stat. 1169, 49 Stat. 1544, 1936, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 643, 672, 689, and 50 U. S. C. 1275)

SUBPART 12.10—LIFEBOATMAN

3. Section 12.10-3 is amended by adding a new paragraph (b), reading as follows:

* * * § 12.10-3 Service or training requirements. * * *

(b) An applicant, to be eligible for certification as lifeboatman, shall be able to speak and understand the English language as would be required in the rating of lifeboatman and in an emergency aboard ship. (R. S. 4417a, 4488, as amended, 49 Stat. 1544, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 481, and 50 U. S. C. 1275)

4. Section 12.10-5 (b) is amended by changing the first sentence thereof to read as follows:

potato including peel covering defective area.

(vii) Wireworm, grass root or similar injury, when any hole, on potatoes ranging in size from 6 to 8 ounces, is longer than 1¼ inches or when the aggregate length of all holes is more than 2 inches. Smaller potatoes shall have lesser amounts and larger potatoes may have greater amounts, provided that the removal of the injury by proper trimming does not cause the appearance of such potatoes to be injured to a greater extent than that caused by the proper trimming of such injury permitted on a 6 to 8 ounce potato.

(g) *Effective time.* The revised United States Standards for Potatoes contained in this section shall become effective June 1, 1949 (Pub. Law 712, 80th Cong.).

Done at Washington, D. C., this 18th day of April, 1949.

[SEAL] JOHN I. THOMPSON,
Assistant Administrator, Production and Marketing Administration.

[F. R. Doc. 49-3150; Filed, Apr. 21, 1949; 8:52 a. m.]

TITLE 19—CUSTOMS DUTIES

Chapter I—Bureau of Customs, Department of the Treasury

[T. D. 52194]

PART 10—ARTICLES CONDITIONALLY FREE, SUBJECT TO A REDUCED RATE, ETC.

REGISTRATION OF VALUABLE EFFECTS

Section 10.28, Customs Regulations of 1943, relating to the registration of valuable effects of foreign origin by the owner prior to his departure from the United States, amended.

Section 10.28, Customs Regulations of 1943 (19 CFR, Cum. Supp., 10.28), as amended, is hereby further amended by designating the first paragraph thereunder as "(a)," by deleting the parenthetical matter at the end of that paragraph, and by adding a new paragraph reading as follows:

(b) In the case of resident seamen and airmen who make recurrent voyages while pursuing their occupation, customs Form 4457 may be issued, in lieu of customs Form 4455, to cover cameras and photographic equipment, binoculars, sextants, radios, and other valuable effects of foreign origin. This certificate shall be effective for a period of 2 years from the date of its issuance. (Secs. 493, 624, 46 Stat. 728, 759; 19 U. S. C. 1498, 1624)

[SEAL] FRANK DOW,
Acting Commissioner of Customs.

Approved: November 8, 1948.

JOHN S. GRAHAM,
Acting Secretary of the Treasury.

[F. R. Doc. 49-3123; Filed, Apr. 21, 1949; 8:49 a. m.]

§ 12.10-5 *Examination and demonstration of ability.* * * *

(b) The oral examination shall be conducted only in the English language and shall consist of questions regarding: * * * (R. S. 4417a, 4488, as amended, 49 Stat. 1544, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 481, and 50 U. S. C. 1275)

SUBPART 12.15—QUALIFIED MEMBER OF ENGINE DEPARTMENT

5. Section 12.15-3 is amended by adding a new paragraph (c), reading as follows:

§ 12.15-3 *General requirements.* * * *

(c) An applicant, to be eligible for certification as qualified member of the engine department, shall be able to speak and understand the English language as would be required in the rating of qualified member of the engine department and in an emergency aboard ship. (R. S. 4417a, 49 Stat. 1544, 1936, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 672, and 689, 50 U. S. C. 1275)

6. Section 12.15-9 (a) is amended to read as follows:

§ 12.15-9 *Examination requirements.*

(a) Applicants for certification as qualified members of the engine department in the ratings of oiler, watertender, fireman, deck engineer, refrigerator engineer, junior engineer, electrician, and machinist shall be examined orally or in writing and only in the English language on the subjects listed in paragraph (b) of this section. The applicant's general knowledge of the subjects must be sufficient to satisfy the examiner that he is qualified to perform the duties of the rating for which he makes application. * * * (R. S. 4417a, 49 Stat. 1544, 1936, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 672, and 689, 50 U. S. C. 1275)

SUBPART 12.20—TANKERMAN

7. Section 12.20-1 is amended by adding a new paragraph (d), reading as follows:

§ 12.20-1 *General requirements.* * * *

(d) An applicant, to be eligible for certification as tankerman, shall be able to speak and understand the English language as would be required in the rating of tankerman and in an emergency aboard ship. (R. S. 4417a, 49 Stat. 1544, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, and 50 U. S. C. 1275)

8. Section 12.20-5 is amended to read as follows:

§ 12.20-5 *Examination requirements.*

Any applicant for certification as tankerman must prove to the satisfaction of the Coast Guard by an oral or written examination conducted only in the English language that he is familiar with the general arrangement of cargo tanks, suction and discharge pipe lines and valves, cargo pumps and cargo hose, and has been properly trained in the actual operation of cargo pumps, all other operations connected with the loading and discharging of cargo, and the use of fire extinguishing equipment. (R. S. 4417a, 49 Stat. 1544, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, and 50 U. S. C. 1275)

Subchapter M—Construction or Material Alteration of Passenger Vessels of the United States of 100 Gross Tons and Over Propelled by Machinery

PART 144—CONSTRUCTION OR MATERIAL ALTERATION OF PASSENGER VESSELS OF THE UNITED STATES OF 100 GROSS TONS AND OVER PROPELLED BY MACHINERY

Section 144.25 (j) is amended to read as follows:

§ 144.25 *Ventilation.* * * *

(j) All electrical ventilation systems shall be provided with remote control means for stopping the motors in case of fire or other emergency. For the machinery space ventilation there shall be provided a control located in the passageway leading to, but outside of, the space; for all other ventilation systems, two stations shall be provided, one located in the fire control room or wheelhouse, and the second located as distant as practicable, except that the main bus feeding power to the equipment for these systems may be considered as the second station. These emergency control push button stations shall be protected by installing glass doors on which there will be marked "In case of fire break glass and push button to stop ventilation." Each push button shall be provided with a name plate identifying the system with which it is associated. This remote control system shall be of the under-voltage protection type and so arranged that damage to the master switch or cable will automatically stop the fans. Steam powered ventilation systems shall have a remote control for the steam valve located in an accessible location outside the space affected by the ventilation system. (Sec. 5, 49 Stat. 1384, sec. 2, 54 Stat. 1028, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 369, 463a, and 50 U. S. C. 1275)

Dated: April 18, 1949.

[SEAL] MERLIN O'NEILL,
Rear Admiral, U. S. Coast Guard,
Acting Commandant.

[F. R. Doc. 49-3124; Filed, Apr. 21, 1949;
8:49 a. m.]

PROPOSED RULE MAKING

FEDERAL SECURITY AGENCY

Food and Drug Administration

[21 CFR, Part 19]

[Docket No. FDC 46]

CHEESES, PROCESSED CHEESES, CHEESE FOODS, CHEESE SPREADS, AND RELATED FOODS; DEFINITIONS AND STANDARDS OF IDENTITY

NOTICE OF PROPOSED RULE MAKING

In the matter of amending the definitions and standards of identity for cheddar cheese, washed curd cheese, and colby cheese and to establish definitions and standards of identity for other cheeses, processed cheeses, cheese foods, cheese spreads, and related foods:

It is proposed that, by virtue of the authority vested in the Federal Security Administrator by the provisions of the Federal Food, Drug, and Cosmetic Act (secs. 401, 701; 52 Stat. 1046, 1055; 21 U. S. C. 341, 371), and upon the basis of substantial evidence received at the public hearing held pursuant to the notice published in the FEDERAL REGISTER on February 21, 1947 (12 F. R. 1192), and upon consideration of proposed findings of fact filed by interested parties which are adopted in part and rejected in part as is apparent from the detailed findings made below, the following order be made:

*Findings of fact.*¹ 1. Definitions and standards of identity have heretofore been adopted for a number of varieties of cheese. There are in addition to these a large number of other varieties sold in the United States. Some varieties of cheese manufactured in the United States are also made in other parts of the world and imported into the United States. There are a few varieties of cheese obtained only by importation. Many varieties of cheese now manufactured in the United States originated in foreign countries and the methods of manufacture after introduction here were modified to suit domestic conditions. A particular variety of cheese, whether of domestic or foreign manufacture, is generally sold under the same designation. (R. 322, 557, 709, 1365, 1475, 1499, 2994, 3411, 3414-3415, 3995, 3999-4000, 4258-4264, 4305, 4550, 4598, 5005, 5062, 5255, 5258, 5264, 5315; Ex. 25, 94, 21 CFR, Part 19)

2. Many varieties of cheese are well known and widely distributed and used. Others have limited distribution and are known to relatively small numbers of consumers. It is impracticable to adopt a definition and standard of identity for every known variety of cheese, but it is practicable to adopt definitions and standards of identity for important varieties and to adopt class standards which will include most of the varieties for which no specific standards are adopted. (R. 322, 699-701, 719-720,

1292-1296, 1423, 2994, 4258; Ex. 26, 75B 94)

3. The basis for classifying cheeses differs according to the purpose of the classification. A reasonable and practical method of classifying cheeses for standardization purposes which is informative to consumers is one based on differences in the consistency of the finished cheese. Under such a classification there are five main classes:

- (1) Hard grating cheese.
- (2) Hard cheese.
- (3) Semisoft cheese.
- (4) Soft uncured cheese.
- (5) Soft cured cheese.

(R. 719-720, 1292-1296, 1315-1428, 2983, 2987, 2989, 3395, 3514-3515, 3517-3518, 3966)

4. Cheeses in each class may be made from whole milk or partly skimmed milk. Generally speaking, hard grating cheeses are made from partly skimmed milk, while cheeses in the other classes are generally made from whole milk. However, there are a number of varieties of cheese in the semisoft class which have been made from partly skimmed milk for many years. It is impracticable to adopt separate standards for all these, but it is reasonable to subdivide the semisoft cheeses into two classes, semisoft cheeses and semisoft part-skim cheeses. (R. 731, 1316, 1366, 1375-1376, 1460, 2917, 2973, 3421, 3529, 3901-3902, 3966-3967, 4134, 4155; Ex. 95)

5. There are a number of varieties of cheese which are rendered distinctive by spices added to them rather than by their consistency. Some varieties of spiced cheeses are made from whole milk, and other well-known varieties are made from partly skimmed milk. It is impracticable to adopt separate standards for all varieties of spiced cheeses, but it is reasonable to subdivide spiced cheeses into two classes, spiced cheeses and part-skim spiced cheeses. (R. 1087, 1094-1096, 1130-1131, 1139-1140, 1162, 1169-1170, 1683, 1687, 1705-1706, 3832, 4904-4905, 5014-5015, 5247, 5281)

6. In addition to foods that may be accurately classified as cheeses, there are a number of foods made largely from cheese whey which do not belong to any of the classes named in finding 3, although their names indicate that they are some kind of cheese. These foods may be classed as whey cheeses and are discussed in other findings. (R. 5243, 5249-5250, 5254, 5256, 5277, 5312, 5319)

7. In each class there are a number of varieties of cheese having different names. It is impracticable from the evidence of record to adopt definitions and standards of identity for each of these cheeses. It will be of advantage to consumers to adopt definitions and standards of identity for the more important varieties, leaving the varieties of lesser importance subject to regulation by the provisions of the definitions and standards of identity for the class. (R. 311, 1018-1019, 1102, 1111, 1292-1294, 1310-1311, 1322, 1374-1376, 3428-3429, 4512; Ex. 26)

8. If a variety of cheese which falls into one of the classes for which standards are adopted has a common or usual name that has become generally recognized, it is proper to use such name in addition to the class name in designating that variety of cheese. As new cheeses are developed which fall into the class standards there will be no common name generally recognized for such cheeses, and in such cases a brand or fanciful name may be used (in addition to the class name) if it is not false or misleading. In order to insure that the purchaser will know that the cheese is a member of a class for which there is a standard, the class name should immediately precede or follow the brand or fanciful name. (R. 731, 1111, 1133-1134, 1322-1323, 1374, 1459, 1638, 3414, 3428-3429, 3440, 5006)

9. Definitions and standards of identity have heretofore been adopted for all the most important varieties of soft uncured cheeses, and no class standard is needed at the present time. (21 CFR 19.515-19.530)

10. The basic constituents of all varieties of cheese, except the so-called whey cheeses, are the coagulated proteins of milk, with more or less milk fat and water. The water holds in solution some of the soluble constituents present in milk, particularly milk sugar and mineral matter. In making most varieties a curd is prepared, drained, salted, and shaped. Usually this curd is aged or cured; some varieties are further treated to impart to the cheese the characteristics of the particular variety. The animal origin of the milk, its fat and moisture content, variations in the methods of preparing the curd, and the different treatments to which the curd is subjected are some of the factors which result in different physical and chemical properties in the cheese and give rise to the large number of varieties of cheese known to consumers. (R. 147, 1060, 1112, 1114, 1296-1297, 1366, 2915, 3288, 3370, 3395, 3583, 3924, 3961, 3963, 3981, 3983, 5351-5352; Ex. 26)

11. Basically, the starting point for all varieties of cheese is milk. Most varieties are made from cow's milk, but some are made from sheep's milk, some from goat's milk, and some from a mixture of one or both of these milks with cow's milk. The animal origin of the milk has some effect on the characteristics of the cheese, and when sheep's milk or goat's milk is used in combination with cow's milk consumers are interested and should be informed of this fact. (R. 1320, 1324, 1552, 1611, 1661-1662, 1702, 2913, 2970, 2974, 3369-3370, 3583, 3961, 3963, 3981, 3983, 4015, 5063, 5354; Ex. 26)

12. In preparing milk for use in cheese making, it is customary to adjust the milk so that the ratio of milk fat to the nonfat milk solids will be at a desired and predetermined level. Such adjustment may be made by removing part of the milk fat in the form of cream or by adding fresh skim milk. A few varieties of cheese are made from milk from which practically all the fat has been separated.

¹The citations following each finding of fact refer to the pages of the transcript of the testimony and the exhibits received in evidence at the hearing.

In areas of the United States where no fresh skim milk is readily available, milk is adjusted for cheese making by adding nonfat dry milk solids and water, or concentrated skim milk and water. Milk so adjusted is suitable for cheese making. (R. 329, 393, 448-450, 875, 881-882, 2658-2660, 2882-2883, 2887, 2896, 3102, 3507, 4345-4346, 5054; Ex. 64, 65, 67)

13. In preparing milk for cheese making, a process known as "clarification" is sometimes used. In this process the milk is centrifuged for the primary purpose of removing small particles naturally present in the milk and which might later have an adverse effect on the cheese. Clarification is widely used in preparing milk for making swiss cheese. Clarified milk is also suitable for making other cheeses. (R. 439-440, 447-448, 674-675, 952-953, 955)

14. In the manufacture of all types of cheese for which standards are now being considered, it is the general custom to bring about a coagulation of the casein of the milk with an enzyme known as rennin, which is obtained from the stomach of the calf. Commercially prepared preparations of this enzyme are commonly known as rennet. In the manufacture of a few varieties of cheese coagulation of the casein is accomplished by the use of rennet paste or an extract of rennet paste. Rennet paste is the ground stomach of a calf or kid. Extract of rennet paste is the water extract of either such material. In addition to the enzymes that coagulate the milk, commercial rennet and rennet paste also contain other enzymes which aid in curing some types of cheese. At times some milk is deficient in calcium content. This condition retards its coagulation with rennet. The addition of small amounts of calcium chloride often aids coagulation in such instances. If, through the use of calcium chloride, the amount of rennet is substantially reduced the curing of some types of cheeses may be retarded. In manufacturing cheeses from milk which is deficient in calcium, the advantages gained from using calcium chloride outweigh the possibility of undesirable results from reduced amounts of rennet. It is reasonable to require that when calcium chloride is used that it be purified, and that no more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of the milk be used. (R. 216, 225, 228, 332-333, 374-375, 742-743, 756, 1352, 1408, 1721-1723, 1746-1747, 1753, 1757, 3063-3071, 3759-3760, 4106, 4992, 5299; Ex. 14, 26)

15. One of the factors which serves, in part, to differentiate one variety of cheese from another is the moisture content of the cheese. The moisture comes from the water content of the milk, or adjusted milk, used, and sometimes from the water used in treating the curd. The amount of water in the finished cheese can be regulated to a great extent by the method of manufacture. Often a cheese otherwise similar to a normal cheese of a given variety is produced with excessive moisture. This excess moisture is worthless and as a makeweight tends to defraud the consumer. Wherever reasonably possible it is in the interest of the consumer to set a maximum

limit on the moisture content of each variety or class of cheese. (R. 719, 1059-1060, 1114, 1293-1294, 1313, 1344, 1463, 1485, 1509)

16. Among the factors which determine the fat content of a cheese are the fat content of the milk used, the method of manufacture, and the moisture content of the cheese. It has become the custom to measure the fat content of most cheeses in terms of the percent of fat in the solids of the cheese. This is usually an accurate index of the fat content of the milk used. In the United States most cheeses are made from what is generally referred to as "whole milk" to distinguish it from skimmed milk or partly skimmed milk. The term "whole milk cheese" has come to mean in the United States a cheese of not less than 50 percent milk fat in the dry matter of the cheese. In other countries the milk used for cheese making is in general of the same composition as milk used in the United States, but it is customary in many countries to remove some cream before making cheese, and in some European countries a cheese is considered to have been made from whole milk if it contains not less than 45 percent of milk fat in the dry matter. Certain varieties of cheese have long been made only from skimmed milk or partly skimmed milk, and in adopting standards for such cheeses it is customary to prescribe a minimum of less than 50 percent fat in the dry matter. The actual minimum limit varies, depending on the variety. (R. 709, 828, 1028-1029, 1296-1297, 1317, 1333, 1344, 1428, 1460, 1485, 1493-1494, 1497, 1699, 3402, 3409, 3507, 3525, 4345-4346, 4374, 5004-5005, 5054, 5247, 5303-5304; Ex. 242)

17. The properties and characteristics which differentiate one variety of cheese from another are often difficult to define and measure objectively. They result from variations in raw materials and in methods of preparation. By prescribing the raw materials to be used and the method of manufacture which produces cheese of the variety desired, together with limits for the fat and moisture content of the finished cheese, a practicable and reasonable definition and standard of identity can be formulated. The critical points in the method of manufacture should be sufficiently definite for an experienced cheese maker to follow and, under normal conditions, to obtain a cheese of the variety defined. Variations from the prescribed method of manufacture should be permitted provided the physical and chemical properties of the finished cheese are the same as when the prescribed method of manufacture is used. (R. 27, 34-35, 144, 149, 562-563, 669-670, 692, 758, 850, 855, 1025, 1402, 1428, 1456-1457, 1497, 3395-3398, 3517, 3520; Ex. 26)

18. The characteristics of a particular variety of cheese depend to a great extent on the method of manufacture and conditions of curing and the length of curing time. Certain enzymes present in the milk or in the coagulating agent or developed by microorganisms during manufacture contribute to the development of flavor and texture. In addition, enzymes from other animal or plant

sources may be useful. The use of such enzymes may facilitate and accelerate the curing and flavor development of some varieties of cheese and reduce the cost of manufacture. Although added enzymes are now known to be used only in a few varieties of cheese, they may prove to be useful in other varieties, and there appears to be no reason to refuse to permit the use of harmless enzymes in the manufacture of all types of cheese. It is impracticable at the present time to name the individual enzymes which may be useful. It is reasonable to permit harmless enzymes of animal or plant origin. The amount of enzymes that may be used should be limited, and it is reasonable to require that the solids content of the enzymes preparation should not exceed 0.1 percent of the weight of the milk used. (R. 211, 218, 225, 227-228, 235, 240, 242, 246A, 564, 743-744, 756, 759, 1070, 1308, 1352, 1353, 1408, 1720, 1737, 3071-3072, 3395-3398, 3761, 4106)

19. Milk obtained from infected animals may and often does contain microorganisms capable of causing disease in humans. At present it is practically impossible to insure the use in cheese making of milk free from such microorganisms. Milk may also become contaminated with pathogenic microorganisms from persons handling it. Pasteurization of the milk destroys such microorganisms. Milk is pasteurized if it is held at a temperature of 143° F. for not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. Sufficiently high temperatures to destroy pathogenic microorganisms are not reached in cheese manufacturing, and any present in the milk are usually carried over into the cheese. Such cheese may transmit infections to consumers. Investigations in recent years have disclosed that cheese freshly made from unpasteurized milk was the source of infection in several outbreaks of disease. No outbreak has been reported from cheese held 60 days or more. (R. 171-172, 178, 180, 190, 196, 1312, 1349, 1408, 2035, 2111, 2116, 3352-3353; Ex. 51, 52, 53, 54, 55, 56)

20. Viable pathogenic microorganisms in cheese, even when present to such an extent as to be capable of causing disease in humans, tend to die when the cheese is held for some time at temperatures above 35° F. It is not known with certainty how long cheeses must be held before they become safe. Under certain conditions pathogenic organisms remain viable in cheese for several months, although they may not be present in sufficient numbers or be of such virulence as to cause disease. It would be unreasonable under the present state of knowledge to require that all cheeses be held for a period necessary to give absolute assurance that all pathogenic organisms would expire. If cheese made from unpasteurized milk is held for 60 days after its manufacture at temperatures of 35° F. or above, it is reasonable to expect that the cheese will be safe for human consumption. When cheese is made from pasteurized milk no holding period is considered necessary to insure its safety with respect to organisms derived from the milk. However, a holding pe-

riod may be necessary to develop identity characteristics which result from curing the cheese. (R. 141, 143-146, 165, 180-181, 270-271, 275, 281-282, 292, 317, 372, 690, 1073-1074, 1103-1104, 1203, 1213, 1308-1309, 1408, 1409, 1413-1414, 1424, 2991, 3065, 3415-3416, 4550, 4991, 5023; Ex. 51, 52, 53, 54, 55, 56)

21. Consumers expect, and have a right to expect, that manufacturers of cheese shall take reasonable precautions to render the finished cheese safe for human consumption. Under present conditions reasonable caution on the part of manufacturers of cheese intended for human consumption without further processing requires that the milk used be pasteurized, or in the alternative that such cheese, after manufacturing, be held for a period whereby it can be reasonably expected that it will be safe for human consumption. It will promote honesty and fair dealing in the interest of consumers to include in the definitions and standards of identity of the different varieties and classes of cheese requirements that the milk used be pasteurized or the cheese held for a period whereby it may be reasonably expected that the cheese will be rendered safe. Based on the best evidence available now, it is reasonable to require that when the milk used in manufacturing cheese is not pasteurized the cheese be held after it is manufactured for not less than 60 days at temperatures of not less than 35° F. (R. 140-146, 159, 165-166, 180, 198, 270-271, 275, 1038, 1072A, 1167, 3521, 3415)

22. Milk contains an enzyme, known as phosphatase, which is destroyed when the milk is sufficiently heated. The extent of the destruction of phosphatase depends on the time and temperature of heating. When milk is pasteurized the destruction of phosphatase is practically complete. Cheeses made from properly pasteurized milk contain practically no phosphatase. Chemical tests for determining the amount of phosphatase in milk and in products made from milk have been devised. The method most suitable for testing for the presence of phosphatase in different classes and varieties of cheese is that devised by Sanders and Sager, and is as follows:

Reagents—1. Buffers: a. *barium borate-hydroxide buffer.* Dissolve 25.0 gm. of C. P. barium hydroxide ($\text{Ba}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$, fresh, not deteriorated) in distilled water and dilute to 500 ml. Dissolve, in another flask or cylinder, 11.0 gm. of C. P. boric acid (H_3BO_3) and dilute to 500 ml. Warm each to 50° C. (122° F.), mix the two together, stir, cool to approximately 20° C. (68° F.), filter, and stopper the filtrate tightly (pH approximately 10.6). The buffer prepared thus is designated as the 25-11 buffer, the figures indicating the grams per liter of each of the respective reagents.

b. *Color development buffer.* Dissolve 6.0 gm. of sodium metaborate (NaBO_3) and 20 gm. of sodium chloride in water and dilute to a liter with water (pH 9.8).

c. *Color dilution buffer.* Dilute 100 ml. of color development buffer 1-b to a liter with water.

d. *Standard borax buffer, 0.01-Molar, for checking pH meter—pH 9.18 at 25° C.* Dis-

¹ All pH values reported herein were determined at 25° C. or corrected to that temperature.

solve 0.9603 gm. of pure borax (Bureau of Standards Sample 187) in distilled water (distilled recently or freshly boiled and cooled) and dilute to 250 ml. Keep stoppered tightly.

2. *Buffer substrates:* Specify phenol-free crystalline disodium phenyl phosphate.

a. *For evaluating pasteurization.* Dissolve 0.10 gm. of the phenyl phosphate in 100 ml. of the appropriate (table 1) barium borate-hydroxide buffer 1-a.

b. *For quantitative results with raw-milk cheese.* Dissolve 0.20 gm. of the phenyl phosphate in 100 ml. of the appropriate (table 1) barium borate-hydroxide buffer 1-a.

3. *Protein-precipitants:* a. *Zinc-copper precipitant for unripened cheese.* Dissolve 6.0 gm. of zinc sulfate ($\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$) and 0.1 gm. of copper sulfate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$) in water and dilute to 100 ml. with water. The precipitant prepared thus is designated as the 6.0-0.1 precipitant.

4. *BQC (2,6-dibromoquinonechloroimine solution) (Gibbs' reagent):* Dissolve 40 mg. of BQC powder in 10 ml. of absolute ethyl or methyl alcohol and transfer to a dark-colored dropper bottle. This reagent remains stable for at least a month if kept in the ice tray of a refrigerator. Do not use it after it begins to turn brown.

5. *Other reagents:* a. *Copper sulfate, 0.05%, for standards.* Dissolve 0.05 gm. of copper sulfate in water and dilute to 100 ml.

b. *Butyl alcohol.* Specify n-butyl alcohol, boiling point 116-118° C. To adjust the pH, mix 50 ml. of the color development buffer 1-b with a liter of the butyl alcohol.

6. *Phenol standards:* (a) *Stock solution.* Weigh accurately 1.000 gm. of pure phenol and transfer to a liter flask with 700 ml. of water. Add 150 ml. of color development buffer 1-b to adjust the pH to approximately 9.25, dilute to a liter with water, and mix. One ml. contains 1 mg. (0.001 gm.) of phenol. Use this stock solution to prepare standard solutions. It is stable for several months in the refrigerator.

b. *Preparation of standards.* Dilute 10.0 ml. of the stock solution 6-a to a liter with water, and mix. One ml. contains 10 micrograms (0.00001 gm., 10 gamma, or 10 units) of phenol. Use this standard solution to prepare more dilute standard solutions; e. g., dilute 5, 10, 30, and 50 ml. to 100 ml. with water to prepare standard solutions containing 0.5, 1.0, 3.0, and 5.0 gamma or units of phenol per milliliter, respectively. Keep standard solutions in the refrigerator.

In a similar manner, prepare from the stock solution such more concentrated standard solutions as may be needed, containing, for example, 20, 30, and 40 units per milliliter.

Measure appropriate quantities of the phenol standard solutions into a series of tubes (preferably graduated at 5.0 and 10.0 ml.) to provide a suitable range of standards as needed, containing 0 (control, blank), 0.5, 1.0, 3.0, 5.0, 10.0, etc., to 30 or 40 units. To increase the brightness of the blue color and improve the stability of the standards, add 1.0 ml. of 0.05% copper sulfate solution 5-a to each.

Add 5.0 ml. of color dilution buffer 1-c and add water to bring the volume to 10.0 ml. Add 4 drops (0.08 ml.) of BQC 4, mix, and allow to develop for 30 minutes at room temperature. If the butyl alcohol extraction method is to be used in the test, extract the standards as described under "Conducting the test."

Read the color intensities with a photometer, subtract the value of the blank from the value of each phenol standard, and prepare a standard curve (straight line). When the standards are to be used for visual comparisons, they should be stored in a refrigerator.

Sampling—1. Hard cheese: Take a sample from the interior with a clean Roquefort trier,

place in a small tube, stopper the tube, and keep it in a refrigerator.

2. *Soft and semisoft ripened cheese:* Harden the cheese by chilling it in the freezing chamber of a refrigerator. Taking special precautions to avoid contaminating the sample with phosphatase that may be present on the surface, use either of the following methods for sampling:

a. Cut a portion from the end of the loaf or from the side of the cheese, extending in at least 2 inches if possible or to a point somewhat beyond the center in the case of a small cheese. Cut a slit $\frac{1}{4}$ to $\frac{1}{2}$ inch deep at least halfway around the portion and midway between the top and bottom. Break the portion into two parts, pulling it apart so that it breaks on a line with the slit, being careful not to contaminate the freshly exposed, broken surface. Remove the sample from the freshly exposed surface at or near the center of the cheese.

b. Remove the surface of the area to be sampled, e. g., the end and the adjacent sides—with a clean knife or spatula, to a depth of $\frac{1}{4}$ inch. Clean the instrument and hands with hot water and soap and wipe them dry. Remove the freshly exposed surface to a similar or greater depth, and repeat the cleaning. Then take the sample from the center of the freshly exposed area, preferably at or near the center of the cheese in the case of a small cheese.

3. *Process cheese, spreads, etc.:* Take the sample from beneath the surface with a clean knife or spatula.

Avoid the use of samples contaminated with mold.

Conducting the test—1. Weigh, on a clean balance pan or watch glass, a 0.50-gm. sample (preferably two samples in duplicate) and place in a culture tube 16 or 18 x 150 mm. Similarly, weigh another sample and place in a tube as a control or blank. If the cheese is sticky, weigh the sample on a piece of wax paper about 1 x 1 inch and insert the paper with the sample into the tube. Macerate the blank and the test with a glass rod about 8 x 180 mm.

2. Add to the blank 1.0 ml. of the appropriate (table 1) barium buffer 1-a (without substrate added), macerate with the rod, leave the rod in the tube, heat for about a minute to at least 90° C. (194° F.) in a beaker of boiling water with the beaker covered so that the entire tube becomes heated to approximately 90° C., cool to room temperature, and macerate again with the rod.

3. Add to the test 1.0 ml. of the appropriate (table 1) barium buffer substrate 2-a or 2-b, and macerate.

From this point, treat the blank and the test in a similar manner.

Add 9.0 ml. of the appropriate barium buffer substrate 2-a or 2-b (total, 10.0 ml. added), and mix. The rod may be left in the tube during incubation; or, if removing it at this point, cut a piece of filter paper approximately 1 x 1 inch, wrap and hold it tightly around the rod, rotate the rod while withdrawing it from within the tube so as to wipe the rod clean, insert the paper with the adhering fat into the tube, and stopper the tube.

4. Incubate in a water bath at 37°-38° C. (99°-100° F.) for 1 hour, mixing or shaking the contents occasionally.

5. Place in a beaker of boiling water for nearly a minute, heating to 85° C. (185° F.), and cool to room temperature.

6. Pipet in 1.0 ml. of the zinc precipitant 3-b for ripened cheese, or the zinc-copper precipitant 5-a for unripened cheese, and mix thoroughly (pH of mixture, 9.0-9.1).

7. Filter (5-cm. funnel, 9-cm. Whatman No. 42 or No. 2 paper recommended), and collect 5.0 ml. of filtrate in a tube, preferably graduated at 5.0 and 10.0 ml.

8. Add 5.0 ml. of color development buffer 1-b (pH of mixture, 9.3-9.4).

9. Add 4 drops² of BQC 4, mix, and allow the color to develop for 30 minutes at room temperature.

10. Determine the amount of blue color by either of two methods: a. *With a photometer:* Read the color intensity of the blank and that of the test, subtract the reading of the blank from that of the test, and convert the result into phenol equivalents by reference to the standard curve described under "phenol standards." The butyl alcohol extraction method is ordinarily unnecessary when using a photometer.

b. *With visual standards:* For quantitative results in borderline instances, e. g., tests yielding 0.5 to 5 units of color, extract with butyl alcohol 5-b. Add 5.0 ml. of the alcohol and invert the tube slowly several times. Centrifuge if necessary to increase the clearness of the alcohol layer. Compare the blue color with the colors of standards in the alcohol.

With samples yielding more than 5 units, compare the colors in aqueous tests with those of aqueous standards.

11. *Dilution method for quantitative results:* In tests that are observed during color development to be strongly positive, e. g., 20 units or more, in which four drops of BQC may be much less than sufficient to combine with all of the phenol, pipet an appropriate proportion of the contents into another tube, make up to 10.0 ml. with color dilution buffer 1-c, and add 2 drops more of BQC in the case of unripened cheese or four drops in the case of ripened cheese. With each test, dilute and treat the blank in the corresponding manner. Dilute each strongly positive test thus until the final color is within the range of the standards or photometer. Allow 30 minutes for color development after the last addition of BQC, and make the reading at the end of the 30-minute period. Multiply, for example, by 2 for a 5+5 dilution, 10 for a 1+9 dilution, and 50 for a 1+9 followed by a 2+8 dilution.

Alternatively, to reduce the amount of yellow off-color, add two instead of four drops of BQC after each dilution, and allow the color to develop. Then test the completeness of color development by adding a third drop; repeat the dilution procedure until the addition of an extra drop does not cause any further increase in the amount of blue color.

12. *Calculation and evaluation of result:* When using 0.5 gm. of sample and adding a total of 11.0 ml. of liquid, multiply the value of the reading by 1.1 to convert it to units of color or phenol equivalents per 0.25 gm. of cheese. The result may, if desired, be converted to phenol equivalents per 1 gm. by multiplying by 4.4. Evaluate the result by comparing it with the criteria of pasteurization in table 1.

Photometric determination. To read the color in aqueous solution, use a filter with maximum light transmission in the region of 610 m μ wavelength.

To read the color in butyl alcohol, extract the color as described above and centrifuge the sample for 5 minutes to break the emulsion and to remove the moisture suspended in the alcohol layer. A Babcock centrifuge can be adapted for this purpose by making special tube holders as follows: Slice a section $\frac{1}{4}$ " thick from a rubber stopper of suitable diameter to fit in the bottom of the centrifuge cup. Glue together two cork stoppers of appropriate diameter, bore through the center a hole of proper size to hold the tube snugly, and insert the double cork section into the cup. After centrifuging, remove nearly all of the butyl alcohol by means of a pipet with a rubber bulb on the top end. Filter the alcohol into the photometer cell

and read with a filter with maximum light transmission in the region of 650 m μ wave length.

If more than approximately 4 ml. of butyl alcohol is required for the photometer used, conduct the test in a larger tube and extract the color, in both the test and the standards, with the necessary quantity of butyl alcohol rather than with 5 ml. specified above.

