GOVERNMENT-REJECTED CONSUMER ITEMS

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON GOVERNMENT OPERATIONS HOUSE OF REPRESENTATIVES

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SPECIAL INQUIRY ON CONSUMER REPRESENTATION IN THE FEDERAL GOVERNMENT

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APPENDIX

GOVERNMENT-REJECTED CONSUMER ITEMS

TUESDAY, APRIL 2, 1968

HOUSE OF REPRESENTATIVES,
SPECIAL CONSUMER INQUIRY,
SPECIAL STUDIES SUBCOMMITTEE
OF THE COMMITTEE ON GOVERNMENT OPERATIONS,
Washington D.C.

The subcommittee met at 10 a.m. in room 2203, Rayburn House Office Building, Hon. Benjamin S. Rosenthal presiding.

Present: Representatives Rosenthal, Gallagher, Wydler, and Myers.

Also present: Peter S. Barash, professional staff member in charge; I. Warren Harrison, professional staff; and Dolores L. Fel'Dotto, clerk (Special Inquiry on Consumer Representation in the Federal Government).

Mr. ROSENTHAL. The subcommittee will be in session.

For several months the Special Consumer Inquiry has been examining into the sale to consumers of products intended for use by Federal departments and agencies, but rejected because of a failure to meet specifications and standards.

Our preliminary investigation indicates that numerous products rejected by the Government for reasons which cast doubt on their fitness and suitability for private consumer use frequently find their way into normal commercial channels and that consumers purchasing such products are likely to sustain economic loss and, in some instances, may even be subjected to possible health hazards.

Approximately 60 percent of those contractors queried by the committee reported the sale of their Government-rejected items into normal commercial channels.

We are not unmindful of the fact that Government specifications on some consumer-type items reflect a performance standard more stringent and demanding than that found in products sold directly to consumers and that the rejection and resale of such items probably would not pose any difficulties for consumers.

But it is also a fact that the performance requirements set by the Government for many consumer items are identical or substantially similar to that regularly found in products in normal commercial channels, and that the rejection and resale of such items could result in an economic loss to consumers.

We are particularly concerned about the continuing influx into the private marketplace of Government-rejected consumer items in containers or cartons which make reference to Federal agencies, programs, or specifications and which thereby suggest U.S. Government endorsement of the product. Presently, only one of the several major procure-

ment agencies, the U.S. Department of Agriculture, has procedures which prohibit resale in such containers.

The largest number of Government-rejected items, however, enter commercial channels under private labels or brand names. Unlike rejected items sold through most department stores as "seconds" and "irregulars," these items are sold to consumers without any notice of the fact of previous Government rejection. The question of whether such sales violate any laws of the United States will be discussed by officials of the Food and Drug Administration this morning and has already been considered in a letter from the Federal Trade Commission.

(The FTC letter is printed in the appendix to this hearing.)

Mr. ROSENTHAL. While all the sales described have resulted from actions taken by Government contractors, we have also uncovered instances in which an agency of the Federal Government has itself sold consumer items into normal commercial channels when it knew or should have known that they were or would become of low quality.

What may even be more important is that no procedures presently exist within the Federal Government which require that procurement agencies rejecting food and drug items for reasons relating to the wholesomeness or safety of the product report such rejections to other Federal agencies legally responsible for safeguarding the public health and safety.

The establishment of such procedures would reduce substantially the likelihood of such sales without appropriate Government scrutiny.

Finally we will consider the sale by "surplus stores" of products intentionally dressed up to look like military surplus, but which are, in reality, low-quality imitations.

The question which concerns me ultimately is why the Federal Government should be more diligent in protecting itself as a consumer of goods than it is in protecting private consumers who may unknowingly purchase items substandard to both governmental and private needs. For the American consumer must look with some astonishment, as I do, upon a Federal consumer-protection scene characterized at one and the same time:

By a Congress which enacts strong consumer-protection measures while executive agencies reject food items that may be of low quality or possibly unwholesome and watch in silence their sale to private consumers;

By a Food and Drug Administration which scrupulously enforces drug-safety laws yet is frequently unaware of the rejection of possible unsafe drugs by sister agencies;

By administration demands for more honest labeling and more forthright advertising while most Federal agencies permit the sale to the public of rejected items in Government containers.

Now, annexed to the statement are a number of examples. On the first page are examples of items sold directly by the Defense Supply Agency into normal commercial channels. On pages 2, 3, 4, and 5 are representative samples of items rejected by Federal agencies and sold into commercial channels by the contractor whose product had been offered to but rejected by the Government.

(The information referred to follows:)

Items Sold Into Commercial Channels by Defense Supply Agency

EXAMPLE 1

1. Item: Roasted and ground coffee.
2. Quantity: 626,371 pounds.
3. Contractor: H. H. Hixson & Co., Chicago, Ill.
4. Nature of product when sold into commercial channels: This commodity had a harsh, bitter taste due to presence of a cheap coffee bean. Upon inspection, dust and particles were found to be present in the coffee. The coffee was also stale and cans were short weight. Five years elapsed between date of purchase (1962–63) and date of sale (1967).

EXAMPLE 2

1. Item: Aerosol insecticide.
2. Quantity: Unknown.
3. Contractor: Pennsylvania Engineering Co., Philadelphia, Pa.
4. Nature of product when sold into commercial channels: Container pressure ranged from 61 to 76 pounds per square inch gage. Such variations would not be deemed acceptable under current filling practices. At dosage indicated on the label the product was effective against mosquitoes only. This bug bomb would be of little, if any, practicable use to the general public. Last inspected in 1945.

EXAMPLE 3

1. Item: Emergency drinking water in sealed cans.
2. Quantity: Unknown.
3. Contractor: MacDonald-Vernier Co., Boston, Mass.
4. Nature of product when sold into commercial channels: Iron concentrations in samples exceeded U.S. Public Health Service Standard. Samples were rust colored. The quality of the water was sub-standard as noted in a letter from the District of Columbia Department of Public Health. "There are no benefits to be derived from the consumption of this water as a substitute for the safe and palatable water available from the spigot." This product was canned in October 1953.

Representative Examples of Items Rejected by Federal Agencies and Sold Into Commercial Channels

EXAMPLE 1

1. Item: Precooked frozen meals (Swiss steak with gravy, beef pot roast with gravy, waffles, pork and beef sausages).
2. Quantity: 18,563 meals.
3. Rejecting agency: Defense Supply Agency (DSA).
4. Contractor: Continental Baking Co.; Morton Frozen Food Division.
5. Reason for rejection: Standard plate counts, coliform counts in excess of military specifications. Some lots contained prohibited bacteria (*Faecal Coliform*).

EXAMPLE 2

1. Item: Ham, canned, chilled.
2. Quantity: 14,013 pounds.
3. Rejecting agency: Defense Supply Agency.
4. Contractor: Agar Packing Co., Chicago, Ill.
5. Reason for rejection: Statistical sample inspection of end product exceeded specification requirement pertaining to drained weight (not to exceed 14 percent). Half of the cans examined contained 15–20 percent liquid, gelatine and rendered fat. Commercial standard for drained weight is generally between 8–10 percent.

EXAMPLE 3

1. Item: Salad dressing.
2. Quantity: 1,152 cases.
3. Rejecting agency: Defense Supply Agency.
4. Contractor: C. H. B. Foods, Pico Rivera, Calif.
5. Reason for rejection: Product failed the laboratory test pertaining to the "cold test." The cold test measures the degree of refinement applied to the vegetable oil component. The military requirement is quite restrictive in order to satisfy special military needs.

Note: The manufacturer advised us that peroxide was present in excess of Federal and State Government and most commercial requirements. The presence of peroxide is an indication of the beginning of rancidity and could result in a reduced shelf life.

EXAMPLE 4

1. Item: Beef with spiced sauce.
2. Quantity: 78,144 cans.
3. Rejecting agency: Defense Supply Agency.
4. Contractor: Tony Downs Food Co., Madelis, Minn.
5. Reason for rejection: Product failed laboratory analysis for maximum fat content. Requirement not to exceed 15 percent. Twenty percent of cans sampled, analyzed between 16.1 and 26.1 percent.

EXAMPLE 5

1. Item: Men's cotton trousers—poplin.
2. Quantity: 450 pair.
3. Rejecting agency: Defense Supply Agency.
4. Contractor: I. A. Goodman, Inc., San Diego, Calif.
5. Reason for rejection: Faulty bar tacks, pockets out of alinement, stitch run-off, irrepairable machine damage (needle chews, tears, and cuts).

EXAMPLE 6

1. Item: Ground beef (utility grade).
2. Quantity: 26,730 pounds.
3. Rejecting agency: U.S. Department of Agriculture.
4. Contractor: City Packing Co., Fort Worth, Tex.
5. Reason for rejection: Improper packaging, damaged containers, evidence of defrosting.

EXAMPLE 7

1. Item: Frozen turkeys.
2. Quantity: 30,000 pounds.
3. Rejecting agency: U.S. Department of Agriculture.
4. Contractor: Farmers Produce Co., Willmar, Minn.
5. Reason for rejection: Temperature of commodity exceeded contract specifications. Defrosting was noted.

EXAMPLE 8

1. Item: Frozen turkeys.
2. Quantity: 30,000 pounds
3. Rejecting agency: U.S. Department of Agriculture.
4. Contractor: Vilas and Co., Storm Lake, Iowa.
5. Reason for rejection: Temperature of commodity exceeded contract specifications. Defrosting was noted.

EXAMPLE 9

1. Item: Frozen turkeys.
2. Quantity: 30,000 pounds.
3. Rejecting agency: U.S. Department of Agriculture.
4. Contractor: Armour and Co., Chicago, Ill.
5. Reason for rejection: Temperature of commodity exceeded contract specifications. Defrosting was noted.

EXAMPLE 10

1. Item: Margarine.
2. Quantity: 23,940 pounds.
3. Rejecting agency: U.S. Department of Agriculture.
4. Contractor: Miami Margarine Co., Cincinnati, Ohio.
5. Reason for rejection: Potassium sorbate, a mold inhibitor and preservative had not been added to this product, as required by USDA contract specifications.

Note: No other preservative was added as far as USDA knows. Shelf life could be reduced.

EXAMPLE 11

1. Item: Frozen chickens.
2. Quantity: 36,000 pounds.
3. Rejecting agency: U.S. Department of Agriculture.
4. Contractor: Gold Kist Poultry Growers, Boaz, Ala.
5. Reason for rejection: Temperature of commodity exceeded contract specifications. Defrosting was noted.

EXAMPLE 12

1. Item: Felt tip markers.
2. Quantity: 1,200 dozen.
3. Rejecting agency: General Services Administration.
4. Contractor: Alperstein Brothers, Washington, D.C.
5. Reason for rejection: Markers rejected because of excessive leakage. GSA weight loss requirement is 1 milligram maximum. These markers registered 1.8 milligram and all leaked.

Mr. ROSENTHAL. Our first witness this morning will be Dr. James L. Goddard, Commissioner of the Food and Drug Administration. Dr. Goddard.

STATEMENT OF DR. JAMES L. GODDARD, COMMISSIONER, FOOD AND DRUG ADMINISTRATION; ACCOMPANIED BY WILLIAM W. GOODRICH, GENERAL COUNSEL; AND ALFRED BARNARD, CHIEF, BUREAU OF REGULATORY COMPLIANCE

Dr. GODDARD. Mr. Chairman, members of the special subcommittee study section, I have with me William Goodrich, General Counsel for Food and Drug Administration, and Mr. Alfred Barnard, Chief, Bureau of Regulatory Compliance.

I appreciate the opportunity of appearing before you this morning to discuss the Food and Drug Administration's policies relative to the sale in commercial channels of foods and drugs rejected for Federal use because of a failure to meet Government specifications.

There are no published regulations within the Federal Government which require other Federal Agencies to report to FDA the identity of foods and drugs which they reject.

However, FDA has initiated and entered into agreements and memoranda of understanding with other agencies providing for exchanges of knowledge and information to strengthen programs of mutual concern in the public interest. The Food and Drug Administration also provides resources and facilities to assist other agencies as our program capabilities and legislative authority permit.

At the present time these agreements with other governmental agencies include working arrangements with the Department of Agriculture, Department of Defense, and the Veterans' Administration—which are the agencies directly involved in the purchase of foods and drugs for Federal use.

Briefly stated, our agreements with the Department of Agriculture deal with the disposal of Agricultural Stabilization and Conservation Service products which have become adulterated or misbranded; promotion of greater sanitation in the warehousing, transportation, and milling of food grain; coordination of the activities of the Departments of Agriculture; Interior; and Health, Education, and Welfare pertaining to pesticides and the establishment of a joint contract with the Department of Agriculture for salmonella research by the National Research Council.