Precautions. The length of time that the crystalline disodium phenyl phosphate and the BQC powder will remain stable can be increased greatly by keeping them in the freezing chamber of a refrigerator.

The glassware, stoppers, and sampling tools should be scrupulously clean and it is desirable to soak them in hot, running water after cleaning.

The solid barium hydroxide and the barium buffer must be kept stoppered tightly to prevent absorption of carbon dioxide.

Phenolic contamination from plastic closures on reagent bottles has been encountered, and therefore the use of plastic closures should be avoided. Rubber stoppers should not be used in flasks in which butyl alcohol is stored. Glass or cork stoppers should be used.

Modifications for different cheeses. Different kinds of cheese and cheeses of different ages have different buffering capacities, and therefore some of them require modification of concentrations of the reagents. The modifications of the barium buffer needed to produce optimal pH conditions during incubation (9.85-10.20), and of the precipitant to yield uniformly clear filtrates

and to minimize interference during color development under optimal pH conditions (9.3-9.4), are specified in table 1.

With some samples, especially those of unknown history, slight deviations from the optimal pH range may occur, but such deviations do not very materially effect the results. For example, pH values as low as 9.6 or as high as 10.35 during incubation have been found to result in an average decrease of not more than 20 percent below the maximum in the quantity of phenol liberated. The use of the 25-11 buffer substrate with samples for which the 27-11 buffer substrate is specified yields pH values not lower than 9.8.

In testing cheese of unknown history or age, information as to the percentage of solids, especially the nonfat solids, is useful as an indication of the correct buffer to use; cheese with a relatively high percentage of nonfat solids generally requires the use of a relatively concentrated buffer to adjust the pH of the mixture correctly.

For precise quantitative results on unknown samples, adjust the pH to 10.0-10.05 for the incubation.

Cottage cheese curd is heated in the presence of considerable acid during manufacture, and therefore its phosphatase values are comparatively low. Alternatively, to increase the sensitivity of the test on cottage cheese, apply the following modifications: Use a 1.0-gm. sample, 27-11 buffer substrate, 2-hour incubation, 6.0-0.1 precipitant, and a pasteurization criterion of 2 units per 0.5 gm.

TABLE 1—PHOSPHATASE TEST MODIFICATIONS FOR DIFFERENT KINDS OF CHEESE AND CHEESE OF DIFFERENT AGES

Kind of cheese	Age or extent of curing; other details	Buffer for opt. pH (9.85-10.20)	Precipitant
Cheddar, granular, stirred curd, hard cheese:	1 week	25-11	6.0-0.1
	1 week-1½ months	25-11	6.0
	1½-4 months	26-11	6.0
	4 months	27-11	6.0
Washed curd, soaked curd, colby	1 week	25-11	6.0-0.1
	1 week-2 months	25-11	6.0
Swiss, gruyere	2 months	26-11	6.0
	1 week	25-11	6.0-0.1
Brick, muenster	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
	3 months	27-11	6.0
	1 week	25-11	6.0-0.1
Edam, gouda	1 week-1 month	25-11	6.0
	1-2 months	25-11	6.0
	2 months	26-11	6.0
	1 week	25-11	6.0-0.1
Blue mold, blue	1 week-2 months	25-11	6.0
	2-4 months	26-11	6.0
	4 months	27-11	6.0
	1 week	25-11	6.0-0.1
Camembert, Limburger	1 week-1 month	26-11	6.0
	1-4½ months	27-11	6.0
	4½ months	28-11	6.0
	1 week	25-11	6.0-0.1
Monterey	1 week-1 month	25-11	6.0
	1-2 months	26-11	6.0
	2 months	27-11	6.0
	1 week	25-11	6.0-0.1
High-moisture Jack	1 week-2 months	25-11	6.0
	2 months	26-11	6.0
	1 week	25-11	6.0-0.1
	1 week-2½ months	25-11	6.0
Provolone, pasta filata	2½ months	26-11	6.0
	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
Parmesan, reggiano, monte, modena, Romano, asiago old.	3 months	27-11	6.0
	1 week	25-11	6.0-0.1
	1 week-2 months	26-11	6.0
	2-6 months	27-11	6.0
Asiago fresh	6 months-1 year	28-11	6.0
	1 year	29-11	6.0
	Same as cheddar		
	Asiago medium	1 week	25-11
Gorgonzola	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
	3 months	27-11	6.0
	Same as blue		
Cottage, cook cheese, koch kaese	Dry	25-11	6.0-0.1
	Moist	25-11 (8+2)	4.5-0.1
Cream cheese		25-11 (7+3)	4.5-0.1
	Semisoft cheese	1 week	25-11
	1 week-1 month	25-11	6.0
	1 month	26-11	6.0

² Fluor merely detecting under-pasteurization, in testing unripened cheese, 2 drops is sufficient, provided the visual standards are prepared likewise with 2 drops.

¹ Grams Ba(OH)₂·8H₂O and H₃BO₃ per liter respectively.
² Grams ZnSO₄·7 H₂O and CuSO₄·5 H₂O per 100 ml., respectively.
³ Grams ZnSO₄·7 H₂O per 100 ml.
⁴ Eight parts of 25-11 buffer plus 2 parts of water.

TABLE 1—PHOSPHATASE TEST MODIFICATIONS FOR DIFFERENT KINDS OF CHEESE AND CHEESE OF DIFFERENT AGES—Continued

Kind of cheese	Age or extent of curing; other details	Buffer for opt. pH (9.85-10.20)	Precipitant
Soft ripened cheese.....	1 week.....	25-11	6.0-0.1
	1 week-1 month.....	25-11	6.0
Nokkelost, kuminost, sage cheese.....	1 month.....	26.11	6.0
	1 week.....	25-11	6.0-0.1
	1 week-1½ months.....	25-11	6.0
Pasteurized process, pasteurized process pimiento, pasteurized process, with fruits, meats, etc.	1½-4 months.....	26-11	6.0
	4 months.....	27-11	6.0
	Soft, mild.....	25-11	6.0
	Medium, firm.....	26-11	6.0
Pasteurized process cheese foods; pasteurized process cheese foods with fruits, meats, etc.	Firm, sharp (including swiss, gruyere).....	27-11	6.0
	Same as pasteurized process.....		
Pasteurized process cheese spreads; pasteurized process cheese spreads with fruits, meats, etc.	Soft, high moisture, including cream spreads.....	25-11	6.0
	Less soft, including bleu.....	26-11	6.0
Cold pack, club; cold pack cheese foods; cold pack cheese foods with fruits, meats, etc.	Mild to medium flavored, soft.....	26-11	6.0
	Sharp, firm.....	27-11	6.0

(R. 62-71; Ex. 10, 11, 12, 13, 58, 59, 60, 62, 252)

23. When cheese is examined by the method described in finding 22 and the phosphatase found is more than the amount equivalent to 3 micrograms of phenol per 0.25-gm. portion of cheese it can be definitely concluded, except with some ripened cheeses, that the heat treatment of the milk used was not sufficient for proper pasteurization. Some varieties of cheese are subjected to curing agents which produce phosphatase. In such cases it is necessary to make provision for distinguishing between the phosphatase derived from unpasteurized milk and the phosphatase produced by the curing agents. This is accomplished in most cases by the method of taking and preparing the sample of cheese to be tested, as described in the method outlined in finding 22. In some varieties of cheese the extent of the development of phosphatase during curing has not been established, and the standards for such cheeses do not provide for the use of the phosphatase test. (R. 95-111, 127, 129, 131-132, 133, 945, 1237, 2175-2207; Ex. 10, 11, 12, 13)

24. The amount of moisture and the amount of milk fat in each variety of cheese for which standards are now being considered can be accurately determined by the methods of analysis for cheese described in the publication entitled "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," 6th edition, 1945. The method for the determination of moisture content appears under the heading "Moisture—Official," page 336, § 22.124, and the method for the determination of milk-fat content under the heading "Fat—Official," page 337, § 22.130. Such methods are accurate and widely used and are recognized by food chemists as reliable. The publication referred to is well known and readily available to food chemists. (R. 563, 1408)

25. Proposals were made concerning the enrichment of cheeses by the addition of vitamin A, thiamine, riboflavin, and niacin. In the manufacture of cheese some of the water-soluble vitamins present in milk are carried off in the whey. Thiamine, riboflavin, and niacin are such water-soluble vitamins. It was proposed that standards be established for enriched cheese, to which a sufficient amount of these vitamins

would be added to give the finished cheese approximately the same amount of these vitamins as the milk from which it was made. The annual per capita consumption of cheese in the United States is relatively small. The evidence does not establish that those whose diets are deficient in the above vitamins consume cheese regularly or in such quantities that the consumption of enriched cheese would constitute any material contribution toward the correction of dietary deficiencies. The public generally is not informed as to the specific functions of the various vitamins. Advertising and labeling claims for a food which stress the presence of particular vitamins, even though such claims are literally true, may readily cause the public to attach an exaggerated importance to such food, and would be likely to confuse and mislead consumers. It would not promote honesty and fair dealing in the interest of consumers to establish a separate definition and standard of identity for enriched cheese of any of the varieties or classes for which standards are already in existence or which are now being considered. (R. 808-814, 1807, 3621-3628, 3635, 5430-5431, 5453, 5479, 5481, 5487, 5535, 5538; Ex. 82, 246, 247)

26. It will promote honesty and fair dealing in the interest of consumers to amend the definitions and standards of identity for cheddar cheese (§ 19.500), washed curd cheese (§ 19.505), and colby cheese (§ 19.510), to include provisions that the procedures now specified for their preparation may be varied: *Provided*, The chemical and physical properties of the finished cheeses are the same as when the methods now prescribed in these standards are used, and to further amend to provide for the use of calcium chloride under the conditions described in finding 14 and to provide for the optional use of enzymes as described in finding 18. It will also promote honesty and fair dealing in the interest of the consumer to require that where these cheeses are not made from pasteurized milk they be held for not less than 60 days at a temperature of not less than 35° F. and to provide for the use of the phosphatase test, under the conditions described in finding 22, as a means of determining when these cheeses have not been made from pasteurized milk.

27. A type of cheese known as granular cheese or stirred curd cheese is manufactured in substantial quantities in the

United States. This cheese is similar in many respects to cheddar cheese and to colby cheese, but differs in some ways from each. The method of manufacturing granular cheese is essentially the same as that of cheddar cheese through the time that the coagulated mass is cut, stirred, and heated. After this, in the case of granular cheese, a part of the whey is drained off and the curd is alternately stirred and drained to prevent matting and to remove the whey from the curd. The curd is then salted, drained, and pressed into forms. Granular cheese differs from colby cheese in that the curd is not cooled by adding water. The moisture content of granular cheese is not more than 39 percent, and its solids contain not less than 50 percent of milk fat. (R. 54-58, 339-341, 355, 369-370)

28. A considerable proportion of the cheddar, washed curd, colby, granular, swiss, and brick cheeses made in the United States are used for manufacturing into pasteurized process cheeses, pasteurized process cheese foods, and other foods in which the method of manufacture employed results in the application of heat to such cheeses for a time and at a temperature sufficient for the destruction of any pathogenic microorganisms which may be present in the original cheese ingredients used. To require that cheeses for manufacturing be made from pasteurized milk or be held 60 days before shipment is unnecessary to insure safety of the foods into which they are manufactured. Cheeses for manufacturing should be definitely distinguished from cheeses suitable for all purposes to prevent persons in the food industry who handle cheeses from mistaking them for cheeses suitable for use as such. No such distinction is made at the present time. In order to make this distinction it is reasonable to require that a cheese for manufacturing be clearly identified by its appearance rather than by a label alone. A coating of a distinctive color for cheeses for manufacturing will accomplish this purpose. No cheeses are now normally covered with green-colored paraffin. Such a coating will effectively differentiate a cheese for manufacturing from a cheese suitable for unrestricted use. Other harmless green coatings which adhere firmly to the cheese will serve the same purpose as green-colored paraffin. (R. 270, 379, 402-403, 943-944, 1166-1168)

29. Cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, and brick cheese for manufacturing comply with requirements for cheeses of those names, but are made from unpasteurized milk and are not cured for 60 days. (See finding 28.)

30. A variety of cheese commonly known as swiss cheese is manufactured in large quantities in the United States and in many foreign countries. In Switzerland where this variety of cheese originated, and where it is now extensively made, it is known as "emmentaler" cheese, and that designation has been used extensively in the United States. The name emmentaler cheese is a synonym for swiss cheese. This variety of

cheese is characterized by holes, which are called "eyes," that develop throughout the body of the cheese during the curing. (R. 458, 532, 535-536, 541, 610, 681, 2139, 3372, 4129, 4262, 4274, 4508, 4589, 4976, 5050; Ex. 14)

31. Swiss cheese is made from cow's milk from which a small amount of cream usually is removed, and the fat content in the solids usually ranges from 43 to 47 percent. The moisture content of swiss cheese ranges from 39 to 43 percent and is usually not more than 41 percent. It is reasonable to require that the minimum fat content of the solids of swiss cheese be not less than 43 percent, and that the maximum moisture content be not more than 41 percent. (R. 342-343, 360-365, 459, 462, 465, 468, 475-476, 479, 486-531, 572, 575, 595-596, 598-599, 609, 612, 620-621, 631, 711, 750, 754, 831-832, 839, 857-858, 874-875, 881-883, 916-917, 920, 926, 2731, 5029; Ex. 14, 16, 17)

32. Wherever swiss cheese is made, the basic manufacturing process is essentially the same. A few variations in procedure have been noted, some of which are designed to take advantage of labor-saving devices. The basic procedure is as follows: Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto; harmless propionic-acid-producing bacteria may also be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into particles similar in size to wheat kernels. For about 30 minutes the particles are alternately stirred and allowed to settle. The temperature is raised to about 126° F. Stirring is continued until the curd becomes firm. The acidity of the whey at this point, calculated as lactic acid, does not exceed 0.13 percent. The curd is transferred to hoops or forms and pressed until the desired shape and firmness are obtained. The cheese is then salted by immersing it in a saturated salt solution for about 3 days. It is then held at a temperature of about 50° F. to 60° F. for a period of 5 to 10 days, after which it is held at a temperature of about 75° F. until it is approximately 30 days old or until the so-called "eyes" form. Salt, or a solution of salt in water, is added to the surface of the cheese at some time during the curing process. The cheese is then stored at a lower temperature for further curing. (R. 439-453, 537, 611-612, 623, 667-668, 670-671, 674-675, 849, 852, 855-856, 863, 868, 887-889, 951-955, 4275-4278, 4301-4303, 4312-4315, 4977-4981; Ex. 14)

33. Swiss cheese is generally cured for not less than 6 to 8 weeks and more often for as long as 10 or 12 weeks. It is reasonable to require that swiss cheese be held under proper curing conditions for not less than 60 days. Such a holding period will bring about sufficient curing, and it also can be reasonably expected that the cheese will be safe for consumption. (R. 672, 681, 682, 693, 863)

34. At times the so-called "eyes" do not form in swiss cheese, and the result-

ing cheese is known as "blind swiss." Such a cheese, if cured for 60 days, will have the flavor of swiss cheese, and is suitable for manufacturing purposes but not for distribution for consumer consumption. The adoption of a definition and standard of identity for swiss cheese for manufacturing which requires that such cheese conform to the definition and standard of identity for swiss cheese, except that the eyes have not formed, will reasonably assure use of "blind swiss" for manufacturing purposes only. Since the lack of eyes will effectively distinguish swiss cheese for manufacturing from swiss cheese, no special colored coating is necessary for swiss cheese for manufacturing. (R. 613, 625, 629, 751-752, 859-861, 906)

35. The process of curing swiss cheese is best effected in warehouses having facilities for regulating the temperature and humidity. Many small swiss-cheese factories do not have such facilities and ordinarily ship partly cured swiss cheeses to especially equipped warehouses, for completion of the process. Often interstate shipments of such partly cured swiss cheeses are made. An additional regulation under the provisions of section 405 (2) of the Federal Food, Drug, and Cosmetic Act should be made to place this procedure under such additional safeguards as the special conditions require. (R. 537, 903-904, 906; finding 31)

36. A type of cheese known as gruyere cheese is manufactured extensively in Switzerland and in France. It is not known to be made in the United States at the present time. Gruyere cheese is similar to swiss cheese, but there are some differences in flavor and texture.

Gruyere cheese is characterized by a flavor resembling that of a very mild limburger cheese. This flavor comes from the growth of curing agents on the surface of the cheese. Gruyere cheese has a smoother and more buttery texture than swiss cheese and the eyes that develop are not as large as those that develop in swiss cheese. Gruyere cheese is used to some extent in Switzerland as a natural cheese, and it is widely used as an ingredient, together with swiss cheese, for making a process cheese commonly known as "process gruyere cheese." The fat content of the solids of gruyere cheese is not less than 45 percent, and its moisture content does not exceed 39 percent. It is cured for not less than 90 days. (R. 536, 549, 552-557, 632, 683-685, 698, 2150, 2153-2154, 2275, 4263, 4277-4279, 4289, 4301, 4315, 4341-4342, 4360, 4372-4373; Ex. 45A)

37. Gruyere cheese is made from whole milk or partly skimmed milk. The usual method of manufacture is as follows: Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto; harmless propionic-acid-producing bacteria may also be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into par-

ticles similar in size to wheat kernels. For about 30 minutes the particles are alternately stirred and allowed to settle. The temperature is raised to about 126° F. Stirring is continued until the curd becomes firm. The curd is transferred to hoops or forms and pressed until the desired shape and firmness are obtained. The cheese is surface-salted while held at a temperature of 48° to 54° F. for a few days. It is soaked for 1 day in a saturated salt solution. It is then held for 3 weeks in a salting cellar and wiped every 2 days with "brine cloth" to insure growth of biological curing agents on the rind. It is then removed to a heating room and held at progressively higher temperatures, finally reaching 65° F., with a relative humidity of 85 to 90 percent, for several weeks, during which time small holes or so-called "eyes" form. The cheese is then stored at a lower temperature for further curing. (R. 549, 554, 558-560, 4263, 4274-4277, 4304-4305, 4315)

38. Brick cheese is the common or usual name of a type of cheese manufactured and sold in considerable quantities in the United States. It has a characteristic flavor somewhat similar to limburger cheese, but less pronounced. The flavor is due to the action of surface-curing organisms and the intensity of the flavor depends on the length of time the cheese is held under conditions favorable to the growth of these organisms. (R. 942-943, 948, 970, 1007-1008)

39. Brick cheese is manufactured from whole milk. The usual procedure for manufacturing it is as follows: Milk, which may be pasteurized or clarified or both, is brought to about 88° F. and subjected to the action of one or more harmless lactic-acid-producing bacteria present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into cubes with sides approximately $\frac{3}{8}$ inch long and stirred and heated so that the temperature slowly rises to about 96° F. The stirring is continued until the curd is sufficiently firm. Part of the whey is then removed and the mixture diluted with water or salt brine to control the acidity. The curd is transferred to forms and drained. During drainage, it is pressed and turned. After drainage the curd is salted and the biological curing agents characteristic of brick cheese applied to the surface. The cheese is then cured to develop the characteristics of brick cheese. (R. 289, 306, 307, 931-937, 942, 945-946, 971, 1004-1006, 1008, 1010-1011, 1014-1015, 1057; Ex. 14)

40. Brick cheese is usually made in rectangular or loaf form and of such size that each cheese weighs between 4 and 6 pounds. Recent developments in the making of this cheese, however, have led to its successful manufacture in smaller units, and there is no reason to restrict brick cheese to specific sizes or shapes. (R. 936A; Ex. 14)

41. Due to the growth of surface-curing organisms, the phosphatase test to determine whether the milk used has

been pasteurized must be applied to a portion of the cheese taken from beneath the surface and so as not to include any surface portion. It is reasonable to specify 5 micrograms instead of 3 as the limiting phenol equivalent in the case of brick cheese. (R. 942, 945, 1003)

42. The moisture content and the fat content of the solids of brick cheese are important factors in maintaining its identity. A reasonable maximum limit on moisture is 44 percent, and a reasonable limit on the percent of milk fat in its solids is 50 percent. (R. 937-938, 941, 948, 1058; Ex. 14)

43. Muenster cheese is the common or usual name of a type of cheese made from whole milk and sold in substantial quantities in the United States. This type of cheese is made by the same procedure as that used for brick cheese, but it is not treated so as to promote the growth on the surface of organisms which aid in the curing process and development of flavor. The surface of the cheese may be rubbed with vegetable oil. Muenster cheese is normally handled quickly after manufacture, and for this reason it is impracticable to store it 60 days to render it safe against the presence of pathogenic microorganisms. Most muenster cheese now made in the United States is made from pasteurized milk, and it is reasonable to require that muenster cheese be made from pasteurized milk. (R. 289, 306-307, 970, 3045-3046, 3051-3053, 3056, 3058, 3060; Ex. 14)

44. Muenster cheese is usually made in cylindrical forms weighing between 4 and 6 pounds. It is not necessary, however, to restrict this cheese solely to such size and shape. The moisture content of muenster cheese and the fat content of the solids are important factors in maintaining its identity. A reasonable maximum limit on moisture is 44 percent, and a reasonable minimum limit on the fat content of the solids is 50 percent. (R. 902, 1024, 2911, 3044, 3047, 3050)

45. A variety of cheese commonly known as edam cheese is manufactured in considerable quantities in the United States, and is also imported in substantial quantities from the Netherlands, where it originated, and from other countries. In some foreign countries this cheese is known by other names in addition to the name "edam." The common name of this variety of cheese in the United States is edam cheese, and to recognize other names as synonyms might lead to confusion. (R. 1397, 1500, 2912, 4130, 4890-4891, 4989, 4993-4995, 5030; Ex. 22)

46. Edam cheese is made in the United States from cow's milk from which a portion of the cream has been removed, and the minimum fat content of its solids is about 40 percent. The fat content of edam cheese made in foreign countries varies somewhat but is usually more than 40 percent of the solids. The moisture content of edam cheese varies to some extent in various countries. In the United States this cheese has not more than 45 percent moisture, and it is reasonable to require that edam cheese contain not more than 45 percent moisture. Edam cheese has for many years been coated with a red-colored paraffin or similar red coating. The red coating has

come to be a characterizing factor used by consumers in selecting this type of cheese. It is made in ball or loaf shape. (R. 701, 1077-1080, 1092, 1098, 1101, 1118, 1129, 2612, 3003, 4897, 5283; Ex. 22)

47. The method by which edam cheese is manufactured is basically the same in whatever country made. The procedure is as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. Harmless artificial coloring may be added. Purified calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Sufficient rennet is added to set the milk to a semisolid mass. After coagulation, the mass is divided into smaller portions ($\frac{3}{8}$ -inch cubes). The mass is stirred and heated to about 90° F. and so handled by stirring, heating, dilution with water or salt brine, or salting, as to promote and regulate the separation of whey and curd. When the desired curd is produced it is transferred to forms permitting drainage of the whey. During drainage the curd may be pressed and turned. After drainage the curd is removed from the forms and is usually salted, although salt may be applied at any time in the making or curing process. It is then cured under suitable conditions until ready for marketing. Curing for not less than 60 days is a reasonable precautionary measure for edam cheese made from raw milk. (R. 289, 306-307, 1081-1083, 1086-1087, 1090, 1103-1105, 1121-1122, 1127, 3520, 4894, 4898, 4912)

48. Gouda cheese, like edam cheese, originated in the Netherlands and is now also made in other countries, considerable quantities being produced in the United States. Gouda cheese is similar to edam cheese in that the ingredients used in its manufacture, the manufacturing procedure, and the fat and moisture limits are the same, and when made from raw milk should be aged, not less than 60 days. Gouda cheese is made in modified ellipsoidal shape, having two opposite flat sides, and in this respect differs from edam cheese. Gouda cheese is at times coated with red paraffin, but this is not an identifying characteristic as in the case of edam cheese. Gouda cheese is known in some parts of the world by other names, but its common name in the United States is gouda cheese, and the use of other names might be confusing. (R. 701, 1077-1080, 1086, 1098, 1118-1120, 2913; Ex. 23)

49. Limburger cheese is the common and usual name of a variety of semisoft cheese of characteristic odor and taste. Limburger cheese was first made in Europe but now is manufactured in large quantities in the United States, particularly in Wisconsin. It is made from whole milk. This may be raw or pasteurized. When made from raw milk, the usual procedure is as follows: Milk is brought to about 92° F. and subjected to the action of one or more types of harmless lactic-acid-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium

chloride) of the weight of such milk. Sufficient rennet is added to set the milk to a semisolid mass. The mass is cut into cubes with sides approximately $\frac{1}{2}$ inch long. After a few minutes the mass is stirred and heated, gradually raising the temperature to 96° to 98° F. The curd is then allowed to settle, most of the whey is drawn off, and the remaining curd and whey dipped into molds. During drainage the curd may be pressed. It is turned at regular intervals. After drainage is completed, the curd is cut into pieces of desired size and dry-salted at intervals for 24 to 48 hours. The cheese is then cured with frequent applications of a weak brine solution to the surface until the proper growth of surface-curing organisms is obtained. It is then wrapped and held in storage for development of as much additional flavor as is desired.

When made from pasteurized milk, slight changes are made in this procedure, as follows: The milk is adjusted to 89° F. to 90° F. after pasteurization and a culture of harmless lactic-acid-producing bacteria added. Calcium chloride may be added as to raw milk. The procedure then is the same as with raw milk, except that heating is to 94° F. and brine at a temperature of 66° F. to 70° F. is added so that the pH of the cheese will be 4.8. The mixed curd, whey, and brine is dipped into molds and the same procedure followed as when raw milk is used. (R. 958-962, 972-977, 1009, 1014-1015, 1069; Ex. 14, 26)

50. The characteristic odor and flavor of limburger cheese are due to the action of surface-curing organisms. The intensity of flavor depends on the extent to which surface curing has developed. It is possible to cure limburger cheese for 60 days and have a strong-flavored though still desirable cheese. Curing for not less than 60 days is a reasonable precautionary measure where limburger cheese is made from raw milk. (R. 289, 295, 973, 980-981, 985-986, 993, 995-996, 1009-1012)

51. Due to the extensive development of surface-curing organisms on some limburger cheese, there is production of phosphatase which may penetrate the cheese to such an extent that the phosphatase test may not be a reliable method for determining whether limburger cheese is made from pasteurized milk. (R. 104, 111, 128-130, 135, 1016-1017)

52. The moisture content and the fat content of the solids of limburger cheese are important factors in maintaining its identity. A reasonable limit on moisture is 50 percent and a reasonable limit on the percent milk fat in the solids is 50 percent. (R. 963-967, 980, 989, 1019; Ex. 21)

53. There are a number of different varieties of cheese made in the United States and in other countries of the world that are characterized by the growth throughout the cheese of blue or bluish-green molds of the penicillium group. Such cheeses are of the class generally known as "blue-mold" cheese. These cheeses may be made from the milk of cows or sheep. All such cheeses have a distinctive appearance, odor, and flavor. The growth of the mold throughout the cheese imparts the principal

distinguishing characteristics to the cheeses in this class. The usual penicillium molds in such cheeses are *Penicillium roquefortii* and *Penicillium glaucum*. Most of the distinguishing flavor of this class of cheese results from enzymatic action on the fat of the cheese. (R. 1552-1556, 1560-1561, 1617, 1653-1654, 1658-1659, 1663, 1672, 1702, 1714, 1736, 1758, 1773, 1768, 1792, 2913-2914, 3368, 3400-3402, 3415, 3438-3439, 3527, 4660, 4709; Ex. 26, 138-152, 160-165)

54. The best known of the blue-mold cheeses is that made from sheep's milk in France and known as roquefort cheese, being named after a village near which are natural caves in which the cheese is cured. Other varieties of blue-mold cheese are made in foreign countries from cow's milk. Some of these varieties have common names in the country of origin but all are sold in the United States under the name of blue cheese, except in the case of gorgonzola cheese. A blue-mold cheese made in France from cow's milk in accordance with French law is known as "fromage bleu." This variety of cheese has been imported into the United States and sold under the name of blue cheese. (R. 1552-1553, 1560-1561, 1611, 1629, 1702, 1731, 1758, 1773, 2913-2914, 3253, 3366-3369, 3402, 3449, 3517, 3526, 3712, 4711, 4725, 4733, 4999, 5037, 5040-5041, 5044-5045, 5202; Ex. 80, 85, 86, 153, 155-157, 159, 164)

55. The principal variety of blue-mold cheese made in the United States is prepared from cow's milk and is known as "blue cheese." At times it was called American roquefort cheese and roquefort-type cheese. Another important variety made from cow's milk, manufactured in the United States and imported from Italy and other countries, is known as gorgonzola cheese. Gorgonzola cheese differs from blue cheese in that it has a lower moisture content, is made in larger sizes, and is characterized by the growth of the mold known as *Penicillium glaucum* rather than the mold *Penicillium roquefortii*. Gorgonzola cheese may be made from cow's milk or goat's milk or mixtures of these. It is made in loaves weighing between 14 and 17 pounds, and is cured for not less than 90 days. (R. 1552-1553, 1560-1561, 1614, 1661, 1714, 1716, 1773, 1782, 1786, 1793, 3517, 3534, 3551-3552, 3556-3557, 3970, 4059-4062, 4660, 4710, 5175; Ex. 84, 88-93, 130-137, 199-214, 233-239)

56. The basic procedure for manufacturing blue-mold cheese is as follows: Cow's milk or sheep's milk, which may be pasteurized, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. Sufficient rennet is added to set the milk to a semisolid mass. Small amounts of calcium chloride may be added. The mass is cut into small portions and held in the whey for a time, then the mixed curd and whey is removed and placed in forms and further drained. At some time during preparation of the curd mold spores of *Penicillium roquefortii* or *Penicillium glaucum* are thoroughly mixed into it. The curd is salted by dipping in brine or dry-salting or both. The shaped curd is per-

forated in many places to facilitate the growth of mold, and is held at a temperature and humidity which favor the growth of the mold throughout the cheese. A temperature near 50° F. and a humidity of above 95 percent are commonly used. The curing is continued to develop flavor. In no case is it held less than 60 days. Due to the length of curing time it can reasonably be expected that blue-mold cheeses are safe for consumption when made from raw-milk. (R. 1582, 1585-1586, 1624, 1650-1656, 1720, 1760, 1768-1773, 1780, 1782, 1786, 3254, 3268, 3273, 3281, 3459-3460, 3677-3684, 4999, 5046; Ex. 69)

57. When a blue-mold cheese is made from cow's milk in spring and summer, the carotene content of the milk, which is usually relatively higher than at other times, is carried over to the cheese and tends to give the curd a yellowish color. It is generally considered by dealers that blue-mold cheese with a white curd is of better appearance than a blue-mold cheese with a yellowish curd, and many consumers prefer blue-mold cheeses which have a white curd. In some European countries chlorophyll, a green color of plant origin, is added to the milk in small amounts for the purpose of obscuring the yellow color of the carotene. Chlorophyll is harmless and has no adverse effect on the nutritional properties of the cheese, and such use is not objectionable. In the United States some manufacturers have adopted the practice of separating the cream from the milk and treating the cream with benzoyl peroxide, an oxidizing agent, which is used in bleaching flour. The amount of benzoyl peroxide used does not exceed 0.002 percent by weight of the milk. As normally sold for bleaching flour, benzoyl peroxide is mixed with harmless carriers, magnesium carbonate, potassium alum, and calcium sulfate, the weight of which may be six times the weight of benzoyl peroxide. Oxygen released from the benzoyl peroxide oxidizes the carotene in the cream to colorless compounds. The bleached cream and skim milk are recombined and used in preparing blue-mold cheese. (R. 1582-1584, 1626-1628, 1719-1720, 1737-1738, 1757-1759, 1761-1764, 1789-1790, 3537-3540, 3600-3601, 3605, 3607-3609, 3611, 3669-3671, 4997, 4999, 5002, 5043)

58. Carotene is a precursor of vitamin A and is responsible for about one-half of the vitamin A potency of milk and of the cheese made therefrom. To the extent that the carotene is destroyed by oxidation in bleaching with benzoyl peroxide, the nutritional quality of cheese made with milk so bleached is lowered. The vitamin A potency can be restored to the cheese by the addition of colorless vitamin A from other sources. This is not now done, but a requirement that the vitamin A potency of blue-mold cheese made from bleached milk be restored by the addition of vitamin A would impose no unreasonable difficulty on cheese makers and would promote honesty and fair dealing in the interest of consumers of blue-mold cheese. Sheep's milk is naturally white and no color nor bleach is used in such milk when it is manufactured into a blue-

mold cheese. (R. 1626, 1742-1743, 1758, 1763, 1765, 3612-3615)

59. Blue-mold cheese contains not less than 50 percent fat in the solids and not more than 46 percent moisture. Gorgonzola cheese contains not less than 50 percent fat in the solids and not more than 42 percent moisture. (R. 1578-1579, 1718, 1756, 1774-1776, 1786, 5038, 5062)

60. For many years a variety of blue-mold cheese made of sheep's milk has been cured in natural caves in the area of Roquefort, France, and has been shipped extensively to all parts of the world. Such cheese has long been known as Roquefort cheese. The use of sheep's milk is the most important factor which imparts the distinctive characteristics to this variety of blue-mold cheese. Storage in the caves is only for the purpose of obtaining proper temperature, humidity, and ventilation. A blue-mold cheese made in a similar manner of sheep's milk which is cured elsewhere than in the caves near Roquefort, under properly controlled curing conditions, would undoubtedly result in a cheese indistinguishable from the blue-mold cheese made near Roquefort. No finding is made as to whether the name roquefort cheese has acquired and retains a secondary meaning so that its use should be restricted to designate the blue-mold cheese cured in the area of Roquefort. Accurate descriptive names for such cheeses are sheep's milk blue-mold cheese and blue-mold cheese from sheep's milk. This variety of cheese contains not less than 50 percent fat in the dry matter, and its moisture is not more than 45 percent. It is cured for not less than 60 days. (R. 3336, 3370, 3398, 3406, 3445, 3447-3449, 3461-3462, 3467-3468, 3472, 3501-3502, 3568, 3582-3583, 3675-3676, 3686-3695, 3714-3716, 4708, 4858, 4862-4863; Ex. 71, 80, 166, 167, 169, 170, 171, 173, 174, 176, 185, 186)

61. Camembert cheese is a type of soft cured cheese made from cow's milk, which is characterized by the growth of a typical white mold on the surface. This type of cheese originated in France, and in the years before the second world war substantial amounts were shipped to the United States. In France a cheese known as *carre de l'est* is quite similar to camembert cheese, but is made by a process which differs in some respects from the traditional process for making camembert. In the United States a cheese has been made for many years by a process almost identical with that used in France for making *carre de l'est* and sold under the name of camembert cheese. The cheese known as camembert in France may be cured longer than camembert made in the United States. The former is characterized by the growth of surface microorganisms in addition to the white mold. These are in part yeasts which give the surface of the cheese a pink color. Camembert and similar cheeses are now made in many countries, but at present practically all cheese sold as camembert in the United States is of domestic manufacture. Under favorable conditions, cheese manufacturers in France and other foreign countries may wish to ship camembert cheese to the United States. (R. 316,

1184-1187, 1189-1193, 1196-1197, 1207, 1220-1227, 1229, 1233-1235, 3287, 3375-3378, 3381-3383, 3386-3388, 3394, 3422-3423, 3471, 3474, 3509, 3695; Ex. 72, 75)

62. In France a small amount of cream is removed from the milk to be used for making camembert cheese or *carre de l'est*, and the fat content in the solids is usually between 45 and 50 percent. In the United States camembert is made from whole milk, and the fat in the solids is not less than 50 percent. (R. 1189, 1193, 1396-1397, 1422, 3384-3388, 3421)

63. Camembert cheese is quite perishable, and when held for 60 days may not be acceptable to consumers. In France camembert cheese is usually made from raw milk and was so made in the United States until a few years ago. In recent years, due to regulations of some states requiring that cheese be made from pasteurized milk or aged for not less than 60 days, camembert cheese in the United States is now made from pasteurized milk. The manufacture of camembert cheese in France from pasteurized milk has not been thoroughly tried. There are some points of difference in the manufacturing procedure, depending on whether raw or pasteurized milk is used. (R. 282-283, 383, 1190-1192, 1202, 1233-1234, 3386-3387, 3417)

64. The differences in the finished products between camembert cheese and *carre de l'est*, as made in France, are not extensively treated in the record. *Carre de l'est* was said to be softer than camembert and to sell at a lower price. Insofar as consumers in the United States are concerned at the present time, there is no need for specific standards to distinguish between these cheeses and the camembert cheese made in the United States. Sufficient protection to consumers for the present will be afforded by the class standard for soft cured cheese. (R. 3386-3388, 3394, 3474, 3480, 3510-3512)

65. Monterey cheese is the common or usual name of a variety of semisoft cheese that originated in Monterey County, California, and is now made in a few areas of the United States, principally in California and adjoining States. It is made by the granular or stirred-curd process similar to that described in finding 26. Monterey cheese differs from granular cheese, however, in that it has a higher moisture content and the body of the cheese is not as firm. It is uncolored and is molded under pressure into characteristic forms and shapes of less than 12 pounds in weight. Monterey cheese for table use is made from whole milk, and has not less than 50 percent fat in the solids. The moisture content does not exceed 44 percent. Some monterey cheese is made from partly skimmed milk, and is dried for grating purposes. Such cheese made for grating will be covered by the definition and standard of identity for the class known as grating cheese, and no separate standard is needed for it. (R. 1247-1253, 1265, 1269-1271, 1273-1274, 1277-1279, 1281, 2764, 2770, 2771; Ex. 25)

66. The method commonly used for manufacturing monterey cheese is as follows: Milk, which may be pasteurized and which may be warmed, is subjected

to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Sufficient rennet is added to set the milk to a semisolid mass. The mass is divided into smaller portions and so handled by stirring, heating, diluting with water or salt brine, or salting, as to promote and regulate the separation of whey and curd. The curd is then placed in muslin or sheeting cloths and formed into a ball, and pressed. It may be placed in a cheese hoop and pressed. The cloths are removed the following day, and the cheese is placed on trucks or racks and turned frequently to prevent checking and to form a rind. The cheese may then be paraffined, or it may be dipped in vegetable oil and sprinkled with rice flour. (R. 1247-1248, 1284, 1286, 2765; Ex. 25)

67. Monterey cheese is usually made from pasteurized milk, and after its manufacture it is ordinarily sold as a fresh cheese. It is rarely held for more than 30 days, and if held for as long as 60 days it develops a flavor that would render it unacceptable to consumers. Since this cheese cannot, under normal conditions, be held for as long as 60 days, it is reasonable to require that it be made from pasteurized milk. (R. 1249, 1271-1272, 1284, 2767-2768; Ex. 25)

68. High-moisture jack cheese is a variety of semisoft cheese made by the same method from pasteurized milk as monterey cheese, and has similar physical and chemical properties, except that the moisture content is more than 44 percent but less than 50 percent. (R. 1249-1250, 1273, 1290-1291; Ex. 25)

69. There are several varieties of cheese, now made in the United States by procedures which originated in Italy, which are commonly known by their Italian names. One of these varieties is provolone cheese, also known as *pasta filata* cheese. This variety of cheese has a stringy curd texture, and it is made in a number of different shapes and sizes which are customarily designated by words of Italian origin. The common size and shape designations used in this country are: *provoletti*, *provoloncini*, *provolontini*, *salamini*, *salami*, *bocconi*, *mandarini*, *orancini*, *cacciacavallo*, *monteche*, *scamorze*, *gravanese*. Some shapes are encased in rope or twine before drying. (R. 3756-3757, 3758, 3780, 3783-3785, 3790)

70. The procedure for manufacturing provolone cheese is similar to that of cheddar cheese until the curd is matted and cut. In making provolone cheese, after the curd is matted and cut it is immersed in hot water and kneaded and stretched until it is smooth and free from lumps. This treatment results in a curd of stringy appearance which is characteristic of provolone cheese. The curd is then cut and molded into shapes of varying sizes. During this molding the curd is kept sufficiently warm so that it sticks together and forms a smooth surface. The molded curd is then firmed by immersing in cold water. The units are salted in brine, are often encased in twine, and are dried. Provolone cheese

is often smoked by the smoke from burning hardwood. The cheese is coated with paraffin or other similar wax and cured for varying lengths of time. (R. 3758, 3763, 3798-3799, 3824, 3951)

71. Provolone cheese may be made from either raw milk or pasteurized milk. Rennet paste or an extract of rennet paste is ordinarily used to coagulate the milk. However, rennet has been found to be satisfactory for this purpose when used together with certain enzymes. (R. 701, 3760-3762, 3765, 3845, 3900)

72. In the manufacture of provolone cheese considerable fat is lost in the whey, and some is also lost in the manipulation and handling of the curd. Provolone cheese contains not less than 45 percent milk fat in the solids, and the moisture content is not more than 45 percent. (R. 3758, 3793)

73. Some manufacturers of provolone cheese expressed a desire to bleach the milk from which it is made, using method described in finding 57. Purchasers of provolone cheese have not been accustomed to purchasing such cheese having a uniformly white curd. No reasons for consumer preference for a white cheese are disclosed by the evidence nor does there appear in the evidence any basis for a finding that bleaching the milk used in making provolone cheese would promote honesty and fair dealing in the interest of consumers. (R. 3762, 3793, 3898)

74. A variety of hard cheese which originated in Italy is now manufactured in the United States and is known as parmesan cheese or *reggiano* cheese. Whatever differences that may have existed between cheeses of these two names have disappeared. This variety of cheese has a hard and brittle rind, a granular texture, and a mellow and somewhat nutty flavor; it grates readily. It is made from cow's milk, from which part of the cream has been removed. The procedure for the manufacture of parmesan cheese is as follows: Milk, which may be pasteurized and may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Harmless artificial coloring may be added. Rennet is added in sufficient quantity to set the milk to a semisolid mass. The mass is cut into pieces no larger than wheat kernels, heated, and stirred until the temperature reaches between 115° to 125° F. The curd is allowed to settle, and is then removed from the kettle or vat, drained for a short time, placed in hoops, and pressed. The pressed curd is removed and salted in brine or dry-salted. The cheese is cured in a cool, ventilated room. The rind of the cheese may be coated or colored. (R. 702, 3901-3904, 3723, 3728, 3739, 3757-3758, 3972, 3978, 5344-5345)

75. In order to obtain a cheese having the characteristics associated with parmesan cheese, it is necessary to cure the cheese for a long period of time. It is cured generally for at least 14 months and often for as long as two years. Testimony was introduced concerning a method of manufacturing parmesan

cheese whereby the curing period could be reduced to 5 or 6 months. In this method the cream separated from the milk is homogenized and then recombined with the skim milk. An enzyme preparation containing a lipase is also added during the manufacturing process. Cheeses that have not been cured for 14 months do not have all the characteristics associated with parmesan cheese. It would not promote honesty and fair dealing in the interest of consumers to permit hard grating cheese cured for less than 14 months to be included in the definition and standard of identity for parmesan cheese. Such a cheese should be given a new name. It would then come under the class standard for hard grating cheese. (R. 3905-3906, 3919, 3939-3940, 3718-3722, 4120-4121)

76. Parmesan cheese made in the United States usually contains on the average 36 or 37 percent of milk fat in the solids. It is reasonable to require that such cheese contain not less than 34 percent of milk fat in the solids. During the curing period the moisture content of the cheese is reduced, and the cheese when 14 months old contains not more than 32 percent of moisture. (R. 3902, 3940, 3724)

77. Romano cheese is the common or usual name of another variety of hard cheese which originated in Italy. In the past considerable quantities have been shipped from Italy to the United States. In recent years this type of cheese has also been manufactured in the United States. In Italy cheeses of this variety are also known by other means. Such names are usually descriptive of the locality of manufacture. In the United States this variety of cheese has been known to a limited extent as toscano cheese, sardo cheese, and incanestrato cheese. These names are not the common or usual names of this cheese, and to permit their use as synonyms for romano cheese might result in consumer confusion. (R. 3769, 3802, 2515-2916, 3961, 3965)

78. In Italy this variety of cheese was originally made from sheep's milk, and was called pecorino (from the Italian word pecora, meaning sheep) romano. Subsequently, the same type of cheese was also made from cow's milk, and was called vaccino (from the Italian word vacca, meaning cow) romano. This variety of cheese is also sometimes made from goat's milk, and is called caprino (from the Italian word capra, meaning goat) romano. In the United States practically all this variety of cheese has been made from cow's milk and sold and distributed under the name romano cheese. No cheese of this variety is known to be made in the United States from sheep's milk, although it has been made to a limited extent in some western States from either goat's milk or a mixture of goat's milk and cow's milk. Romano cheese is the common name of the variety, whether made from cow's milk, sheep's milk, goats' milk, or mixtures of these. When milk other than cow's milk is used, consumers should be informed of the animal origin of the milk. (R. 1320, 1325-1326, 2915, 2971, 3961-3964, 3981, 3990, 4012-4015, 5345-5346)

79. The procedure for making romano cheese, wherever made, is basically as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Harmless artificial coloring may be added. Rennet, rennet paste, or extract of rennet paste is added in sufficient quantity to set the milk to a semi-solid mass. The mass is cut into pieces no longer than corn kernels, heated, and stirred until the temperature reaches about 120° F. The curd is allowed to settle, then removed from the kettle or vat, drained for a short time, placed in hoops, and pressed. The pressed curd is removed and salted by immersing in brine for about 24 hours and is then removed from the brine and the surface is allowed to dry. It is then alternately rubbed with salt and washed, and it may be perforated with needles. It is dry-cured. During the curing it is turned and scraped. The surface may be rubbed with vegetable oil. (R. 3771, 3908, 3909)

80. Romano cheese is used principally as a grating cheese, but it is also used to some extent as a table cheese. It has a granular texture, a rather piquant flavor, and a hard, brittle rind. It is usually cured for 6 months or more, but some of the smaller sizes are cured for about 5 months. When made from cow's milk, some of the fat is removed. If too much fat is removed, however, there is not enough left for proper flavor development. A reasonable minimum limit for fat in the solids is 38 percent. During curing the moisture content of the cheese is reduced and a reasonable maximum limit for moisture content is 34 percent. (R. 703, 3769-3771, 3803, 5345)

81. Three related varieties of cheese are made in the United States from cow's milk, and are known as asiago fresh cheese (or asiago soft cheese) asiago medium cheese, and asiago old cheese, respectively. Asiago fresh cheese is used as a table cheese; asiago medium cheese is used both as a grating cheese and as a table cheese; and asiago old cheese is used as a grating cheese. The procedure for manufacturing these three varieties of cheese, which is basically the same except for the fat content of the milk and length of curing time, is as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity of not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Rennet is added in sufficient quantity to set the milk to a semisolid mass. The mass is cut, stirred, and heated to promote lactic-acid development and regulate separation of the whey from the curd. The whey is drained. When the curd is sufficiently firm it is removed from the kettle or vat, further drained for a short time, packed into hoops, and pressed. The pressed curd is salted in brine, then cured in a

well-ventilated room. During curing the surface of the cheese is occasionally rubbed with a vegetable oil. (R. 3319, 3821-3825, 3829, 3838)

82. Asiago fresh cheese is made from whole milk and has not less than 50 percent of fat in its solids. Consumers of this type of cheese desire a cheese that is relatively soft, and the moisture content is usually above 40 percent but not over 45 percent. This cheese is cured for not less than 60 days. (R. 3818-3821, 3826, 3909-3910)

83. Asiago medium cheese is usually made from milk from which some cream has been removed, and contains not less than 45 percent fat in the solids. This cheese is cured for not less than 6 months, and due to this long curing period the moisture content is not more than 35 percent. (R. 703, 3821-3823, 3829-3830)

84. Asiago old cheese is made from partly skimmed milk and is cured for not less than 12 months. Due to the longer curing period there is a reduction in fat and moisture, and this cheese contains not less than 42 percent fat in the solids and not more than 32 percent moisture. (R. 703, 3823-3825, 3831-3832, 3910-3911)

85. A type of hard cheese made from skim milk to which is added a species of clover which has been dried and ground is made in Switzerland and other parts of the world. It is made in the shape of a truncated cone and has a pale-green color, and is known as sap sago cheese. The method of manufacturing sap sago cheese is essentially as follows: Soured skimmed cow's milk is heated to boiling temperature, with stirring. Cold buttermilk may be added. Sufficient sour whey is added to give the curd the desired consistency. The curd is spread out in boxes and is allowed to drain and ferment while being pressed. It is allowed to ripen and dry for not less than 5 weeks. The dried and ripened curd is ground, and to each 100 parts are added about 5 parts of salt and 25 parts of dried, aromatic clover of the species *Melilotus coerulea*. The mixture is formed into the characteristic shape by forcing it into molds. It is cured for not less than 5 months. Due to the heating of the milk prior to precipitation of the curd and to the length of curing time of sap sago cheese, it can reasonably be expected that pathogenic organisms are destroyed and that it is safe for consumption. The moisture content of sap sago cheese is not more than 38 percent. The fat content is low, and there is no need to set a minimum requirement. (R. 1298, 2283-2284, 2389-2390, 4258, 4637-4643, 4598-4599; Ex. 26, 63)

86. Cook cheese, sometimes called koch kaese, is a variety of soft cheese made from cottage cheese curd. This is cured, often with the addition of a white mold, then heated so that it melts, and is then poured into containers. To the melted cheese may be added cream, salt, caraway seed, or a mixture of two or more of these. The method of manufacturing cook cheese is essentially as follows: Skim milk is subjected to the action of harmless lactic-acid-producing bacteria present in such milk or added thereto. A culture of a harmless white mold may

be added. Sufficient rennet, with or without purified calcium chloride in a quantity not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of the milk, may be added to aid in setting the skim milk to a semisolid mass. The mass is cut and heated, with continued stirring so as to promote and regulate the separation of the curd and whey. The whey is drained, and the curd is cured for 2 or 3 days. It is then heated to a temperature of not less than 180° F. until the hot curd drops from a ladle with a consistency similar to that of honey. The hot cheese is filled into packages and cooled. Cream, salt, or caraway seed or any mixture of two or more of these may be added. (R. 3072-3074, 3081)

87. In place of all or part of the skim milk used in making cook cheese, a satisfactory product can be made by using concentrated skim milk, that is, skim milk from which a portion of the water has been removed by evaporation, or nonfat dry milk solids, or both, with water in a quantity not in excess of that sufficient to reconstitute such concentrated skim milk or nonfat dry milk solids which may be used (R. 2658, 2660, 2666)

88. Due to the heating of the curd for the purpose of melting it, in the manufacture of cook cheese, it can reasonably be expected that pathogenic organisms are destroyed and that it is safe for consumption. The moisture content of cook cheese is not more than 80 percent. The fat content is low, and there is no need to set a minimum requirement. (R. 3073, 3081)

89. A type of cheese prepared from the skim milk of cows is made in Norway and known as gammelost. This type of cheese is sometimes shipped to the United States and may be made at times in the United States. The procedure used is as follows: A starter, consisting of a culture of harmless lactic-acid-producing bacteria, is added to skim milk, and the mix is allowed to stand until it has become quite acid. The mixture is heated to about 145° F. and maintained at this temperature for not less than ½ hour. During heating the curd is occasionally stirred. The whey is drained off, and the curd is filled into forms and pressed; the shaped curd is then placed in the whey and heated for 3 or 4 hours. It is removed and may again be pressed. It is then stored until sufficiently cured.

Gammelost is a hard cheese and usually contains about 52 percent water. The fat content is low, and there is no need in a standard to set limits on fat or moisture. (R. 5296-5299; Ex. 26)

90. Because of the many varieties of cheese that will be included in the different class standards, some of which may be made from sheep's milk or goat's milk, it is reasonable to provide that cheeses falling within the class standards may be made from the milk of cows, sheep, or goats, or mixtures of these (finding 11). It is reasonable to permit the adjustment of the milk by separating part of the fat therefrom or by adding thereto one or more of the following: cream, skim milk, concentrated skim milk or nonfat dry milk solids, or the corresponding products prepared from sheep's milk or goat's

milk. It is reasonable to permit the use of calcium chloride as described in finding 14, and harmless enzymes as described in finding 18. For the reasons set forth in findings 19, 20 and 21, it is reasonable to require that such cheeses be made from pasteurized milk, or in the alternative be held for not less than 60 days at a temperature of not less than 35° F. (R. 699-670, 709, 719-720, 731, 733-734, 1231, 1292-1295, 1313, 5062)

91. In order to prevent the substitution of skimmed milk or partly skimmed milk cheeses, for cheeses made in the United States from whole milk (finding 16), it is reasonable to require that cheeses known as hard, semisoft, and soft ripened, for which there is no specific definition and standard of identity, contain not less than 50 percent fat in the dry matter. Manufacturers of cheeses outside the United States can readily modify their manufacturing processes so that their cheeses will comply with standards based on American methods of manufacture, or in unusual cases may apply for a specially applicable standard. It would not promote honesty and fair dealing in the interest of consumers in the United States to lower the class standards to permit the general use of partly skimmed milk for making these cheeses. (R. 1019-1020, 1028-1029, 1103, 1340-1341, 1344, 1347, 1351-1352, 1359, 1447-1448, 1476, 1638-1642, 1646, 1700)

92. The amount of moisture in a cheese is one of the factors which determines into which class it falls. In the United States hard cheeses produced in the greatest quantity have not more than 39 percent moisture, and it is reasonable to set this limit for moisture in hard cheeses for which there is no specified definition and standard of identity. The moisture content of semisoft cheeses is necessarily higher, and a reasonable range of moisture for such cheese for which there is no specific definition and standard of identity is from 39 to 50 percent. In the case of soft ripened cheeses for which there is no specific definition and standard of identity, there are wide variations of moisture content, and it is impracticable to set a moisture limit for this class of cheese. (R. 302, 1016, 1019, 1056, 1060, 1111, 1292, 1294-1295, 1302-1304, 1322-1323, 1338, 1360, 1376, 1638, 1645, 4512-4513; Ex. 26)

93. The procedure for manufacturing all hard cheeses cannot be described in great detail owing to the variations practiced, but it is essentially as follows: Milk, which may be pasteurized and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, with or without other harmless flavor-producing bacteria present in such milk or added thereto. Purified calcium chloride may be added in a quantity not more than 0.02 percent (calculated as anhydrous calcium chloride) of the weight of such milk. Harmless artificial coloring may be added. Rennet, or rennet paste, or extract of rennet paste, is added in sufficient quantity to set the milk to a semisolid mass. The mass is cut into small particles, stirred, and heated. The curd is separated from the whey, drained, shaped into forms, and may be pressed. The

curd is salted at some stage of the manufacturing process. The shaped curd is cured to develop flavor. The rind may be coated with paraffin, or rubbed with vegetable oil, or both. (R. 1294-1295, 1338, 1428; Ex. 26)

94. As is the case in hard cheeses, there are many variations practiced in the manufacture of semisoft cheeses, and it is impossible to describe in detail the manufacturing procedure for semisoft cheese. In general, the manufacturing procedure is similar to that used for making hard cheeses, except that the curd is not necessarily cut or heated. Semisoft cheeses may be cured under suitable conditions for the development of biological curing agents on the surface of the cheese. (R. 1016-1019, 1088, 1102, 1338, 1352-1359, 1428, 1638-1642)

95. The procedure for manufacturing soft ripened cheeses is similar to that used in making semisoft cheeses, except that heat may not be used, and the curd, after the whey has been separated from it, is cured under suitable conditions for the development of the biological curing agents which impart to the particular variety of cheese their distinctive characteristics. This is usually effected by the development of such curing agent on the surface of the cheese and conducting the process so that the cheese cures from the surface toward the center. Sufficient data on the phosphatase content of soft ripened cheeses is not available for use as a basis for incorporating a test for phosphatase in the definition and standard of identity for this class of cheeses. (R. 318, 1230-1231, 1330-1331, 1428)

96. Definitions and standards of identity were proposed for some of the more important varieties of cheese intended primarily for grating purposes. In addition to such cheese there are other varieties of lesser importance made in the United States and elsewhere which are also intended primarily for grating purposes. It is impracticable to adopt specific definitions and standards of identity for each of such cheeses. (R. 685, 2917, 4050, 4155, 4260; findings 74, 80, 81; Ex. 26)

97. Hard grating cheeses are usually made from cow's milk, but at times they may be made from sheep's milk or goat's milk, or mixtures of these with cow's milk. In making such cheeses, a portion of the fat is generally removed from the milk. A minimum amount of fat is necessary for development of desirable flavor. In order to prevent the use of milk from which more fat has been removed than is customary in such cheeses, and to make sure that there is sufficient fat for proper flavor development, it is reasonable to require that hard grating cheeses contain at least 32 percent of milk fat in the solids. Hard grating cheeses are relatively low in moisture content. The maximum moisture content compatible with the characteristics of hard grating cheese is 34 percent. (R. 1316, 2917, 2973, 2987-2990, 3996-3997, 4134, 4156; Ex. 26, 94-96, 220)

98. Hard grating cheeses are cured for relatively longer periods of time than other cheeses, in order to develop sharp flavor. The minimum curing time compatible with the development of the

characteristic sharp flavor is 6 months. Due to the long curing period, such cheese may reasonably be expected to be safe for consumption even when made from unpasteurized milk. (R. 2987, 3908, 4545, 5215-5216; finding 20; Ex. 26)

99. It is impossible to describe with great particularity the manufacturing procedure for hard grating cheese, but in general it is similar to that used in manufacturing hard cheese. Rennet, rennet paste, or extract of rennet paste may be used. The rind may be colored or rubbed with vegetable oil or both. The use of partly skimmed milk; the amount of cutting, stirring, and draining; the heating temperature, and the long curing period are some of the factors which give hard grating cheese its characteristics. (R. 3727, 3731-3732, 3843-3845, 3904, 3907, 5215-5216; Ex. 26, 94, 96)

100. Separate specific definitions and standards of identity were proposed for hard grating cheeses under the names of monte cheese and modena cheese. The distribution of these cheeses is limited. A definition and standard of identity for monte cheese or modena cheese, or the inclusion of products of such composition in the class standard for hard grating cheeses, would in effect provide for manufacturing a hard grating cheese deficient in fat and would not promote honesty and fair dealing in the interest of consumers. (R. 521, 2974, 3888, 3906, 3941-3942, 3944, 5216; finding 97)

101. Several varieties of cheeses are made in various parts of the world which resemble members of the class for which a standard is proposed under the class name semisoft cheeses. They differ from the cheeses for which this standard is applicable in that they are made from partly skimmed milk, and the fat content of their solids ranges from 45 to 50 percent. Many of these cheeses have obtained popularity under specific names, and cheeses of this class vary from each other due to the conditions under which they are made and stored, although the basic procedure used for their preparation is essentially the same. This procedure is the same as that described for preparing semisoft cheeses, except that partly skimmed milk is used. (R. 1028, 1102, 1374-1376, 3425, 3529, 4512-4513, 5003-5004, 5006; Ex. 26, 29-33)

102. There are a number of varieties of cheese, some made in the United States and others shipped into the United States, which are characterized by the presence of certain spices. Such cheeses fall into one of the general classes of "spiced cheeses," rather than a class based on the texture of the cheese. Cheeses of this class are particularly popular in the Scandinavian countries and with consumers in this country who are familiar with cheeses as made in such countries. Spiced cheeses are usually made from partially skimmed cow's milk, although a few varieties are also made from whole milk. The spices added may be caraway seed, cloves, cumin seed, anise seed, sage, or other spices. In some varieties of cheese more than one spice is used. The oil extracts of such spices are sometimes used in addition. Some of the cheeses of this class are known as

noekkelost, kuminost, leyden, frisian clove, Christian IX, caraway, pepato, and sage. The use of certain spices and combinations of them by long-continued practice has become associated with the name of a particular variety of spiced cheese. It would be deceptive to consumers to permit the use of spice or spice oil which simulates the flavor of aged cheese. (R. 1087-1088, 1093-1094, 1096, 1130-1131, 1139, 1141, 1162-1164, 1683-1689, 1697-1699, 2919, 3832-3855, 3840-3841, 4904-4906, 5014, 5058, 5280; Ex. 198)

103. It is impracticable to adopt a specific definition and standard of identity for each of the varieties of spiced cheese. The flavor of such cheeses is due primarily to the spices used, and satisfactory spiced cheeses can be made from partly skimmed milk. In order to differentiate spiced cheeses made from partly skimmed milk from those made from whole milk, two separate class standards should be established: one for spiced cheese and one for part-skim spiced cheese. Spiced cheese has not less than 50 percent milk fat in its solids, and part-skim spiced cheese has less than 50 percent but not less than 20 percent fat in its solids. The record does not furnish a basis for setting moisture limits for spiced cheeses. (R. 1141-1142, 1169-1170, 1683, 1705-1706, 4904-4907, 5015, 5058, 5246-5248, 5281, 5298-5299; Ex. 26, 156, 160)

104. The method of manufacturing spiced cheese is similar to that used in manufacturing hard cheese, except that during the procedure spices are added. In general, not less than 1½ ounces of spices are added for each 100 pounds of cheese, and this is a reasonable minimum requirement for the total amount of spices to be used in these cheeses. (R. 1087-1088, 1095, 1128, 1142, 1163, 1169, 5016-5018, 5297)

105. A number of foods which resemble cheese in some respects are made in whole or in part from cheese whey. Milk or cream or both are sometimes added. Such foods, although not cheese as that word is commonly understood, are generally referred to as whey cheeses. Such foods may be made from the whey of cow's milk or goat's milk or mixtures of these, to which may be added cow's milk or goat's milk or cream or mixtures of these. Some of the names under which whey cheeses are known are mysost, fiotost, primost, ricotta, and gjetost. Due to the extremely variable composition of these foods it is impracticable to adopt a class standard which will be of value in promoting honesty and fair dealing in the interest of consumers, and the record does not give a basis for establishing the multiplicity of standards that would be required to cover the many varieties of whey cheese made. By designating a food of this kind as "whey cheese," the possibility of consumers' confusing it with a cheese made from milk will be minimized. (R. 5249-5251, 5254-5255, 5261, 5295, 5310, 5312, 5319; Ex. 26, 242, 243, 244)

106. A variety of cheese which resembles cheddar cheese and some other varieties of hard cheese is made in the United States from separated milk. It contains very small amounts of milk fat. Skim milk normally contains only about

1/10 of 1 percent of fat, and cheese made therefrom may contain about 1 percent, or slightly more, milk fat. This variety of cheese is suitable for use as an ingredient in preparing certain other foods, particularly bakery products. It has also been used as an ingredient of cheese foods and cheese spreads, although its use for these purposes is not to be recommended. (R. 2902-2904, 2906, 2910-2911, 2976)

107. Skim milk cheese for manufacturing is entirely unsuitable for general cheese use. Due to its resemblance to other cheeses, which are more costly and generally more desirable, it could, to some extent, be substituted for them. It will promote honesty and fair dealing in the interest of consumers to establish a definition and standard of identity for this variety of cheese containing provisions designed to lessen the possibility of deception to consumers. The name "skim milk cheese for manufacturing" accurately describes the product. Such a cheese should be identified in such a way as to prevent its being substituted for, or confused with, varieties of hard cheese which it resembles. This can be accomplished by requiring that skim milk cheese for manufacturing be coated with blue-colored paraffin or other firmly adhering material, colored blue. (R. 2902, 2904, 2909, 2930-2931, 2969, 2999, 5364)

108. The procedure used for preparing skim milk cheese for manufacturing is similar to that used for preparing hard cheese. The moisture content of such a cheese is not more than 50 percent. Since this variety of cheese is suitable only for manufacturing, it is not necessary that its standard require that the skim milk used be pasteurized or that the skim milk cheese for manufacturing made therefrom be held for not less than 60 days. (R. 2905-2906, 2908-2909, 5365)

109. There was testimony relative to abuses in the sale of foods purporting to be grated cheeses. It was recommended that a standard which would curtail or prevent these abuses be adopted. It is clear that there are abuses in this regard and that it would be desirable to adopt regulations which would curtail or prevent them. However, the evidence does not establish sufficient basis for adopting definitions and standards of identity for such foods which would promote honesty and fair dealing in the interest of consumers. (R. 3855-3856, 3874-3875, 3882-3883, 4017-4020, 4022-4027, 4109-4112, 4599-4600)

110. There was testimony proposing a standard for a cheese made from milk and buttermilk. The testimony showed that this type of cheese had so far been made only in small quantities on an experimental basis. The evidence does not warrant the adoption of a standard for such a cheese. (R. 3074-3116)

111. A number of foods now being marketed are made by grinding and mixing cheeses of the same or more than one variety, with the addition of emulsifying agents, salt, water, and coloring, and heating the mix to make a pasteurized product of uniform texture and composition. These foods are commonly known as pasteurized process cheese. A similar food is occasionally made in the same way, except that no emulsifying

agent is employed. Such a food is commonly known as pasteurized blended cheese. (R. 1806, 1858-1859, 1989-1991, 1993-1994, 2013-2014, 2016, 2023, 2030, 2553-2554, 2573-2574, 2604-2606; Ex. 14, 46)

112. The heat treatment necessary to melt the cheese and to give a consistency suitable for packaging requires a temperature of 150° F. for about 30 seconds, or longer. This heat treatment is sufficient to destroy dangerous microorganisms which may have been present in the ingredients used, and also to destroy any phosphatase in cheese made from unpasteurized milk. The phosphatase test for a properly made pasteurized process cheese may be entirely negative, and in no case does a pasteurized process cheese, when tested by the method described in finding 22, show a phenol equivalent of more than 3 micrograms per 0.25-gram portion. The heat treatment stops further curing of the cheese, and the finished foods retain the characteristics present at the time of manufacture. (R. 1808-1809, 2284-2291, 2297-2301, 2185-2191, 3063-3067, 4039-4042; Ex. 13, 61)

113. Since pasteurization is effected during manufacture, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, swiss cheese for manufacturing, and brick cheese for manufacturing are suitable ingredients for pasteurized process cheese. (R. 401, 411, 1995-1996, 2024, 2724, 2727, 4038-4039)

114. Processing or blending operations may increase the moisture content of the mix because of condensation of steam used for heating the mass and through the addition of ingredients in aqueous solution. The water so added ordinarily increases the moisture content by less than 1 percent, and an allowance of 1 percent moisture above the maximum permitted in the cheese ingredient is reasonable. (R. 1964, 1996, 2002, 2025, 3913)

115. Pasteurized process cheese may be made from different varieties of cheese which do not have the same moisture and fat contents. With certain exceptions, it is reasonable in such cases that the moisture content be the arithmetical average of the maximum moisture contents prescribed for the varieties of cheeses used, plus the allowance of 1 percent necessary for the reasons given in finding 114. (R. 1993, 2002, 2025, 2605, 2758)

116. Establishment of a general maximum limit on moisture in pasteurized process cheese will promote honesty and fair dealing in the interest of consumers, since varieties of natural cheese of very high moisture content may be used in mixtures and would introduce excessive amounts of water. A reasonable maximum limit on moisture is 43 percent, except as noted in other findings. (R. 1964, 2002, 2025)

117. One type of pasteurized process cheese made from cheddar cheese, washed curd cheese, colby cheese, granular cheese, or mixtures of two or more of these varieties is commonly known as pasteurized process American cheese. Consumers expect a pasteurized process cheese so designated to possess characteristics commonly associated with pas-

teurized process cheddar cheese. It is reasonable that the maximum moisture content of pasteurized process American cheese be 40 percent, and that cheddar cheese constitute at least 75 percent of the cheese ingredients. (R. 2002-2004, 2026, 5079, 5162, 5166)

118. A type of pasteurized process cheese made from a mixture of gruyere cheese and swiss cheese was introduced into the United States from Switzerland. At times it may have been made from swiss cheese alone. Later, processed swiss cheese made in the United States was labeled at times as process gruyere cheese. It was believed by many in the United States that swiss cheese and gruyere cheese were the same cheese, but made in different areas. The evidence showed (finding 36) that gruyere cheese is a different variety of cheese from swiss cheese. It will not promote honesty and fair dealing in the interest of consumers to permit pasteurized process swiss cheese to be labeled pasteurized process gruyere cheese. Processed mixtures of gruyere cheese and swiss cheese having not less than 30 percent gruyere cheese are sufficiently characterized by the presence of gruyere cheese to be known as pasteurized process gruyere cheese. The fat content of the solids of pasteurized process gruyere cheese is not less than 45 percent. (R. 536, 2127, 2271, 4319, 4327-4328, 4331, 4342-4344, 4354, 4358, 4368, 4621, 5162; Ex. 26, 76, 79, 112-121, 124-127, 223-224)

119. Pasteurized process gruyere cheese is sometimes packaged in separate units weighing less than 2 ounces. The packaging of such small sizes requires a higher degree of fluidity than packaging larger sizes, and this fluidity can at the present time be obtained only by increasing the moisture content of these products to not over 44 percent. (R. 548-561, 698-699, 2025, 2127, 2129, 2135, 4338, 4347; Ex. 76, 79)

120. It is not possible to manufacture a generally acceptable pasteurized process limburger cheese with a moisture content not exceeding 43 percent, since consumers expect pasteurized process limburger cheese to resemble the natural limburger cheese, which has a high moisture content and is somewhat soft. A reasonable maximum moisture content of pasteurized process limburger cheese is 51 percent. (R. 2002, 2025)