We have an agreement with the Defense Medical Supply Center of the Department of Defense establishing policy and procedures for FDA inspections and tests relative to certain pharmaceuticals manufactured in foreign countries. We also have an agreement to provide the Defense Supply Agency information on food and drug manu-

facturers being prosecuted under the Federal Food, Drug, and Cosmetic Act.

We have an agreement with the Veterans' Administration establishing policy and procedures for FDA testing of VA drug samples.

The FDA also has agreements with the Public Health Service to provide testing services for items in the civil defense medical stockpile.

In 1963 the Intra-Governmental Procurement Advisory Council on Drugs (IPAD) was formed, consisting of representives of the various departments, agencies and offices of the Federal Government concerned with the procurement of drugs for Federal use. Its purpose was to provide a forum for the timely interchange of procurement information and, through cooperative efforts, to improve the quality of products purchased by the Government.

IPAD representatives agreed to exchange full information whenever any agency encountered a defective drug posing a potential hazard to health.

Under the IPAD charter FDA maintains contact with the Defense Supply Agency drug purchasing and utilization activities. The director of our Bureau of Regulatory Compliance is FDA's IPAD representative and several FDA employees are members of various IPAD working groups. Where requested, FDA furnishes the Defense Supply Agency information to assist in the establishment of drug specifications; methods of analysis; results of sample examinations; findings developed in factory inspections; and routinely supplies them with information about recalls, seizures and injunctions. We also work with DSA in the development of standards for medical materiel. DSA, in turn, notifies FDA of adverse drug reactions and informally informs us of suspected violations of the Federal Food, Drug, and Cosmetic Act. In serious cases information is exchanged by telephone or telegram, usually between DSA's directorate of medical materiel in Philadelphia and FDA's Bureau of Regulatory Compliance or Bureau of Medicine.

DSA has notified FDA of serious deviations from good manufacturing practices encountered during its preaward surveys of drug manufacturers, and has reported to FDA on preaward samples which failed to comply with the FD&C Act. In addition, DSA sends us copies of its "Not Qualified Suppliers" list each month.

Mr. Chairman, I would like to cite some specific examples of the type of cooperation that exists between the military and FDA.

Recently the Defense Supply Agency contacted FDA to report inspectional findings involving a drug firm violating the Current Good Manufacturing Practices Regulations. Their inspection was prompted by a complaint from a defense depot that two lots of epinephrine injections contained broken ampul tips and rusty ampoule opening files, and were discolored. A sample was turned over to the FDA laboratories which confirmed these findings. At about the same time, DSA received another complaint involving the same manufacturer's menadione sodium bisulfite injection.

Shortly thereafter DSA and FDA made a joint inspection of the firm. Following this inspection the company initiated a recall of the improperly sealed ampoules in the civilian market. At the same time,

the military sent telegrams to all of their installations ordering them to discontinue the use of ampoules found defective.

In another instance the FDA was advised by DSA that a drug firm had submitted a sample of petrolatum which failed to meet the USP standards. In addition, a mineral oil sample that was furnished by the firm had a foreign odor. The FDA made an immediate follow-up inspection and learned the firm was repacking mineral oil, glycerine, and petrolatum with the same equipment used to pack a variety of insecticides. Laboratory examination of the firm's repacked drug items showed they were contaminated with several insecticides, including malathion, lindane and DDT. Results of our findings were teletyped to the VA, the firm's only drug user, which placed an immediate embargo on all of the firm's products. Needless to say, DSA was also advised of our findings.

On another occasion the local DSA representative contacted one of our district offices to report that several local dairies were supplying two military installations with slack-filled or short-weight containers of milk. FDA investigated and subsequently issued Notices of Hearing to the offending dairies. Following the hearings the firms corrected their short-weight practices.

In another case a post veterinarian at one Army base advised another FDA District that horse radish which he had examined contained glass particles and both live and dead insects. FDA's examination confirmed the Army's findings that the lot was adulterated with filth and the goods were removed from the market by seizure.

These are by no means isolated examples of cooperation between the military and the FDA. Our files contain many other instances where we have exchanged information to the mutual benefit of both agencies and the public.

Mr. Chairman, you have also requested a status report on the disposition of eight specific drug items which were rejected by DSA. Except for the sodium warfarin tablets, which were recalled as a result of analysis performed by FDA in the course of a survey on anticoagulant drugs, we had not been notified about these prior to receiving the subcommittee's letter of February 2, 1968.

Let me briefly report our findings in regard to each of these drugs.

Mr. ROSENTHAL. So that notwithstanding everything you have told us so far about this excellent working arrangement between DSA and FDA, apparently it was not effective prior to this subcommittee's intersession.

With regard to the drugs mentioned here, you weren't notified of their rejection until after this subcommittee began their investigation.

Dr. GODDARD. That is correct. The first knowledge we had of their rejection was by notice of the subcommittee in your letter of February 2.

Mr. ROSENTHAL. How can you explain that in view of the laudatory statement you made earlier about the efficiency of the Intergovernmental Council on Drugs?

Dr. GODDARD. I can't explain that. I can only speak to those examples where we had knowledge based on their reports or where we transmitted information to them. I cannot account for the failures in the system.

Mr. WYDLER. In other words, the only ones you know about are the ones they tell you about.

Dr. GODDARD. Yes, sir.

Mr. WYDLER. You don't know if you know about them all, do you?

Dr. GODDARD. That's correct.

ENDO BROTH MEMBRANE FILTER, A PRODUCT OF MILLIPORE CORP.

This product is not subject to the Food, Drug, and Cosmetic Act. However, investigation reveals that this lot was returned by DSA and destroyed by the manufacturer.

On that, we also checked with the Division of Biologic Standards, and this product is not covered by their regulation either.

This represents an area where there is literally no Federal agency responsible or having the authority to act with respect to this.

Mr. ROSENTHAL. What kind of drug is this?

Dr. GODDARD. This is not a drug. It is actually a filter used in the laboratory, used in water purification.

There are a number of other laboratory items that are neither fish nor fowl with respect to FDA.

Mr. WYDLER. What could be wrong with a filter that you would have to destroy it?

Dr. GODDARD. Improperly manufactured is the conclusion I would have to draw. I don't know.

Mr. Barnard?

Mr. BARNARD. I don't recall what the defect was with respect to this particular lot. It is a gadget, let's say, that is used in the testing of water to determine whether or not it is pure. In other words, in field conditions a measured amount of water is drawn through this thing and then it is allowed to sit and incubate. It is used by the military, as we understand it, for testing field water supplies.

We really don't know what their specifications are or what they mean.

Dr. GODDARD. They would be more able to answer to this.

ASCORBIC ACID TABLETS—CHASE CHEMICAL COMPANY, NEWARK, N.J.

The five rejected lots were voluntarily destroyed under supervision of the FDA on March 22, 1968.

Mr. ROSENTHAL. That was after we notified you.

Dr. GODDARD. That was after. We followed up on it on the basis of your information contained in the February 2, letter.

ANTISERUM, C-REACTIVE PROTEIN, 1CC (DIAGNOSTIC REAGENT)—DIFCO LABORATORIES, DETROIT, MICH.

Investigation reveals that the lot was destroyed by the firm on September 7, 1967.

RESERPINE TABLETS—ANABOLIC INC., GLENDALE, CALIF.

The drug failed the USP tablet disintegration test. The firm has advised our Los Angeles office that it has asked DSA to destroy the drug at military installations.

None is produced for the civilian market.

OLEOVITAMIN A&D, NF, 50CC (DRUG)—DEWEY PRODUCTS CO., GRAND RAPIDS, MICH.

After the lot was rejected because the vitamin D assayed above the allowable specification ranges it was returned to the Charles A. Pfizer plant at Groton, Conn. The lot is currently under quarantine at the plant pending a final decision on disposition.

SODIUM WARFARIN TABLETS—ENDO LABORATORIES, GARDEN CITY, N.Y.

This drug was recalled as a result of analysis performed by FDA in the course of a survey of anticoagulant drugs. Information regarding the drug's deficiency was supplied to the Defense Department and other Federal agencies as a routine Food and Drug Administration procedure under the IPAD agreement. The recalled material was destroyed by the firm.

This we knew about in advance of your letter. We had acted upon it and notified the appropriate agencies through the IPAD mechanism.

DIIODOHYDROXYQUIN TABLETS—PANRAY DIVISION OF ORMONT DRUGS & CHEMICAL CO., ENGLEWOOD, N.J.

The lot was rejected at the plant. A sample analyzed by FDA contained iron particles. Since the drug had not moved in interstate commerce, we have advised State authorities of the situation and the lot has been placed under embargo.

Mr. ROSENTHAL. In this instance do you know how many bottles or how much is involved?

Dr. GODDARD. I would have to supply that for the record, Mr. Chairman, if I may.

Mr. ROSENTHAL. Yes.

(See p. 10 for this information.)

Dr. GODDARD. I will go on.

BELLADONNA ALKALOIDS WITH PHENOBARBITAL TABLETS—KETCHUM LABORATORIES, BROOKLYN, N.Y.

The drug was voluntarily destroyed under the supervision of the FDA on March 27–28, 1968.

As you know, Mr. Chairman, the FDA administers various statutory requirements relating to truthful and informative labeling and packaging of food and drugs. A food or drug rejected by the Government, but labeled in such a manner as to indicate or suggest that the article meets Government specifications, would be misbranded and subject to appropriate sanctions.

But rejection by a Federal agency, in itself, as you pointed out in your opening statement, does not necessarily indicate that FDA action is necessary. Government purchasers impose various standards and specifications upon suppliers because of their unique needs. Some of these are of little or no significance to the ordinary consumer. Many products are procured for prolonged storage, some may be subjected to extreme conditions, or they may be intended for special use, such as civil defense stockpiles. Certain items may be rejected because there is too great a variance in portion size; likewise products may be re-

jected because they fail to meet specifications with respect to nutrients such as fat or protein. These specifications are significant to certain military installations that control caloric intake quite carefully in their feeding program. But, the failure of a product to meet these special Federal requirements would not necessarily affect its status under the laws FDA administers or its fitness for ordinary consumer uses.

Mr. ROSENTHAL. Dr. Goddard, the Diiodohydroxyquin, what is involved there is 14,760 bottles of 60 tablets each. What are those tablets? Could you tell us? Is that something that both someone in the service might take and a general consumer might find useful?

Dr. GODDARD. Yes. It would find a usage in the consumer market.

Mr. ROSENTHAL. The rejection, according to our investigation, was based on the fact that the tablets contained dark particles and were rejected at the plant by the Government inspector.

In response to a letter from this committee the manufacturer says that as of March 29, 1968, "no disposition to date has been made of these tablets."

This kind of tablet is not something that is of special use to the military. If it is bad for a military man, it is equally bad for the general consumer.

Dr. GODDARD. We agree. This was why we worked with the State of New Jersey and had the State embargo the lots that are involved at the plant. We can't take any action until it moves in interstate commerce.

We have a very effective working relationship, I am happy to say, with the State of New Jersey, which is quite active——

Mr. GALLAGHER. I am happy to hear that, too.

Dr. GODDARD. This is an activity in the health department. I believe they have about 32 inspectors who meet with our New York district office periodically and review our program plans in the State of New Jersey. Thus we can coordinate our activities and work more effectively to protect the consumer with respect to drug companies located in the State. These drugs, incidentally, are distributed all over the Nation.

So, they worked with us and they took appropriate action to see to it that this lot of drugs which were contaminated with iron particles, did not reach the civilian consumer marketplace.

Mr. ROSENTHAL. But it would have reached the civilian consumer market even with all the things you told us about if this committee hadn't interceded.

Dr. GODDARD. It could have. I quite agree.

Mr. ROSENTHAL. I want you to go ahead with the rest of your statement. I presume you will address yourself to the question of how this could have happened.

Dr. GODDARD. Well, it could have happened because we wouldn't have known about it. The company could have shipped it in interstate commerce, unless, by chance, we sampled the drug as a result of our sampling program. I would have to admit, however, the chances are rather slight because we only draw 40,000 samples a year for analysis in our district laboratories. The drug could have been marketed and dispensed through civilian pharmacists.

Mr. ROSENTHAL. What is wrong with the system that permits this to occur?

Dr. GODDARD. It is a breakdown in communications, as far as I can tell. We hope to be able to describe to you the strengthening of communications which will protect the consumer against this happening in the future.

We don't object to the sale in normal commercial channels of foods and drugs rejected by the Federal Goverment providing they are truthfully labeled and otherwise in full compliance with the F.D. & C. Act and with the other laws administered by this Agency. Neither would we object if labeling failed to reveal the fact that a product was rejected by the Federal Government or one of its agencies, if the rejection involved requirements unrelated to the laws we administer.