121. The fat content of the solids of pasteurized process cheese made of one variety of cheese, in practice, has been equal to that of the variety of cheese used, and it is reasonable to require that this practice be continued. It is reasonable to require that the fat content of the solids of a pasteurized process cheese made from two or more varieties of cheese be not less than the arithmetical average of the prescribed minimum fat contents of the solids of the varieties used, and in no case less than 47 percent, except in case of pasteurized process gruyere cheese made from a mixture of gruyere cheese and swiss cheese, the solids of which should contain not less than 45 percent fat. (R. 2002, 2025)

122. The addition of salt and emulsifying agents during processing reduces the fat content of the solids of the finished product. It is customary to com-

pensate, when necessary for this reduction in fat, by the addition of cream. Since the addition of large amounts of cream would alter the characteristics of the product, it is reasonable to limit the addition of cream to a quantity which will not increase the fat content of the product by more than 5 percent. (R. 1872, 1880, 1934-1936, 1980-1981, 1997, 2024)

123. Cheeses of unusually low moisture content are sometimes used in making pasteurized process cheese. To avoid undue hardness in the resulting product, water may be added to the mix. The use of water in such amounts that the moisture content of the finished pasteurized process cheese does not exceed the limits prescribed is reasonable. (R. 1964, 1996, 2002)

124. Abuses may arise when pasteurized process cheese is made from two or more varieties and named after all varieties, if any variety is present in only a very small amount. In case a pasteurized process cheese is made from two varieties, it is reasonable to require that the weight of each be at least 25 percent of the total weight of cheese used; and in case three or more varieties are used, it is reasonable that the weight of each variety be not less than 15 percent of the total cheese weight, except when certain highly flavored varieties are used. Limburger cheese, blue cheese, roquefort cheese, and gorgonzola cheese possess very definite flavors which are imparted to pasteurized process cheese by use of lesser amounts. Desirable characteristics from blue, roquefort, and gorgonzola cheeses are imparted by use of 10 percent or more of one of these varieties in a cheese mix containing two varieties, and by use of 5 percent of any of these varieties in a cheese mix made of three or more varieties. The desired flavor from limburger cheese may be imparted if it constitutes 5 percent of the cheese weight when two varieties are used, and if it constitutes 3 percent of the cheese weight when three or more varieties are used. (R. 2002-2003, 2025, 2732-2733)

125. Salt and harmless artificial coloring are used in making pasteurized process cheese, to produce uniformity in seasoning and color. (R. 1996)

126. Spices and flavorings are sometimes used to produce characteristic flavors desired by certain consumers. The simulation of the flavor of a cheese or an aged cheese through addition of spices or flavorings would be deceptive, and is not in the consumer's interest. Consumers are interested in having the presence of spices or flavorings declared on the label. (R. 1872-1873, 1875, 1936, 1942, 1958, 1969, 2001, 2024, 2245)

127. Smoked cheeses may be used in making pasteurized process cheeses, or the pasteurized process cheeses may be smoked. Substances obtained by condensing and precipitating wood smoke are sometimes added to impart characteristics similar to those of smoked cheese. Appropriate label designation of such added substance is the statement "With Added _____," the blank being filled in with the name of the added ingredient. (R. 1984-1985, 2004, 2026, 2876)

128. It is necessary for the fat of pasteurized process cheese to be uniformly

dispersed and held in suspension. The casein of aged cheeses is in suitable form to hold the fat after processing. The casein of many cheeses used does not possess this property, but it may be rendered suitable by the action of certain emulsifying agents. Chemicals which have been found suitable for this purpose are: monosodium phosphate, disodium phosphate, trisodium phosphate, dipotassium phosphate, sodium citrate, potassium citrate, calcium citrate, sodium tartrate, sodium acid pyrophosphate, tetrasodium pyrophosphate, sodium metaphosphate (sodium hexametaphosphate), and sodium potassium tartrate. The emulsifying agents named are used singly and as mixtures, but the total weight of emulsifying agents required does not exceed 3 percent of the weight of the pasteurized process cheese. Since emulsifying agents may contain combined water, or be used in aqueous solution, it is reasonable that the amount of such agent used be calculated on the basis of its solids. Sufficient evidence was not adduced during the hearing to determine the suitability of ammonium salts as emulsifying agents. A provision in a definition and standard of identity for use of any suitable harmless emulsifying agent would not be in the interest of consumers, since it would not insure adequate prior testing of chemicals which might be useful as emulsifying agents, and so might result in long-continued use of harmful agents before their unsuitability became known. (R. 147, 183, 206, 1859-1863, 1879, 1901, 1910-1911, 1923, 1963, 1998-1999, 2024, 2157, 2161, 2234, 2243, 2276, 2329-2330, 2378-2379, 2531-2533, 2638-2639; Ex. 46-50)

129. The action of emulsifying agents may be incomplete if the pH of the mix being processed is excessively high. The pH can be adjusted by the addition of acids, thereby increasing the efficiency of the action of the emulsifying agent. Lactic acid, citric acid, acetic acid, and phosphoric acid have been found suitable for pH adjustment. Vinegar may be used instead of acetic acid, but should be considered as acetic acid rather than vinegar as an optional acidifying ingredient. Reduction of the pH below 5.3 does not improve emulsifying-agent action, and may alter the characteristic flavor of the product. It is reasonable that the use of acids be limited to such amounts that the pH of the finished product is not below 5.3. The proposed acidifying agent, hydroxy-acetic acid, is unsuitable for use in foods. (R. 1914-1915, 1941, 1947, 1965, 2024, 2873, 4242)

130. The common name of a pasteurized process cheese made from one variety of cheese is the name of the variety of cheese used, qualified by the words "pasteurized process." (R. 2004, 2026, 2273, 2573-2574, 2612)

131. In the case of pasteurized process cheese made from two or more varieties, the common or usual name is "pasteurized process," followed by the names of the varieties of cheese used, in the order of their predominance by weight; or the name may be "pasteurized process," followed by the name of the principal cheese used, this followed by the words "blended with" and the name of the

varieties present in lesser amount. (R. 2004, 2021, 2026, 2758)

132. The cheeses ordinarily used for processing are hard cheeses, although sometimes the semisoft cheeses are used. Cream cheese and neufchatel cheese are often packed by what is called the "hot pack" process, in the course of which the curd of these cheeses is melted and mixed, and gum used. It is unnecessary to use any chemical to soften the casein of these cheeses. When so made, the finished cheese is not known as a process cheese. Cream cheese and neufchatel cheese are not therefore proper starting cheeses for the manufacture of pasteurized process cheeses, but may be used in pasteurized blended cheeses. (R. 1820, 1992)

133. The methods for determining moisture content and fat content described in finding 24, and for determining phosphatase described in finding 22, are suitable for analysis of pasteurized process cheese and pasteurized blended cheese. (R. 2003, 2026)

134. There are a few blended cheeses made by comminuting and mixing cheese of the same or two or more varieties with the aid of heat sufficient to pasteurize the mix where no emulsifying agent is used. The names of pasteurized blended cheeses correspond to those of pasteurized process cheeses, except that the word "blended" replaces the word "process" in the name. They are commonly known as pasteurized blended cheese, and are identical with pasteurized process cheese, except that no emulsifying agents or acidifying agents are used. With the exception of findings relative to emulsifying agents and acids, the findings with respect to pasteurized process cheese are applicable to pasteurized blended cheese. (R. 2604-2607)

135. A number of foods closely resembling pasteurized process cheese, but differing from them in that they contain varying amounts of fruits, vegetables, or meats or mixtures of these, are now being marketed. The number of such foods is increasing. The addition of fruits, vegetables, or meats is for the purpose of altering the flavor and eating characteristics of the pasteurized process cheese to varying degrees. The amounts of the fruits, vegetables, or meats added vary, and, except in the case of pimentos and canned and cooked meats, there is insufficient evidence in the record to use as a basis for establishing limits on the amounts which may be added. The minimum amount of a meat product necessary to bring about a change in flavor and eating quality is about 10 percent. (R. 1936, 1956-1957, 1970-1971, 2006, 2326)

136. The fruits or vegetables added must be properly prepared, and either cooked, canned, or dried before addition to the pasteurized process cheese. Meats must be properly prepared and cooked or canned. (R. 1972, 1974-1975, 2006)

137. The moisture content of pasteurized process cheese may be increased and the percent of milk fat in the solids decreased by the addition of fruits, vegetables, or meats. An increase of 1 percent over the maximum percent of moisture permitted in the pasteurized process

cheese and a decrease of 1 percent of the milk fat content of the solids are sufficient to allow for the changes due to the addition of the fruits, vegetables, or meats. (R. 1961, 1964, 1968, 2007-2008, 2023)

138. Such foods are commonly designated by the name of the pasteurized process cheese, followed by the common names of the added fruits, vegetables, or meats. In order to provide a uniform system of designating these foods, it is reasonable that the name specified be the name provided in the definition and standard of identity for pasteurized process cheese for the cheese portion of the food, to which is added the statement "with _____," the blank being filled in with the name or names of the added fruits, vegetables, or meats. In order to properly inform consumers of the optional ingredients used, the requirement for label statement of optional ingredients prescribed for pasteurized process cheese should also be prescribed in the definition and standard of identity for pasteurized process cheese with fruits, vegetables, or meats. (R. 1956-1957, 2006)

139. Where fat, other than milk fat, is introduced into the pasteurized process cheese with fruits, vegetables, or meats by the addition of vegetables or meats, a special method of analysis for the determination of the milk fat must be used instead of that named in finding 133 for pasteurized process cheese. A competent chemist can make the determination with reasonable accuracy. The same situation exists with respect to pasteurized process cheese foods with fruits, vegetables, or meats, and with respect to pasteurized process cheese spreads with fruits, vegetables, or meats. (R. 2323-2324)

140. A particular type of pasteurized process cheese is made with pimentos, sometimes spelled pimientos. The preferred spelling appears to be pimento. This food is commonly known as pasteurized process pimento cheese. The cheese ingredient is that commonly known as pasteurized process American cheese. To this is added properly prepared pimentos in such quantity that the weight of the solids of the pimentos is not less than 0.2 percent of the weight of the finished food. The moisture content of pasteurized process pimento cheese is slightly increased over that of the pasteurized process American cheese, but is not more than 41 percent. The fat content of the solids is reduced somewhat by the addition of the pimentos, but is not less than 49 percent. No other fruit, vegetable, or meat is used, and flavors and spices are not used. (R. 1936-1937, 1941, 1948, 2007, 2028, 2325)

141. In making pasteurized blended cheese with fruits, vegetables, or meats, pasteurized blended cheese is used instead of pasteurized process cheese. Findings 135-139, with respect to pasteurized process cheese with fruits, vegetables, or meats, are applicable to pasteurized blended cheese with fruits, vegetables, or meats.

142. A class of foods similar in appearance and taste to pasteurized process cheese was developed many years ago and has been sold in large quantities

over a period of years under the name "pasteurized process cheese food." The foods of this class are essentially pasteurized process cheeses to which have been added milk or certain milk products. The reason for this addition in the beginning was to create a softer product of somewhat milder taste than pasteurized process cheese, and to return to the cheese food some of the nutrients of milk normally eliminated in the manufacture of cheese. The flavor of these foods has been further modified at times by the addition of salt and of sweetening agents, and their appearance has been standardized by the addition of artificial coloring. (R. 1813-1815, 1836, 2294-2295, 2313, 2500, 2536-2537, 2555, 2709, 4164; Ex. 14, 97-108)

143. The addition of milk products in liquid form tends to increase the moisture content of a pasteurized process cheese and render it softer. When milk products are added in the dry form, additional water is also usually added. Generally, the additional water serves to make a pasteurized process cheese food softer than the corresponding pasteurized process cheese. (R. 2587-2588, 2591)

144. Due to the similarity of pasteurized process cheese foods to pasteurized process cheeses, findings 112, 113, 124, 128, 129, 132, and 133, having to do with the preparation of pasteurized process cheeses, are applicable to pasteurized process cheese foods. (R. 147, 183, 206, 401, 411, 1808-1809, 1820, 1859-1863, 1879, 1901, 1910-1911, 1914-1915, 1923, 1941, 1947, 1963, 1965, 1992, 1995-1996, 1998-1999, 2002-2003, 2024, 2025, 2026, 2157, 2161, 2185-2191, 2234, 2243, 2276, 2297-2301, 2309, 2318, 2319-2320, 2329-2330, 2378-2379, 2531-2533, 2638-2639, 2724, 2727, 2732-2733, 2843, 2844, 2873, 3063-3067, 4032-4034, 4038-4042, 4242; Ex. 13, 61, 46, 50)

145. The characteristics of pasteurized process cheese foods depend upon the quantity of the cheese ingredients used, and the total weight of these cheese ingredients should be not less than 51 percent of the weight of the finished food. In general, the proportion of the varieties of cheese in mixtures should be the same as in pasteurized process cheeses, except that the minimum for limburger cheese should be the same as for blue cheese and gorgonzola cheese. (R. 2266, 2312-2313, 2319-2321)

146. Increasing the moisture content of a pasteurized process cheese food over that of the corresponding pasteurized process cheese might result in consumers' purchasing water instead of the more expensive food. A maximum limit on moisture which will permit sufficient softness but prevent the use of excessive water is 44 percent. (R. 2321, 2485, 2566)

147. The addition of such milk products as skim milk, concentrated skim milk, nonfat dry milk solids, and cheese whey lowers the fat content. In order to maintain the character of these foods, it is necessary that they contain substantial amounts of milk fat. A reasonable minimum limit for milk fat is 23 percent. (R. 2321, 2483, 2485, 2566)

148. Milk products added to pasteurized process cheese in preparing pasteurized process cheese foods vary, and var-

ious mixtures of these ingredients are used. Those in common use are cream, milk, skim milk, or cheese whey or such products from which part or most of the water has been removed. The lactose in whey is affected by long drying. Since a pasteurized process cheese food usually contains some form of whey, the method for determining moisture prescribed for pasteurized process cheese is not suitable for a pasteurized process cheese food so far as it requires drying to a constant weight. The method will be suitable for a pasteurized process cheese food if drying is restricted to 5 hours. (R. 2281, 2294-2295, 2486, 2525, 2601, 4034, 4037, 4043-4045)

149. Proposals were made to permit the addition to process cheese foods of a product prepared from cheese whey known as "albumin." This is a normal constituent of milk, has significant nutritive value, and appears to be suitable for such use. It was also proposed to permit the addition of lactose. No showing was made as to how this would be of any advantage to the consumer. (R. 2315, 2483, 2521-2522, 3173)

150. It was proposed that foods made wholly of skim milk and designated as skim milk cheese for manufacturing be permitted to be used as an optional dairy ingredient in the manufacture of pasteurized process cheese foods. The use of such a product in a pasteurized process cheese food could result in the production of a food which would have the same composition as a pasteurized process cheese made from a part-skim milk cheese. This differs from the normal pasteurized process cheese food prepared by adding to the cheese ingredient constituents of milk other than the casein. (R. 2902, 2910, 2999, 5223, 5225, 5392)

151. In addition to the milk products primarily used for their nutritive properties, certain sweetening agents were proposed as optional ingredients of pasteurized process cheese foods. There is no need for such ingredients in pasteurized process cheese foods. (R. 2315, 2483, 2485, 2523, 2587, 2596-2597, 2828-2829)

152. The ingredients used in addition to the natural cheese in manufacturing pasteurized process cheese foods are less expensive than cheese, and a pasteurized process cheese food on a pound basis ordinarily sells for less than a corresponding pasteurized process cheese. Because pasteurized process cheese foods are similar in appearance and taste to pasteurized process cheese, the less expensive product at times has been intentionally substituted for the more expensive product in sales to consumers. This type of substitution is a form of unfair competition and a fraud on consumers. Proposals were made to include in the definition and standard of identity for pasteurized process cheese foods specifications for regulating the shape and size of pasteurized process cheese foods so as to lessen the possibility of substitution. It is recognized that the abuse complained of does exist to some extent. If effective measures could be adopted to curb this deceptive practice, it would be in the interest of consumers. However, the evidence does not show that shape or size specifications for pas-

teurized process cheese foods would be more likely to accomplish the desired purpose than proper labeling requirements. (R. 2264-2265, 2321, 2339, 2360, 2434, 2500-2501, 2585-2586, 3187-3188, 3195, 3199-3200, 3238-3239, 5230)

153. The differentiation of pasteurized process cheese foods from pasteurized process cheese has not always been satisfactory. Several years ago by statute Wisconsin set up certain labeling requirements which have been generally observed by manufacturers of pasteurized process cheese foods. Among other things these regulations required the names of the different ingredients used to be stated on labels. This type of labeling has been helpful in enabling consumers to differentiate between pasteurized process cheese foods and pasteurized process cheese. It will promote honesty and fair dealing in the interest of consumers for the definition and standard of identity for pasteurized process cheese foods to provide those labeling requirements as to optional ingredients which are provided in the definition and standard of identity for pasteurized process cheese and in addition thereto to provide that the labels for pasteurized process cheese foods show the names of the cheese ingredients, the milk ingredients, the emulsifying agents, and the acidifying agents, if any, which are used. (R. 2264-2265, 2340, 2360, 2492, 2506, 2562; Ex. 14)

154. The amount of acidifying agent added is commonly calculated upon the basis of its effect on the pH of the finished food. The quantity added may be somewhat greater than in pasteurized process cheese but should not exceed the amount necessary to reduce the pH to 5.0. (R. 2313-2314, 2483)

155. By adding fruits, vegetables, or meats or mixtures of these to pasteurized process cheese foods, other foods of different flavor and eating characteristics are prepared. The amounts of added ingredients used vary, and there is insufficient evidence in the record to use as a basis for prescribing limits on the amounts of fruits or vegetables added. The minimum percent of a meat product necessary to bring about a change in flavor and eating quality is about 10 percent. (R. 1936, 1957, 1970-1975, 2006, 2326)

156. The addition of these ingredients may affect the moisture content of a pasteurized process cheese food. The effect of such addition on the moisture content, however, is easily compensated by altering the proportions of other non-cheese ingredients, and an allowance for additional moisture is not necessary, and would not be in the interest of consumers. It is reasonable to require that the maximum moisture content of a pasteurized process cheese food with fruits, vegetables, or meats be 44 percent. The percent of milk fat is decreased by the addition of such ingredients, and a decrease of 1 percent in the milk-fat content is sufficient to allow for the effect of the addition of fruits, vegetables, or meats, giving a minimum milk-fat content of 22 percent. (R. 2323-2324)

157. The name of this class of food is "pasteurized process cheese food with

-----," the blank being filled in with the name or names of the added fruits, vegetables, or meats. (R. 1956-1957, 1975, 2006)

158. Finding 153 with respect to label declaration of optional ingredients in pasteurized process cheese foods is applicable to pasteurized process cheese foods with fruits, vegetables, or meats. (R. 2264-2265, 2340, 2360, 2492, 2506, 2562; Ex. 14)

159. A class of food similar to pasteurized process cheese food, but somewhat softer and easier to spread (largely by reason of a higher moisture content) has been manufactured and sold for several years. The common name for such a food is pasteurized process cheese spread. (R. 1817-1818, 2234-2236, 2240, 2246-2247, 2249, 2327, 2557-2558)

160. Pasteurized process cheese spreads can be made so that they resemble pasteurized process cheese or pasteurized process cheese foods. However, the texture of the pasteurized cheese spreads and the form of package are in general sufficient to distinguish them from such other foods. Since pasteurized process cheese spreads contain a larger proportion of water, it is desirable that they be readily distinguishable from pasteurized process cheeses and pasteurized process cheese foods, to prevent deception of consumers and unfair competitive practices. Proposals were made to have the definition and standard of identity for pasteurized process cheese spreads specify distinctive sizes and shapes which would tend to lessen or make impossible the substitution of pasteurized process cheese spreads for other foods containing cheese. Although it is very desirable to lessen the likelihood of deception in connection with the sale of similar foods, the evidence does not show that prescribing any of the forms and shapes recommended for pasteurized process cheese spreads would be more likely to accomplish the desired purpose than proper labeling. Proposals were also made to specify that pasteurized process cheese spreads be spreadable, but no evidence was entered in the record that would afford a basis for providing an objective measurement of this property. (R. 2237, 2257, 2262-2263, 2327, 2338-2339, 2371, 2644-2645, 2847, 2877)

161. The findings numbered 112, 113, 124, 128, 129, 132, 133, and 148 dealing with pasteurization, use of cream, use of cheese for manufacturing, phosphatase test, fat and moisture tests, amount and character of cheese ingredients, emulsifiers, and optional dairy ingredients are applicable to pasteurized process cheese spreads. (R. 270, 379, 402-403, 943-944, 1166-1168, 2246, 2255, 2262, 2263, 2266, 2337, 2475, 2603, 2616, 2644, 2781, 2801)

162. The softer texture characteristic of pasteurized process cheese spreads is largely due to the addition of water. Unlimited use of water would not be in the interest of consumers. A limit on moisture which will permit sufficient softness is a maximum of 60 percent. (R. 1818, 2235, 2240, 2248-2249, 2273)

163. In order to prevent leakage of water from cheese spreads, gums or similar water-retaining substances may be used. The following substances, or mixtures of two or more of these substances, are suit-

able for such use: Carob bean gum, gum karaya, gum tragacanth, guar gum, gelatin, carboxymethylcellulose, carrageen, oat gum, algin (sodium alginate), and propylene oxide ester of alginic acid. The total amount of water-retaining substances used should not exceed 0.8 percent. (R. 2210, 2214, 2222, 2224-2225, 2250, 2333-2338, 2618, 2639, 3123-3132)

164. Instead of, or in addition to, changes in flavor brought about by use of one or more optional dairy ingredients, a sweetening agent may be added, in small amounts. Suitable for such use are: Sugar, dextrose, corn sugar, corn sirup, corn sirup solids, maltose, malt sirup, and hydrolyzed lactose. (R. 2223-2224, 2315, 2597-2598, 2645-2646, 2829, 2839-2840, 3154)

165. Since the moisture content of pasteurized process cheese spreads is higher than that of pasteurized process cheese foods, the fat content is reduced. In order to prevent abuses, it is necessary to prescribe a minimum limit for milk fat. It is reasonable to require that it be not less than 20 percent. (R. 2234, 2248, 2783)

166. If pasteurized process cheese spread were made by adding emulsifying agents, water, and additional milk products to cream cheese, it would be essentially a diluted cream cheese which failed to comply with the standard for cream cheese, since by definition several milk products containing water may be added to cream-cheese curd to make the so-called hot-pack cream cheese, provided the finished food contains not more than 55 percent moisture and not less than 33 percent milk fat. There is no need for an emulsifying agent in this type of cheese. The situation with respect to neufchatel cheese is similar. It is therefore reasonable to provide that neither cream cheese alone nor neufchatel cheese alone nor combinations of these two cheeses without other cheeses be used in preparing pasteurized process cheese spreads. (R. 1820-1822, 1827-1828, 2230-2231, 2248, 2327-2330, 2475, 2615)

167. Acidifying ingredients used in pasteurized process cheese spreads impart a flavor, enhance the action of emulsifiers, and also act as a preservative to inhibit the growth of certain bacteria in the product. They may be added in such amount that the pH of the product is not below 4. The acids named in finding 129 are suitable. Vinegar may be used instead of acetic acid, but should be considered as acetic acid rather than vinegar, as an optional acidifying ingredient. (R. 2225, 2234, 2246, 2248, 2255, 2331-2332, 2616)

168. It is necessary that the consumer be informed regarding the optional ingredients of pasteurized process cheese spreads, to avoid confusion with other similar foods. Label declaration of the cheese ingredient; the dairy ingredient; any emulsifying agent, water, and water-retaining substance; acidifying agent, and sweetening agent by their common or usual names will adequately inform the consumer in this respect. When an acidifying agent is used, a supplementary statement that it is a chemical preservative is required by section 403 (k) of the Federal Food, Drug, and Cosmetic Act. (R. 2231, 2255)

169. A number of foods closely resembling pasteurized process cheese spreads, but differing from them in that they contain varying amounts of fruits, vegetables, or meats, are now being marketed. These foods form a large proportion of the spreadable foods made in part from cheese. (R. 2225, 2246, 2331-2332, 2616)

170. The addition of fruits, vegetables, or meats is for the purpose of altering, in varying degrees, the appearance, flavor, and eating characteristics of the pasteurized process cheese spreads. Otherwise, they are similar in all respects to pasteurized process cheese spread. The amounts of fruits, vegetables, or meats added vary, and there is sufficient evidence in the record to use as a basis for establishing limits on the amounts of fruits or vegetables added. The minimum amount of meat necessary to bring about a change in flavor and eating quality is about 10 percent. (R. 1936, 1956-1957, 1970-1971, 2373)

171. The addition of fruits, vegetables, or meats to a pasteurized process cheese spread affects the moisture and fat contents of the finished food. Any increase in moisture or decrease in fat content due to addition of these ingredients can readily be offset by varying the proportions of other ingredients, without altering the identity of the food, and no allowance for changes of moisture content or fat content is necessary. (R. 2225-2226, 2246, 2263, 2620, 2643)

172. The common name of a food of this type is the name of the pasteurized process cheese spread, combined with the common names of the added fruits, vegetables, or meats. In order to provide a uniform system of designating these foods, it is reasonable that the name specified be the name provided in the definition and standard of identity for pasteurized process cheese spreads, to which is added the statement "With -----," the blank being filled in with the name or names of the added fruits, vegetables, or meats. In order to properly inform consumers, the requirements for label statement of optional ingredients provided for pasteurized process cheese spreads should also be made applicable to pasteurized process cheese spreads with fruits, vegetable, or meats. (R. 2373, 2617)

173. There are on the market a number of foods prepared by adding fruits, vegetables, or meats to cream cheese or neufchatel cheese. At the present time there are no definitions and standards of identity for such foods. In the case of those foods made in part from cream cheese, they may be designated on their labels as cream cheese, with the name of the added vegetable, fruit, or meat, for example, "Cream Cheese and Pineapple"; or they may be designated as some type of cream cheese spread. If cream cheese is not permitted to be used in foods designated as pasteurized process cheese spreads with fruits, vegetables, or meats, the status of these foods is uncertain. To leave them without standards might result in abuses. To provide, however, that a cheese spread prepared from cream cheese and fruits, vegetables, or meats may have as much as 60 percent

moisture and as little as 20 percent milk fat would make it possible to dilute a cream cheese into a range of neufchatel cheese, which is not in the interest of consumers, since it would break down the distinction between cream cheese and neufchatel cheese. It is reasonable, therefore, to provide a definition and standard of identity for these pasteurized soft uncured cheese spreads with fruits, vegetables, or meats. These foods are commonly made either from cream cheese or neufchatel cheese, without the use of emulsifying agents. The cheese ingredient is either cream cheese alone or neufchatel cheese alone. Finding 139 with respect to pasteurized process cheese spreads is applicable to these spreads. Where cream cheese is the cheese ingredient, the moisture should not exceed 56 percent, and the milk-fat content should not be less than 32 percent; where neufchatel cheese is used, the moisture content does not exceed 65 percent, and the milk-fat content is not less than 20 percent. The name of these foods, where cream cheese is the cheese ingredient, is "Pasteurized Cream Cheese With -----" or "Pasteurized Cream Cheese Spread With -----" the blank being filled in with the name or names of the fruit, vegetable, or meat used. In case neufchatel cheese is the cheese ingredient, the name is "Pasteurized Neufchatel Cheese With -----" or "Pasteurized Neufchatel Cheese Spread With -----" the blank in either case being filled in with the name or names of the fruit, vegetable, or meat used. (R. 1822, 1827-1828, 2252, 2273, 2327-2328, 2330, 2333, 2338, 2475, 2615, 2617, 2644, 2782-2783, 2963, 4040, 4042)

174. It is customary to add acidifying agents for the purpose of affecting the flavor and acting as a preservative. The acids listed in finding 129 are suitable for this purpose, and such acids may be added in an amount so that the pH of the product is not less than 4. Water-retaining substances in addition to those provided for in cream cheese and neufchatel cheese by §§ 19.515 and 19.520 are suitable for use in these spreads. They are guar gum, oat gum, carrageen, and propylene oxide ester of alginic acid. (R. 1829, 2225-2226, 2234-2235, 2331-2333, 2616)

175. A food prepared by comminuting and mixing cheese of one or more varieties, without the aid of heat, is commonly known as cold-pack cheese, club cheese, or comminuted cheese. The soft cheeses, such as cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, and skim milk cheese for manufacturing, are not used. A primary purpose of the manufacturer of cold-pack cheese is to make a product which can be readily packaged, possessing uniform flavor and texture, and easily handled by users. The curing of the cheeses continues after mixing. (R. 1819-1820, 2227-2228)

176. The manufacture of cold-pack cheese does not include pasteurization of the food. Cheeses which have not been made from pasteurized milk, or which have not been stored for at least 60 days at a temperature of not less than

35° F., are not suitable for use as ingredients. (R. 1819; finding 21)

177. If cold-pack cheese is made from one variety of cheese, it is reasonable to require that the fat and moisture limits be the same as those of the variety from which it is made. If cold-pack cheese is made from two or more varieties of cheese, it is reasonable to require that the moisture content of the finished food not exceed the arithmetical average of the maximum moisture contents prescribed by definitions and standards of identity, if any there be, for the varieties of cheese used, and that the fat content of the solids be not less than the arithmetical average of the minimum fat contents prescribed for the varieties of cheese used. Moisture and fat can be accurately determined by the method prescribed with respect to cheddar cheese (§ 19.500 (d)). (R. 2227, 2374-2375)

178. Finding 124, with respect to use of various proportions of cheese of different varieties in pasteurized process cheese, is applicable to cold-pack cheese. (R. 2374)

179. Water is sometimes used in preparing cold-pack cheese, to give uniform composition and texture in the finished food. Salt is sometimes used for seasoning, and color is sometimes used to give uniformity in appearance to the finished food. Cold-pack cheese is subject to spoilage, even when refrigerated. Its keeping qualities are improved by adjusting the acidity to a pH of not less than 4.5 by use of the acidifying agents used in pasteurized process cheese spreads. (R. 1942-1943, 1949-1951, 2227-2228, 2374; finding 129)

180. Cold-pack cheese may be smoked, or contain substances prepared by condensing or precipitating wood smoke. Finding 127, with respect to the use of cheese ingredients which have been smoked or to which have been added substances prepared by condensing or precipitating wood smoke and to label declaration of these ingredients in pasteurized process cheeses, are applicable to cold-pack cheeses. (R. 1985)

181. The common name of this food is "Cold Pack ----- Cheese" or "----- Club Cheese" or "Comminuted ----- Cheese," the blanks being filled in with the name of the variety or varieties, in order of predominance by weight, of cheese used. (R. 1819, 1949, 2227-2228, 2691, 2847)

182. Definitions and standards of identity were proposed for cold-pack cheese foods and cold-pack cheese foods with fruits, vegetables, or meats. The evidence showed that a cold-pack product having a composition similar to that proposed for a cold-pack cheese food is made and sold under a trade name. The evidence does not show that consumers are aware of the composition of such a product. The need for definitions and standards of identity for these foods was not clearly shown. (R. 1821, 2378, 2832-2833, 2847, 3136-3138)

Conclusions. Upon consideration of the whole record and the foregoing findings of fact, it is concluded that the adoption of the following definitions and standards of identity for various varieties of cheese, classes of cheese, processed cheese, cheese foods, cheese

spreads, and related products will promote honesty and fair dealing in the interest of consumers:

§ 19.500 *Cheddar cheese, cheese; identity.* (a) Cheddar cheese, cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 39 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of this section. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semi-solid mass. The mass is so cut, stirred, and heated, with continued stirring, as to promote and regulate the separation of whey and curd. The whey is drained off, and the curd is matted into a cohesive mass. The mass is cut into slabs, which are so piled and handled as to promote the drainage of whey and the development of acidity. The slabs are then cut into pieces, which may be rinsed by sprinkling or pouring water over them, with free and continuous drainage; but the duration of such rinsing is so limited that only the whey on the surface of such pieces is removed. The curd is salted, stirred, further drained, and pressed into forms. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of cheddar cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) Determine moisture by the method prescribed on page 336 (22.124), under "Moisture—Official," and milk fat by the method prescribed on page 337 (22.130) under "Fat—Official," of "Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists," Sixth Edition, 1945. Subtract the percent of moisture found from 100; divide the remainder into the percent milk fat found; the quotient multiplied by 100 shall be considered to be the percent of milk fat contained in the solids.

(d) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. Cheddar cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in paragraph (e) of this section.

(e) The method referred to in paragraph (d) (2) of this section is as follows:

Reagents—1. Buffers: a. *Barium borate-hydroxide buffer.* Dissolve 25.0 gm. of C. P. barium hydroxide ($\text{Ba}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$, fresh, not deteriorated) in distilled water and dilute to 500 ml. Dissolve in another flask or cylinder, 11.0 gm. of C. P. boric acid (H_3BO_3) and dilute to 500 ml. Warm each to 50° C. (122° F.), mix the two together, stir, cool to approximately 20° C. (68° F.), filter, and stopper the filtrate tightly (pH approximately 10.6). The buffer prepared thus is designated as the 25-11 buffer, the figures indicating the grams per liter of each of the respective reagents.

b. *Color development buffer.* Dissolve 6.0 gm. of sodium metaborate (NaBO_2) and 20 gm. of sodium chloride in water and dilute to a liter with water (pH 9.8).

c. *Color dilution buffer.* Dilute 100 ml. of color development buffer 1-b to a liter with water.

d. *Standard borax buffer, 0.01-Molar, for checking pH meter—pH 9.18 at 25° C.*¹ Dissolve 0.9603 gm. of pure borax (Bureau of Standards Sample 187) in distilled water (distilled recently or freshly boiled and cooled) and dilute to 250 ml. Keep stoppered tightly.

2. *Buffer substrates:* Specify phenol-free crystalline disodium phenyl phosphate.

a. *For evaluating pasteurization.* Dissolve 0.10 gm. of the phenyl phosphate in 100 ml. of the appropriate (table 1) barium borate-hydroxide buffer 1-a.

b. *For quantitative results with raw-milk cheese.* Dissolve 0.30 gm. of the phenyl phosphate in 100 ml. of the appropriate (table 1) barium borate-hydroxide buffer 1-a.

3. *Protein precipitants:* a. *Zinc-copper precipitant for unripened cheese.* Dissolve 6.0 gm. of zinc sulfate ($\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$) and 0.1 gm. of copper sulfate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$) in water and dilute to 100 ml. with water. The precipitant prepared thus is designated as the 6.0-0.1 precipitant.

4. *BQC (2,6-dibromoquinonechloroimine solution) (Gibbs' reagent):* Dissolve 40 mg. of BQC powder in 10 ml. of absolute ethyl or methyl alcohol and transfer to a dark-colored dropper bottle. This reagent remains stable for at least a month if kept in the ice tray of a refrigerator. Do not use it after it begins to turn brown.