The subcommittee has already been informed that DSA conducts systematic bacteriological tests of processed or manufactured foods. You have requested comment on the necessity or desirability of FDA performing such bacteriological tests as a part of routine factory inspections.

Bacteriological sampling and testing is, and has been for many years, an integral part of FDA sanitary inspection of food-producing plants. A great deal of our research effort is directed toward the establishment of bacteriological standards for foods.

FDA's responsibility for plant inspections in the food processing area covers those processed foods which do not contain significant amounts of meat or poultry.

As I recall, any product with less than 2-percent meat or poultry, in canned or processed food, is covered by the Food and Drug Administration. Those above 2 percent are covered by the U.S. Department of Agriculture.

We do not tolerate pathogens (disease-producing organisms) in food, and factory inspections with bacteriological tests are an important method of checking on the adequacy of manufacturing practices, particularly in factories producing food that may be consumed without further heat treatment or following a warming process only.

Mr. WYDLER. Who has jurisdiction over fish and seafood products?

Dr. GODDARD. We do. As you know, there is a bill pending before Congress now which would require continuous mandatory inspection of all fish processing plants in interstate commerce and provide for the States to cover those involved in intrastate commerce. If the States fail to do so, the Food and Drug Administration would then assume that burden.

We have established a microbiological analytical capability in each of the 17 field laboratories—in addition to the capability we have had in Washington for many years. We now have on board over 100 microbiologists who are capable of handling 8,000 samples in a year. One of FDA's highest priorities for the coming year is a stepped-up offensive against poor manufacturing practices that lead to bacterial contamination in food. One of the offshoots of this campaign will be the addition of 21 microbiologists, which sshould result in a 10 to 20 percent increase in the number of samples collected for microbiological analysis. Future plans call for the establishment of an FDA Microbiological Testting Center which will increase our capabilities even more.

Since December 1, 1966, there have been 85 recalls of Salmonella-contaminated foods and drugs from the market. These recalls have

involved a wide variety of items including chocolate, coconut products, dried yeast, animal glandular materials and finished dosage forms for various drugs, frozen pies, eggs, dried milk, dog candy, enzymes, and dried mixes. Similarly, we have taken actions against products adulterated by certain strains of Staphylococci. In 1965–66 some 4 million pounds of cheese were withheld from the market because of suspected contamination with this toxin. Utilizing a test developed in our laboratories, the firm tested each batch of the cheese over a 2-year period. Approximately 63,000 pounds of the cheese were found to contain the toxin; this cheese was destroyed. The remainder, found to be free of toxin, was released to the market.

Methods of detecting a number of other disease-producing organisms or their toxic by-products directly in foods are not as highly developed as they are for Salmonellae or Staphyloccous toxins. Therefore we test foods for indicator organisms—in other words, nonpathogenic bacteria that indicate potential contamination with a disease-producing microorganism and we conduct research, including surveys, to define limits or criteria which will establish an acceptable bacteriological standard for the food in question.

We have published in the scientific literature five papers detailing microbiological findings in relation to sanitary conditions prevailing in food producing plants. Research along these lines is also being conducted by other groups, including industry. We attempt by every means possible to keep informed of such research so that we may utilize results in our enforcement program.

In connection with this, it just crossed my mind that the Grocery Manufacturers Association has recently established an information exchange service. This service will help make the scientific community aware of research being carried out in private corporate research programs. Not only are they exchanging research findings but also information that has been derived from their quality control programs in their own plants. This information is passed along to us as well. I think that is a helpful step forward.

As a result of such research in our laboratories and elsewhere, we will soon be prepared to propose microbiological count standards for several food products. Two of these, for cream-type pies and cooked, peeled shrimp, will be proposed and published in the Federal Register in a short period of time. These microbiological standards, utilized in conjunction with rigorous sanitation inspections of the producing plants, will provide a high degree of consumer protection. As additional standards are developed, they will be proposed and published in the Federal Register.

Mr. WYDLER. Is this something new?

Dr. GODDARD. Yes.

I have copies of our present guidelines. These are the criteria now being used. As I say, we are going to propose standards. We will then receive the comments of industry and the scientific community concerning these regulations before they are made final.

I would like now to outline, if I may, the steps FDA is taking to establish procedures which will insure that we are notified of the rejection by other Government agencies of products subject to our jurisdiction.

We are presently engaged in establishing more formal procedures which will better insure that FDA is notified of such rejections by DSA when diversion to consumer channels is a possibility.

We have met with DSA representatives, and as a result of these meetings DSA has developed proposed revised instructions to its field personnel involved in subsistence rejection procedures. These instructions clearly require reporting to DSA "regional" centers, I am told. The proposed instructions were submitted to FDA for review and comment. We have commented favorably on these and have suggested that the next logical step is to establish direct contact channels between their regional centers and the appropriate FDA District Offices.

In the discussions between DSA and FDA we have recognized the need for the development of guidelines which will inform DSA personnel of FDA's responsibilities. We have offered to participate in local level conferences and to reinstate participation by FDA in DSA personnel training programs at Chicago. The details of these arrangements are currently under negotiation.

May I say at this point, in the slightly over 2 years that I have been Commissioner of the Food and Drug Administration I have found the DSA to be a most cooperative group. They have been very helpful to us in working on the problems related to generic drugs, which are familiar to this committee and to others in Congress as well. We value the working relationships that we have established with them. And I do not, by my statement, mean to deprecate in any fashion the very fine work that they have carried out in their center in Philadelphia. We have benefited by this.

I am simply trying to indicate that we are taking additional steps to strengthen our ties. Thus, we can more substantially protect the American consumer from episodes that have unfortunately occurred in the past, and see that they do not reoccur in the future.

With respect to drugs, we have asked DSA to explore the possibility of informing FDA of all drug rejections, including in-plant rejections by their own inspectors.

Your investigation, Mr. Chairman, has shown a need for improved communication between FDA and other Federal agencies that purchase food and drugs. I would like to assure the committee that we will do everything within our capabilities to establish a truly effective system of coordination which will protect the consumer from any adulterated or misbranded foods or drugs rejected by the Government. This goes to our relationships with the VA, Public Health Service, and the many other Federal agencies that are involved.

I thank you for the opportunity to appear today.

My colleagues and I will be happy to attempt to answer any questions you have.

Mr. ROSENTHAL. Your full statement will be printed at this point in the record.

(The statement referred to follows:)

PREPARED STATEMENT OF JAMES L. GODDARD, M.D., COMMISSIONER OF FOOD AND DRUGS, U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Mr. Chairman, I appreciate the opportunity of appearing before you this morning to discuss the Food and Drug Administration's policies relative to the sale in commercial channels of foods and drugs rejected for Federal use because of a failure to meet Government specifications.

There are no published regulations within the Federal Government which require other Federal agencies to report to FDA the identity of foods and drugs which they reject.

However, FDA has initiated and entered into agreements and memorandums of understanding with other agencies providing for exchanges of knowledge and information to strengthen programs of mutual concern in the public interest. The Food and Drug Administration also provides resources and facilities to assist other agencies as our program capabilities and legislative authority permit.

At the present time, these agreements with other governmental agencies include working arrangements with the Department of Agriculture, Department of Defense, and the Veterans' Administration—which are the agencies directly involved in the purchase of foods and drugs for Federal use.

Briefly stated, our agreements with the Department of Agriculture deal with the disposal of Agricultural Stabilization and Conservation Service products which have become adulterated or misbranded; promotion of greater sanitation in the warehousing, transportation, and milling of food grain; coordination of the activities of the Departments of Agriculture, Interior, and HEW pertaining to pesticides and the establishment of a joint contract with the Department of Agriculture for Salmonella research by the National Research Council.

We have an agreement with the Defense Medical Supply Center of the Department of Defense establishing policy and procedures for FDA inspections and tests relative to certain pharmaceuticals manufactured in foreign countries. We also have an agreement to provide the Defense Supply Agency information on food and drug manufacturers being prosecuted under the Federal Food, Drug, and Cosmetic Act.

We have an agreement with the Veterans' Administration establishing policy and procedures for FDA testing of VA drug samples.

The FDA also has agreements with the Public Health Service to provide testing services for items in the civil defense medical stockpile.

In 1963, the Intra-Governmental Procurement Advisory Council on Drugs (IPAD) was formed, consisting of representatives of the various Departments, agencies, and offices of the Federal Government concerned with the procurement of drugs for Federal use. Its purpose was to provide a forum for the timely interchange of procurement information and, through cooperative efforts, to improve the quality of products purchased by the Government.

IPAD representatives agreed to exchange full information whenever any agency encountered a defective drug posing a potential hazard to health.

Under the IPAD charter, FDA maintains contact with the Defense Supply Agency drug purchasing and utilization activities. The Director of our Bureau of Regulatory Compliance is FDA's IPAD representative and several FDA employees are members of various IPAD working groups. Where requested, FDA furnishes the Defense Supply Agency information to assist in the establishment of drug specifications, methods of analysis, results of sample examination, findings developed in factory inspections, and routinely supplies them with information about recalls, seizures, and injunctions. We also work with DSA in the development of standards for medical material DSA, in turn, notifies FDA of adverse drug reactions and informally informs us of suspected violations of the Federal Food, Drug, and Cosmetic Act. In serious cases, information is exchanged by telephone or telegram, usually between DSA's Directorate of Medical Materiel in Philadelphia and FDA's Bureau of Regulatory Compliance or Bureau of Medicine.

DSA has notified FDA of serious deviations from good manufacturing practices encountered during its preaward surveys of drug manufacturers, and has reported to FDA on preaward samples which failed to comply with the F.D. & C. Act. In addition, DSA sends us copies of its "not qualified suppliers" list each month.

Mr. Chairman, I would like to cite some specific examples of the type of cooperation that exists between the military and FDA:

Recently the Defense Supply Agency contracted FDA to report inspectional findings involving a drug firm violating the Current Good Manufacturing Practices Regulations. Their inspection was prompted by a compaint from a defense depot that two lots of epinephrine injections contained broken ampoule tips and rusty ampoule opening files, and were discolored. A sample was turned over to the FDA laboratories which confirmed these findings. At about the same time, DSA received another complaint involving the same manufacturer's menadione sodium bisulfite injection.

Shortly thereafter, DSA and FDA made a joint inspection of the firm. Following this inspection, the company initiated a recall of the improperly sealed ampoules in the civilian market. At the same time, the military sent telegrams to all of their installations ordering them to discontinue the use of ampoules found defective.

In another instance, the FDA was advised by DSA that a drug firm had submitted a sample of petrolatum which failed to meet the USP standards. In addition, a mineral oil sample furnished by the firm had a foreign odor. The FDA made an immediate follow-up inspection and learned that the firm was repacking mineral oil, glycerine, and petrolatum with the same equipment used to pack a variety of insecticides. Laboratory examination of the firm's repacked drug items showed they were contaminated with several insecticides, including malathion, lindane, and DDT. Results of our findings were teletyped to the VA, the firm's only drug customer, which placed an immediate embargo on all of the firm's products. Needless to say, DSA was also advised of our findings.

On another occasion, the local DSA representative contacted one of our district offices to report that several local dairies were supplying two military installations with slack-filled or short-weight containers of milk. FDA investigated and subsequently issued notices of hearing to the offending dairies. Following the hearings, the firms corrected their short-weight practices.

In another case, a Post Veterinarian at on Army base advised another FDA district that horse radish which he had examined contained glass particles and both live and dead insects. FDA's examination confirmed the Army's findings that the lot was adulterated with filth and the goods were removed from the market by seizure.

These are by no means isolated examples of cooperation between the military and the FDA. Our files contain many other instances where we have exchanged information to the mutual benefit of both agencies and the public. Mr. Chairman, you have also requested a status report on the disposition of eight specific drug items which were rejected by DSA. Except for the sodium warfarin tablets, which were recalled as a result of analysis performed by FDA in the course of a survey on anticoagulant drugs, we had not been notified about these prior to receiving the subcommittee's letter of February 2, 1968.

Let me briefly report our findings in regard to each of these drugs:

Endo broth membrane filter, a product of Millipore Corp.—This product is not subject to the F. D. & C. Act. However investigation reveals that this lot was returned by DSA and destroyed by the manufacturer.

Ascorbic acid tablets—Chase Chemical Co., Newark, N.J.—The five rejected lots were voluntarily destroyed under supervision of the FDA on March 22, 1968.

Antiserum, C-reactive protein, 1cc (diagnostic reagent)—Difco Laboratories, Detroit, Mich.—Investigation reveals that the lot was destroyed by the firm on September 7, 1967.

Reserpine tablets—Anabolic Inc., Glendale, Calif.—The drug failed the USP tablet distintegration test. The firm has advised our Los Angeles office that it has asked DSA to destroy the drug at military installations.

Oleovitamin A. & D. NF. 50cc (drug)—Dewey Products Co., Grand Rapids, Mich.—After the lot was rejected because the vitamin D assayed above the allowable specification ranges, it was returned to the Chas. A. Pfizer plant at Groton, Conn. The lot is currently under quarantine at the plant pending a final decision on disposition.

Sodium warfarin tablets—Endo Laboratories, Garden City, N.Y.—This drug was recalled as a result of analysis performed by FDA in the course of a survey of anticoagulant drugs. Information regarding the drug's deficiency was supplied to the Defense Department and other Federal agencies as a routine Food and Drug Administration procedure under the IPAD agreement. The recalled material was destroyed by the firm.

Diiodohydroxquin tablets—Panray Division of Ormont Drugs & Chemical Co., Englewood, N.J.—The lot was rejected at the plant. A sample analyzed by FDA contained iron particles. Since the drug had not moved in interstate commerce, we have advised State authorities of the situation and the lot has been placed under embargo.

Belladonna alkaloids with phenobarbital tablets—Ketchum Laboratories, Brooklyn, N.Y.—The drug was voluntarily destroyed under the supervision of the FDA on March 27–28, 1968.

As you know, Mr. Chairman, the FDA administers various statutory requirements relating to truthful and informative labeling and packaging of food and drugs. A food or drug rejected by the Government, but labeled in such a manner as to indicate or suggest that the article meets Government specifications, would be misbranded and subject to appropriate sanctions.

But rejection by a Federal agency, in itself, does not necessarily indicate that FDA action is necessary. Government purchasers impose various standards and specifications upon suppliers because of their unique needs. Some of these are of little or no significance to the ordinary consumer. Many products are procured for prolonged storage, some may be subjected to extreme conditions, or they may be intended for special uses, such as civil defense stockpiles. Certain items may be rejected because there is too great variance in portion size; similarly, products may be rejected because they fail to meet specifications with respect to nutrients such as fat or protein. These specifications are significanct to certain military installations that control caloric intake quite carefully in their feeding programs. But, the failure of a product to meet these special Federal requirements would not necessarily affect its status under the laws FDA administers or its fitness for ordinary consumer uses.

We do not object to the sale in normal commercial channels of foods and drugs rejected by the Federal Government providing they are truthfully labeled and otherwise in full compliance with the Food, Drug, and Cosmetic Act and with the other laws administered by this agency. Neither would we object if labeling failed to reveal the fact that a product was rejected by the Federal Government if the rejection involved requirements unrelated to the laws we administer.

The subcommittee has already been informed that DSA conducts systematic bacteriological tests of processed or manufactured foods. You have requested comment on the necessity or desirability of FDA performing such bacteriological tests as a part of routine factory inspections.

Bacteriological sampling and testing is, and has been for many years, an integral part of FDA sanitary inspection of food-producing plants. A great deal of our research effort is directed toward the establishment of bacteriological standards for foods.

FDA's responsibility for plant inspections in the food processing area covers those processed foods which do not contain significant amounts of meat or poultry.

We do not tolerate pathogens (disease-producing organisms) in food, and factory inspections with bacteriological tests are an important method of checking on the adequacy of manufacturing practices, particularly in factories producing food that may be consumed without further heat treatment or following a warming process only.

We have established a microbiological analytical capability in each of the 17 field laboratories—in addition to the capability we have had in Washington for many years. We now have on board, over 100 microbiologists which are capable of handling 8,000 samples in a year. One of FDA's highest priorities for the coming year is a stepped up offensive against poor manufacturing practices that lead to bacterial contamination in food. One of the offshoots of this campaign will be the addition of 21 microbiologists, which should result in a 10- to 20-percent increase in the number of samples collected for microbiological analysis. Future plans call for the establishment of an FDA microbiological testing center which will increase our capabilities even more.

Since December 1, 1966, there have been 85 recalls of Salmonella-contaminated foods and drugs from the market. These recalls have involved a wide variety of items including chocolate, coconut products, dried yeast, animal glandular materials and finished dosage forms, frozen pies, eggs, dried milk, dog candy, enzymes, and dried mixes. Similarly, we have taken actions against products adulterated with the toxin elaborated by certain strains of staphylococci. In 1965–66, some 4 million pounds of cheese were withheld from the market because of suspected contamination with this toxin. Utilizing a test developed in our laboratories, the firm tested each batch of the cheese over a 2-year period. Approximately 63,000 pounds of the cheese were found to contain the toxin; this cheese was destroyed. The remainder, found to be free of toxin, was released to the market.

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organisms—in other words, nonpathogenic bacteria that indicate potential contamination with a disease-producing micro-organism and, we conduct research, including surveys, to define limits or criteria which will establish an acceptable bacteriological standard for the food in question.

We have published in the scientific literature five papers detailing microbiological findings in relation to sanitary conditions prevailing in food-producing plants. Research along these lines is also being conducted by other groups, including industry. We attempt by every means possible to keep informed of such research so that we may utilize results in our enforcement program.

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Mr. Chairman, I would now like to outline, if I may, the steps FDA is taking to establish procedures which will insure that we are notified of the rejection by other Government agencies of products subject to our jurisdiction.

We are presently engaged in establishing more formal procedures which will better insure that FDA is notified of such rejections by DSA when diversion to consumer channels is a possibility.

We have met with DSA representatives and, as a result of these meetings, DSA has developed proposed revised instructions to its field personnel involved in subsistence rejection procedures. These instructions clearly require reporting to DSA regional centers. The proposed instructions were submitted to FDA for review and comment. We have commented favorably, and have suggested that the next logical step is to establish direct contract channels between their regional centers and the appropriate FDA district offices.

In the discussions between DSA and FDA, we have recognized the need for the development of guidelines which will inform DSA personnel of FDA's responsibilities. We have offered to participate in local level conferences and to reinstate participation by FDA in DSA personnel training programs at Chicago. The details of these arrangements are currently under negotiation.

With respect to drugs, we have asked DSA to explore the possibility of informing FDA of all drug rejections, including in-plant rejections by their own inspectors.

Your investigation, Mr. Chairman, has shown a need for improved communication between FDA and other Federal agencies that purchase foods and drugs. I would like to assure the committee that we will do everything within our capabilities to establish a truly effective system of coordination which will protect the consumer from any adulterated or misbranded foods or drugs rejected by the Government.

Thank you, Mr. Chairman, for the opportunity to appear today. My colleagues and I will be happy to answer any questions you may have.

Mr. ROSENTHAL. Thank you very much. I want to congratulate you for taking what I consider a progressive step forward, as outlined on pages 12 and 13 of your statement; of making recommendations and changes that will protect the American consumer.

It is a sort of anachronism that one agency of government knew that some product was possibly unsafe or unsuitable for consumer use and permitted it to be sold into commercial channels without notifying a sister agency that has relevant responsibilities.

My own personal view of such an event is that the procuring agency, while doing an excellent job for its own people, simply didn't see it as their mission to protect consumers.

I think that with the coordination and procedures you have now established, and with their willingness to cooperate, much will be done.

I want to take advantage of your expert skill, if I might, for a moment, and ask you to look at a document which describes the bacteriological condition of a food product. Now it relates to example No. 1 appended to my statement: 18,000 TV dinners that were rejected by DSA and subsequently sold through a commercial channel.

Could you tell us, what the significance of that bacteriological analysis is or what it would mean to a layman?

(The analysis follows:)

DEFENSE SUPPLY AGENCY

MARCH 19, 1968.

Memo for Mr. Peter Barash, professional staff member in charge, Special Consumer Inquiry, House Government Operations Committee.

Subject: Request for specific information on the DSA/DPSC rejection of precooked frozen meals.

1. In accordance with your request on the above subject the following information is an explanation of the bacterial counts as related to the subsistence items in question:

	Lot No.	Standard plate count	Number of samples	Coliform status
Sample No:				
20	58	OK	8	Positive.
17	55	OK	2	Do.
17	58	OK	3	Do.
18	59-60	OK	8	Do.
	40	2,700,000		
	41:			
	1st sample	1,900,000		210 per gram.
	2d sample	2,100,000		180 per gram.

2. For clarification there are three areas of definition that must be understood:

a. The maximum standard plate count (SPC) is set at 100,000/gm. If such a count is exceeded the lot does not comply. This explains the rejection of lot 40.

b. The total coliform count shall not exceed 100/gm. In this case an agar plating technique is used. The agar is selective for the coliform group of bacteria. This agar will support the growth of members of the coliform group. If the total count on the agar plates (five plates) exceeds 100 the lot involved does not comply with the specification. In this case no further "family" distinction need be made. This discussion explains the portion of the reason for rejection of lot 41 (the SPC was also high).

c. The specification also states that the product shall be negative for *E. Coli* bacteria. For discussion, we are talking of five agar plates that show a total of more than five typical colonies but less than 100. Assume that the five agar plates showed a total of 10 colonies that had the physical appearance of typical coliform colonies. Four of these typical colonies are lifted from the agar and transferred into a liquid broth and incubated further. The four typical colonies would be transferred into eight tubes. If after incubation the invert tubes show bacterial growth and gas formation in one or more of the tubes, the product is regarded *E. Coli* positive and therefore not acceptable in accordance with the specification. This type of determination was used on sample 20, lot 55; sample 17, lots 55 and 58; and on sample 18, lots 59 and 60.

3. In this submission it must be restated that none of the referenced laboratory data is sufficient to declare the product in question as unwholesome. These bacterial levels are used as indices of production sanitation.

DANIEL A. VARLEY,
Congressional Matters Advisor.

Dr. GODDARD. It might not mean much to a layman, but I wouldn't want to ingest these products.

Mr. ROSENTHAL. Now, the fact of the matter is that those products were sold and were presumably consumed.

Dr. GODDARD. Well, I can't argue with the fact that they were sold. I don't have any information on that point. I assume that that being the case——

Mr. GALLAGHER. Why would you not want to ingest those products?

Dr. GODDARD. The standard plate counts were 2.7, 1.9, and 2.1 million. They were precooked products and they probably were recontaminated by virus of these high standard plate counts and the presence of positive coliform organisms.

Mr. GALLAGHER. What affect would that have on a human consuming those?

Dr. GODDARD. Mr. Gallagher, this is one of the areas where you can't predict the affect. The probabilities are higher that the person will suffer some sort of gastrointestinal disease when a product has been contaminated to this extent.

Of course, there are variables. One, is the product reheated? If so, for how long and at what temperature? Were there any staphylococcus organisms there? We don't know.

The greatest area of underreporting of diseases in this country—and I speak as having served as Chief of the Communicable Disease Center—is gastrointestinal illness. Everybody in this room can recall one or two bouts in the last 12 months of this illness, whose origin is not known. We estimated, when I was at CDC, that, for example taking, *Salmonella* infections, for every case reported to the Communicable Disease Center there were probably a hundred that weren't reported. This was based on some special surveys.

If this were the case, in reality we would have over 2 million *Salmonella* infections a year in this country alone. So we are dealing with an iceberg phenomenon. We don't know. There isn't a direct cause and effect relationship established here. It's just bad business to put this kind of product into the marketplace. I have to take your word that that was what was done.

Mr. WYDLER. If I may interrupt, who sold these items? Did the manufacturer sell them?

Dr. GODDARD. I don't know.

Mr. ROSENTHAL. DSA will testify and all this will be brought out. I wanted to take advantage of Dr. Goddard's medical expertise to tell us what this meant.

Mr. WYDLER. The thrust of my question—all I was trying to establish was whether these were in the possession of some third party who sold them, or whether it was actually the Morton Frozen Food Division that did this.

Mr. ROSENTHAL. Doctor, do you think some improvement in our governmental structure can be made to eliminate this kind of thing from happening? When DSA inspectors or investigators make these findings, what can we do to prevent that product from reaching commercial channels or being sold through company channels, or being consumed by anyone?

Dr. GODDARD. I believe some of the steps I outlined today will help assure that these things don't happen. Likewise, the passage in the last session of Congress of the meat bill which places this kind of product under the U.S. Department of Agriculture continuous inspection program will help. This, together with the strengthened coordination

among the three Federal agencies that are mainly involved is another aid. I think we have taken steps to do that.

Mr. ROSENTHAL. Under the new steps you outlined, what would happen now? The DSA inspector finds that the lot contained these bacteria, a high bacteria count. What would happen then?

Dr. GODDARD. They should notify the U.S. Department of Agriculture in that instance.

Mr. ROSENTHAL. I'm told by the staff that Agriculture will testify tomorrow. Now, the Agriculture people, in your judgment, should do what, if you were advising them?

Dr. GODDARD. They should move into that plant, do bacteriological samplings, check to find the source of contamination, probably quarantine the product for sorting to determine what product had been and hadn't been contaminated, so that good products would be released to the marketplace.