5. *Other reagents:* a. *Copper sulfate, 0.05%, for standards.* Dissolve 0.05 gm. of copper sulfate in water and dilute to 100 ml.

b. *Butyl alcohol.* Specify n-butyl alcohol, boiling point 116°-118° C. To adjust the pH, mix 50 ml. of the color development buffer 1-b with a liter of the butyl alcohol.

6. *Phenol standards:* (a) *Stock solution.* Weigh accurately 1.000 gm. of pure phenol and transfer to a liter flask with 700 ml. of water. Add 150 ml. of color development buffer 1-b to adjust the pH to approximately 9.25, dilute to a liter with water, and mix. One ml. contains 1 mg. (0.001 gm.) of phenol. Use this stock solution to prepare standard solutions. It is stable for several months in the refrigerator.

¹ All pH values reported herein were determined at 25° C. or corrected to that temperature.

b. *Preparation of standards.* Dilute 10.0 ml. of the stock solution 6-a to a liter with water, and mix. One ml. contains 10 micrograms (0.00001 gm., 10 gamma, or 10 units) of phenol. Use this standard solution to prepare more dilute standard solutions; e. g., dilute 5, 10, 30, and 50 ml. to 100 ml. with water to prepare standard solutions containing 0.5, 1.0, 3.0, and 5.0 gamma or units of phenol per milliliter, respectively. Keep standard solutions in the refrigerator.

In a similar manner, prepare from the stock solution such more concentrated standard solutions as may be needed, containing, for example, 20, 30, and 40 units per milliliter.

Measure appropriate quantities of the phenol standard solutions into a series of tubes (preferably graduated at 5.0 and 10.0 ml.) to provide a suitable range of standards as needed, containing 0 (control, blank), 0.5, 1.0, 3.0, 5.0, 10.0, etc., to 30 or 40 units. To increase the brightness of the blue color and improve the stability of the standards, add 1.0 ml. of 0.05% copper sulfate solution 5-a to each.

Add 5.0 ml. of color dilution buffer 1-c and add water to bring the volume to 10.0 ml. Add 4 drops (0.08 ml.) of BQC 4, mix, and allow to develop for 30 minutes at room temperature. If the butyl alcohol extraction method is to be used in the test, extract the standards as described under "Conducting the test."

Read the color intensities with a photometer, subtract the value of the blank from the value of each phenol standard, and prepare a standard curve (straight line). When the standards are to be used for visual comparisons, they should be stored in a refrigerator.

Sampling—1. Hard cheese: Take a sample from the interior with a clean Roquefort trier, place in a small tube, stopper the tube, and keep it in a refrigerator.

2. *Soft and semisoft ripened cheese:* Harden the cheese by chilling it in the freezing chamber of a refrigerator. Taking special precautions to avoid contaminating the sample with phosphatase that may be present on the surface, use either of the following methods for sampling:

a. Cut a portion from the end of the loaf or from the side of the cheese, extending in at least 2 inches if possible or to a point somewhat beyond the center in the case of a small cheese. Cut a slit $\frac{1}{4}$ to $\frac{1}{2}$ inch deep at least halfway around the portion and midway between the top and bottom. Break the portion into two parts, pulling it apart so that it breaks on a line with the slit, being careful not to contaminate the freshly exposed, broken surface. Remove the sample from the freshly exposed surface at or near the center of the cheese.

b. Remove the surface of the area to be sampled, e. g., the end and the adjacent sides, with a clean knife or spatula, to a depth of $\frac{1}{4}$ inch. Clean the instrument and hands with hot water and soap and wipe them dry. Remove the freshly exposed surface to a similar or greater depth, and repeat the cleaning. Then take the sample from the center of the freshly exposed area, preferably at or near the center of the cheese in the case of a small cheese.

3. *Process cheese, spreads, etc.:* Take the sample from beneath the surface with a clean knife or spatula.

Avoid the use of samples contaminated with mold.

Conducting the test—1. Weigh, on a clean balance pan or watch glass, a 0.50-gm. sample (preferably two samples in duplicate) and place in a culture tube 16 or 18 x 150 mm. Similarly, weigh another sample and place in a tube as a control or blank. If the cheese is sticky, weigh the sample on a piece of wax paper about 1 x 1 inch and insert the paper with the sample into the tube. Macerate the blank and the test with a glass rod about 8 x 180 mm.

2. Add to the blank 1.0 ml. of the appropriate (table 1) barium buffer 1-a (without substrate added), macerate with the rod, leave the rod in the tube, heat for about a minute to at least 90° C. (194° F.) in a beaker of boiling water with the beaker covered so that the entire tube becomes heated to approximately 90° C., cool to room temperature, and macerate again with the rod.

3. Add to the test 1.0 ml. of the appropriate (table 1) barium buffer substrate 2-a or 2-b, and macerate.

From this point, treat the blank and the test in a similar manner.

Add 9.0 ml. of the appropriate barium buffer substrate 2-a or 2-b (total, 10.0 ml. added), and mix. The rod may be left in the tube during incubation; or, if removing it at this point, cut a piece of filter paper approximately 1 x 1 inch, wrap and hold it tightly around the rod, rotate the rod while withdrawing it from within the tube so as to wipe the rod clean, insert the paper with the adhering fat into the tube, and stopper the tube.

4. Incubate in a water bath at 37°-38° C. (99°-100° F.) for 1 hour, mixing or shaking the contents occasionally.

5. Place in a beaker of boiling water for nearly a minute, heating to 85° C. (185° F.), and cool to room temperature.

6. Pipet in 1.0 ml. of the zinc precipitant 3-b for ripened cheese, or the zinc-copper precipitant 5-a for unripened cheese, and mix thoroughly (pH of mixture, 9.0-9.1).

7. Filter (5-cm. funnel, 9-cm. Whatman No. 42 or No. 2 paper recommended), and collect 5.0 ml. of filtrate in a tube, preferably graduated at 5.0 and 10.0 ml.

8. Add 5.0 ml. of color development buffer 1-b (pH of mixture, 9.3-9.4).

9. Add 4 drops² of BQC 4, mix, and allow the color to develop for 30 minutes at room temperature.

10. Determine the amount of blue color by either of two methods: a. *With a photometer:* Read the color intensity of the blank and that of the test, subtract the reading of the blank from that of the test, and convert the result into phenol equivalents by reference to the standard curve described under "phenol standards." The butyl alcohol extraction method is ordinarily unnecessary when using a photometer.

b. *With visual standards:* For quantitative results in borderline instances, e. g., tests yielding 0.5 to 5 units of color, extract with butyl alcohol 5-b. Add 5.0 ml. of the alcohol and invert the tube slowly several times. Centrifuge if necessary to increase the clearness of the alcohol layer. Compare the blue color with the colors of standards in the alcohol.

With samples yielding more than 5 units, compare the colors in aqueous tests with those of aqueous standards.

11. *Dilution method for quantitative results:* In tests that are observed during color development to be strongly positive, e. g., 20 units or more, in which four drops of BQC may be much less than sufficient to combine with all of the phenol, pipet an appropriate proportion of the contents into another tube, make up to 10.0 ml. with color dilution buffer 1-c, and add 2 drops more of BQC in the case of unripened cheese or four drops in the case of ripened cheese. With each test, dilute and treat the blank in the corresponding manner. Dilute each strongly positive test thus until the final color is within the range of the standards or photometer. Allow 30 minutes for color development after the last addition of BQC, and make the reading at the end of the 30-minute period. Multiply, for example, by 2

² For merely detecting under-pasteurization, in testing unripened cheese, 2 drops is sufficient, provided the visual standards are prepared likewise with 2 drops.

PROPOSED RULE MAKING

for a 5+5 dilution, 10 for a 1+9 dilution, and 50 for a 1+9 followed by a 2+8 dilution.

Alternatively, to reduce the amount of yellow off-color, add two instead of four drops of BQC after each dilution, and allow the color to develop. Then test the completeness of color development by adding a third drop; repeat the dilution procedure until the addition of an extra drop does not cause any further increase in the amount of blue color.

12. *Calculation and evaluation of result:* When using 0.5 gm. of sample and adding a total of 11.0 ml. of liquid, multiply the value of the reading by 1.1 to convert it to units of color or phenol equivalents per 0.25 gm. of cheese. The result may, if desired, be converted to phenol equivalents per 1 gm. by multiplying by 4.4. Evaluate the result by comparing it with the criteria of pasteurization in table 1.

Photometric determination. To read the color in aqueous solution, use a filter with maximum light transmission in the region of 610 $m\mu$ wavelength.

To read the color in butyl alcohol, extract the color as described above and centrifuge the sample for 5 minutes to break the emulsion and to remove the moisture suspended in the alcohol layer. A Babcock centrifuge can be adopted for this purpose by making special tube holders as follows: Slice a section $\frac{1}{4}$ " thick from a rubber stopper of suitable diameter to fit in the bottom of the centrifuge cup. Glue together two cork stoppers of appropriate diameter, bore through the center a hole of proper size to hold the tube snugly, and insert the double cork section into the cup. After centrifuging, remove nearly all of the butyl alcohol by means of a pipet with a rubber bulb on the top end. Filter the alcohol into the photometer cell and read with a filter with maximum light transmission in the region of 650 $m\mu$ wavelength.

If more than approximately 4 ml. of butyl alcohol is required for the photometer used, conduct the test in a larger tube and extract the color, in both the test and the standards, with the necessary quantity of butyl alcohol rather than with 5 ml. specified above.

Precautions. The length of time that the crystalline disodium phenyl phosphate and the BQC powder will remain stable can be increased greatly by keeping them in the freezing chamber of a refrigerator.

The glassware, stoppers, and sampling tools should be scrupulously clean and it is desirable to soak them in hot, running water after cleaning.

The solid barium hydroxide and the barium buffer must be kept stoppered tightly to prevent absorption of carbon dioxide.

Phenolic contamination from plastic closures on reagent bottles has been encountered, and therefore the use of plastic closures should be avoided. Rubber stoppers should not be used in flasks in which butyl alcohol is stored. Glass or cork stoppers should be used.

Modifications for different cheeses. Different kinds of cheese and cheeses of different ages have different buffering capacities, and therefore some of them require modification of concentrations of the reagents. The modifications of the barium buffer needed to produce optimal pH conditions during incubation (9.85-10.20), and of the precipitant to yield uniformly clear filtrates and to minimize interference during color development under optimal pH conditions (9.3-9.4), are specified in table 1.

With some samples, especially those of unknown history, slight deviations from the optimal pH range may occur, but such deviations do not very materially affect the results. For example, pH values as low as 9.6 or as high as 10.35 during incubation have been found to result in an average decrease of not more than 20 percent below

the maximum in the quantity of phenol liberated. The use of the 25-11 buffer substrate with samples for which the 27-11 buffer substrate is specified yields pH values not lower than 9.8.

In testing cheese of unknown history or age, information as to the percentage of solids, especially the nonfat solids, is useful as an indication of the correct buffer to use; cheese with a relatively high percentage of nonfat solids generally requires the use of a relatively concentrated buffer to adjust the pH of the mixture correctly.

For precise quantitative results on unknown samples, adjust the pH to 10.0-10.05 for the incubation.

Cottage cheese curd is heated in the presence of considerable acid during manufacture, and therefore its phosphatase values are comparatively low. Alternatively, to increase the sensitivity of the test on cottage cheese, apply the following modifications: Use a 1.0-gm. sample, 27-11 buffer substrate, 2 hour incubation, 6.0-0.1 precipitant, and a pasteurization criterion of 2 units per 0.5 gm.

TABLE 1—PHOSPHATASE TEST MODIFICATIONS FOR DIFFERENT KINDS OF CHEESE AND CHEESE OF DIFFERENT AGES

Kind of cheese	Age or extent of-curing; other details	Buffer for opt. pH (9.85-10.20)	Precipitant
Cheddar, granular, stirred curd; hard cheese	1 week	25-11	6.0-0.1
	1 week-1½ months	25-11	6.0
	1½-4 months	26-11	6.0
	4 months	27-11	6.0
Washed curd, soaked curd, colby	1 week	25-11	6.0-0.1
	1 week-2 months	25-11	6.0
	2 months	26-11	6.0
Swiss, gruyere	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
	3 months	27-11	6.0
Brick, muenster	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-2 months	25-11	6.0
Edam gouda	2 months	26-11	6.0
	1 week	25-11	6.0-0.1
	1 week-2 months	25-11	6.0
	2-4 months	26-11	6.0
Blue mold blue	4 months	27-11	6.0
	1 week	25-11	6.0-0.1
	1 week-1 month	26-11	6.0
	1-1½ months	27-11	6.0
Monterey	1-1½ months	28-11	6.0
	1½ months	28-11	6.0-0.1
	1 week	25-11	6.0
	1 week-2 months	26-11	6.0
High-moisture jack	2 months	25-11	6.0-0.1
	1 week	25-11	6.0
	1 week-2½ months	25-11	6.0
	2½ months	26-11	6.0
Provolone, pasta filata	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
	3 months	27-11	6.0
Parmesan, reggiano romano, asiago, old, hard grating	1 week	25-11	6.0-0.1
	1 week-2 months	26-11	6.0
	2-4 months	27-11	6.0
	6 months-1 year	28-11	6.0
Asiago fresh	1 year	29-11	6.0
	Same as cheddar		
Asiago medium	1 week	25-11	6.0-0.1
	1 week-1 month	25-11	6.0
	1-3 months	26-11	6.0
	3 months	27-11	6.0
Gorgonzola	Same as blue		
	Dry	25-11	6.0-0.1
Cottage, cook cheese, koch kaese	Moist	25-11 (8+2)	4.5-0.1
		25-11 (7+3)	4.5-0.1
Cream cheese			
	Semisoft cheese, part-skim semisoft cheese	25-11	6.0-0.1
Soft ripened cheese	1 week	25-11	6.0
	1 week-1 month	26-11	6.0
	1 month	25-11	6.0-0.1
	1 week	25-11	6.0
Pasteurized process, pasteurized process pimiento, pasturized, process with fruits, meats, etc.	1 week-1 month	25-11	6.0
	1 month	26-11	6.0
	1 week	25-11	6.0
	1 week-1 month	25-11	6.0
Pasteurized, processed cheese foods; pasteurized process cheese foods with fruits, meats, etc.	1 month	26-11	6.0
	1 month	25-11	6.0
	(Soft, mild)	25-11	6.0
	(Medium, firm)	26-11	6.0
Pasteurized process cheese spreads; pasteurized process cheese spreads with fruits, meats, etc.	(Firm, sharp (including swiss, gruyere))	27-11	6.0
	Same as pasteurized process		
Cold pack, club	(Soft, high moisture, including cream spreads)	25-11	6.0
	(Less soft, including blue)	26-11	6.0
	(Mild to medium flavored, soft)	26-11	6.0
	(Sharp, firm)	27-11	6.0

¹ Grams Ba(OH)₂·8 H₂O and H₃BO₃ per liter, respectively.

² Grams ZnSO₄·7 H₂O and CuSO₄·5 H₂O per 100 ml., respectively.

³ Grams ZnSO₄·7 H₂O per 100 ml.

⁴ Eight parts of 25-11 buffer plus 2 parts of water.

§ 19.502 *Cheddar cheese for manufacturing; identity.* (a) Cheddar cheese for manufacturing conforms to the definition and standard of identity prescribed for cheddar cheese by § 19.500, except that:

(1) The milk is not pasteurized, and curing is not required.

(2) The cheese is coated with green-colored paraffin or other like tightly adhering coating, colored green.

§ 19.505 *Washed curd cheese, soaked cured cheese; identity.* (a) Washed

curd cheese, soaked curd cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 42 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods pre-

scribed in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated, with continued stirring, as to promote and regulate the separation of whey and curd. The whey is drained off, and the curd is matted into a cohesive mass. The mass is cut into slabs, which are so piled and handled as to promote the drainage of whey and the development of acidity. The slabs are then cut into pieces, cooled in water, and soaked therein until the whey is partly extracted and water is absorbed. The curd is drained, salted, stirred, and pressed into forms. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of washed curd cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes or at a time and temperature equivalent thereto in phosphatase destruction. Washed curd cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in paragraph (e) of § 19.500.

§ 19.507 *Washed curd cheese for manufacturing; identity.* (a) Washed curd cheese for manufacturing conforms to the definition and standard of identity prescribed for washed curd cheese by § 19.505, except that:

(1) The milk is not pasteurized, and curing is not required.

(2) The cheese is coated with green-colored paraffin or other like tightly adhering coating, colored green.

§ 19.510 *Colby cheese; identity.* (a) Colby cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in para-

graph (b) of this section is used. It contains not more than 40 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated, with continued stirring, as to promote and regulate the separation of whey and curd. A part of the whey is drained off, and the curd is cooled by adding water, the stirring being continued so as to prevent the pieces of curd from matting. The curd is drained, salted, stirred, further drained, and pressed into forms. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of colby cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water, in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes or at a time and temperature equivalent thereto in phosphatase destruction. Colby cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in paragraph (e) of § 19.500.

§ 19.512 *Colby cheese for manufacturing; identity.* (a) Colby cheese for manufacturing conforms to the definition and standard of identity prescribed for colby cheese by § 19.510, except that:

(1) The milk is not pasteurized, and curing is not required.

(2) The cheese is coated with green-colored paraffin or other like tightly adhering coating, colored green.

§ 19.535 *Granular cheese; stirred curd cheese; identity.* (a) Granular cheese, stirred curd cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in

paragraph (b) of this section is used. It contains not more than 39 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated, with continued stirring, as to promote and regulate the separation of whey and curd. A part of the whey is drained off. The curd is then alternately stirred and drained to prevent matting and to remove whey from curd. The curd is then salted, stirred, drained, and pressed into forms. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of granular cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. Granular cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in paragraph (e) of § 19.500.

§ 19.537 *Granular cheese for manufacturing; identity.* (a) Granular cheese for manufacturing conforms to the definition and standard of identity prescribed for granular cheese by § 19.535, except that:

(1) The milk is not pasteurized, and curing is not required.

(2) The cheese is coated with green-colored paraffin or other like tightly adhering coating, colored green.

§ 19.540 *Swiss cheese, emmentaler cheese; identity.* (a) Swiss cheese, emmentaler cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that pro-

duced when the procedure set forth in paragraph (b) of this section is used. It has holes, or "eyes," developed throughout the cheese. It contains not more than 41 percent of moisture, and its solids contain not less than 43 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. It is not less than 60 days old.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto; harmless propionic-acid-producing bacteria may also be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into particles similar in size to wheat kernels. For about 30 minutes the particles are alternately stirred and allowed to settle. The temperature is raised to about 126° F. Stirring is continued until the curd becomes firm. The acidity of the whey at this point, calculated as lactic acid, does not exceed 0.13 percent. The curd is transferred to hoops or forms and pressed until the desired shape and firmness are obtained. The cheese is then salted by immersing it in a saturated salt solution for about 3 days. It is then held at a temperature of about 50° F. to 60° F. for a period of 5 to 10 days, after which it is held at a temperature of about 75° F. until it is approximately 30 days old, or until the so-called "eyes" form. Salt, or a solution of salt in water, is added to the surface of the cheese at some time during the curing process. The cheese is then stored at a lower temperature for further curing. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of swiss cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

§ 19.542 *Swiss cheese for manufacturing; identity.* (a) Swiss cheese for manufacturing conforms to the definition and standard of identity prescribed for swiss cheese by § 19.540, except that the holes, or "eyes," have not developed throughout the entire cheese.

§ 19.543 *Gruyere cheese; identity.* (a) Gruyere cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used.

It contains not more than 39 percent of moisture, and its solids contain not less than 45 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. It contains small holes, or "eyes." It has a mild flavor, due in part to the growth of surface-curing agents. It is not less than 90 days old.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto; harmless propionic-acid-producing bacteria may also be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into particles similar in size to wheat kernels. For about 30 minutes the particles are alternately stirred and allowed to settle. The temperature is raised to about 126° F. Stirring is continued until the curd becomes firm. The curd is transferred to hoops or forms, and pressed until the desired shape and firmness are obtained. The cheese is surface-salted while held at a temperature of 48° F. to 54° F. for a few days. It is soaked for 1 day in a saturated salt solution. It is then held for 3 weeks in a salting cellar and wiped every 2 days with "brine cloth" to insure growth of biological curing agents on the rind. It is then removed to a heating room and held at progressively higher temperatures, finally reaching 65° F., with a relative humidity of 85 to 90 percent, for several weeks, during which time small holes, or so-called "eyes," form. The cheese is then stored at a lower temperature for further curing. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of gruyere cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

§ 19.545 *Brick cheese; identity.* (a) Brick cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 44 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so

made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, is brought to a temperature of about 88° F. and subjected to the action of one or more harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into cubes with sides approximately $\frac{3}{8}$ inch long, and stirred and heated so that the temperature rises slowly to about 96° F. The stirring is continued until the curd is sufficiently firm. Part of the whey is then removed, and the mixture diluted with water or salt brine to control the acidity. The curd is transferred to forms, and drained. During drainage it is pressed and turned. After drainage the curd is salted, and the biological curing agents characteristic of brick cheese are applied to the surface. The cheese is then cured to develop the characteristics of brick cheese. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of brick cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. Brick cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 5 micrograms, when tested by the method prescribed in paragraph (e) of § 19.500.

§ 19.547 *Brick cheese for manufacturing; identity.* (a) Brick cheese for manufacturing conforms to the definition and standard of identity prescribed for brick cheese by § 19.545, except that:

(1) The milk is not pasteurized, and curing is not required.

(2) The cheese is coated with green-colored paraffin or other like tightly adhering coating, colored green.

§ 19.550 *Muenster cheese, munster cheese; identity.* (a) Muenster cheese, munster cheese, is the food prepared from pasteurized milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the

procedure set forth in paragraph (b) of this section is used. It contains not more than 44 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500.

(b) Milk, which is pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. After coagulation the mass is divided into small portions, stirred, and heated, with or without dilution with water or salt brine, so as to promote and regulate the separation of whey and curd. The curd is transferred to forms permitting drainage of the whey. During drainage the curd may be pressed and turned. After drainage the curd is removed from the forms and is salted. The surface of the cheese may be rubbed with vegetable oil. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of muenster cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. Muenster cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in paragraph (e) of § 19.500.

§ 19.555 *Edam cheese; identity.* (a) Edam cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 45 percent of moisture, and its solids contain not less than 40 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days. Edam cheese is made in ball or loaf shapes, and the surface is covered with a red-colored

paraffin or other tightly adhering coating, colored red.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. After coagulation the mass is cut into small cube-shaped pieces with sides approximately $\frac{3}{8}$ inch long. The mass is stirred and heated to about 90° F., and so handled by further stirring, heating, dilution with water or salt brine, and salting as to promote and regulate the separation of curd and whey. When the desired curd is obtained, it is transferred to forms permitting drainage of whey. During drainage the curd is pressed and turned. After drainage the curd is removed from the forms and is salted and cured. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of edam cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. Edam cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in paragraph (e) of § 19.500.

§ 19.560 *Gouda cheese; identity.* (a) Gouda cheese conforms to the definition and standard of identity prescribed for Edam cheese by § 19.555, except that it is made in the shape of a compressed sphere, in which the compressed sides are parallel and flat; and the surface may or may not be covered with red-colored paraffin or similar tightly adhering coating.

§ 19.565 *Blue cheese; identity.* (a) Blue cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It is characterized by the presence of bluish-green mold throughout the

cheese. It contains not more than 46 percent moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. It is not less than 60 days old.

(b) Milk, which may be pasteurized or clarified or both, and which may be homogenized, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into smaller portions and allowed to stand for a time. The mixed curd and whey is placed in forms permitting further drainage. While being placed in forms, spores of the mold *Penicillium roquefortii* are added. The forms are turned several times during drainage. When sufficiently drained, the shaped curd is removed from the forms and salted with dry salt or brine. Perforations are then made in the shaped curd, and it is held at a temperature of approximately 50° F., at 90 to 95 percent relative humidity, until the characteristic mold growth has developed. During storage the surface of the cheese may be scraped to remove surface growth of undesirable microorganisms. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of blue cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk.

(2) Such milk may be bleached by the use of benzoyl peroxide or a mixture of benzoyl peroxide with potassium alum, calcium sulfate, and magnesium carbonate; but the weight of the benzoyl peroxide is not more than 0.002 percent of the weight of the milk being bleached, and the weight of the potassium alum, calcium sulfate, and magnesium carbonate, singly or combined, is not more than six times the weight of the benzoyl peroxide used. If milk is bleached in this manner, vitamin A is added to the curd in such quantity as to compensate for the vitamin A or its precursors which are destroyed in the bleaching process.

(3) Such milk may be adjusted by separating part of the fat therefrom or by adding one or more of the following: cream, cream which has been treated in the manner provided in subparagraph (2) of this paragraph, concentrated skim milk, nonfat dry milk solids, water sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

§ 19.567 *Gorgonzola cheeses; identity.* (a) Gorgonzola cheese is the food prepared from cow's milk or goat's milk or mixtures of these, and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical proper-

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ties as that produced when the procedure set forth in paragraph (b) of this section is used. It is characterized by the presence of bluish-green mold throughout the cheese. It is made in loaves weighing between 14 and 17 pounds. It contains not more than 42 percent moisture, and its solids contain not less than 50 percent milk fat as determined by the methods prescribed in paragraph (c) of § 19.500. It is not less than 90 days old.

(b) Milk, which may be pasteurized or clarified or both, and which may be homogenized, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into smaller portions and allowed to stand for a time. The mixed curd and whey is placed into forms permitting further drainage. While being placed in forms, spores of the mold *Penicillium glaucum* are added. The forms are turned several times during drainage. When sufficiently drained, the shaped curd is removed from the forms and salted with dry salt or brine. Perforations are then made in the shaped curd, and it is held at a temperature of approximately 50° F., at 90 to 95 percent relative humidity, until the characteristic mold growth has developed. During storage the surface of the cheese is scraped, if necessary to remove surface growth of undesirable microorganisms. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of gorgonzola cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk or goat's milk or mixtures of these.

(2) Such milk may be bleached by the use of benzoyl peroxide or a mixture of benzoyl peroxide with potassium alum, calcium sulfate, and magnesium carbonate, but the weight of the benzoyl peroxide is not more than 0.002 percent of the weight of the milk being bleached, and the weight of the potassium alum, calcium sulfate, and magnesium carbonate, singly or combined, is not more than six times the weight of the benzoyl peroxide used. If milk is bleached in this manner, vitamin A is added to the curd in such quantity as to compensate for the vitamin A or its precursors which are destroyed in the bleaching process.

(3) Such milk may be adjusted by separating part of the fat therefrom or by adding one or more of the following: Cream, cream which has been treated in the manner provided in subparagraph (2) of this paragraph, concentrated skim milk, nonfat dry milk solids (or corresponding products made of goat's milk), water sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(d) When gorgonzola cheese is made solely from cow's milk the name of such cheese is "Gorgonzola Cheese"; when made solely from goat's milk, the name is "Gorgonzola Cheese Made From Goat's Milk"; and when made from a mixture of cow's milk and goat's milk, the name is "Gorgonzola Cheese Made In Part From Goat's Milk."

§ 19.570 *Roquefort cheese, sheep's milk blue mold cheese, blue mold cheese from sheep's milk; identity.* (a) Roquefort cheese, sheep's milk blue mold cheese, blue mold cheese from sheep's milk, is the food prepared from sheep's milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It is characterized by the presence of bluish-green mold throughout the cheese. It contains not more than 45 percent moisture, and its solids contain not less than 50 percent milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. It is not less than 60 days old.

(b) Milk, which may be pasteurized, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Sufficient rennet is added to set the milk to a semi-solid mass. The mass is cut into smaller portions and allowed to stand for a time. The mixed curd and whey is placed in forms permitting further drainage of whey. Spores of the mold *Penicillium roquefortii* are added. The forms are turned several times during drainage. When sufficiently drained, the shaped curd is removed from the forms and salted with dry salt or brine. Perforations are then made in the shaped curd, and it is held at a temperature of approximately 50° F., with relative humidity of 90 to 95 percent, until the characteristic mold growth has developed. During storage the surface of the cheese is scraped, if necessary, to remove surface growth of undesirable microorganisms. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of roquefort cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means sheep's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto sheep's milk cream or skimmed sheep's milk.

§ 19.575 *Limburger cheese; identity.*

(a) Limburger cheese is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 50 percent of

moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. If the milk used is not pasteurized, limburger cheese is held at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, is brought to a temperature of about 92° F. and subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into cubes with sides approximately ½ inch long. After a few minutes the mass is stirred and heated, gradually raising the temperature to 96° F. to 98° F. The curd is then allowed to settle, most of the whey is drawn off, and the remaining curd and whey dipped into molds. During drainage the curd may be pressed. It is turned at regular intervals. After drainage the curd is cut into pieces of desired size and dry-salted at intervals for 24 to 48 hours. The cheese is then cured with frequent applications of a weak brine solution to the surface, until the proper growth of surface-curing organisms is obtained. It is then wrapped and held in storage for development of as much additional flavor as is desired. When made from pasteurized milk, the milk is brought to a temperature of 89° F. to 90° F. after pasteurization. A culture of harmless lactic-acid-producing bacteria is added. Calcium chloride may be added, as to raw milk. The procedure then is the same as with raw milk, except that heating is to 94° F. After most of the whey is drained off, salt brine at a temperature of 66° F. to 70° F. is added, so that the pH of the curd is about 4.8. The mixed curd, whey, and brine is dipped into molds and the same procedure followed as when raw milk is used.

Whether pasteurized or unpasteurized milk is used, a harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of limburger cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held a time and temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction.

§ 19.580 *Monterey cheese; identity.*

(a) Monterey cheese is the food prepared from milk and other ingredients

specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. Monterey cheese is made in sizes not exceeding 12 pounds in weight. It contains not more than 44 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500.

(b) Milk, which is pasteurized, and which may be clarified, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated, with continued stirring, as to promote and regulate the separation of whey and curd. Part of the whey is drained off, and water or salt brine may be added. The curd is drained and placed in a muslin or sheeting cloth, formed into a ball, and pressed; or it is placed in a cheese hoop and pressed. Later, the cloth bandage is removed, and the cheese is covered with paraffin or dipped in vegetable oil and rice flour sprinkled on the surface. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of monterey cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. Monterey cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in paragraph (e) of § 19.500.

§ 19.585 *High-moisture jack cheese; identity.* (a) High-moisture jack cheese conforms to the definition and standard of identity prescribed for monterey cheese by § 19.580, except that its moisture content is not less than 44 percent, but less than 50 percent.

§ 19.590 *Provolone cheese, pasta filata cheese; identity.* (a) Provolone cheese, pasta filata cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this

section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It has a stringy texture, and may be made in several shapes. It contains not more than 45 percent of moisture, and its solids contain not less than 45 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so made is held at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut, stirred, and heated so as to promote and regulate the separation of whey from the curd. The whey is drained off, and the curd is matted and cut, immersed in hot water, and kneaded and stretched until it is smooth and free from lumps. Then it is cut and molded. During the molding the curd is kept sufficiently warm to cause proper sealing of the surface. The form is then firmed by immersion in cold water, salted in brine, and dried. Some shapes may be encased in ropes or twine before drying. Provolone cheese may be smoked. It is given some additional curing and covered with paraffin or similar wax. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of provolone cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. Provolone cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms, when tested by the method prescribed in paragraph (e) of § 19.500.

(d) In the labeling of this food, the name "Provolone Cheese" ("Pasta Filata Cheese"), may be accompanied by the common name of the shape of the cheese, such as "Salami Provolone." If provolone cheese is smoked, the word "Smoked" shall precede or follow the name.

§ 19.595 *Parmesan cheese, reggiano cheese; identity.* (a) Parmesan cheese, reggiano cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It is characterized by a granular texture and a hard and brittle rind. It grates readily. It contains not more than 32 percent of moisture, and its solids contain not less than 34 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. It is cured for not less than 14 months.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into pieces no larger than wheat kernels, heated, and stirred until the temperature reaches between 115° F. and 125° F. The curd is allowed to settle and is then removed from the kettle or vat, drained for a short time, placed in hops, and pressed. The pressed curd is removed and salted in brine, or dry-salted. The cheese is cured in a cool, ventilated room. The rind of the cheese may be coated or colored. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of parmesan cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

§ 19.610 *Romano cheeses; identity.*

(a) Romano cheese is the food prepared from cow's milk or sheep's milk or goat's milk or mixtures of two or all of these and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It grates readily, and has a granular texture and a hard and brittle rind. It contains not more than 34 percent of moisture, and its solids contain not less than 38 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. It is cured for not less than 5 months.

(b) Milk, which may be pasteurized or clarified or both, and which may be

warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut into particles no larger than corn kernels, stirred, and heated to a temperature of about 120° F. The curd is allowed to settle to the bottom of the kettle or vat, and is then removed and drained for a short time, packed in forms or hoops, and pressed. The pressed curd is salted by immersing in brine for about 24 hours and is then removed from the brine and the surface allowed to dry. It is then alternately rubbed with salt and washed at intervals. It may be perforated with needles. It is finally dry-cured. During curing it is turned and scraped. The surface may be rubbed with vegetable oil. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of romano cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk or goat's milk or sheep's milk or mixtures of two or all of these, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, or the corresponding products prepared from goat's milk or sheep's milk, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(d) When romano cheese is made solely from cow's milk the name of such cheese is "Romano Cheese"; when made solely from sheep's milk, the name is "Romano Cheese Made From Sheep's Milk" and may be preceded by the word "Pecorino"; when made solely from goat's milk, the name is "Romano Cheese Made From Goat's Milk" and may be preceded by the word "Caprino"; and when a mixture of two or all of the milks specified in this section is used, the name of the cheese is "Romano Cheese Made From _____," the blank being filled in with the names of the milks used, in order of predominance by weight.

§ 19.615 *Asiago fresh cheese, asiago soft cheese; identity.* (a) Asiago fresh cheese, asiago soft cheese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 45 percent of moisture, and its solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. It is cured for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is cut, stirred, and heated to promote and regulate separation of the whey from the curd. The whey is drained off. When the curd is sufficiently firm, it is removed from the kettle or vat, further drained for a short time, packed into hoops, and pressed. The pressed curd is salted in brine and cured in a well-ventilated room. During curing the surface of the cheese is occasionally rubbed with a vegetable oil. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of asiago fresh cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, the word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

§ 19.620 *Asiago medium cheese; identity.* Asiago medium cheese conforms to the definition and standard of identity prescribed by § 19.615 for asiago fresh cheese, except that it contains not more than 35 percent moisture, its solids contain not less than 45 percent of milk fat, and it is cured for not less than 6 months.

§ 19.625 *Asiago old cheese; identity.* Asiago old cheese conforms to the definition and standard of identity prescribed by § 19.615 for asiago fresh cheese, except that it contains not more than 32 percent moisture, its solids contain not less than 42 percent of milk fat, and it is cured for not less than 1 year.