Mr. WYDLER. I don't understand. Why wasn't that done before? Why didn't the Defense Supply Agency notify the Agriculture Department?

Dr. GODDARD. Sir, I just don't have knowledge of why not. Perhaps the DSA personnel can tell you what went wrong in their reporting arrangement with USDA at that time. I hesitate to speak for them.

Mr. GALLAGHER. Would it be meaningful in any way to amend the Food and Drug Act to cover Government rejections? We have the basic authority to handle these problems when we know about them.

The question is simply one of notification rather than the authority. These products are adulterated and unfit for human consumption under the criteria we now have.

What could stimulate notice to you?

Dr. GODDARD. I think the meeting that the committee is having today will be a great stimulus to better reporting.

Mr. WYDLER. Doctor, what would happen in the Morton case, if it were under your jurisdiction, something without meat in it. What would happen now if the FDA came in and found that these adverse conditions did exist in the product? What would you do? Would you order this immediately destroyed?

Dr. GODDARD. We would go to the courts and get an injunction. That would be the first step to stop the shipment of the product. We would work with the management. If the product had already gone into the marketplace we would ask that it be recalled. We would then work with the management in an attempt to identify the source of contamination; sort out the manufactured product in their possession in order that the bad product be destroyed under our supervision. They would have, of course, to remove the source of contamination.

Now, let me tell you, we go through this month after month, week after week, and sometimes it's not possible to find the source of contamination. Management, in some instances, has literally spent tens of thousands of dollars trying to find the source of contamination.

We went through a very large problem with *Salmonella* contamination of nonfat dried milk a year and a half ago. At times we and manufacturer's consultants and their own quality control people were hard put to find out where the contamination was coming from. This was true of the *Salmonella* contamination in chocolate, We still don't know, as far as I can recall, how the *salmonella* gets into the product

in the processing line. First, we were surprised that it would survive. We never had it reported in this product before. So it's not quite as simple as I stated. It's a very complicated kind of problem to deal with.

I personally go out and periodically look at different kinds of food plants to try to stay familiar with the problems our inspectors are encountering and the problems involved in processing the myriad kinds of products that enter our marketplace. I am impressed in general by the attention that management today is devoting to keeping their facilities in good condition from the standpoint of general sanitation.

Second, the improvements they have made in their quality control program with respect to bacteriological analysis and sampling, very extensive sampling programs. All this is due to their fear that the product's actual existence may be jeopardized in the marketplace if they have to recall it to the consumer level. This did happen in one nonfat instant dried milk, as you recall. It cost them in excess of $15 million, and the product was wiped out.

We are seeing greater attention being paid in the food processing field than ever before and this is to the benefit of the consumer as well.

I don't wish to leave the impression at all that management is not being responsive to the present situation. We are learning a lot more about it. We are dealing with far more sophisticated processes today in production than ever before. So we have these problems. They exist. I am satisfied that we are working on them. We would all like answers more quickly than we have them available today. We have published the "Good Manufacturing Practices Regulations" in proposed form, which would affect the food processing industry in general. We are receiving comments on these at the present time. It is hoped that these, as an additional step, will help improve the general situation and upgrade the protection to the consumer as well.

Mr. WYDLER. What is the penalty that is imposed on industry for putting out a product which is unfit for human consumption?

Dr. GODDARD. I will ask Mr. Goodrich to give you the specific penalty, but let me again make the point I alluded to earlier. The greatest penalty of all is the threat to their product.

Mr. WYDLER. I realize that.

Dr. GODDARD. The specific penalties, Mr. Goodrich——

Mr. GOODRICH. Up to $1,000 fine per shipment, and if it is an individual, of course, up to a year in jail.

Mr. WYDLER. This is before you take any action?

Mr. GOODRICH. We have to bring a criminal case in the courts.

Mr. WYDLER. I understand that, Mr. Goodrich. You're saying if they violate the court's instructions——

Mr. GOODRICH. If they ship in interstate commerce an adulterated product, each shipment is a Federal offense, punishable by a thousand dollars and up to a year in jail. Second offenses are penalized higher.

Mr. WYDLER. Doctor, let me ask you this. This distinction made between the product with 2 percent meat and with more than 2 percent meat, is that a sensible distinction any longer for jurisdiction between Agriculture and the Food and Drug Administration?

Dr. GODDARD. Well, most arbitrary distinctions lose sense when you examine them carefully, and I think this suffers from that same

defect. It really gets to be a problem. To construct a dividing point that would be logical—you take a meat pie, for example. Well, most of us, I think, have bought meat pies that are frozen and eaten them in our own homes. The percentage of meat there generally is about 2 percent. Therefore, it's a USDA product, and yet most of the ingredients are not meat by weight or any other way you choose to calculate them. But I'm not so concerned about where the dividing line is. I'm more concerned that we work effectively with the U.S. Department of Agriculture, and I can tell you that Assistant Secretary Mehren, of USDA, has seen to it that we do have a good working relationship with them, that we are on board and, that their field reports do get to us. We, in turn, feed back to them information of a nature that they had not had available to them in the past.

Today, more than ever before, it strikes me that we are working in close harmony and to the interest of the consumer, and that is as it should be.

I'm not particularly concerned about the 2-percent dividing line as much as I am about a good working relationship.

Mr. WYDLER. It does work. The fact that this distinction is made doesn't create a vacuum in certain areas where one agency says it's 3 percent and the other agency says it's 1 percent, so nobody does anything? There is no such situation as that?

Dr. GODDARD. The Wholesome Meat Act closed what gaps there were prior to last year. At one time the USDA had to turn to us for enforcement actions. We had certain authority that they lacked. When they encountered a problem they would turn to the Food and Drug Administration and say, "Look, we have encountered this, but we can't act. Will you take the appropriate action?" We did, of course. But the Wholesome Meat Act passage and its implementation has closed the gap that existed before. I see no gaps at the present time, loopholes, if you will.

Mr. WYDLER. One final question, and this may not be a question to propose to you, and if it isn't, just answer in that fashion. Looking at the first example on page 4, the instance where you found some contaminated product which apparently got out of the plant where it was manufactured and into the Army's possession, before anything wrong with it was discovered. I guess at the time it was going to be used was actually when it was discovered. What happened to the inspection that is made of this product at the time it's manufactured in the plant? Isn't there a Government inspector sitting there?

Dr. GODDARD. No sir. We are required by law to inspect the drug manufacturing plants once every 2 years. Now there are 900——

Mr. WYDLER. Excuse me. I realize that is from your position, but it seems to me this was a product manufactured for the Army or Navy or some part of the Defense Department.

Dr. GODDARD. From my meeting with them, I know they have a preaward inspection and a preaward sampling program. Neither they nor we have adequate manpower to have a person on the quality control line or on the production line to be looking over the shoulder of the manufacturer for these produced lots.

In fact, I have to tell you that this coming year, for the first time, we are going to inspect—intensively inspect—300 drug manufacturing firms. We have, for the first time, devised a categorization of drug

companies by virtue of their past record, recalls, their inspections, quality of the plant with respect to our previous inspections, all the factors that relate, in our opinion, to how well a company is meeting the good manufacturing practices.

So we rank ordered the drug companies. We will take the first 300 this coming year, provided we get the manpower, and subject these to intensive scrutiny. The second year, an additional 300. Again, Congress willing and the Bureau of the Budget permitting, the third year we will inspect the last 300.

Now, in addition to that we are stepping up our quality control valuations through the National Center for Drug Analysis in St. Louis, a newly established facility, where we ultimately hope to be able to draw more than 100,000, perhaps as many as 300,000 samples from the retail level each year.

These steps, I believe, are necessary to assure a high quality of drug products in the marketplace. They aren't inexpensive, let me point out. This activity bears substantial cost figures. But I think these steps are desirable and necessary.

So with respect to this specific example, it's quite possible that this could happen again tomorrow. I can't speak to the point of whether DSA can make any modifications or is planning any in their program, but we find this kind of thing occurring in our routine work.

This problem with drugs is no different than those encountered in producing automobiles where a third of them come off the production line with defects that the manufacturer has to call back and correct. We are trying to get the defect rate down to 1 percent in the drug industry. Most good companies, I believe, agree with this. They too have problems on their quality control line because the list of those involved in drug recalls, in labeling mixups, is not exclusively made up of the small manufacturers. It includes large manufacturers as well.

Mr. GALLAGHER. About what percentage would you say now would be defects?

Dr. GODDARD. I would really hesitate to offer a guess.

Mr. GALLAGHER. But you are aiming to get down to a 1 percent level?

Dr. GODDARD. Less than 1 percent. We plan a periodic review of the 20 major categories of the drugs in the marketplace. Thus, when we see a product line, let's say, 40 manufacturers are usurping, and all that usurping stays within the bounds of potency, solubility, dissolution rates, and so forth, we can decrease our sampling on that and pay more attention to a product beyond the 1 percent level.

We must do this with a 95 percent confidence level, so it gets to be a difficult sampling program. It is feasible because of the development of the new automated testing equipment which we have installed in our St. Louis facility. We are developing new testing methods and adapting them to work out a program of this type.

Now that kind of information, incidentally, will also be made available to State purchasing agents as well as other Federal procurement activities. I think it would be extremely valuable information for all those involved in the purchase of drugs.

Mr. GALLAGHER. Doctor, you say there is a one-third recall on automotive, and you're aiming for a 1 percent. I'm just wondering——

Dr. GODDARD. I think it's realistic.

Mr. GALLAGHER. I was wondering roughly what would be the area of defective—or recallable products now.

Dr. GODDARD. We have about five or six drug recalls a week.

Mr. GALLAGHER. What would that reflect in total productivity?

Dr. GODDARD. I have no idea.

Mr. GALLAGHER. Five percent? Ten percent?

Dr. GODDARD. In my opinion less than 5 percent. In one category alone, take the amphetamines, barbiturates, and tranquilizers, 3 years ago my predecessor estimated there were 10 billion of those tablets manufactured a year. Just in that one category. We are the greatest nation of pill takers that ever existed. [Laughter.]

Mr. MYERS. Dr. Goddard, on page 3 you speak about recalls, seizures and injunctions. Did I understand you to say that the laws are adequate today? That you need no—you are able now to seize these——

Dr. GODDARD. On drugs, that is true. In the area of food, we don't have the strong laws we have in the area of drugs. For example, to add a chemical to a food a company petitions us under the procedures established, by act of Congress, in the Food Additives amendment. The added chemical must perform a useful purpose in the manufacture and processing of the food product. We ingest, by the way, 3 pounds of food additives per person per year in this country today, so this is not an insignificant area. When he petitions us, we examine the toxicity data and look at all the manufacturer has done to assure that, one, it's safe in the quantity going to be used and, two, that it's utilitarian in nature and represents an improvement in product. If we agree, we say fine, go ahead, and he pays his fee and goes on about his business. Now when our inspector goes in his plant he says, "Say, how much of that did you use last year?" The fellow says, "None of your business." There is nothing we can do. We don't have access to the records in food processing plants the way we do in drug plants.

Now, the more responsive manufacturers will give you this information. But the problem generally is not with the more responsible manufacturer, as you can well appreciate. We have an anomalous situation, that although on the one hand, a firm must submit a petition for permission to use food additives, colored additives. They, on the other hand, don't have to tell us how much of it they use. So there is that gap, you see, and under the law they wouldn't have to tell us anything. Suppose they had a problem with a microbiological contamination and we were attempting to find out where the basic ingredients came from. They don't have to report it to us, nor do they have to tell us where they bought these ingredients.

Mr. MYERS. Of what value would this be to your organization to know how much they used? Even gross amounts.

Dr. GODDARD. Gross amounts with respect to the amount produced would tell us whether or not excessive quantities of the additive were being used, either in error or deliberately. You often get into the situation where an expander can be used in a small quantity to, let's say improve the consistency of a product, and make it more acceptable to the taste.

Mr. MYERS. You do make periodic checks, don't you, on quality?

Dr. GODDARD. We don't have access to the formula or total amounts used. You can't do it in a laboratory since the analysis is extremely

complicated because of the changes that occur in processing as you can well imagine. So there is a defficiency in the law.

Mr. MYERS. You commented a short time ago that management is doing a good job in quality control. Is this true of most of the plants that you visit do—all of them or do you have authority to go into a plant and check their quality control?

Dr. GODDARD. We can eyeball it, but that's all. Eyeballing a plant isn't as meaningful as it was 30 years ago.

Mr. MYERS. Do you know of many manufacturers who knowingly are producing poor quality goods?

Dr. GODDARD. No, but don't forget there are over 30,000 smokestacks in the United States involved in the food processing business in interstate commerce. I'm not talking about the giants in this field who are protecting their corporate identity by going well beyond what is required by the Food and Drug Act. I'm not talking about them.

Mr. MYERS. I noticed on page 7, you spoke here of the oleo vitamin A and D and F, whatever that means, and according to the cause of rejection, it assays at higher than the allowable specification range. Would that mean it would be harmful to people if they used it?

Dr. GODDARD. It may be a potential health hazard, but I would have to say of minor significance. Here again, you can't make easy answers to that kind of question, because, one, what are the other sources of vitamin D? How much is being ingested by the person? Does this tip the balance? It's just bad business to have any medications beyond or under the limits of potency established by USP or by their own labeling.

Mr. MYERS. It was improperly labeled then, too?

Dr. GODDARD. Yes, it would be.

Mr. MYERS. Now, why didn't you confiscate this?

Dr. GODDARD. It was returned to Charles A. Pfizer. They are now looking at it, probably, to determine whether it can be reworked.

Mr. ROSENTHAL. We have a letter from them dated March 27, 1968, where they say, "We have now decided to destroy them."

Dr. GODDARD. They made a decision since they couldn't rework it. Now it's gone.

Mr. MYERS. Thank you. I have one other question. Talking about the 2 percent meat. How about the meat substitutes? Who will take care of the soybean and corn substitute products?

Mr. GOODRICH. We have proposals pending before us now to establish a standard of identity for textured protein products. The matter is still somewhat controversial, and the solution is——

Mr. MYERS. Nobody is inspecting it right now, then, Mr. Goodrich?

Mr. GOODRICH. Oh, yes. We are inspecting, but the problem is in terms of the standardizing of the product and assuming that it be sold as a meat substitute, honestly labeled.

Dr. GODDARD. We are getting into limitations of everything now.

Mr. MYERS. I hope not everything.

Dr. GODDARD. I'm with you.

(Laughter.)

Mr. MYERS. Thank you.

Mr. ROSENTHAL. I have one more subject I want your opinion on, Dr. Goddard, and see if you might support some changes in law or recommendation. And this is sort of a story of the coffee can. This can

of coffee says "DSSC" on it, which means Defense Subsistence Supply Center, "roasted and ground coffee," and on it it says, "Procured under U.S. Government specifications by Defense Subsistence Supply Center, Chicago, Ill." This can was manufactured in 1962. A lady in my district bought this the week of August 18, 1967, for 99 cents. It's a 2 pound can. A week ago Saturday, a woman, by the name of Blaine Antonelli, bought a similar can on March 23 in Lockport, N.Y., for the same 99 cents. And she sent me the cash register tape.

Now, in 1962, when the Defense Supply Agency rejected this coffee, they gave as a reason that it was bitter, that "The coffee in some cans was stale due to low vacuum or leakage. There was a variation in grind color, dust and particles were found," et cetera.

There were 626,371 pounds of this coffee which were disposed of by the Defense Supply Agency through six commercial channels, and apparently it is still on the shelves in Lockport, N.Y.

Now, would you recommend——

Mr. WYDLER. It's a slow mover.

(Laughter.)

Mr. ROSENTHAL. Would you recommend that in a case such as this, in the interest of the public health and safety, that if a coffee or a product is rejected that it ought to say on here "Rejected by U.S. Government" instead of saying procured under U.S. Government specifications?

Dr. GODDARD. No, I wouldn't recommend that. I think, that if it doesn't meet the specifications that are required to be met under the standards, then it shouldn't be in the marketplace. If it meets those specifications, but failed to meet the military specifications, I think then we are dealing with another problem.

Why did it fail the military specifications?

Mr. ROSENTHAL. I read the reasons why.

Dr. GODDARD. I understand that, but I'm talking in general. There may, as we both have agreed earlier, be appropriate reasons for the military to reject it, and yet it is suitable for civilian consumption.

I think it would be just as misleading to require labeling that says "Rejected by the military" when it is comparable to other products in the civilian marketplace.

Mr. ROSENTHAL. Why not direct yourself to something like coffee? A cup of coffee is a cup of coffee.

Dr. GODDARD. No, it isn't. I'm sorry.

Mr. ROSENTHAL. You're right. That's why this was rejected. From what I read to you, what did the Government do wrong, if anything, in permitting this to be sold into the open consumer market with this kind of label on it?

Dr. GODDARD. Mr. Goodrich will answer that.

Mr. GOODRICH. Would you mind reading the reason for rejection again?

Mr. ROSENTHAL. Yes, Mr. Goodrich. "The Coffee in some cans was stale due to low vacuum or leakage. There was a variation in grind color, dust, and particles were found," et cetera. They said other things about the taste. It was bitter and harsh and had to much robusta.

Mr. GOODRICH. If a product of that kind has an off flavor or off odor, it may be classified under the Food, Drug and Cosmetic Act, as unfit for food. It's adulterated and should be taken off the market.

There is no reason to label the product in such a way as to tell the consumer it's unfit for food.

On the other hand, statutory language requires proof by sampling and actual evaluation of that coffee. As I understand the case, there were quite different opinions about the taste. Whether we could make such a case would depend on convincing a court that it was unfit for food. The burden would be upon us to show that the average, normal person would not accept it as food.

Mr. ROSENTHAL. Aside from the question of fitness, which you seem to think is a factual question, if the Government did in fact reject it, do you think it's fair labeling to say "Procured under U.S. Government——"

Mr. GOODRICH. That is misbranded.

Dr. GODDARD. That's misbranded.

Mr. ROSENTHAL. What could be done about that, Dr. Goddard?

Dr. GODDARD. We could move against the product under the Food, Drug and Cosmetic Act.

Mr. WYDLER. I just have to point out to you that I looked at this can and it says on the outside of the can, "For military issue, and sale to authorized commissary patrons only."

Mr. ROSENTHAL. That's absolutely correct. It has been sold in commercial channels, because the military rejected it.

Mr. WYDLER. And it was left in this can?

Mr. ROSENTHAL. In that can.

Mr. MYERS. Remember—6 years later, when it's even dustier. [Laughter.]

Mr. MYERS. We were told once that this wasn't permitted by the Defense Agency.

Mr. ROSENTHAL. That's why we are having the hearings.

Mr. MYERS. We were told they didn't allow this to happen. They didn't allow them to say this has the U.S. Government's authorization, meets their specifications, and so forth—remember they told us last year that they positively prohibited this in advertising.

Mr. ROSENTHAL. You would rather we ask that question of your successors at the hearing this morning?

Dr. GODDARD. Yes.

Mr. ROSENTHAL. Thank you very much.

Mr. WYDLER. Thank you for your testimony, Doctor.

Mr. ROSENTHAL. Our next witness is Brig. Gen. Robert E. Lee.

General Lee, we thank you for joining us. We are anxious to hear from you.

If you have a prepared statement you may proceed.

STATEMENT OF BRIG. GEN. ROBERT E. LEE, EXECUTIVE DIRECTOR, PROCUREMENT AND PRODUCTION DIRECTORATE, DEFENSE SUPPLY AGENCY, ACCOMPANIED BY ALBERT RABY, DSA ASSISTANT COUNSEL

General LEE. Mr. Chairman and members of the inquiry, I am Brig. Gen. Robert E. Lee, U.S. Air Force, Executive Director for Procurement and Production of the Defense Supply Agency. I am representing the Director, Lt. Gen. Earl C. Hedlund, who as you know

regrets that he was unable to accept your invitation to testify today.

I am pleased to have the opportunity to respond to your letter of March 20, 1968. I hope that in so doing, my remarks will be helpful to your efforts to protect the American consumer from economic loss or danger to his health and safety.

Before I address the questions raised in your March 20 letter, I would like to spend a few moments in describing the Defense Supply Agency's mission and responsibilities in supporting all the military services with food, clothing, medical, fuel, construction, electronics, industrial, and general supplies.

Also, before answering the questions of your letter, I will touch on several facets of DSA's operations which I believe to be germane to your inquiry. These include specifications for items that we buy; requirements for special packaging and markings; and methods we apply to assuring that items procured meet contract specifications; the control we exercise over rejected items and the procedures we follow in disposal of excess or deteriorated materiel.

The Defense Supply Agency is a wholesale source of supply to all of the military services in the commodity areas I mentioned earlier. In carrying out this responsibility, DSA manages 1.7 million items and procures over $6 billion worth of these commodities per year.

As a general rule, the specifications governing the items procured by DSA are prepared or controlled by the services. We buy items which meet specified requirements laid down by the service users.

Although a substantial number of the items bought by DSA have counterparts or near counterparts among items used by private consumers, the specifications under which we buy frequently are more stringent than those governing production of consumer items. The reasons for this stringency are generally associated with requirements for the items we buy to perform predictably under varying conditions of transportation, use, climate, and length of time, and environment of storage prior to use. These requirements also result in military items receiving a higher level of packaging, packing, and marking than is common in the consumer market.

Generally, the markings used on the item's immediate container as well as the intermediate package are the item name, name of contractor, special precautionary markings, and the mandatory markings required by law such as ingredient statements and inspection legends. On medical items the Federal stock number is shown and on subsistence items the type, class, or grade of the item may be shown. A distinctive feature of some medical and subsistence items is camouflage nonreflective enamel used on items ordinarily issued to and carried by the individual in combat. On the shipping container the contract number is usually shown along with other identification data.

In most instances markings are applied to the item in a rather permanent fashion; for example, subsistence items may have the marking information lithographed to the body of the can. Certain medical items may have stock numbers or other identifying information etched into the ampule or ceramic-fired into the unit package. Clothing and textile items, particularly uniform type items, will have distinctive labels sewn to the garment.

Inherent in the function of procuring supplies and material for the military services is the responsibility to assure that those supplies and

materiel conform to the specifications in the procurement contract. In DSA procurement operations this assurance is provided by inspection and testing of materiel by DSA quality assurance personnel and by personnel of the Military Veterinary Services and the Department of Agriculture.

Generally speaking, when supplies which do not conform to the terms of the contract and are rejected, they remain the contractor's property and their disposition is within his control.

The fact that the Government rejects the supplies because of failure to meet our contract specifications does not necessarily mean they are unwholesome or unfit for use. The reason for the rejection may have been failure to comply with packaging or marking provisions of the contract. If, however, the supplies are adulterated or are otherwise in violation of laws such as the Federal food and drug laws or the wholesome meat laws, the contractor who offers them for sale or ships them in interstate commerce risks criminal penalties.

DSA has 12 defense surplus sales offices—DSSO's—located throughout the United States, which are responsible for selling surplus personal property generated by all defense components.

The defense surplus sales offices do not sell materiel rejected by the DOD in-plant inspectors since this materiel, as I have mentioned, is the property of the contractor.

Further, the DSSO's are rarely called upon to sell food or drug items.

Our records indicate that during calendar year 1967 the Hixson coffee was the only such item in this category sold by the DSSO's. To date there have been no similar cases in 1968. Nevertheless, prior to any sale of foods or drugs, information concerning the items is transmitted to the Food and Drug Administration for guidance as to what restrictions, if any, should be placed upon the sale of the items or whether the item should be destroyed rather than sold.

Mr. ROSENTHAL. Do you know what happened to the Hixson coffee between 1962 and 1967 when it was put on sale?

General LEE. I will cover that in my statement.

Insofar as materiel with a limited shelf life is concerned, the present surplus property reporting system does not require that any remaining "shelf life" be specifically identified when an item is transferred to property disposal activities. However, a system is under joint development by DSA, OSD, GSA, and the military services which will call attention to shelf life items some months prior to the expiration date so that the items can be screened for utilization on a Government-wide basis. When this system is implemented, which is expected to be about July 1968, shelf life information could be inserted in surplus sales catalogs and thus passed on to the initial purchaser. However, as presently conceived these procedures do not assure that this information is passed on to the ultimate purchaser and user.

With this brief outline of DSA's functions and responsibilities in furnishing wholesale supply support to the military services, I will now respond to the questions contained in your March 20 letter in the same order in which they were asked.

Question I.—You have asked for the DSA position on the desirability to the private consumer and the feasibility of establishing procedures and practices which would prohibit sale of items in pack-

ages identified with or to agencies of the U.S. Government. From the consumer's point of view this might be desirable in that the buyer would not be misled into believing that the item met DOD specifications when in fact it did not.

From a desirability standpoint it must be pointed out again that the item rejected may well be in full compliance with FDA and USDA laws and regulations and, the consumer is protected by the requirement that when a contractor sells such materials he must comply with the food and drug laws.

From the Agency's point of view, it is generally feasible to have the contractor obliterate certain Government identifying markings such as specification number, contract number, or Federal stock number. It is also feasible to remove Government labels from textile items such as coats and trousers. Under current procedures where such an item is classified as an "irreparable reject" the contractor is required to remove or obliterate all identification referring in any way to the Government prior to any use or resale of the garment.