§ 19.635 *Cook cheese, koch kaese; identity.* (a) Cook cheese, koch kaese, is the food prepared from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 80 percent moisture as determined by the method therefor prescribed in paragraph (c) of § 19.500. When tested for phosphatase by the method prescribed in paragraph (e) of § 19.500, 0.25 gm. of cook cheese shows a phenol equivalent of not more than 3 micrograms.

(b) The optional dairy ingredients specified in paragraph (c) of this section, which may be pasteurized, and which may be warmed, are subjected to the

action of harmless lactic-acid-producing bacteria, present in such dairy ingredients or added thereto. A culture of a harmless white mold may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) may be added to aid in setting the mix to a semisolid mass. The mass is cut, stirred, and heated, with continued stirring, so as to separate the curd and whey. The whey is drained from the curd, and the curd is cured for 2 or 3 days. It is then heated to a temperature of not less than 180° F. until the hot curd will drop from a ladle with a consistency like that of honey. The hot cheese is filled into packages and cooled. Cream, salt, or caraway seed or any mixture of two or more of these may be added.

(c) The optional dairy ingredients referred to in paragraph (b) of this section are: Skim milk or concentrated skim milk or nonfat dry milk solids or a mixture of any two or more of these, with water in a quantity not in excess of that sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(d) For the purposes of this section, "skim milk" means cow's milk from which the milk fat has been separated, and "concentrated skim milk" means skim milk from which a portion of the water has been removed by evaporation.

§ 19.637 *Sap sago cheese; identity.* (a) Sap sago cheese is the food prepared from the skim milk of cows and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. It has a pale-green color, and is made in the shape of a truncated cone. It contains not more than 38 percent of moisture, as determined by the method prescribed in paragraph (c) of § 19.500.

(b) Skim milk is allowed to become sour, and is heated to boiling temperature, with stirring. Cold buttermilk may be added. Sufficient sour whey is added to precipitate the casein. The curd is removed, spread out in boxes, and pressed, and while under pressure is allowed to drain and ferment. It is ripened for not less than 5 weeks. The ripened curd is dried and ground, and to each 100 parts of the ground curd are added about 5 parts of salt and 25 parts of dried *Melilotus coerulea*. The mixture is shaped into truncated cones. It is then cured for not less than 5 months.

§ 19.639 *Gammelost cheese; identity.* (a) Gammelost cheese is the food prepared from the skim milk of cows and the other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. It contains not more than 52 percent of moisture, as determined by the method prescribed in paragraph (c) of § 19.500.

(b) Skim milk, which may be pasteurized, is subjected to the action of harmless lactic-acid-producing bacteria, present in such skim milk or added thereto. The development of acidity is continued until the skim milk coagulates to a semisolid mass. The mass is stirred and heated until a temperature of about

145° F. is reached, and is held at that temperature for not less than ½ hour. The whey is drained off and the curd removed and placed in forms and pressed. The shaped curd is placed in whey and heated for 3 or 4 hours. It is then removed from the whey and may again be pressed. It is then stored under conditions suitable for curing.

§ 19.650 *Hard cheeses; identity.* (a) The cheeses for which definitions and standards of identity are prescribed by this section are hard cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of these regulations. They are made from milk and the other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. They contain not more than 39 percent of moisture, and their solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, with or without other harmless flavor-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet, rennet paste or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass.

The mass is cut into small particles, stirred, and heated. The curd is separated from the whey, drained, and shaped into forms, and may be pressed. The curd is salted at some stage of the manufacturing process. The shaped curd may be cured. The rind may be coated with paraffin or rubbed with vegetable oil. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of hard cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, sheep's milk, or goat's milk, or a mixture of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids (or the corresponding products prepared from goat's milk or sheep's milk), water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. A hard cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more

than 3 micrograms, when tested by the method prescribed in paragraph (e) of § 19.500.

(d) The name of each hard cheese for which a definition and standard of identity is prescribed by this section is "Hard Cheese," preceded or followed by:

(1) The specific common or usual name of such hard cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese includes the statement "Made From -----," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.655 *Semisoft cheeses; identity; label statement of optional ingredients.*

(a) The cheeses for which definitions and standards of identity are prescribed by this section are semisoft cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of these regulations. They are made from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. They contain more than 39 percent, but not more than 50 percent, of moisture, and their solids contain not less than 50 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria or other harmless flavor-producing bacteria, present in such milk or added thereto. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. Harmless coloring may be added. After coagulation the mass is so treated as to promote and regulate the separation of whey and curd. Such treatment may include one or more of the following: Cutting, stirring, heating, dilution with water or brine. The whey, or part of it, is drained off, and the curd is collected and shaped. It may be placed in forms, and may be pressed. It may be cured in a manner to promote the growth of biological curing agents on the surface. Salt may be added during the procedure. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of semisoft cheese, may be added, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, sheep's milk, or goat's milk or a mixture of two or all of these. Such

milk may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids (or the corresponding products prepared from goat's milk or sheep's milk), water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. A semisoft cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in paragraph (e) of § 19.500.

(d) The name of each semisoft cheese for which a definition and standard of identity is prescribed by this section is "Semisoft Cheese," preceded or followed by:

(1) The specific common or usual name of such semisoft cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese shall include the statement "Made From -----," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.660 *Semisoft part-skim cheeses; identity; label statement of optional ingredients.*

(a) The cheeses for which definitions and standards of identity are prescribed by this section are semisoft part-skim cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of these regulations. They are made from partly skimmed milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. They contain not more than 50 percent of moisture, and their solids contain not less than 45 percent, but less than 50 percent of milk fat, as determined by the methods set forth in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria or other harmless flavor-producing bacteria, present in such milk or added thereto. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. Harmless coloring may be added. After coagulation the mass is so treated as to promote and regulate the separation of whey and curd. Such treatment may

include one or more of the following: cutting, stirring, heating, dilution with salt water or brine. The whey, or part of it, is drained off, and the curd is collected and shaped. It may be placed in forms, and it may be pressed. It may be cured in a manner to promote the growth of biological curing agents on the surface. Salt may be added during the procedure. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of semisoft part-skim cheese, may be added in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, sheep's milk, or goat's milk or a mixture of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids (or the corresponding products prepared from goat's milk or sheep's milk), water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. A semisoft part-skim cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in paragraph (e) of § 19.500.

(d) The name of each semisoft part-skim cheese for which a definition and standard of identity is prescribed by this section is "Semisoft Part-Skim Cheese," preceded or followed by:

(1) The specific common or usual name of such semisoft cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese shall include the statement "Made From -----," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.665 *Soft ripened cheeses; identity; label statement of optional ingredients.* (a) The cheeses for which definitions and standards of identity are prescribed by this section are soft ripened cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of these regulations. They are made from milk and the other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. Their solids contain not less than 50 percent of milk fat, as determined by the method prescribed therefor in paragraph (c) of § 19.500. If the milk used is not pasteurized, the cheese so made is cured at a

temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria or other harmless flavor-producing bacteria, present in such milk or added thereto. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. Harmless coloring may be added. After coagulation the mass is so treated as to promote and regulate the separation of whey and curd. Such treatment may include one or more of the following: cutting, stirring, heating, dilution with water or brine. The whey, or part of it, is drained off, and the curd is collected and shaped. It may be placed in forms and pressed. Harmless flavor-producing microorganisms may be added. It is cured under conditions suitable for development of a biological curing agent on the surface, and the curing is conducted so that the cheese cures from the surface towards the center. Salt may be added during the procedure. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of soft ripened cheese, may be added, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, sheep's milk, or goat's milk or a mixture of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids (or the corresponding products prepared from goat's milk or sheep's milk), water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a temperature of not less than 143° F. for a period of not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction.

(d) The name of each soft ripened cheese for which a definition and standard of identity is prescribed by this section is "Soft Ripened Cheese," preceded or followed by:

(1) The specific common or usual name of such soft ripened cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese shall include the statement "Made From -----," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.670 *Spiced cheeses; identity; label statement of optional ingredients.*

(a) The cheeses for which definitions and standards of identity are prescribed by this section are spiced cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of these regulations. They are made from milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. Their solids contain not less than 50 percent of milk fat as determined by the methods therefor prescribed in paragraph (c) of § 19.500. They contain any spices or spice oils, except any which singly or in combination with other ingredients simulate the flavor of a cheese of any age or variety, in an amount not less than 0.015 ounce per pound of cheese. If the milk used is not pasteurized, the cheese so made is cured at a temperature of not less than 35° F. for not less than 60 days.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is divided into smaller portions, and so handled by stirring, heating, and diluting with water or salt brine as to promote and regulate the separation of whey and curd. The whey is drained off. The curd is removed, and may be further drained. The curd is then shaped into forms and may be pressed. At some time during the procedure, spices are added so as to be evenly distributed through the finished cheese. Spice oils may be added. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of spiced cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, which may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids, water in a quantity sufficient to reconstitute any concentrated skim milk or nonfat dry milk solids used.

(2) Milk shall be deemed to have been pasteurized if it has been held at a time and temperature of not less than 143° F. for not less than 30 minutes, or at a time and temperature equivalent thereto in phosphatase destruction. A spiced cheese shall be deemed not to have been made from pasteurized milk if 0.25 gm. shows a phenol equivalent of more than 3 micrograms when tested by the method prescribed in paragraph (e) of § 19.500.

(d) The name of each spiced cheese for which a definition and standard of identity is prescribed by this section is

"Spiced Cheese," preceded or followed by:

(1) The specific common or usual name of such spiced cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

§ 19.675 *Part-skim spiced cheese; identity; label statement of optional ingredients.* (a) Part-skim spiced cheeses conform to the definition and standard of identity, and are subject to the requirements for label statement of optional ingredients, prescribed for spiced cheeses by § 19.670, except that their solids contain less than 50 percent, but not less than 20 percent, of milk fat.

§ 19.680 *Hard grating cheeses; identity; label statement of optional ingredients.* (a) The cheeses for which definitions and standards of identity are prescribed by this section are hard grating cheeses for which specifically applicable definitions and standards of identity are not prescribed by other sections of these regulations. They are made from milk and the other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section. They contain not more than 34 percent of moisture, and their solids contain not less than 32 percent of milk fat, as determined by the methods prescribed in paragraph (c) of § 19.500. Hard grating cheeses are cured for not less than 6 months.

(b) Milk, which may be pasteurized or clarified or both, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria or other harmless flavor-producing bacteria, present in such milk or added thereto. Sufficient rennet, rennet paste, or extract of rennet paste (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. Harmless coloring may be added. The mass is cut into small particles, stirred, and heated. The curd is separated from the whey, drained, shaped into forms, pressed, salted, and cured. The rind may be colored or rubbed with vegetable oil or both. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of hard grating cheese, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section:

(1) The word "milk" means cow's milk, sheep's milk, or goat's milk or a mixture of two or all of these. Such milk may be adjusted by separating part of the fat therefrom or by adding thereto one or more of the following: Cream, skim milk, concentrated skim milk, nonfat dry milk solids (or the corresponding products prepared from goat's milk or sheep's milk), water in a quantity sufficient to

reconstitute any concentrated skim milk or nonfat dry milk solids used.

(d) The name of each hard grating cheese for which a definition and standard of identity is prescribed by this section is "Hard Grating Cheese," preceded or followed by:

(1) The specific common or usual name of such hard grating cheese, if any such name has become generally recognized therefor; or

(2) If no such specific common or usual name has become generally recognized therefor, an arbitrary or fanciful name which is not false or misleading in any particular.

(e) When milk other than cow's milk is used in whole or in part, the name of the cheese shall include the statement "Made From -----," the blank being filled in with the name or names of the milk used, in order of predominance by weight.

§ 19.685 *Skim milk cheese for manufacturing; identity.* (a) Skim milk cheese for manufacturing is the food prepared from skim milk and other ingredients specified in this section, by the procedure set forth in paragraph (b) of this section, or by another procedure which produces a finished cheese having the same physical and chemical properties as that produced when the procedure set forth in paragraph (b) of this section is used. It contains not more than 50 percent of moisture, as determined by the method therefor: prescribed in paragraph (c) of § 19.500. It is coated with blue-colored paraffin or other tightly adhering coating, colored blue.

(b) Skim milk, which may be pasteurized, and which may be warmed, is subjected to the action of harmless lactic-acid-producing bacteria, present in such milk or added thereto. Harmless artificial coloring may be added. Sufficient rennet (with or without purified calcium chloride in a quantity not more than 0.02 percent, calculated as anhydrous calcium chloride, of the weight of the milk) is added to set the milk to a semisolid mass. The mass is so cut, stirred, and heated, with continued stirring, as to promote and regulate the separation of whey and curd. The whey is drained off, and the curd is matted into a cohesive mass. The mass is cut into slabs which are so piled and handled as to promote the drainage of whey and the development of acidity. The slabs are then cut into pieces, which may be rinsed by pouring or sprinkling water over them, with free and continuous drainage; but the duration of such rinsing is so limited that only the whey on the surface of such pieces is removed. The curd is salted, stirred, further drained, and pressed into forms. A harmless preparation of enzymes of animal or plant origin, which is capable of aiding in the curing or development of flavor of skim milk cheese for manufacturing, may be added during the procedure, in such quantity that the weight of the solids of such preparation is not more than 0.1 percent of the weight of the milk used.

(c) For the purposes of this section, "skim milk" means cow's milk from which the milk fat has been separated.

§ 19.750 *Pasteurized process cheese; identity; label statement of optional ingredients.* (a) (1) Pasteurized process cheese is the food prepared by comminuting and mixing, with the aid of heat, one or more cheeses of the same or two or more varieties, except cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, cook cheese, or skim milk cheese for manufacturing, with an emulsifying agent prescribed by paragraph (c) of this section, into a homogeneous plastic mass. One or more of the optional ingredients designated in paragraph (d) (1), (2), (3), (4), (5), and (6) of this section may be used.

(2) During its preparation, pasteurized process cheese is heated for not less than 30 seconds at a temperature of not less than 150° F. When tested for phosphatase by the method prescribed in § 19.500 (e), the phenol equivalent of 0.25 gm. of pasteurized process cheese is not more than 3 micrograms.

(3) (i) The moisture content of a pasteurized process cheese made from a single variety of cheese is not more than 1 percent greater than the maximum moisture content prescribed by the definition and standard of identity, if any there be, for the variety of cheese used; but in no case is more than 43 percent, except that the moisture content of pasteurized process washed curd cheese or pasteurized process colby cheese is not more than 40 percent; the moisture content of pasteurized process swiss cheese or pasteurized process gruyere cheese is not more than 44 percent; and the moisture content of pasteurized process limburger cheese is not more than 51 percent.

(ii) The fat content of the solids of a pasteurized process cheese made from a single variety of cheese is not less than the minimum prescribed by the definition and standard of identity, if any there be, for the variety of cheese used, but in no case is less than 47 percent; except that the fat content of the solids of pasteurized process swiss cheese is not less than 43 percent, and the fat content of the solids of pasteurized process gruyere cheese is not less than 45 percent.

(4) (i) The moisture content of a pasteurized process cheese made from two or more varieties of cheese is not more than 1 percent greater than the arithmetical average of the maximum moisture contents prescribed by the definitions and standards of identity, if any there be, for the varieties of cheese used; but in no case is the moisture content more than 43 percent; except that the moisture content of a pasteurized process cheese made from two or more of the varieties cheddar cheese, washed curd cheese, colby cheese, and granular cheese is not more than 40 percent, and the moisture content of a mixture of swiss cheese and gruyere cheese is not more than 44 percent.

(ii) The fat content of the solids of a pasteurized process cheese made from two or more varieties of cheese is not less than the arithmetical average of the minimum fat contents prescribed by the definitions and standards of identity, if

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any there be, for the varieties of cheese used, but in no case is less than 47 percent; except that the fat content of the solids of a pasteurized process gruyere cheese made from a mixture of swiss cheese and gruyere cheese is not less than 45 percent.

(5) Moisture and fat are determined by the methods prescribed in § 19.500 (c).

(6) (i) The weight of each variety of cheese in a pasteurized process cheese made from two varieties of cheese is not less than 25 percent of the total weight of both, except that the weight of blue cheese, roquefort cheese, or gorgonzola cheese is not less than 10 percent of the total weight of both, and the weight of limburger cheese is not less than 5 percent of the total weight of both.

(ii) The weight of each variety of cheese in a pasteurized process cheese made from three or more varieties of cheese is not less than 15 percent of the total weight of all, except that the weight of blue cheese, roquefort cheese, or gorgonzola cheese is not less than 5 percent of the total weight of all, and the weight of limburger cheese is not less than 3 percent of the total weight of all.

(7) For the purposes of this section, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, brick cheese for manufacturing, and swiss cheese for manufacturing shall be considered as cheddar cheese, washed curd cheese, colby cheese, granular cheese, brick cheese, and swiss cheese, respectively.

(b) Pasteurized process cheese may be smoked, or the cheese or cheeses from which it is made may be smoked before comminuting and mixing, or it may contain substances prepared by condensing or precipitating wood smoke.

(c) The emulsifying agent referred to in paragraph (a) of this section is one or any mixture of two or more of the following: monosodium phosphate, disodium phosphate, dipotassium phosphate, trisodium phosphate, sodium metaphosphate (sodium hexametaphosphate), sodium acid pyrophosphate, tetrasodium pyrophosphate, sodium citrate, potassium citrate, calcium citrate, sodium tartrate, and sodium potassium tartrate, in such quantity that the weight of the solids of such emulsifying agents is not more than 3 percent of the weight of the pasteurized process cheese.

(d) The optional ingredients referred to in paragraph (a) of this section are:

(1) An acidifying agent consisting of one or any mixture of two or more of the following: lactic acid, citric acid, acetic acid, and phosphoric acid, in such quantity that the pH of the pasteurized process cheese is not below 5.3. For the purposes of this section, vinegar is considered to be acetic acid.

(2) Cream, in such quantity that the weight of the fat derived therefrom is less than 5 percent of the weight of the pasteurized process cheese.

(3) Water.

(4) Salt.

(5) Harmless artificial coloring.

(6) Spices or flavorings other than any which singly or in combination with

other ingredients simulate the flavor of a cheese of any age or variety.

(e) The name of a pasteurized process cheese for which a definition and standard of identity is prescribed by this section is as follows:

(1) In case it is made from a single variety of cheese, its name is "Pasteurized Process _____ Cheese," the blank being filled in with the name of the variety of cheese used.

(2) In case it is made from two or more varieties of cheese, its name is "Pasteurized Process _____ and _____ Cheese," or "Pasteurized process _____ Blended With _____ Cheese," or "Pasteurized Process Blend of _____ and _____ Cheese," the blanks being filled in with the names of the varieties of cheese used, in order of predominance by weight; except that:

(i) In case it is made from gruyere cheese and swiss cheese, and the weight of gruyere cheese is not less than 30 percent of the weight of both, it may be designated "Pasteurized Process Gruyere Cheese"; and

(ii) In case it is made of cheddar cheese or a mixture of cheddar cheese with washed curd cheese, colby cheese, granular cheese, or two or more of these, and the weight of the cheddar cheese is not less than 75 percent of the weight of the mixture, it may be designated "Pasteurized Process American Cheese"; or when cheddar cheese or such a mixture is combined with other cheese in the cheese ingredient, such cheddar cheese in such mixture may be designated as "American Cheese."

(f) (1) If the pasteurized process cheese is smoked, or made from cheeses which have been smoked, the word "Smoked" shall precede or follow the name of the pasteurized process cheese or name of the cheese ingredient which was smoked.

(2) If it contains a substance prepared by condensing or precipitating wood smoke, the label shall bear the term "With Added _____," the blank being filled in with the common or usual name of such ingredient.

(3) If it contains spice, the label shall bear the term "Spiced" or "Spice Added" or "With Added Spice," or in lieu of the word "Spice" the common or usual name of the spice.

(4) If it contains added flavoring, the label shall bear the term "Flavoring Added," "With Added Flavoring," or "Flavored With _____," the blank being filled in with the common or usual name of the flavoring; if the flavoring is artificial, the word "Artificial" shall precede the word "Flavoring," or the word "Artificially" shall precede the term "Flavored With _____."

(5) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed or graphic matter.

§ 19.751 *Pasteurized blended cheese; identity; label statement of optional ingredients.* (a) Pasteurized blended

cheese conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese by § 19.750, except that:

(1) In mixtures of two or more cheeses, cream cheese and neufchatel cheese may be used, but no blend of cream and neuf-

(2) None of the ingredients prescribed or permitted for pasteurized process cheese by § 19.750 (c) and (d) (1) is used.

(3) In case of mixtures of two or more cheeses containing cream cheese or neufchatel cheese, the moisture content is not more than the arithmetical average of the maximum moisture contents prescribed by the definitions and standards of identity for such cheeses, if any there be.

(4) The word "Process" is replaced by the word "Blended" in the name prescribed by § 19.750 (e).

§ 19.755 *Pasteurized process cheese with fruits, vegetables, or meats; identity; label statement of optional ingredients.* (a) Unless a definition and standard of identity specifically applicable is established by another section of these regulations, a pasteurized process cheese with fruits, vegetables, or meats or mixture of these is a food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese by § 19.750, except that:

(1) Its moisture content may be 1 percent more, and the milk fat content of its solids may be 1 percent less, than the limits prescribed by § 19.750 for moisture and fat in the corresponding pasteurized process cheese.

(2) It contains one or any mixture of two or more of the following: Any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat. Where meat is added, the weight of the canned or cooked meat, or combination of these, is not less than 10 percent of the weight of the finished food.

(3) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized process cheese with fruits, vegetables, or meats is the name prescribed by § 19.750 for the applicable pasteurized process cheese, followed by the terms "With _____," the blank being filled in with the common or usual name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

§ 19.760 *Pasteurized process pimento cheese; identity.* (a) Pasteurized process pimento cheese is the food which conforms to the definition and standard of identity for pasteurized process cheese with fruits, vegetables, or meats, except that:

(1) Its moisture content is not more than 41 percent, and the fat content of its solids is not less than 49 percent.

(2) The cheese ingredient is cheddar cheese or a mixture of cheddar cheese with washed curd cheese, colby cheese,

granular cheese, or two or more of these varieties, in which mixture the weight of the cheddar cheese is not less than 75 percent of the weight of the mixture.

(3) For the purposes of this section, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, and granular cheese for manufacturing shall be considered as cheddar cheese, washed curd cheese, colby cheese, and granular cheese, respectively.

(4) The only fruit, vegetable, or meat ingredient is pimentos in such quantity that the weight of the solids thereof is not less than 0.2 percent of the weight of the finished pasteurized process pimento cheese.

(4) The optional ingredients designated in § 19.750 (b) and (c) (6) are not used.

§ 19.763 *Pasteurized blended cheese with fruits, vegetables, or meats; label statement of optional ingredients.* (a) Pasteurized blended cheese with fruits, vegetables, or meats or mixtures of these is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized blended cheeses by § 19.751, except that:

(1) Its moisture content may be 1 percent more, and the milk fat content of its solids may be 1 percent less, than the limits prescribed by § 19.751 for moisture and milk fat in the corresponding pasteurized process cheese.

(2) It contains one or any mixture of two or more of the following: Any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat. Where meat is added, the weight of the canned or cooked meat or combination of these is not less than 10 percent of the weight of the finished food.

(3) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized blended cheese with fruits, vegetables, or meats is the name prescribed by § 19.751 for the applicable pasteurized blended cheese, followed by the term "With _____" the blank being filled in with the common or usual name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

§ 19.765 *Pasteurized process cheese food; identity; label statement of optional ingredients.* (a) (1) A pasteurized process cheese food is the food prepared by comminuting and mixing, with the aid of heat, one or more of the optional cheese ingredients prescribed in paragraph (c) of this section with one or more of the optional dairy ingredients prescribed in paragraph (d) of this section, into a homogeneous plastic mass. One or more of the optional ingredients specified in paragraph (e) of this section may be used.

(2) During its preparation, a pasteurized process cheese food is heated for not less than 30 seconds at a temperature of not less than 150° F. When tested for phosphatase by the method prescribed

in § 19.500 (e), the phenol equivalent of 0.25 gm. of pasteurized process cheese food is not more than 3 micrograms.

(3) The moisture content of a pasteurized process cheese food is not more than 44 percent, and the fat content is not less than 23 percent.

(4) Moisture and fat are determined by the methods prescribed in § 19.500 (c), except that in determining moisture the loss in weight which occurs in drying for 5 hours, under the conditions prescribed in such method, is taken as the weight of moisture.

(5) The weight of the cheese ingredient prescribed by paragraph (a) (1) of this section constitutes not less than 51 percent of the weight of the finished pasteurized process cheese food.

(6) The weight of each variety of cheese in a pasteurized process cheese food made with two varieties of cheese is not less than 25 percent of the total weight of both, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 10 percent of the total weight of both. The weight of each variety of cheese in a pasteurized process cheese food made with three or more varieties of cheese is not less than 15 percent of the total weight of all, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 5 percent of the total weight of all.

(7) For the purposes of this section, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, brick cheese for manufacturing, and swiss cheese for manufacturing shall be considered as cheddar cheese, washed curd cheese, colby cheese, granular cheese, brick cheese, and swiss cheese, respectively.

(b) Pasteurized process cheese food may be smoked, or the cheese or cheeses from which it is made may be smoked, before comminuting and mixing, or it may contain substances prepared by condensing or precipitating wood smoke.

(c) The optional cheese ingredients referred to in paragraph (a) of this section are one or more cheeses of the same or two or more varieties, except cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, cook cheese, and skim milk cheese for manufacturing.

(d) The optional dairy ingredients referred to in paragraph (a) of this section are cream, milk, skim milk, cheese whey, or any mixture of these, or any of the foregoing from which part of the water has been removed, and albumin from cheese whey.

(e) The other optional ingredients referred to in paragraph (a) of this section are:

(1) An emulsifying agent consisting of one or any mixture of two or more of the following: Monosodium phosphate, disodium phosphate, dipotassium phosphate, trisodium phosphate, sodium metaphosphate (sodium hexametaphosphate), sodium acid pyrophosphate, tetrasodium pyrophosphate, sodium citrate, potassium citrate, calcium citrate, sodium tartrate, and sodium potassium tartrate, in such quantity that the

weight of the solids of such emulsifying agent is not more than 3 percent of the weight of the cheese ingredient in the pasteurized process cheese food.

(2) An acidifying agent consisting of one or any mixture of two or more of the following: Lactic acid, citric acid, acetic acid, and phosphoric acid, in such quantity that the pH of the pasteurized process cheese food is not below 5.0. For the purposes of this section, vinegar is considered to be acetic acid.

(3) Water.

(4) Salt.

(5) Harmless artificial coloring.

(6) Spices or flavorings other than any which singly or in combination with other ingredients simulate the flavor of cheese of any age or variety.

(f) The label of a pasteurized process cheese food shall bear the common or usual names of the optional ingredients used, as specified in paragraphs (c), (d), and (e) (1), (2), (3), and (4) of this section, and;

(1) If the pasteurized process cheese food is smoked, or made from cheeses which have been smoked, the word "Smoked" shall precede or follow the name of the pasteurized process cheese food or the name of the cheese ingredient which was smoked.

(2) If it contains a substance prepared by condensing or precipitating wood smoke, the label shall bear the statement "With Added _____" the blank being filled in with the common or usual name of such ingredient.

(3) If it contains spice, the label shall bear the statement "Spiced" or "Spice Added" or "With Added Spice," or in lieu of the word "spice" the common or usual name of the spice used.

(4) If it contains added flavoring, the label shall bear the statement "Flavoring Added," "With Added Flavoring," or "Flavored With _____," the blank being filled in with the common or usual name of the flavoring used; if the flavoring is artificial, the word "Artificial" shall precede the word "Flavoring" or the word "Artificially" shall precede the statement "Flavored With _____"

(5) If it contains added artificial coloring, the label shall bear the statement "Artificially Colored" or "Contains Artificial Color."

(6) If the cheese ingredient contains cheddar cheese or a mixture of cheddar cheese with washed curd cheese, colby cheese, granular cheese, or two or more of these, and the weight of the cheddar cheese is not less than 75 percent of the weight of the mixture, such cheddar cheese or such mixture may be designated as "American Cheese."

(g) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

§ 19.770 *Pasteurized process cheese food with fruits, vegetables, or meats; identity; label statement of optional ingredients.* (a) Pasteurized process cheese food with fruits, vegetables, or meats, or mixtures of these is the food

which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese food by § 19.765, except that:

(1) Its milk fat content is not less than 22 percent.

(2) It contains one or any mixture of two or more of the following: any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat. When meat is added, the weight of the cooked or canned meat or combination of these is not less than 10 percent of the weight of the finished food.

(3) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized process cheese food with fruits, vegetables, or meats is "Pasteurized Process Cheese Food With _____," the blank being filled in with the common or usual name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

§ 19.775 *Pasteurized process cheese spread; identity; label statement of optional ingredients.* (a) (1) A pasteurized process cheese spread is the food prepared by comminuting and mixing, with the aid of heat, one or more of the optional cheese ingredients prescribed in paragraph (c) of this section, with or without one or more of the optional dairy ingredients prescribed in paragraph (d) of this section, with one or more of the emulsifying agents prescribed in paragraph (e) of this section, and with or without one or more of the optional ingredients prescribed by paragraph (f) of this section, into a homogeneous plastic mass.

(2) During its preparation, a pasteurized process cheese spread is heated for not less than 30 seconds at a temperature of not less than 150° F. When tested for phosphatase by the method prescribed in § 19.500 (e) the phenol equivalent of 0.25 gm. of pasteurized process cheese spread is not more than 3 micrograms.

(3) The moisture content of a pasteurized process cheese spread is more than 44 percent but not more than 60 percent, and the milk fat content is not less than 20 percent.

(4) Moisture and fat are determined by the methods described in § 19.500 (c), except that in determining moisture the loss in weight which occurs in drying for 5 hours under the conditions prescribed in such methods is taken as the weight of the moisture.

(5) The weight of the cheese ingredient referred to in paragraph (a) (1) of this section constitutes not less than 51 percent of the weight of the pasteurized process cheese spread.

(6) The weight of each variety of cheese in a pasteurized process cheese spread made with two varieties of cheese is not less than 25 percent of the total weight of both, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 10 percent of the total

weight of both. The weight of each variety of cheese in a pasteurized process cheese spread made with three or more varieties of cheese is not less than 15 percent of the total weight of all, except that the weight of blue cheese, roquefort cheese, gorgonzola cheese, or limburger cheese is not less than 5 percent of the total weight of all.

(7) For the purposes of this section, cheddar cheese for manufacturing, washed curd cheese for manufacturing, colby cheese for manufacturing, granular cheese for manufacturing, brick cheese for manufacturing, and swiss cheese for manufacturing shall be considered as cheddar cheese, washed curd cheese, colby cheese, granular cheese, brick cheese, and swiss cheese, respectively.

(b) Pasteurized process cheese spread may be smoked, or the cheese or cheeses from which it is made may be smoked, before comminuting and mixing, or it may contain substances prepared by condensing or precipitating wood smoke.

(c) The optional cheese ingredients referred to in paragraph (a) of this section are one or more cheeses of the same or two or more varieties, except that the skim milk cheese for manufacturing may not be used, and except that cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, and cook cheese are not used, alone or in combination with each other, as the cheese ingredient.

(d) The optional dairy ingredients referred to in paragraph (a) of this section are cream, milk, skim milk, cheese whey, or any mixture of these, or any of the foregoing from which part of the water has been removed, and albumin from cheese whey.

(e) The emulsifying agents prescribed in paragraph (a) of this section are one or any mixture of two or more of the following: monosodium phosphate, disodium phosphate, dipotassium phosphate, trisodium phosphate, sodium metaphosphate (sodium hexametaphosphate), sodium acid pyrophosphate, tetrasodium pyrophosphate, sodium citrate, potassium citrate, calcium citrate, sodium tartrate, and sodium potassium tartrate, in such quantity that the weight of the solids of such emulsifying agent is not more than 3 percent of the weight of the cheese ingredient in the pasteurized process cheese spread.

(f) The other optional ingredients referred to in paragraph (a) of this section are:

(1) One or any mixture of two or more of the following: carob bean gum, gum karaya, gum tragacanth, guar gum, gelatin, (carboxymethylcellulose, carrageen, oatgum, algin (sodium alginate), and propylene oxide ester of alginic acid. The total weight of such substance is not more than 0.8 percent of the weight of the finished food.

(2) An acidifying agent consisting of one or any mixture of two or more of the following: Lactic acid, citric acid, acetic acid, and phosphoric acid, in such quantity that the pH of the pasteurized process cheese spread is not below 4.0. For the purposes of this section, vinegar shall be considered to be acetic acid.

(3) A sweetening agent consisting of one or any mixture of two or more of the

following: Sugar, dextrose, corn sugar, corn sirup, corn sirup solids, maltose, malt sirup, and hydrolyzed lactose, in a quantity necessary for seasoning.

(4) Water.

(5) Salt.

(6) Harmless artificial coloring.

(7) Spices or flavoring other than any which singly or in combination with other ingredients simulate the flavor of a cheese of any age or variety.

(g) The label of a pasteurized process cheese spread shall bear the common or usual names of the optional ingredients which are used, as specified in paragraphs (c), (d), (e), and (f) (1), (2), (3), (4), and (5) of this section, and:

(1) If the pasteurized process cheese spread is smoked, or made from cheeses which have been smoked, the word "Smoked" shall precede or follow the name of the pasteurized process cheese spread or name of the cheese ingredient which was smoked.

(2) If it contains a substance prepared by condensing or precipitating wood smoke, the label shall bear the statement "With Added _____," the blank being filled in with the common or usual name of such ingredient.

(3) If it contains spice, the label shall bear the statement "Spiced" or "Spice Added" or "With Added Spice," or in lieu of the word spice the common or usual name of the spice used.

(4) If it contains added flavoring, the label shall bear the statement "Flavoring Added," "With Added Flavoring," or "Flavored With _____," the blank being filled in with the common or usual name of the flavoring used; and if the flavoring is artificial, the word "Artificial" shall precede the word "Flavoring" or the word "Artificially" shall precede the statement "Flavored With _____."

(5) If it contains added artificial coloring, the label shall bear the statement "Artificially Colored" or "Contains Artificial Color."

(6) If the cheese ingredient contains cheddar cheese or a mixture of cheddar cheese with washed curd cheese, colby cheese, granular cheese, or two or more of these, and the weight of the cheddar cheese is not less than 75 percent of the weight of the mixture, such cheddar cheese or such mixture may be designated as "American Cheese."

(7) If an optional acidifying ingredient is used, there shall appear after its common name the words "A Chemical Preservative."

(h) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

§ 19.776 *Pasteurized process cheese spread; identity; label statement of optional ingredients.* (a) Pasteurized process cheese spread is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese spread by § 19.775, except that no emulsi-

fyng agent as prescribed by § 19.775 (e) is used.