Question II.—Your letter asked for DSA's views on the "legality and propriety" of sales by contractors in containers carrying "non-Government," private marking and labeling of items that were rejected by the Defense Supply Agency when the reason for the rejection raises questions as to the fitness or suitability of the items for private consumer use. The sale or shipment by a contractor of supplies that are in such condition that they violate a law, such as Federal or State food and drug laws are, of course, illegal.

In the absence of a violation of food or drug laws, or other laws such as those prohibiting false or misleading advertising, or those laws providing warranties such as under the Uniform Commercial Code, there is no legal prohibition against the sale of rejected items.

Moreover, the fact that the items were offered under a DSA contract does not, in the absence of a specific provision in the contract, give DSA any legal right to control their disposition.

You also asked about the feasibility of new legislation which would require disclosure to the consumer of the fact of previous rejection. Since the primary responsibility for protecting the general public under present laws rests with the Food and Drug Administration and the U.S. Department of Agriculture we would defer to the views of those agencies.

Question IIIA.—You asked whether on a continuing basis the Defense Supply Agency keeps the Food and Drug Administration or the Department of Agricuture advised of all food and drug rejections which involve questions of wholesomeness, purity or safety. You also asked if this is done under written procedures or well established practices. I must address my answers separately to procedures used in the subsistence area and those used in the drug area.

In the subsistence area there is a written procedure which requires field inspectors to report suspected violations of the Federal Food and Drug Act to the appropriate subsistence regional headquarters.

After analyzing the report the regional office of the Food and Drug Administration is notified if considered appropriate. This procedure was recently reviewed in detail with the Department of Agriculture and the Food and Drug Administration to improve and refine the day-to-day reporting of rejected food items. The new procedure for subsistence——

Mr. ROSENTHAL. This new procedure is already in effect or will go into effect?

General LEE. Will go into effect.

Mr. ROSENTHAL. When?

General LEE. I don't have an estimate as to when that will be. This is about ready to go. I would say within a week or so it will be out. This will require:

(*a*) Field inspectors in Department of Agriculture regulated food establishments to routinely report day-to-day rejections directly to the Department of Agriculture officer in charge of the establishment. Judgment as to whether or not follow-up action is required will be made by the officer in charge.

(*b*) Rejections occurring in food establishments not regulated by the Department of Agriculture will be reported routinely to the procuring subsistence regional headquarters. That headquarters will inform the Food and Drug Administration regional liaison representative of all such rejections.

(*c*) Rejections occurring at destinations—post, camp, station, depot, port—will be reported to the procuring subsistence regional headquarters. Information on the rejections will then be furnished directly to the appropriate regulatory agency for further action.

In the case of medical items a judgment as to the significance of the cause of the rejection is made by medically qualified personnel based on information received from the field inspector.

The interchange of rejection information on medical items has been handled on an informal basis. Day-to-day significant rejections are discussed between our medical personnel and FDA personnel.

In general an interchange of recall and rejection information is made through the Intragovernmental Procurement Advisory Council on Drugs—IPAD—consisting of representatives from the Food and Drug Administration, the Veterans' Administration, Public Health Service, the Department of Defense, the military services, the Defense Supply Agency, the General Services Administration, the National Institutes of Health, the National Research Council, and the Defense Medical Materiel Board.

Through IPAD Federal agencies have freely exchanged information on adverse reactions, plant survey results, laboratory results, as well as rejection information. As a member of IPAD, DPSC routinely provides the FDA IPAD member with information concerning rejected items where consumer safety is involved.

The FDA representatives on IPAD have been extremely responsive to this program and have routinely provided DPSC with information on items recalled by the manufacturer. Recently this type of notification has been extended to include information on items seized by FDA.

DSA is now taking steps to formalize these procedures. They will be a little behind the ones on food but will be out shortly.

Mr. ROSENTHAL. Do you mean—say, within 2 weeks?

General LEE. We are first going to do some studying on this one. We have a few more problems in the drug area. We will shoot for the first of the month.

Mr. ROSENTHAL. Very good.

General LEE. Question IIIB(1).—You asked if DSA notified the Department of Agriculture or the Food and Drug Administration

that it had rejected 18,563 precooked frozen meals produced by the Continental Baking Co.

DSA did not report that rejection to the Department of Agriculture. While failing to meet military specifications the product was judged by a military veterinarian to be wholesome and to meet known consumer standards.

Mr. ROSENTHAL. Did you hear Dr. Goddard's testimony?

General LEE. Yes, sir.

Since the product met USDA wholesomeness standards, in our opinion it was not inappropriate for the contractor to sell the meals through the Thrift Store outlet. If he did, we don't know that.

In accordance with our newly refined reporting procedures, however, recurring instances of this type will be reported to the Department of Agriculture official responsible for the establishment in which the item was produced.

Question IIIB(2).—You have asked if the Defense Supply Agency notified the Food and Drug Administration of the rejection of any or of all the drug items furnished the subcommittee.

It was judged that seven of the eight items furnished did not violate the Food and Drug Act. Consequently, the Food and Drug Administration was not notified of these rejections. In one instance—sodium warfarin—the item was returned to the contractor based on a voluntary recall by the firm in response to FDA action. Another item—reserpine tablets—was found to be defective as a result of surveillance inspections performed in storage.

The contractor and FDA were notified that the product failed to meet the USP disintegration test. The contractor has since authorized destruction of the item.

Question IV.—You asked for the DSA comments on the desirability of having bacteriological laboratory tests of processed food items regularly performed by some Federal and State agencies on processed foods intended for private consumer use only.

DSA believes that the regulatory agencies—State and Federal—should use bacteriological laboratory testing as one of the tools to determine whether or not a food processor is producing a consistently sanitary product.

However, it is also believed that the main evidence of wholesomeness or suitability for consumer use should continue to rest with the in-process observations of component materials and plant processes: Time to process, temperature maintained during process, cleanliness, and sanitizing procedures.

Question V.—You asked for comments on the desirability of establishing procedures or practices which would result in consumers of surplus goods being better apprised of the remaining performance life capabilities of shelf life, consumer-type items such as paints, batteries, film, and chemicals.

The Defense Supply Agency performs tests when the recorded shelf life of an item is due to expire. These tests determine if the item is still satisfactory for military use or must be disposed of. If the item is satisfactory, the shelf life time is extended and the item is rescheduled for retesting at a subsequent date.

Our testing procedures do not, however, indicate the life remaining for items not passing the test.

As indicated earlier in my statement a system is currently under joint development to provide better identification of shelf life items. As a byproduct of this study we expect to be able to pass on to the initial purchaser some shelf life information such as the shelf life expiration date which applied to use of the item for military purposes. We believe such information would be helpful if passed on to the ultimate purchaser but we know of no practical way for us to insure that it is passed on.

Question VI.—Your letter also asked about the rejection and sales of coffee produced by the Hixson Coffee Co.

The Defense Supply Agency purchased coffee from the H. H. Hixson Co., Chicago, Ill., in 1962 and 1963. There were customer complaints and information was received from the Veterans' Administration indicating that the company had willfully delivered nonspecification coffee to that Agency; therefore, inspection was performed of the coffee still on hand in our warehouses.

This inspection revealed that the coffee contained a "robusta" coffee not permitted by specifications. The circumstances were reported to the Department of Justice and all stocks of the nonconforming coffee were frozen. I don't mean that literally. Just held.

In February 1965 the Department of Justice entered into an agreement with the company concerned whereby title reverted to the company which agreed to pay the Government settlement. The coffee was held as collateral to be released to the company, in increments, as reimbursement was effected.

In January 1967 the Department of Justice advised the Defense Supply Agency that the company was undergoing bankruptcy proceedings and requested that DSA sell the remaining coffee by public sale to recoup as much of the Government's loss as possible. Although the coffee did not meet Government specifications, a determination was made that it was marketable because it could be reblended with other coffee strains to produce an acceptable blend.

Accordingly, we sold the remaining 626,371 pounds. The invitation for bids, used in the sale, contained information alerting prospective purchasers that the coffee contained varying amounts of robusta. They also included a condition of sale—article Y—requiring the purchaser to warrant he would not represent the coffee as meeting Government specifications.

Six buyers purchased the coffee. Two buyers reblended the coffee, one buyer blended some and sold some as it was, and three sold all of the coffee as it was.

All six buyers were reminded of the obligation with respect to article Y of the contract. We also advised the Federal Trade Commission of the sales of the coffee. The Federal Trade Commission in turn advised the Food and Drug Administration.

This was done immediately when it was called to our attention that the coffee was being sold without being reblended.

As I stated earlier, our defense surplus sales offices do not normally become involved in disposition actions of this type.

Mr. ROSENTHAL. You say in this statement that all the buyers were told they could not represent the coffee as meeting Government specifications.

I have a photographic copy of a letter: Defense Supply Agency, Battle Creek, Mich., July 27, 1967, addressed to Dean D. Becharis, Becharis Bros., Coffee Co., Hamilton Avenue, Hyland Park, Mich., which says that the contract contains no restriction with respect to the resale of the coffee and neither does the contract require the obliteration of markings presently appearing on the container.

General LEE. I have a copy of the sealed bid, a copy of the sale of the coffee.

I submit on page 7, article Y, certification:

The purchaser hereby warrants he will not represent that the coffee meets Government specifications.

Mr. ROSENTHAL. I believe that is in the regulation but here you have a contracting officer——

General LEE. This is in the contract sales. This is in the sale of the contract between the Government and the purchaser. This is not in the Government regulation. It is one of our regulations but this is a specific clause in his contract.

Mr. ROSENTHAL. But he has a letter signed by the sales contracting officer that seems to waive those regulations. Presumably he acted without authority, this——

General LEE. I am not familiar with that letter.

Mr. WYDLER. He is interpreting the sales agreement to say that he can leave on this package the words "Procured under U.S. Government specifications, Defense Subsistence Supply Center," which indicates just the opposite of what the fact is and also which says, "For military issuance. Sale to authorized commissary patrons only," which also indicates it was acceptable to the military.

Mr. ROSENTHAL. Mrs. Antonelli in Lockport, N.Y., last Saturday bought a can just like this. She didn't even know it was 6 or 7 years old.

General LEE. I am not familiar with the letter.

The item description described that there was some robusta coffee. I would like to emphasize this was the contractor's coffee we were selling and not the Government's——

Mr. ROSENTHAL. Here we have another letter from Defense Supply Agency, also Battle Creek, Mich., signed "Harold G. Rottica" that says, "The invitation for bids for sale of the coffee doesn't require the purchaser to repackage the coffee, leaving implicit the fact he can sell it in this can.

General LEE. Leaving on the other side the legal question, I guess you could say by silence he leaves the spec number on there, he doesn't break the law.

Mr. ROSENTHAL. That is what happened.

General LEE. That is what happened. We no longer mark our cans like this. But it certainly did happen and we notified these people as soon as we found out they were not reblending it.

Mr. WYDLER. This is what you call, of course, a misleading answer. Clearly it is misleading to say it doesn't require you to repackage the coffee because the question really is from the purchaser's point of view. The seller wants to make some money out of it, and he wants those key words on there because they are a plus instead of a minus. The key here is, what does the package say? What does the label or the words on the package say, not repackaging it.

Thus, your acting counsel here managed to avoid the key question and give an answer which indicates that you can go ahead and use those words, which is very bad, I think.

General LEE. I think Dr. Goddard, in his discussion, pointed out he thought there may be some violation of the advertising on the can by virtue of the specifications being on there.

As I stated earlier, our Defense Surplus Sales Offices don't normally become involved in situations of this type.

Nevertheless, a procedure was established to insure that in the event of future similar occasions, prospective purchasers would be apprised of the fact that items sold are in "rejected" category and the reason(s) for rejection.

Also, in the future, a special condition will be included in invitation for bids requiring that this information be passed on to the consumer.

Mr. ROSENTHAL. When will that be done?

General LEE. This is in effect now.

In addition, future sales of rejected food or drug items through DSSC will have the specification number, contract number and Federal stock number obliterated prior to sale.

Mr. ROSENTHAL. In other words, in the future before you let these cans out of your possession you would paint over them or something like that?

General LEE. Yes, sir.

To explain one point here, Mr. Chairman, we don't mark cans like this any more. It now says "coffee." There are no contract numbers or specification numbers.

Here is a sample of the way we mark the can right now.

Mr. ROSENTHAL. It doesn't imply anywhere that it meets Government specifications.

General LEE. It doesn't imply a Government specification on it or have any markings.

Mr. WYDLER. What will happen in the future if you comingle all the coffee and you have a situation similar to this? How do you know which contract to go back to?

General LEE. Come time of sale, if the sale is by the contractor we will require that he obliterate those markings if they are on the can.