§ 19.780 *Pasteurized process cheese spread with fruits, vegetables, or meats; identity; label statement of optional ingredients.* (a) Pasteurized process cheese spread with fruits, vegetables, or meats or mixtures of these is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized process cheese spread by § 19.775, except that:

(1) It contains one or any mixture of two or more of the following: Any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat. Where meat is added, the weight of the cooked or canned meat or combination of these is not less than 10 percent of the weight of the finished food.

(2) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized process cheese spread with fruits, vegetables, or meats is "Pasteurized Process Cheese Spread With -----," the blank being filled in with the name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

§ 19.781 *Pasteurized cheese spread with fruits, vegetables, or meats; identity; label statement of optional ingredients.* (a) Pasteurized cheese spread with fruits, vegetables, or meats or mixtures of these is the food which conforms to the definition and standard of identity, and is subject to the requirements for label statement of optional ingredients, prescribed for pasteurized cheese spread by § 19.776, except that:

(1) It contains one or any mixture of two or more of the following: Any properly prepared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked or canned meat. Where meat is added, the weight of the canned or cooked meat or combination of these is not less than 10 percent of the weight of the finished food.

(2) When the added fruits, vegetables, or meats contain fat, the method prescribed for the determination of fat by § 19.500 (c) is not applicable.

(b) The name of a pasteurized cheese spread with fruits, vegetables, or meats is "Pasteurized Cheese Spread With -----," the blank being filled in with the name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

§ 19.782 *Pasteurized cream cheese spread or pasteurized neufchatel cheese spread with fruits, vegetables, or meats; identity; label statement of optional ingredients.* (a) (1) Pasteurized cream cheese spread, or pasteurized neufchatel cheese spread, with fruits, vegetables, or meats or mixtures of these is the food prepared by mixing, with the aid of heat, cream cheese alone or neufchatel cheese alone with one or a mixture of two or more of the following: any properly pre-

pared cooked, canned, or dried fruit; any properly prepared cooked, canned, or dried vegetable; any properly prepared cooked, canned, or dried meat. Where meat is added, the weight of the cooked or canned meat or combination of these is not less than 10 percent of the weight of the finished food. One or more of the optional ingredients specified in paragraph (b) of this section may be used.

(2) During its preparation the mixture is heated for not less than 30 seconds at a temperature of not less than 150° F. When tested for phosphatase by the method prescribed in paragraph (e) of § 19.500 the phenol equivalent of 0.25 gm. of such food is not less than 3 micrograms.

(3) In case cream cheese is the cheese ingredient used, the moisture content is not more than 56 percent, and the milk fat content is not less than 32 percent. In case neufchatel cheese is the cheese ingredient used, the moisture content is not more than 65 percent, and the milk fat content is not less than 20 percent.

(4) Moisture and fat are determined by the methods prescribed in paragraph (c) of § 19.500, except when the added fruits, vegetables, or meat contain fat the method prescribed for the determination of fat is not applicable.

(b) The optional ingredients referred to in paragraph (a) of this section are:

(1) An acidifying agent consisting of one or a mixture of two or more of the following, in such quantity that the pH of the finished food is not below 4: Lactic acid, citric acid, acetic acid, phosphoric acid. For the purposes of this section, vinegar shall be considered to be acetic acid.

(2) One or any mixture of two or more of the following water-retaining substances: carob bean gum, gum karaya, gum tragacanth, guar gum, gelatin, carboxy-methylcellulose, carrageen, oat gum, algin (sodium alginate), propylene oxide ester of alginic acid. The total weight of such substances is not more than 0.8 percent of the weight of the finished food.

(3) A sweetening agent consisting of one or any mixture of two or more of the following: sugar, dextrose, corn sugar, corn sirup, corn sirup solids, maltose sirup, and hydrolyzed lactose.

(c) In case cream cheese is the cheese ingredient used, the name of the food is "Pasteurized Cream Cheese Spread With -----," the blank being filled in with the name or names of the fruit, vegetables, or meats used, in order of predominance by weight. In case neufchatel cheese is the cheese ingredient used, the name of the food is "Pasteurized Neufchatel Cheese Spread With -----," the blank being filled in with the name or names of the fruits, vegetables, or meats used, in order of predominance by weight.

(d) The label shall bear the common or usual names of any of the optional ingredients designated in paragraph (b) of this section which are used. In case an acidifying agent is used, its name shall be accompanied on the label by the words "A Chemical Preservative."

(e) Wherever the name of the food appears on the label so conspicuously as

to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

§ 19.785 *Cold-pack cheese, club cheese, comminuted cheese; identity; label statement of optional ingredients.*

(a) (1) Cold-pack cheese, club cheese, comminuted cheese, is the food prepared by comminuting, without the aid of heat, one or more cheeses of the same or two or more varieties, except cream cheese, neufchatel cheese, cottage cheese, creamed cottage cheese, and skim milk cheese for manufacturing, into a homogeneous plastic mass. One or more of the optional ingredients designated in paragraph (c) of this section may be used.

(2) All cheeses used in a cold-pack cheese are made from pasteurized milk or are held for not less than 60 days at a temperature of not less than 35° F. before being comminuted.

(3) (i) The moisture content of a cold-pack cheese made from a single variety of cheese is not more than the maximum moisture content prescribed by the definition and standard of identity, if any there be, for the variety of cheese used. If there is no applicable definition and standard of identity, or if such standard contains no provision as to maximum moisture content, no water is used in the preparation of the cold-pack cheese.

(ii) The fat content of the solids of a cold-pack cheese made from a single variety of cheese is not less than the minimum prescribed by the definition and standard of identity, if any there be, for the variety of cheese used, but in no case is less than 47 percent, except that the fat content of the solids of cold-pack swiss cheese is not less than 43 percent, and the fat content of the solids of cold-pack gruyere cheese is not less than 45 percent.

(4) (i) The moisture content of a cold-pack cheese made from two or more varieties of cheese is not more than the arithmetical average of the maximum moisture contents prescribed by the definitions and standards of identity, if any there be, for the varieties of cheese used, but in no case is the moisture content more than 42 percent, except that the moisture content of a cold-pack cheese made from two or more of the varieties cheddar cheese, washed curd cheese, colby cheese, and granular cheese is not more than 39 percent.

(ii) The fat content of the solids of a cold-pack cheese made from two or more varieties of cheese is not less than the arithmetical average of the minimum percent of fat prescribed by the definitions and standards of identity, if any there be, for the varieties of cheese used, but in no case is less than 47 percent, except that the fat content of the solids of a cold-pack cheese made from swiss cheese and gruyere cheese is not less than 45 percent.

(5) Moisture and fat are determined by the methods prescribed in § 19.500 (c).

(6) The weight of each variety of cheese in a cold-pack cheese made from two varieties of cheese is not less than 25 percent of the total weight of both, except that the weight of blue cheese, roquefort cheese, or gorgonzola cheese is not less than 10 percent of the total weight of both, and the weight of limburger cheese is not less than 5 percent of the total weight of both. The weight of each variety of cheese in a cold-pack cheese made from three or more varieties of cheese is not less than 15 percent of the total weight of all, except that the weight of blue cheese, roquefort cheese, or gorgonzola cheese is not less than 5 percent of the total weight of all, and the weight of limburger cheese is not less than 3 percent of the total weight of all.

(b) Cold-pack cheese may be smoked, or the cheese or cheeses from which it is made may be smoked, before comminuting and mixing, or it may contain substances prepared by condensing or precipitating wood smoke.

(c) The optional ingredients referred to in paragraph (a) of this section are:

(1) An acidifying agent consisting of one or any mixture of two or more of the following: Lactic acid, citric acid, acetic acid, and phosphoric acid, in such quantity that the pH of the finished cold-pack cheese is not below 4.5. For the purposes of this section, vinegar shall be considered to be acetic acid.

(2) Water.

(3) Salt.

(4) Harmless artificial coloring.

(5) Spices or flavorings other than any which singly or in combination with other ingredients simulate the flavor of a cheese of any age or variety.

(d) The name of a cold-pack cheese for which a definition and standard of identity is prescribed by this section is as follows: "Cold-Pack _____ Cheese" or "_____ Club Cheese" or "Comminuted _____ Cheese," the blanks being filled in with the name or names of the varieties of cheese used, in order of predominance by weight.

If the cheese ingredient contains cheddar cheese or a mixture of cheddar cheese with washed curd cheese, colby cheese, granular cheese, or two or more of these, and the weight of the cheddar cheese is not less than 75 percent of the mixture, such cheddar cheese or mixture

may be designated as "American Cheese."

(e) (1) If cold-pack cheese is smoked, or made from cheeses which have been smoked, the word "Smoked" shall precede or follow the name of the cold-pack cheese, or the name of the cheese ingredient which was smoked.

(2) If it contains a substance prepared by condensing or precipitating wood smoke, the label shall bear the statement "With Added _____" the blank being filled in with the common or usual name of such ingredient.

(3) If it contains spice, the label shall bear the statement "Spiced," or "Spice Added," or "With Added Spice," or in lieu of the word spice, the common or usual name of the spice used.

(4) If it contains added flavoring, the label shall bear the statement "Flavoring Added," "With Added Flavoring," or "Flavored With _____," the blank being filled in with the common or usual name of the flavoring used; if the flavoring is artificial, the word "Artificial" shall precede the word "Flavoring" or the word "Artificially" shall precede the statement "Flavored With _____."

(5) If it contains an added acidifying agent prescribed in paragraph (c) (1) of this section, the label shall bear the statement "_____ Added as a Chemical Preservative," the blank being filled in with the name or names of the acid or acids used.

(f) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the words and statements herein specified, showing the optional ingredients used, shall immediately and conspicuously precede or follow such name, without intervening written, printed, or graphic matter.

Any interested person whose appearance was filed at the hearing may, within 90 days from the date of publication of this tentative order in the FEDERAL REGISTER, file with the Hearing Clerk, Federal Security Agency, Room 5109, Federal Security Building, Fourth Street and Independence Avenue, SW., Washington, D. C., written exceptions thereto. Exceptions shall point out with particularity the alleged errors in this tentative order and shall contain specific references to the pages of the transcript of

the testimony or to the exhibits on which such exceptions are based. Such exceptions may be accompanied by a memorandum or brief in support thereof. Exceptions and accompanying memoranda or briefs shall be submitted in quintuplicate.

Dated: April 15, 1949.

[SEAL]

J. DONALD KINGSLEY,
Acting Administrator.

[F. R. Doc. 49-3104; Filed, Apr. 21, 1949;
8:51 a. m.]

DEPARTMENT OF AGRICULTURE

Production and Marketing Administration

TEXAS LIVESTOCK AUCTION CO., AMARILLO,
TEX.

NOTICE OF PROPOSED RULE MAKING

The Secretary of Agriculture has information that the Texas Livestock Auction Company stockyards at Amarillo, Texas, owned and operated by Hugh W. Ford and Blythe Lane, as partners, is a stockyard as defined by section 302 of the Packers and Stockyards Act, 1921, as amended (7 U. S. C. 202), and should be made subject to the provisions of that act.

Therefore, notice is hereby given that the Secretary of Agriculture proposes to issue a rule designating the stockyard named above as a posted stockyard subject to the provisions of the Packers and Stockyards Act, 1921, as amended (7 U. S. C. 181 et seq.), as is provided in section 302 of that act. Any interested person who desires to do so may submit, within 15 days after the publication of this notice, any data, views, or argument, in writing, on the proposed rule to the Director of the Livestock Branch, Production and Marketing Administration, United States Department of Agriculture, Washington 25, D. C.

Done at Washington, D. C., this 12th day of April 1949.

[SEAL]

H. E. REED,
Director, Livestock Branch, Pro-
duction and Marketing Ad-
ministration.

[F. R. Doc. 49-3149; Filed, Apr. 21, 1949;
8:52 a. m.]

NOTICES

DEPARTMENT OF COMMERCE

Office of Industry Cooperation

VOLUNTARY STEEL ALLOCATION PLAN FOR BASEBOARD RADIATION

The Secretary of Commerce, pursuant to the authority vested in him by Public Law 395, 80th Congress, as amended, and Executive Order 9919, after consultation with representatives of the steel producing and steel baseboard radiation manufacturing industries, and with the interested government agencies, and after expression of the views of industry, labor

and the public generally at an open public hearing held on March 14, 1949, has determined that the following plan of voluntary action is practicable and is appropriate to the successful carrying out of the policies set forth in Public Law 395, as amended:

1. *Scope and purpose of plan.* This plan sets up the procedure under which steel producers (hereinafter called producers) agree voluntarily to make steel products available to steel baseboard radiation manufacturers who comply with the provisions of this plan (hereinafter called participating manufac-

turers), for use in the manufacture of steel baseboard radiation, which, for the purposes of this plan, is defined as steel baseboard sections for the conveyance of hot water or steam heat in residential housing.

2. *Agreement by steel producers.* During the months of April, May and June 1949, producers will, out of their own production or that of their producing subsidiaries or affiliates, make available to participating manufacturers up to a total of approximately 950 net tons of steel products per month, distributed by types approximately as follows:

Type:	Net tons per month
1 end 1 1/4 inch steel pipe-----	60
C. R. sheet and strip-----	890
Total net tons per month-----	950

3. *Determination of quantities to be furnished by respective producers.* Unless otherwise specified in its acceptance of this plan, the quantities to be made available by each producer, as its commitment under this plan, will be such as the Secretary of Commerce, after consulting the Steel Task Committee of the office of Industry Cooperation of the Department of Commerce, determines to be fair and equitable. However, upon request of the Secretary of Commerce from time to time, each producer will give consideration to making additional quantities available. Producers will take credit against their commitments under this plan only for quantities delivered on orders certified in accordance with Paragraph 10 below.

4. *Contractual arrangements.* Such products will be made available under such contractual arrangements as may be made by the respective producers, or their producing subsidiaries and affiliates, with the respective participating manufacturers. No request or authorization will be made by the Department of Commerce relating to the allocation of orders or customers, the delivery of products, the allocation of business among participating manufacturers, or any limitation or restriction on the production or marketing of any products. This plan does not authorize nor approve any fixing of prices, and participation in this plan does not affect the prices or terms and conditions on which any product is actually sold and delivered.

5. *Limitations as to types, sizes and quantities.* A producer need make available under this plan only those products which are within the type and size limitations of the mill or mills which it may select for the fulfillment of its commitment under this plan. The quantities which it may have undertaken to make available in any month may be reduced, or at its option their delivery may be postponed, in direct proportion to any production losses during the month due to causes beyond its control.

6. *Reports from steel producers.* Each producer will, if requested by the Office of Industry Cooperation of the Department of Commerce (subject to the approval of the Bureau of the Budget under the Federal Reports Act of 1942), submit to that office periodic reports of the total quantities, by types, of products shipped, and accepted for shipment, under the plan.

7. *Reports from participating manufacturers.* Each participating manufacturer will submit the following to the Secretary of Commerce:

(a) *Requirements report.* A report showing the quantities of steel baseboard radiation scheduled for production during each month under this plan and the steel products required for that scheduled production.

(b) *Other reports.* Such other relevant reports as may be requested from time to time by the Secretary of Com-

merce (subject to the approval of the Bureau of the Budget under the Federal Reports Act of 1942).

8. *Determination of allocations for respective participating manufacturers.* The quantities and types of steel products to be made available monthly under the plan to individual participating manufacturers will be determined by the Secretary of Commerce after consultation with the Steel Baseboard Radiation Advisory Committee, subject to such revision, if any, from time to time, as may be deemed necessary by the Secretary of Commerce after consultation with that Committee.

9. *Obligations of participating manufacturers.* By participation in this plan each participating manufacturer shall be obligated as follows: To use all products obtained under this plan solely for and in the manufacture of steel baseboard radiation; not to resell or transfer any steel products obtained under this plan in the form received by the participating manufacturer; and not to build up, beyond current needs, any inventories of products obtained, or end products manufactured, under this plan.

If a participating manufacturer becomes unable to use, for the purposes of this plan, any products obtained under this plan, he shall be further obligated to hold them subject to such other use or disposition (including re-allocation to other consumers or return to the producer from whom purchased) as shall be authorized by the Office of Industry Cooperation of the Department of Commerce.

Participation in the benefits in this plan shall at all times be contingent upon each participating manufacturer's continued strict compliance with the provisions hereof. In the event of any actual or prospective non-compliance by any participating manufacturer, the Secretary of Commerce may, after written notice to the participating manufacturer, take such action as he deems warranted with respect to the manufacturer's participation in the plan, including partial or total suspension or termination of participation privileges and notification to the participating steel producers not to make any or certain further shipments under the plan to such manufacturer.

10. *Procedure for placing orders under this plan.* Purchase orders under this plan are to be placed with participating producers or their producing subsidiaries or affiliates. Each such purchase order shall bear the following certification by the participating manufacturer:

VOLUNTARY STEEL ALLOCATION PLAN FOR
BASEBOARD RADIATION

The undersigned certifies to the seller and to the Department of Commerce that the products specified in this order will be used solely for and in the manufacture of steel baseboard radiation, and that this order is placed under, and in strict compliance with, the above voluntary plan, with which the undersigned is familiar and in which the undersigned is a participant. The undersigned further certifies that it has been granted a specific allocation under the plan and that the quantity hereby ordered is within that allocation, after taking into account all other certified orders accepted, or

pending acceptance, by participating steel producers.

By _____
(Name of company)

(Duly authorized officer)

(Date)

11. *Procedure for, and effect of, becoming a participant.* After approval of this plan by the Attorney General and by the Secretary of Commerce, and after requests for compliance with it have been made of steel producers and steel baseboard radiation manufacturers by the Secretary of Commerce, any such producer or manufacturer may become a participant in this plan by advising the Secretary of Commerce in writing, of its acceptance of such request. Such requests for compliance will be effective for the purpose of granting certain immunity from the anti-trust laws and the Federal Trade Commission Act, as provided in section 2 (c) of Public Law 395, as amended, only with respect to such producers and manufacturers as notify the Secretary of Commerce in writing that they will comply with such requests.

12. *Effective date and duration.* This plan shall become effective upon the date of its final approval by the Secretary of Commerce. It shall cease to be effective at the close of business on September 30, 1949, or on such earlier date as may be determined by the Secretary of Commerce, upon not less than 60 days' notice by letter, telegram, or publication in the FEDERAL REGISTER.

13. *Withdrawal from plan.* Any producer or participating manufacturer may withdraw from this plan by giving not less than 60 days' written notice to the Secretary of Commerce.

14. *Clarifying interpretations.* Any interpretation issued by the Secretary of Commerce (after consultation with the Attorney General), in writing, to clarify the meaning of any terms or provisions in this plan shall be binding upon all participants notified of such interpretation.

Approved: April 4, 1949.

CHARLES SAWYER,
Secretary of Commerce.

Approved: April 4, 1949.

TOM C. CLARK,
Attorney General.

APRIL 4, 1949.

GENTLEMEN: Enclosed is a copy of the above Voluntary Plan which has been approved by the Attorney General and myself pursuant to Public Law 395, 80th Congress (as amended by Public Law 6, 81st Congress), and Executive Order 9919.

Acting pursuant to said Law and Executive Order, I hereby request compliance by you with the Voluntary Plan. This request will not be effective for the purpose of granting immunity from the antitrust laws of the United States and the Federal Trade Commission Act, as provided in section 2 (c) of Public Law 395, 80th Congress, as amended, unless you promptly agree in writing to comply herewith.

Two copies of a suggested form for your use in evidencing acceptance of this request are enclosed. One copy is to be returned to me and the other retained for your files.

May we have your reply within ten days from the date of this letter?

Sincerely yours,

CHARLES SAWYER,
Secretary of Commerce.

NOTE: The above request for compliance with Department of Commerce voluntary steel allocation plan for baseboard radiation was sent to steel companies listed in an attachment filed with the original document.

[F. R. Doc. 49-3122; Filed, Apr. 21, 1949; 8:47 a. m.]

FEDERAL POWER COMMISSION

[Docket No. G-1105]

PIEDMONT NATURAL GAS CORP.

NOTICE OF AMENDMENT TO APPLICATION

APRIL 18, 1949.

Notice is hereby given that the Piedmont Natural Gas Corporation (Applicant), a Delaware corporation with its principal place of business at Spartanburg, South Carolina, filed on April 5, 1949, an amendment to its application filed August 24, 1948, for a certificate of public convenience and necessity pursuant to section 7 of the Natural Gas Act, as amended, to authorize the construction and operation of certain transmission pipeline facilities hereinafter described.

Applicant by its amendment to its application of August 24, 1948, seeks authorization to construct and operate a natural gas pipeline approximately 1,290 miles in length, originating in the upper Gulf Coast gas fields of Texas and southwest Louisiana, and extending through the States of Louisiana, Mississippi, Alabama, Georgia, South Carolina and North Carolina to its eastern termini at Richmond and Norfolk in the State of Virginia. The proposed pipeline will be 26 inches in diameter, commencing at a point in the upper Gulf Coast gas fields of Texas and extending to a point in the vicinity of Charlotte, North Carolina, a distance of approximately 980 miles. From Charlotte, North Carolina, the pipeline will be reduced to 24 inches in diameter and continue approximately 140 miles to a point near Durham, North Carolina, where it will be further reduced to 18 inches in diameter, thence it will continue 110 miles in a northeasterly direction to a point from where two pipe lines will diverge: One with a diameter of 14 inches extending approximately 40 miles in a northerly direction to Richmond, Virginia, and the other with a diameter of 16 inches extending approximately 60 miles in an easterly direction to Norfolk, Virginia. The proposed project includes the installation of 9 compressor stations having a total of 48,000 H. P. with an initial line capacity of approximately 275,000 Mcf per day.

The estimated cost of the proposed pipeline with compressor stations, river crossings and appurtenant facilities is approximately \$97,380,000. The application recites that the financing of the proposed project will be through the issuance of bonds, preferred stock, bank loans and additional common stock.

Applicant proposes to operate its proposed transmission pipeline for the trans-

portation of natural gas for resale to distributing companies in the States of South Carolina, North Carolina and Virginia.

Any interested State commission is requested to notify the Federal Power Commission whether the application should be considered under the cooperative provisions of § 1.37 of the Commission's rules of practice and procedure, and, if so, to advise the Federal Power Commission as to the nature of its interest in the matter, whether it desires a conference, the creation of a board, or a joint or concurrent hearing, together with reasons for such request.

The application of the Piedmont Natural Gas Corporation is on file with the Commission and open to public inspection. Any person desiring to be heard or to make any protest with reference to the application shall file with the Federal Power Commission, Washington 25, D. C., not later than 15 days from the date of publication of this notice in the FEDERAL REGISTER, a petition to intervene or protest. Such petition or protest shall conform to the requirements of §§ 1.8 or 1.10, whichever is applicable, of the rules of practice and procedure.

[SEAL]

LEON M. FUQUAY,
Secretary.

[F. R. Doc. 49-3120; Filed, Apr. 21, 1949; 8:47 a. m.]

[Docket No. G-1190]

KINGS COUNTY LIGHTING CO.

NOTICE OF APPLICATION

APRIL 18, 1949.

Notice is hereby given that on April 6, 1949, an application was filed with the Federal Power Commission by the Kings County Lighting Company (Applicant), a New York corporation having its principal place of business in the Borough of Brooklyn, City and State of New York, requesting (1) that the Commission determine that the aforementioned company will not become a "natural-gas company" within the meaning of the Natural Gas Act by reason of its construction and operation of certain proposed facilities, and (2) should the Commission determine the company subject to the act, that it issue to the Applicant a certificate of public convenience and necessity pursuant to section 7 of the Natural Gas Act, as amended, authorizing Applicant to construct and operate certain transmission pipeline facilities hereinafter described.

The facilities proposed to be constructed by the Applicant will consist of approximately 2.9 miles of 12-inch pipe extending from 57th Street and 7th Avenue, which is the end of the facilities proposed to be constructed by the Brooklyn Union Gas Company (Docket No. G-1171), through their territory, thence across the franchise territory of the Applicant to the boundary line between the Applicant and the Brooklyn Borough Gas Company located at 62d Street and Bay Parkway, Brooklyn. The application recites that such facilities are necessary in order to deliver to the facilities

of the Brooklyn Borough Gas Company 7,000 Mcf of natural gas, such volume of natural gas purchased from the Transcontinental Gas Pipeline Corporation pursuant to an agreement with said company which gas is to be delivered daily by Transcontinental at 132d Street and the Hudson River in New York City. The gas so purchased by Kings County Lighting Company will be transported through Consolidated Edison's proposed pipeline project (Docket No. G-1167) and the project of Brooklyn Union (Docket No. G-1171), the latter project interconnecting with the project of Kings County Lighting Company.

The estimated cost of the proposed project approximates \$700,000, a portion of which has already been financed and the balance will be forthcoming from short-term borrowings from banks which Applicant contemplates refunding on a permanent basis by the issuance of securities.

Any interested State commission is requested to notify the Federal Power Commission whether the application should be considered under the cooperative provisions of § 1.37 of the Commission's rules of practice and procedure and, if so, to advise the Federal Power Commission as to the nature of its interest in the matter, whether it desires a conference, the creation of a board, or a joint or concurrent hearing, together with reasons for such request.

The application of the Kings County Lighting Company is on file with the Commission and open to public inspection. Any person desiring to be heard or to make any protest with reference to the application shall file with the Federal Power Commission, Washington 25, D. C., not later than 15 days from the date of publication of this notice in the FEDERAL REGISTER, a petition to intervene or protest. Such petition or protest shall conform to the requirements of §§ 1.8 or 1.10, whichever is applicable, of the rules of practice and procedure.

[SEAL]

LEON M. FUQUAY,
Secretary.

[F. R. Doc. 49-3121; Filed, Apr. 21, 1949; 8:47 a. m.]

[Docket No. G-1192]

MOUNTAIN FUEL SUPPLY CO.

NOTICE OF APPLICATION

APRIL 15, 1949.

Notice is hereby given that on April 7, 1949, Mountain Fuel Supply Company (Applicant), a Utah corporation with its principal place of business at Salt Lake City, Utah, filed an application with the Federal Power Commission for a certificate of public convenience and necessity pursuant to section 7 of the Natural Gas Act, as amended, authorizing Applicant to construct and operate approximately 32 miles of 20-inch O. D. natural-gas pipe line between Applicant's transmission stations at Coalville, Utah, and Salt Lake City, Utah, together with appropriate block valves, regulators, meters and connections to Applicant's existing facilities. The proposed line will parallel an existing

16-inch O. D. natural-gas pipe line of Applicant.

Applicant states that the proposed facilities will increase the short period peak delivery to Utah for the winter season 1949-1950 by 23,600 Mcf per day in excess of the amount available during the winter season 1948-1949, by increasing Applicant's present system sales capacity of approximately 111,000 Mcf per day to 134,600 Mcf per day. Applicant proposes to begin construction of the facilities for which authorization is sought herein not later than June 15, 1949, and to complete construction not later than September 15, 1949.

Applicant states that the primary purpose of the proposed facilities is to improve the existing service in the Salt Lake Valley by increasing the safety of the operation due to paralleling the natural-gas pipe line over the Wasatch Mountain Range and by making up a present deficit in supply during peak periods to firm customers.

The estimated total over-all capital cost of the proposed facilities is \$1,750,000. Applicant proposes to finance this cost of construction with available cash funds of the Company.

Any interested State commission is requested to notify the Federal Power Commission whether the application should be considered under the cooperative provisions of § 1.37 of the Commission's rules of practice and procedure and, if so, to advise the Federal Power Commission as to the nature of its interest in the matter and whether it desires a conference, the creation of a board, or a joint or concurrent hearing, together with reasons for such request.

The application of Mountain Fuel Supply Company is on file with the Commission and is open to public inspection. Any person desiring to be heard or to make any protest with reference to the application shall file with the Federal Power Commission, Washington 25, D. C., not later than 15 days from date of publication of this notice in the FEDERAL REGISTER, a petition to intervene or protest. Such petition or protest shall conform to the requirements of §§ 1.8 or 1.10, whichever is applicable, of the Commission's rules of practice and procedure.

[SEAL] LEON M. FUQUAY,
Secretary.

[F. R. Doc. 49-3116; Filed, Apr. 21, 1949;
8:46 a. m.]

SECURITIES AND EXCHANGE COMMISSION

[File No. 70-2088]

ARKANSAS POWER & LIGHT Co.
ORDER GRANTING APPLICATION

At a regular session of the Securities and Exchange Commission held at its office in the city of Washington, D. C. on the 15th day of April A. D. 1949

Arkansas Power & Light Company ("Arkansas"), an electric utility subsidiary of Electric Power & Light Corporation ("Electric"), a registered holding company subsidiary of Electric Bond and Share Company, which is also a registered holding company, having filed an

application under the Public Utility Holding Company Act of 1935, particularly sections 6 (b) and 7 thereof and Rule U-50 of the rules and regulations promulgated thereunder, with respect to the following proposed transactions:

Arkansas proposes to issue and sell pursuant to the competitive bidding requirements of Rule U-50, \$8,300,000 principal amount of 25-year, ----% Sinking Fund Debentures due 1974. The Debentures are to be issued under a Debenture Agreement to be dated as of May 1, 1949, between Arkansas and Central Hanover Bank and Trust Company, as Trustee.

The application states that the proceeds from the sale of the Debentures, together with \$4,000,000 proposed to be raised from the sale of common stock to Electric (which is the subject of a separate application under File No. 70-2093) and further funds which may be obtained from the sale of First Mortgage Bonds or other securities later in the year, will be used in connection with the company's construction program, which is estimated to require the expenditure of approximately \$23,100,000 during the year 1949.

An amendment having been filed indicating that the company has obtained the affirmative vote of two-thirds of its outstanding preferred stock authorizing the amendment of its charter so as to increase the amount of unsecured indebtedness which the company may incur and also setting forth that the proposed transactions have been expressly authorized by the Public Service Commission of the State of Arkansas, the State Commission of the State in which Arkansas is organized and doing business; and

The application-declaration having been filed on March 18, 1949, and an amendment thereto having been filed on April 14, 1949, notice of said filing having been given in the form and manner prescribed by Rule U-23 promulgated pursuant to said act, and the Commission not having received a request for hearing within the time specified in said notice or otherwise and not having ordered a hearing thereon; and

It appearing to the Commission that the issuance and sale of the Debentures is exempt from the provisions of section 7 of the act by reason of the approval of the State Commission of the State in which Arkansas is organized and doing business and the Commission deeming it appropriate to grant said application without the imposition of terms and conditions other than those specified below, and the Commission further deeming it appropriate to grant applicant's request that the order herein become effective forthwith upon its issuance:

It is ordered, Pursuant to said Rule U-23 and subject to the terms and conditions contained in Rule U-24, that the application-declaration, as amended, be, and the same hereby is, granted and permitted to become effective forthwith, subject to the following conditions:

(1) That the proposed sale of the Debentures shall not be consummated until the results of competitive bidding pursuant to Rule U-50 shall have been made

a matter of record in this proceeding and a further order shall have been entered by the Commission in the light of the record so completed, which order may contain such terms and conditions as may then be deemed appropriate.

(2) That jurisdiction be reserved with respect to all fees and expenses to be paid in connection with the proposed transactions.

By the Commission.

[SEAL] ORVAL L. DUBOIS,
Secretary.

[F. R. Doc. 49-3117; Filed, Apr. 21, 1949;
8:46 a. m.]

[File No. 70-2069]

CAMBRIDGE ELECTRIC LIGHT Co.

NOTICE REGARDING FILING

At a regular session of the Securities and Exchange Commission, held at its office in the city of Washington, D. C., on the 18th day of April 1949.

Notice is hereby given that an application has been filed with this Commission pursuant to the Public Utility Holding Company Act of 1935 by Cambridge Electric Light Company ("Cambridge"), a subsidiary of New England Gas and Electric Association, a registered holding company. Applicant has designated section 6 (b) of the act as applicable to the proposed transaction.

Notice is further given that any interested person may, not later than April 26, 1949, at 5:30 p. m., e. d. s. t., request the Commission in writing that a hearing be held on such matter, stating the reasons for such request, the nature of his interest and the issues of fact or law raised by said application which he desires to controvert, or may request that he be notified if the Commission should order a hearing thereon. Any such request should be addressed: Secretary, Securities and Exchange Commission, 425 Second Street NW., Washington 25, D. C. At any time after April 26, 1949, said application, as filed, or as amended, may be granted as provided in Rule U-23 of the rules and regulations promulgated under the act, or the Commission may exempt such transaction as provided in Rules U-20 (a) and U-100 thereof.

All interested persons are referred to said application which is on file in the office of this Commission for a statement of the transaction therein proposed, which is summarized as follows:

Cambridge proposes to issue and sell, pursuant to the competitive bidding requirements of Rule U-50, \$2,750,000 principal amount of notes due 1974. The proceeds from the sale of said notes are to be used for the purpose of funding the following presently outstanding borrowings, the proceeds of which have been invested by Cambridge in its plant and property:

Notes payable—The First National Bank of Boston.....	\$1,750,000
Advance from plant replacement fund assets.....	1,000,000

Cambridge also proposes to increase the interest rate from 2½% to 3% on all or part of \$1,098,000 to be borrowed dur-

ing 1949 from the First National Bank of Boston under a General Loan Agreement, which borrowing under such agreement was heretofore permitted by order of this Commission dated December 18, 1947. Under the terms of said agreement, Cambridge covenanted that it would not, without prior written consent of the bank, incur any indebtedness other than the indebtedness covered by the said agreement. Cambridge states that the bank has given its written consent to the proposed issue and sale of notes and as a condition to such consent it is required that any borrowings made under the loan agreement subsequent to the sale of the notes shall be at an interest rate of 3% per annum.

The Department of Public Utilities of Massachusetts has approved the proposed issue and sale of notes and increase in interest rate on borrowings under the loan agreement subsequent to the issue and sale of notes.

By the Commission.

[SEAL] ORVAL L. DUBOIS,
Secretary.

[F. R. Doc. 49-3119; Filed, Apr. 21, 1949;
8:47 a. m.]

[File No. 70-2102]

KENTUCKY AND WEST VIRGINIA POWER CO.,
INC., AND AMERICAN GAS AND ELECTRIC
CO.

NOTICE OF FILING

At a regular session of the Securities and Exchange Commission held at its office in the city of Washington, D. C., on the 18th day of April A. D. 1949.

Notice is hereby given that Kentucky and West Virginia Power Company, Incorporated ("Kentucky"), an electric utility, and its parent, American Gas and Electric Company ("American"), a registered holding company, have filed a joint application-declaration pursuant to the Public Utility Holding Company Act of 1935 and have designated sections 6, 10 and 12 of the act and Rules U-42, 43, 44 and 50 of the rules and regulations promulgated thereunder as applicable to the proposed transactions which are summarized as follows:

Generally, the proposed transactions concern (a) the authorization by Kentucky of 440,000 additional shares of common stock and the issuance and delivery of 372,040 shares of such common stock to American in exchange for its presently outstanding First Mortgage Bonds and Preferred Stock, both issues being owned by American; (b) the issuance and sale by Kentucky to the public of \$10,000,000 principal amount of First Mortgage Bonds and (c) the prepayment without premium of \$5,500,000 principal amount of notes payable to banks.

Kentucky now has outstanding \$8,499,000 principal amount of First Mortgage Gold Bonds, 5% Series, due 1956; 8,020 shares of 6% Cumulative Preferred Stock of a par value of \$100 per share; and 133,821 shares of common stock having a par value of \$25 per share. All of these securities are owned by American.

American proposes to deliver to Kentucky all of said Bonds in exchange for 339,960 shares of common stock of Kentucky and all of said Preferred Stock in exchange for 32,080 shares of such common stock. Such common stock will be made available by a charter amendment increasing the amount of Kentucky's authorized common stock from 160,000 to 600,000 shares. The Bonds and Preferred Stocks delivered by American to Kentucky will be cancelled. Thereafter, a second charter amendment will be filed by Kentucky eliminating the authorized Preferred Stock and the present debt limitation. Kentucky proposes to issue and sell pursuant to the competitive bidding requirements of Rule U-50 \$10,000,000 principal amount of its First Mortgage Bonds, --% Series, due 1979. Said Bonds are to be issued under and secured by the company's Mortgage and Deed of Trust to be dated as of May 1, 1949.

The proceeds from the sale of the Bonds are to be applied, in part, to the prepayment without premium of \$5,500,000 principal amount of notes payable to banks due December 31, 1950. The application-declaration states that the remaining proceeds will be added to Kentucky's treasury funds and, together with other funds of Kentucky, will be used for construction purposes.

Applicants-declarants request that the period for competitive bidding be shortened so as to allow the receipt of bids pursuant to competitive bidding on May 3, 1949.

Applicants-declarants request that the Commission's order herein be issued as promptly as may be practicable and that it become effective forthwith upon the issuance thereof.

Notice is further given that any interested person may, not later than April 26, 1949, at 5:00 p. m., e. d. s. t., request the Commission in writing that a hearing be held on such matter, stating the nature of his interest, the reasons for such request and the issues, if any, of fact or law raised by said application-declaration which he desires to controvert, or may request that he be notified if the Commission should order a hearing thereon. Any such request should be addressed: Secretary, Securities and Exchange Commission, 425 Second Street NW., Washington 25, D. C. At any time after 5:00 p. m., e. d. s. t., April 26, 1949, said application-declaration, as filed or as amended, may be permitted to become effective as provided in Rule U-23 of the rules and regulations promulgated under said act, or the Commission may exempt such transactions as provided in Rule U-20 (a) and Rule U-100 thereof.

All interested persons are referred to said application-declaration which is on file with this Commission for a statement of the transactions therein proposed.

By the Commission.

[SEAL] ORVAL L. DUBOIS,
Secretary.

[F. R. Doc. 49-3118; Filed, Apr. 21, 1949;
8:46 a. m.]

DEPARTMENT OF JUSTICE

Office of Alien Property

AUTHORITY: 40 Stat. 411, 55 Stat. 839, Pub. Laws 322, 671, 79th Cong., 60 Stat. 50, 925; 50 U. S. C. and Supp. App. 1, 616, E. O. 9193, July 6, 1942, 3 CFR, Cum. Supp., E. O. 9567, June 8, 1945, 3 CFR, 1945 Supp., E. O. 9783, Oct. 14, 1946, 11 F. R. 11981.

[Vesting Order 13114]

ELLA M. ABELE

In re: Stock and bank account owned by Ella M. Abele also known as Ella May Abele and as Ella Abele and as Ella Abelle. F-28-9096-A-1/E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Ella M. Abele also known as Ella May Abele and as Ella Abele and as Ella Abelle, whose last known address is 8 Muehlstrasse, Suessen, Wuertemberg, Germany, is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows:

a. Fifty-six (56) shares of preferred capital stock of Flint Mortgage Company, evidenced by certificate numbered AP-183, registered in the name of Ella M. Abele, and presently in the custody of D. E. Newcombe, Jr., 13353 Orr's Point, Fenton, Michigan, together with all declared and unpaid dividends thereon,

b. Forty (40) shares of common capital stock of Flint Mortgage Company, evidenced by certificate numbered AC-193, registered in the name of Ella M. Abele, and presently in the custody of D. E. Newcombe, Jr., 13353 Orr's Point, Fenton, Michigan, together with all declared and unpaid dividends thereon, and

c. That certain debt or other obligation of Citizens Commercial & Savings Bank, Flint, Michigan, arising out of a savings account, account number 71722, entitled Ella Abele, D. E. Newcombe or Alletta Earle, Agents, maintained at the aforesaid bank, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, Ella M. Abele also known as Ella May Abele and as Ella Abele and as Ella Abelle, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3127; Filed, Apr. 21, 1949; 8:49 a. m.]

[Vesting Order 13028]

RICHARD HELLMANN AND TITLE GUARANTEE AND TRUST CO.

In re: Trust under agreement dated January 5, 1926, between Richard Hellmann, grantor, and Title Guarantee and Trust Company, trustee, as amended. File No. F-28-3627 G-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Paul Hellmann, whose last known address is Germany, is a resident of Germany and a national of a designated enemy country (Germany);
2. That the widow and children, names unknown, of Paul Hellmann, who there is reasonable cause to believe are residents of Germany, are nationals of a designated enemy country (Germany);
3. That all right, title, interest and claim of any kind or character whatsoever of the persons identified in subparagraphs 1 and 2 hereof, in and to and arising out of or under that certain trust agreement dated January 5, 1926, by and between Richard Hellmann, grantor, and Title Guarantee and Trust Company, trustee, as amended December 29, 1927 and February 15, 1928, presently being administered by Title Guarantee and Trust Company, as trustee, 176 Broadway, New York 7, New York,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid nationals of a designated enemy country (Germany);

and it is hereby determined:

4. That to the extent that the person named in subparagraph 1 hereof and the widow and children, names unknown, of Paul Hellmann are not within a designated enemy country, the national interest of the United States requires that such persons be treated as nationals of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on March 29, 1949.

For the Attorney General.

[SEAL] MALCOLM S. MASON,
Acting Deputy Director,
Office of Alien Property.

[F. R. Doc. 49-3125; Filed, Apr. 21, 1949; 8:49 a. m.]

[Vesting Order 13093]

CLAUS R. AND ELIZABETH STUEVEN

In re: Mortgage Participation Certificate No. 116984, Series F-8, issued to Claus R. Stueven and Elizabeth Stueven by Bond and Mortgage Guarantee Company, Issue No. 211579. File No. F-28-14255.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Claus R. Stueven and Elizabeth Stueven, whose last known address is Germany, are residents of Germany and nationals of a designated enemy country (Germany);
2. That all rights and interests evidenced by a Mortgage Participation Certificate No. 116984 issued and guaranteed by Bond and Mortgage Guarantee Company under guarantee No. 211579 and the right to transfer and possession of any and all instruments evidencing such rights and interest, is property payable or deliverable to, or claimed by the aforesaid nationals of a designated enemy country (Germany);
3. That such property is in the process of administration by Manufacturers Trust Company, as trustee, acting under the judicial supervision of the Supreme Court of the State of New York, County of Kings, New York;

and it is hereby determined:

4. That to the extent that the persons identified in subparagraph 1 hereof are not within a designated enemy country, the national interest of the United States requires that such persons be treated as nationals of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have

the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on March 30, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3126; Filed, Apr. 21, 1949; 8:49 a. m.]

[Vesting Order 13115]

ANNA AND ROSA ANTON

In re: Bank accounts owned by Anna Anton and Rosa Anton. F-28-29937-E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Anna Anton and Rosa Anton, whose last known address is Altenmittlau (County Gelnhausen), Sandweg 1, Germany, are residents of Germany and nationals of a designated enemy country (Germany);
2. That the property described as follows:
 - a. That certain debt or other obligation owing to Anna Anton, by the Germania Permanent Loan and Savings Association, Baltimore, Maryland, arising out of a free share account, account number 1235, entitled Anna Anton, maintained at the aforesaid loan and savings association, and any and all rights to demand, enforce and collect the same, and
 - b. That certain debt or other obligation owing to Rosa Anton, by the Germania Permanent Loan and Savings Association, Baltimore, Maryland, arising out of a free share account, account number 1468, entitled Rosa Anton, maintained at the aforesaid loan and savings association, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of, or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid nationals of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the persons named in subparagraph 1 hereof are not within a designated enemy country, the national interest of the United States requires that such persons be treated as nationals of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3128; Filed, Apr. 21, 1949;
8:49 a. m.]

[Vesting Order 13116]

WILHELM AND KATHERINA BARZEN

In re: Debt owing to Wilhelm Barzen and Katherina Barzen also known as Katherine Barzen. D-28-3773-G-1, F-28-9195, F-28-9196.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Wilhelm Barzen, whose last known address is Pagenstecher Str. 5, Wiesbaden, Germany, is a resident of Germany and a national of a designated enemy country (Germany);

2. That Katherina Barzen also known as Katherine Barzen, whose last known address is Reil, An Der Mosel, Germany, is a resident of Germany and a national of a designated enemy country (Germany);

3. That the property described as follows: That certain debt or other obligation of the First National Bank, 14 West 10th Street, Kansas City, Missouri, arising out of a special account entitled "Income Sub-Account No. 249 for Wilhelm and Katherina Barzen," maintained in the Trust Department of the aforesaid bank, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, Wilhelm Barzen and Katherina Barzen also known as Katherine Barzen, the aforesaid nationals of a designated enemy country (Germany);

and it is hereby determined:

4. That to the extent that the persons named in subparagraphs 1 and 2 hereof are not within a designated enemy country, the national interest of the United States requires that such persons be treated as nationals of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall

have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3129; Filed, Apr. 21, 1949;
8:49 a. m.]

[Vesting Order 13119]

ERICH BLUHM

In re: Stock owned by and debt owing to Erich Bluhm. F-63-2260-A-1, E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Erich Bluhm, whose last known address is Loschwitzerstrasse 7, Dresden-Blasewitz, Postleitzahl 10 a, Germany, is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows:

a. Thirty-four (34) shares of no par value common stock of the Montgomery Ward & Co., Inc., 619 W. Chicago Avenue, Chicago, Illinois, evidenced by certificates numbered 522655 and 176843, for four (4) and thirty (30) shares, respectively, registered in the name of Hurley & Co., 55 Wall Street, New York, New York, and presently in the custody of The National City Bank of New York, 55 Wall Street, New York, New York, in an account of Banque Cantonale des Grisons, Coire, Switzerland, together with all declared and unpaid dividends thereon,

b. One Hundred Twenty-five (125) shares of no par value common stock of the General Cigar Company, Inc., 119 W. 40th Street, New York, New York, evidenced by certificates numbered 29493 and 23080 for Twenty-five (25) and One Hundred (100) shares, respectively, registered in the name of Hurley & Co., 55 Wall Street, New York, New York, and presently in the custody of The National City Bank of New York, 55 Wall Street, New York, New York, in an account of Banque Cantonale des Grisons, Coire, Switzerland, together with all declared and unpaid dividends thereon,

c. Nine and Fifty-eight one hundredths (9.58) of a share of \$100 no par value common stock of the Sheraton Corporation of America, 31 State Street, Boston 9, Massachusetts, a corporation organized under the laws of the State of New Jersey, evidenced by a certificate numbered 50159 for Twenty-five (25) shares of no par value common stock of the United States Realty & Improvement Co., registered in the name of Hurley and Co., 55 Wall Street, New York, New York, and presently in the custody of The National City Bank of New York, 55 Wall Street, New York, New York, in an account of Banque Cantonale des Grisons, Coire, Switzerland, together with all declared and unpaid dividends

thereon, and any and all rights to exchange the aforesaid certificate for a new certificate for shares of \$100 par value common stock of the Sheraton Corporation of America, and

d. That certain debt or other obligation of The National City Bank of New York, 55 Wall Street, New York, New York, in the amount of \$1,148.26 as of February 8, 1949 on deposit in an account entitled "Banque Cantonale des Grisons, General Ruling No. 6 Account Coire, Switzerland", together with any and all accruals thereto and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, Erich Bluhm, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3130; Filed, Apr. 21, 1949;
8:49 a. m.]

[Vesting Order 13120]

CHARLOTTE BUTZKE

In re: Debt owing to Charlotte Butzke. F-28-29628-C-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Charlotte Butzke, whose last known address is Nuernberg, Tilatyrstr 49 IV., c/o Baier, Deutschland, is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows: That certain debt or other obligation owing to Charlotte Butzke, by Freston & Files, 650 South Spring Street, Los Angeles 14, California, in the amount of \$243.33, as of December 31, 1945, together with any and all accruals thereto, and

any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3131; Filed, Apr. 21, 1949; 8:50 a. m.]

[Vesting Order 13121]

GESELLSCHAFT ZUR VORBEREITUNG DES
DEUTSCHEN VOLKSWAGENS

In re: Debt owing to Gesellschaft Zur Vorbereitung Des Deutschen Volkswagens, also known as Volkswagen Gesellschaft. F-28-6984-C-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Gesellschaft Zur Vorbereitung Des Deutschen Volkswagens also known as Volkswagen Gesellschaft, the last known address of which is 24 Kronenstrasse, Stuttgart, N. Germany, is a corporation, partnership, association or other business organization, organized under the laws of Germany, and which has or, since the effective date of Executive Order 8389, as amended, has had its principal place of business in Stuttgart, Germany and is a national of a designated enemy country (Germany);

2. That the property described as follows: That certain debt or other obligation owing to Gesellschaft Zur Vorbereitung Des Deutschen Volkswagens also known as Volkswagen Gesellschaft, by The Bullard Company, 286 Canfield Avenue, Bridgeport 2, Connecticut, in the amount of \$26,128.52 as of January 19,

1949, together with any and all accruals thereto and any and all rights to demand, enforce and collect the same.

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person referred to in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3132; Filed, Apr. 21, 1949; 8:50 a. m.]

[Vesting Order 13122]

LENA GODECKE

In re: Bank account owned by Lena Godecke, also known as Lena Goedecke. F-28-8103-C-1, E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Lena Godecke, also known as Lena Goedecke, whose last known address is Ritterhude-vei, Bremen, Germany, Schulstrass, is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows: That certain debt or other obligation of The East New York Savings Bank, 2644 Atlantic Avenue, Brooklyn 7, New York, arising out of a savings account, account number 214987, entitled J. Edwin Fries in trust for Lena Godecke, maintained at the aforesaid bank, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, Lena Godecke, also known as Lena Goedecke, the afore-

said national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3133; Filed, Apr. 21, 1949; 8:50 a. m.]

[Vesting Order 13123]

PAUL HUISSSEL

In re: Bank account owned by the personal representatives, heirs, next of kin, legatees and distributees of Paul Huissel, deceased. D-28-12430-E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That the personal representatives, heirs, next of kin, legatees and distributees of Paul Huissel, deceased, who there is reasonable cause to believe are residents of Germany, are nationals of a designated enemy country (Germany);

2. That the property described as follows: That certain debt or other obligation of The Manufacturers Trust Company of New York, 55 Broad Street, New York 15, New York, arising out of a Special Interest Dept. Account, account number Y 192386, entitled Paul Huissel, maintained at the branch office of the aforesaid bank located at 1511 Third Avenue, New York, New York, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the personal representatives, heirs, next of kin, legatees and distributees of Paul Huissel, deceased, the aforesaid nationals of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the personal representatives, heirs, next of kin, legatees and distributees of Paul Huissel, deceased, are not within a designated enemy country, the national interest of the United States requires that such persons be treated as nationals of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3134; Filed, Apr. 21, 1949;
8:50 a. m.]

[Vesting Order 13124]

NOMURA JIMUSHO

In re: Debt owing to Nomura Jimusho. F-39-2160-C-3.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Nomura Jimusho, the last known address of which is Maranouchi Building, Tokyo, Japan, is a corporation, partnership, association or other business organization, organized under the laws of Japan, and which has or, since the effective date of Executive Order 8389, as amended, has had its principal place of business in Japan, and is a national of a designated enemy country (Japan);

2. That the property described as follows: That certain debt or other obligation owing to Nomura Jimusho, by California Texas Oil Company (Overseas), Limited, 551 Fifth Avenue, New York 17, New York, in the amount of \$331.87, as of December 31, 1945, together with any and all accruals thereto and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid national of a designated enemy country (Japan);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a

national of a designated enemy country (Japan).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3135; Filed, Apr. 21, 1949;
8:50 a. m.]

WILLIAM BRUNO KOHLER

[Vesting Order 13125]

In re: Voting Trust Certificate owned by William Bruno Kohler. F-28-23177-D-2.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That William Bruno Kohler, whose last known address is Palmstr. 16 Chemnitz, Germany is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows: All rights and interests evidenced by one (1) voting trust certificate for 2½ shares of prior preferred stock of Oregon Paramount Corporation, Portland, Oregon, a corporation organized under the laws of the State of Oregon, said voting trust certificate bearing the number 489, registered in the name of William Bruno Kohler,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or

otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3136; Filed, Apr. 21, 1949;
8:50 a. m.]

[Vesting Order 13126]

LOTHAR KRUGEL

In re: Debt owing to Lothar Krugel. F-28-29655-C-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Lothar Krugel, whose last known address is Germany, is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows: That certain debt or other obligation owing to Lothar Krugel, by Radio Corporation of America, RCA Laboratories Division, Princeton, New Jersey, in the amount of \$200.00, as of December 31, 1945, together with any and all accruals thereto, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3137; Filed, Apr. 21, 1949;
8:50 a. m.]

[Vesting Order 13131]

BERTHA PFUTZENREUTER

In re: Stock owned by Bertha Pfeutzenreuter, also known as Bertha Hartmann Pfeutzenreuter and as Bertha Pfutzenreuter. F-28-23465-D-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Bertha Pfeutzenreuter, also known as Bertha Hartmann Pfeutzenreuter and as Bertha Pfutzenreuter, whose last known address is 10 Regierung Strasse, Erfurt 15, Germany, is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows:

a. Thirty (30) shares of \$10 par value common capital stock of The North American Company, 60 Broadway, New York 4, New York, a corporation organized under the laws of the State of New Jersey, evidenced by a certificate numbered M 355, registered in the name of Ada Hartmann, in trust as trustee for Bertha Pfutzenreuter, and presently in the custody of the Attorney General of the United States, together with all declared and unpaid dividends thereon, and

b. Six (6) shares of \$50 par value 6 percent cumulative preferred stock of The North American Company, 60 Broadway, New York 4, New York, a corporation organized under the laws of the State of New Jersey, evidenced by a certificate numbered F 1294, registered in the name of Ada Hartmann, in trust as trustee, for Bertha Pfutzenreuter, and presently in the custody of the Attorney General of the United States, together with all declared and unpaid dividends thereon, and any and all rights to the proceeds of redemption thereof,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, Bertha Pfeutzenreuter, also known as Bertha Hartmann Pfeutzenreuter and as Bertha Pfutzenreuter, the aforesaid national of a designated enemy country (Germany),

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have

the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3138; Filed, Apr. 21, 1949;
8:50 a. m.]

[Vesting Order 13133]

CARL SCHACHT

In re: Bank account owned by Carl Schacht. F-28-8619-E-1; F-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Carl Schacht, whose last known address is über Halle Westfalen, Germany, is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows: That certain debt or other obligation owing to Carl Schacht, by Farmers Bank of Carson Valley, Inc., Minden, Nevada, arising out of a Savings Account, account number 593, entitled Carl Schacht, maintained at the aforesaid bank, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3140; Filed, Apr. 21, 1949;
8:50 a. m.]

[Vesting Order 13132]

M. AND MRS. EILEEN SAEGUSA

In re: Bank account owned by M. Saegusa and Mrs. Eileen Saegusa. F-39-4537-E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That M. Saegusa and Mrs. Eileen Saegusa, whose last known address is 859-3 Chome Setakaya, Kamikitazawamachi, Tokyo, Japan, are residents of Japan and nationals of a designated enemy country (Japan);

2. That the property described as follows: That certain debt or other obligation of Wells Fargo Bank & Union Trust Co., 4 Montgomery Street, San Francisco, California, arising out of a savings account, account number 2994, entitled M. Saegusa or Mrs. Eileen Saegusa, maintained at the aforesaid bank, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, M. Saegusa and Mrs. Eileen Saegusa, the aforesaid nationals of a designated enemy country (Japan);

and it is hereby determined:

3. That to the extent that the persons named in subparagraph 1 hereof are not within a designated enemy country, the national interest of the United States requires that such persons be treated as nationals of a designated enemy country (Japan).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3139; Filed, Apr. 21, 1949;
8:50 a. m.]

[Vesting Order 13136]

KUNO VON ELTZ

In re: Bank account owned by Kuno Von Eltz, also known as K. von Eltz. D-28-6319-E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Exec-

utive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Kuno Von Eltz, also known as K. von Eltz, whose last known address is 7 Vor Dem Leetor, Linz am Rhein, Germany, is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows: That certain debt or other obligation owing to Kuno Von Eltz, also known as K. von Eltz, by The Chase National Bank of the City of New York, 18 Pine Street, New York 5, New York, arising out of a checking account, entitled K. von Eltz, maintained at the Garfield branch office of the aforesaid bank located at 5th Avenue at 23d Street, New York, New York, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3141; Filed, Apr. 21, 1949; 8:51 a. m.]

[Vesting Order 13137]

WALTER WEBER

In re: Bank account owned by Walter Weber, also known as Walther Weber and as Walther Hermann Weber. F-28-7949-A-1, F-28-7949-E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Walter Weber, also known as Walther Weber and as Walther Hermann Weber, whose last known address is Germany, is a resident of Germany

and a national of a designated enemy country (Germany);

2. That the property described as follows:

That certain debt or other obligation owing to Walter Weber, also known as Walther Weber and as Walther Hermann Weber, by The Chase National Bank of the City of New York, 18 Pine Street, New York, New York, arising out of a special account entitled Walter Weber, maintained in the Trust Department of the aforesaid bank, and any and all rights to demand, enforce and collect the same, is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3142; Filed, Apr. 21, 1949; 8:51 a. m.]

[Vesting Order 13138]

GERTRUDE WILKEN

In re: Bank account owned by Gertrude Wilken. F-28-29439-E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Gertrude Wilken, whose last known address is Rustingen Oldenberg, Germany, is a resident of Germany and a national of a designated enemy country (Germany);

2. That the property described as follows: That certain debt or other obligation of Manufacturers Bank & Trust Company of Saint Louis, 1731 South Broadway, Saint Louis 4, Missouri, arising out of an account entitled Lafayette-South Side Bank & Trust Company, Trustee under the Will of Julius Anton

Wilken, Deceased, maintained at the aforesaid bank and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, Gertrude Wilken, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the person named in subparagraph 1 hereof is not within a designated enemy country, the national interest of the United States requires that such person be treated as a national of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3143; Filed, Apr. 21, 1949; 8:51 a. m.]

[Vesting Order 13139]

CARL WILLER AND MARGARETHA ROSSKOPF

In re: Bank accounts owned by Carl Willer and Margaretha Roszkopf. F-28-29630-E-1, F-28-29964-E-1.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That Carl Willer, whose last known address is Gerbergasse 4, Kempten, Allgau, Germany, and Margaretha Roszkopf, whose last known address is Neurneberg A. Altersheim, Heilig-Geist Spital, Spitalgasse 14, Germany, are residents of Germany and nationals of a designated enemy country (Germany);

2. That the property described as follows: That certain debt or other obligation owing to Carl Willer, by Bank of America National Trust and Savings Association, 660 South Spring Street, Los Angeles, California, arising out of a savings account, account number 18531, entitled Carl Willer, maintained at the branch office of the aforesaid bank, located at 8th and J Streets, Sacramento, California, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or de-

liverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, Carl Willer, the aforesaid national of a designated enemy country (Germany);

3. That the property described as follows: That certain debt or other obligation owing to Margaretha Rosskopf, by Bank of America National Trust and Savings Association, 660 South Spring Street, Los Angeles, California, arising out of a savings account, account number 18532, entitled Margaretha Rosskopf, maintained at the branch office of the aforesaid bank, located at 8th and J Streets, Sacramento, California, and any and all rights to demand, enforce and collect the same,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, Margaretha Rosskopf, the aforesaid national of a designated enemy country (Germany);

and it is hereby determined:

4. That to the extent that the persons named in subparagraph 1 hereof are not within a designated enemy country, the national interest of the United States requires that such persons be treated as nationals of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 12, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3144; Filed, Apr. 21, 1949; 8:51 a. m.]

[Vesting Order 13145]

ROSE HERRLING

In re: Estate of Rose Herrling, also known as Mrs. Rose Sheffold, deceased. File No. D-28-12601; E. T. sec. 16791.

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That "John" Baun (the name "John" being fictitious, his true first name being unknown), and "Mary" Moeck (the name "Mary" being fictitious, her true first name being unknown), whose last known address is Germany, are residents of Germany and

nationals of a designated enemy country (Germany);

2. That all right, title, interest and claim of any kind or character whatsoever of the persons named in subparagraph 1 hereof, and each of them, in and to the estate of Rose Herrling, also known as Mrs. Rose Sheffold, deceased, is property payable or deliverable to, or claimed by, the aforesaid nationals of a designated enemy country (Germany);

3. That such property is in the process of administration by James W. Brown, Public Administrator of Bronx County, as Administrator, acting under the judicial supervision of the Surrogate's Court of Bronx County, New York;

and it is hereby determined:

4. That to the extent that the persons named in subparagraph 1 hereof are not within a designated enemy country, the national interest of the United States requires that such persons be treated as nationals of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described above, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C., on April 13, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3145; Filed, Apr. 21, 1949; 8:51 a. m.]

[Vesting Order 13062]

DAS DIKTAT DER MENSCHENVERACHTUNG

Under the authority of the Trading With the Enemy Act, as amended, Executive Order No. 9193, as amended, and Executive Order No. 9788, and pursuant to law, after investigation, it is hereby found:

1. That Alexander Mitscherlich, Fred Mielke and Lambert Schneider, each of whose last known address is Heidelberg, Germany, are residents of Germany and are nationals of a designated enemy country (Germany);

2. That all right, title, interest and claim of whatsoever kind or nature under the statutory and common law of the United States and of the several states, possessions and territories thereof, in, to and under the following:

(a) Every right, copyright, claim of copyright, right to copyright, and right to renewal of copyright in the work *Das Diktat Der Menschenverachtung*, written by Alexander Mitscherlich and Fred Mielke and published by Lambert Schneider, and in all of the works subject to

copyright incorporated in said work to the extent embodied therein.

(b) All causes of action accrued or to accrue at law or in equity with respect to the foregoing, including, but not limited to, the right to sue for and recover all damages and profits and to request and receive the benefits of all remedies provided by common law or statute for the infringement of any copyright, or the violation of any right, described in or affecting the foregoing,

is property within the United States owned or controlled by, payable or deliverable to, held on behalf of or on account of, or owing to, or which is evidence of ownership or control by, the aforesaid nationals of a designated enemy country (Germany) and is property of, and is property payable or held with respect to copyrights or rights related thereto in which interests are held by, and such property itself constitutes interests held by, the aforesaid nationals of a designated enemy country (Germany);

and it is hereby determined:

3. That to the extent that the persons referred to in subparagraph 1 hereof are not within a designated enemy country, the national interest of the United States requires that such persons be treated as nationals of a designated enemy country (Germany).

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described in subparagraph 2 hereof, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The terms "national" and "designated enemy country" as used herein shall have the meanings prescribed in section 10 of Executive Order No. 9193, as amended.

Executed at Washington, D. C., on March 30, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

[F. R. Doc. 49-3146; Filed, Apr. 21, 1949; 8:51 a. m.]

[Vesting Order 500A-251]

COPYRIGHTS OF CERTAIN GERMAN NATIONALS

Under the authority of the Trading With the Enemy Act, as amended, Executive Order 9193, as amended, and Executive Order 9788, and pursuant to law, after investigation, it is hereby found:

1. That the persons (including individuals, partnerships, associations, corporations or other business organizations) referred to or named in Column 5 of Exhibit A attached hereto and made a part hereof and whose last known addresses are listed in said Exhibit A as being in a foreign country (the names

of which persons are listed (a) in Column 3 of said Exhibit A as the authors of the works, the titles of which are listed in Column 2, and the copyright numbers, if any, of which are listed in Column 1, respectively, of said Exhibit A, and/or (b) in Column 4 of said Exhibit A as the owners of the copyrights, the numbers, if any, of which are listed in Column 1, and covering works the titles of which are listed in Column 2, respectively, of said Exhibit A, and/or (c) in Column 5 of said Exhibit A as others owning or claiming interests in such copyrights) are residents of, or are organized under the laws of, or have their principal places of business in, such foreign country and are nationals thereof;

2. That all right, title, interest and claim of whatsoever kind or nature, under the statutory and common law of the United States and of the several States thereof, of the persons referred to in Column 5 of said Exhibit A, and also of all other persons (including individuals, partnerships, associations, corporations or other business organizations), whether or not named elsewhere in this Order including said Exhibit A, who are residents of, or which are organized under the laws of or have their principal places of business in, Germany or Japan, and are nationals of such foreign countries, in, to and under the following:

(a) The copyrights, if any, described in said Exhibit A,

(b) Every copyright, claim of copyright and right to copyright in the works described in said Exhibit A and in every issue, edition, publication, republication, translation, arrangement, dramatization and revision thereof, in whole or in part, of whatsoever kind or nature, and of all other works designated by the titles therein set forth, whether or not filed with the Register of Copyrights or otherwise asserted, and whether or not specifically designated by copyright number,

(c) Every license, agreement, privilege, power and right of whatsoever nature arising under or with respect to the foregoing,

(d) All monies and amounts, and all rights to receive monies and amounts, by way of royalty, share of profits or other emolument, accrued or to accrue, whether arising pursuant to law, contract arising under or with respect to the foregoing,

(e) All rights of renewal, reversion or reversioning, if any, in the foregoing, and

(f) All causes of action accrued or to accrue at law or in equity with respect to the foregoing, including but not limited to the rights to sue for and recover all damages and profits and to request and receive the benefits of all remedies provided by common law or statute for the

infringement of any copyright or the violation of any right or the breach of any obligation described in or affecting the foregoing,

is property of, and is property payable or held with respect to copyrights or rights related thereto in which interests are held by, and such property itself constitutes interests held therein by, the aforesaid nationals of foreign countries.

All determinations and all action required by law, including appropriate consultation and certification, having been made and taken, and, it being deemed necessary in the national interest,

There is hereby vested in the Attorney General of the United States the property described in subparagraph 2 hereof, to be held, used, administered, liquidated, sold or otherwise dealt with in the interest of and for the benefit of the United States.

The term "national" as used herein shall have the meaning prescribed in section 10 of Executive Order 9193, as amended.

Executed at Washington, D. C. on March 30, 1949.

For the Attorney General.

[SEAL] DAVID L. BAZELON,
Assistant Attorney General,
Director, Office of Alien Property.

EXHIBIT A

Column 1	Column 2	Column 3	Column 4	Column 5
Copyright numbers	Titles of works	Names and last known nationalities of authors	Names and last known addresses of owners of copyrights	Identified persons whose interests are being vested
Unknown	Handbuch der Mikroskopischen Anatomie des Menschen (the several volumes, and parts, of which are as follows):	Wilhelm v. Mollendorff (editor) (nationality not established).	Verlag von Julius Springer, Berlin, Germany (nationality, German).	Owner.
Do	Erster Band, Die Lebendige Masse; Erster Teil, Allgemeine Mikroskopische Anatomie und Organisation der Lebendigen Masse. 1929.	do	do	Do.
Do	Erster Band, Die Lebendige Masse; Zweiter Teil, Wachstum und Vermehrung der Lebendigen Masse. 1929.	do	do	Do.
Do	Zweiter Band, Die Gewebe; Erster Teil, Epithel- und Drüsen-gewebe, Bindegewebe und Blutbildende Gewebe, Blut. 1927.	do	do	Do.
Do	Zweiter Band, Die Gewebe; Zweiter Teil, Stützgewebe, Knochen-gewebe, Skelettsystem. 1930.	do	do	Do.
Do	Zweiter Band, Die Gewebe; Dritter Teil, Gewebe und Systeme der Muskulatur. 1931.	do	do	Do.
Do	Dritter Band, Haut und Sinnesorgane; Erster Teil, Haut, Milchdrüse, Geruchsorgan, Geschmacksorgan, Gehörorgan. 1927.	do	do	Do.
Do	Dritter Band, Haut und Sinnesorgane; Zweiter Teil, Auge. 1936.	do	do	Do.
Do	Vierter Band, Nervensystem; Erster Teil, Nervengewebe, das Peripherische Nervensystem, das Zentralnervensystem. 1928.	do	do	Do.
Do	Fünfter Band, Verdauungsapparat; Erster Teil, Mundhöhle, Speicheldrüsen, Tonsillen Rachen, Speiseröhre, Serosa. 1927.	do	do	Do.
Do	Fünfter Band, Verdauungsapparat; Zweiter Teil, Magen, Leber, Gallenwege. 1932.	do	do	Do.
Do	Fünfter Band, Verdauungsapparat; Dritter Teil: Zähne, Darm, Atmungsapparat. 1936.	do	do	Do.
Do	Sechster Band, Blutgefäß- und Lymphgefäßapparat, Atmungsapparat und Innersekretorische Drüsen; Erster Teil, Blutgefäße und Herz, Lymphgefäße und Lymphatische Organe, Milz. 1930.	do	do	Do.
Do	Sechster Band, Blutgefäß- und Lymphgefäßapparat, Innersekretorische Drüsen; Zweiter Teil, Innersekretorische Drüsen I, Schilddrüse, Epithelkörperchen Langerhanssche Inseln. 1939.	do	do	Do.
Do	Sechster Band, Blutgefäß- und Lymphgefäßapparat Innersekretorische Drüsen; Dritter Teil, Innersekretorische Drüsen II, Hypophyse. 1940.	do	do	Do.
Do	Sechster Band, Blutgefäß- und Lymphgefäßapparat Innersekretorische Drüsen; Vierter Teil, Innersekretorische Drüsen III, Thymus, Paraganglien, Epiphyse, Lymphgefäßapparat Ergänzung zu Band VI/I. 1943.	do	Springer-Verlag, Berlin, Germany, (nationality, German).	Do.
Do	Siebenter Band, Harn- und Geschlechtsapparat; Erster Teil, Exkretionsapparat und Weibliche Genitalorgane. 1930.	do	Verlag von Julius Springer, Berlin, Germany (nationality, German).	Do.
Do	Siebenter Band, Harn- und Geschlechtsapparat; Zweiter Teil, Männliche, Genitalorgane. 1930.	do	do	Do.