Mr. WYDLER. You say your package is this way now. You have it in your warehouse, such as the Hixson coffee here. You didn't know this was not up to specification until 2 years later. You bought it in 1963 and realized in 1965——

General LEE. We bought it in 1962 and 1963. We knew in 1963——

Mr. WYDLER. But you had to go back to the shelf.

How will you locate a specific coffee on the shelf?

General LEE. By contract number.

Mr. WYDLER. You don't have it on the can.

General LEE. The cases are marked. The outer cases are marked.

Mr. WYDLER. The outer cases are marked. All right.

General LEE. This is a different item but we have all the information necessary on it.

Mr. WYDLER. All right.

General LEE. You requested that I be prepared to discuss the circumstances of rejection of certain items furnished this subcommittee.

(*a*) The 18,563 precooked frozen meals were rejected because of

bacterial standard plate counts, total coliform counts and the presence of E. coli in excess of that permitted by the military specification. Because of the conditions of storage and use the military specification is highly restrictive in order to provide maximum protection and minimum risk in the area of health protection. This item and the next three items I will discuss were produced in a U.S. plant under U.S. Department of Agriculture wholesomeness control.

And this item contained a USDA approved stamp on it.

(*b*) The beef with spiced sauce failed the laboratory analysis for maximum fat content. Again this is a military requirement aimed towards balancing nutrition value versus storage and shipping costs. This is strictly a military and not FDA standard.

(*c*) The swiss steak components of beef were rejected because of excessive fat, bone and cartilage. Also, the thickness and weight of the individual steak did not conform to the specification. The rejection was based on the same reasoning applied to the beef with spiced sauce. In addition, we have a portion control requirement for uniformity of size and thickness of each serving.

(*d*) The canned hams were rejected because the cans contained excessive gelatin and juices. To balance nutrition value versus storage and shipping costs the specification states that the liquid juices, gelatin and rendered fat, by weight, shall not exceed 14 percent of the contents of the can.

(*e*) The salad dressing was initially rejected because the component oil failed the laboratory "cold test." The cold test is used to determine the completeness of the refining processes that have been applied to the vegetable oil component and is related to the storage stability of the salad dressing. This has no effect on palatability or wholesomeness in short-term storage and the item met FDA standards.

Furthermore, after the rejection, the contractor requested a waiver to permit the acceptance of the nonconforming product. The waiver was granted and the warranty period was extended from 90 to 150 days.

We accepted these items.

Mr. ROSENTHAL. On that item there was a second batch rejected because of a peroxide content.

General LEE. We are not aware of this. I am not aware of that.

(*f*) The last item, trousers, men's, cotton—450 pairs—was rejected because of misalined pockets, stitch run-offs, and irreparable machine damage—needle chews, tears and cuts.

The contractor tried to sell the pants to the public but was successful in selling only a few. He sold the remaining pants to Ferrers Surplus General Merchandising Co., Pacific and Market Streets, San Diego, Calif.

In accordance with the terms of the contract the Government information was obliterated from all pants sold.

I would like to correct our printed statement at this point.

The statement says the labels were removed from all the pants sold. The initial information we were given by the contractor indicated that he did remove all the labels. Subsequent investigation has indicated that only on the 10 pairs of pants that were concerned to the lot that our inspector condemned did he remove those labels.

On the remaining 440 pair he used a stamp. He used—obliterated the contract number.

In summary, we are improving our reporting procedures with FDA and USDA, making mandatory the reporting of rejections. We are reviewing and improving our marking requirements. We are developing and will use a clause in our contracts requiring the elimination——

Mr. ROSENTHAL. This is beyond your prepared statement now?

General LEE. Yes.

Mr. ROSENTHAL. Maybe you could start again. I apologize.

General LEE. In summary, we are improving our reporting procedures with the FDA and USDA making mandatory the reporting of rejections. We are reviewing and improving our marking requirements. We are developing and will use a clause in our contracts requiring the elimination of the Government identification, specifically contract numbers, specification numbers, and Federal stock numbers before a contractor sells rejected items.

We are developing procedures for providing better shelf-life information to the purchaser. In the area of surplus sales of rejected food and drug items we will include the reason for rejection and will remove the item identification.

Again, contract numbers, specification numbers, and Federal stock numbers are to be removed or obliterated. We are now ready to answer questions.

Mr. ROSENTHAL. Thank you very much. I have just a few questions.

A can of Government emergency drinking water such as this which the committee bought in a surplus store in Washington a few weeks ago, this wouldn't be sold with this label on there any more, is that correct?

General LEE. When we get our regulations published, that is correct. That can is dated September 1953. I don't think DSA sold that. I doubt it. To answer your questions specifically, we will eliminate those markings.

Mr. ROSENTHAL. This can, which incidentally is over 15 years old, can be purchased here in the District of Columbia, and because of the markings implies that it has U.S. Government approval. We submitted it to the Department of Health of the District of Columbia for analysis which showed that—

Iron concentration of both samples exceeded the U.S. Public Health Service standard of 0.3 milligrams per liter.

(The report follows:)

DISTRICT OF COLUMBIA DEPARTMENT OF PUBLIC HEALTH,
WATER QUALITY CONTROL DIVISION,
Washington, D.C., November 3, 1967.

Mr. PETER BARASH,
House Government Operations Committee,
Washington, D.C.

DEAR MR. BARASH: Two of the five cans of water labeled "Property of U.S. Government, Emergency Drinking Water" which you sent to us were tested for bacteriological contamination and the following chemical and physical constituents: total solids, copper, iron, zinc, chromium pH, and turbidity.

Standard tests for bacteriological purity of water were negative as were the tests for copper and chromium. Both samples showed the presence of zinc, but the amounts were well within the standard established by the U.S. Public Health Service. The water supply of the District of Columbia contains no zinc.

The values for total solids were comparable to those encountered in the District water supply. Iron concentrations in both samples exceeded the U.S. Public

Health Service standard of 0.3 milligrams per liter (mg./1). One sample had 24 mg./1 while the other had 2 mg./1. The iron concentration in the District of Columbia water does not exceed 0.1 and is usually in the range of 0.05. The sample containing the higher iron concentration had a turbidity value of 83 Jackson units (J.u.), reflecting the oxidized iron present. The other sample had a turbidity value of eight. The U.S. Public Health Service standard for turbidity is five, while the District of Columbia water usually had less than 1 J.u. The pH values were normal.

We purchased a number of cans from the same vendor. Three were tested for total solids, suspended solids, pH, turbidity, and iron. While the iron in all three samples exceeded the U.S. Public Health Service standard, one was obviously rust colored and had a concentration of 41 mg./1. The suspended and total solids concentrations were also much higher in this sample, as was the turbidity value.

These cans are No. 1 size and appear to be of standard tin-dipped steel construction. The two cans having high iron concentrations had significant rust spots where the tin coating had failed. I cannot account for the presence of zinc except to say that it does occur naturally in water supplies.

While I do not feel the water in these cans will be injurious to health (the iron standards is based on esthetics rather than toxicological significance), the quality is substandard. Certainly, there are no benefits to be devired from the consumption of this water as a substitute for the safe and palatable water available from the spigot.

Very truly yours,

ARNOLD SPEISER, P.E., *Chief.*

Mr. ROSENTHAL. They said this is substandard water. Yet it is sold and still has the Government marking, the contract number, specification number, and so forth.

Another item that was bought in the same surplus store here in Washington is an aerosol insecticide whose markings imply that it now has U.S. Government approval although it was filled 20 years ago.

We had it tested by the National Bureau of Standards of the Department of Commerce and they found variations in internal pressures which "would not be deemed acceptable under current filling practices" and mislabeling.

(The report from NBS follows:)

U.S. DEPARTMENT OF COMMERCE,
NATIONAL BUREAU OF STANDARDS,
Washington, D.C., March 29, 1968.

HON. BENJAMIN S. ROSENTHAL,
Chairman, Special Inquiry on Consumer Representation in the Federal Government, Committee on Government Operations, House of Representatives, Washington, D.C.

DEAR CHAIRMAN ROSENTHAL: At the telephone request of Mr. Warren Harrison of your staff, we have conducted certain studies on a "bug bomb" submitted to us by him. (In order that the studies might be appropriately comprehensive and completed in the very short time requested by Mr. Harrison, nine similar "bug bombs" were purchased from the same source, at no cost to the Government, and included in the test program.)

The bombs were tested (1) for net quantity of contents, (2) for container pressure, and (3) for effectiveness. They were also evaluated in general terms with respect to safety. Tests (2) and (3) were conducted at the Beltsville Chemical Laboratory, Pesticides Regulation Division, ARS, Department of Agriculture; the quantities of contents were determined both at Beltsville and at the National Bureau of Standards, and general safety characteristics were evaluated here.

As compared with a quantity declaration of 1 pound, each of the samples contained at least 1 pound—with the actual contents ranging from 1 pound to 1.13 pounds. (The sample submitted by Mr. Harrison contained 1.09 pounds.) The container pressures ranged from 61 to 76 pounds per-square-inch gage. Normal pressure of the Freon–12, the propellant used, is 70 pounds per square inch at 21° C. The wide variations in internal pressures could be caused by any of several

factors, since the containers were filled more than 20 years ago. Such variations would not be deemed acceptable under current filling practices.

At the dosage indicated on the label, the product was effective against mosquitoes. This determination was made using colonies of mosquitoes for tests. We are informed by Beltsville personnel that their observations on this product and on other dispensers with similar formulations would lead them to the conclusion that the product is biologically effective against mosquitoes only. Although house flies might be "knocked down," they undoubtedly would survive exposure to this insecticide.

Tests at Beltsville indicated that the product would not burn or support combustion under laboratory conditions. Observations of the container led us to believe that there would be no obvious safety problem.

Dr. E. L. Gilbert of the Beltsville Laboratory expressed the view that this bug bomb would be of little, if any, practical use to the general public.

A question as to compliance of these "bombs" with the Federal Insecticide, Fungicide, and Rodenticide Act (61 Stat. 163) has been raised, particularly with respect to the lack of label information concerning ingredients, use, caution, and registration number.

The sample submitted by Mr. Harrison is being returned herewith.

Sincerely yours,

A. V. ASTIN, *Director.*

Mr. ROSENTHAL. All these problems will be eliminated under the new regulations.

General LEE. Well, we will strike out on food and drug items, the contract number, the specification number, and the Federal stock number which I believe is all we put on there now.

Mr. ROSENTHAL. Gentlemen, could I ask one thing? All the new regulations and procedures you are putting into effect, would you submit to the committee copies of them in writing so they may be included in the record?

General LEE. We will. Yes, sir.

Mr. ROSENTHAL. Mr. Wydler?

Mr. WYDLER. No questions.

I just want to thank you. And I want to compliment you on the steps you are taking to protect the American consumers. They are very good ones.

Mr. ROSENTHAL. Mr. Myers.

Mr. MYERS. I would like to join in complimenting you for the steps you are taking. You feel the situation is well in hand, understand the problem and you will eliminate this implication on all lines.

General LEE. Yes, within good sense and sound economy we will do the things that we can. The things we are doing, I have said, and we will study further other things, to see what we can do.

I understand the problem and agree very much that we have to do as much as we can.

Mr. MYERS. You feel you have the latitude now. There is no additional legislation required that you may do a better job?

General LEE. I think we can do a better job.

Mr. MYERS. Within the framework of the present statute?

General LEE. Yes.

Mr. MYERS. Thank you.

Mr. ROSENTHAL. I have two other questions. I did want to get your thoughts. What do we do about a situation like this, a "fatigue jacket" sold in the same surplus store for $3.89. It says U.S. Army on there. It is being sold as surplus.

In fact, it never was sold to the U.S. Army. It is a sheer copy. What can we or you do about protecting the consumer and preventing this kind of deception?

General LEE. We certainly can't do anything about it—but if there isn't a law that would get him for selling that—that is a misrepresentation.

Mr. ROSENTHAL. If you were Jones Manufacturing Co. and somebody was selling a product called Jones turtleneck sweater, you could stop them. You could get an injunction against them.

Taking that a step further—I am not suggesting this. I am just thinking out loud. If this says U.S. Army here, why couldn't the U.S. Army stop these fellows from doing this sort of thing?

General LEE. I would defer that to my counsel, Mr. Raby.

Mr. ROSENTHAL. I think you should.

Mr. RABY. I guess the real problem, sir, is one of whether or not it is in fact misleading. An item that is marked U.S. Army like that implies that it was made for the Government but it, in fact, was not.

I think we had some cases like that where surplus items were sold representing that they did meet Government specifications which we have referred to the Federal Trade Commission.

Mr. ROSENTHAL. This is something else. What do you want to do about this, Mr. Raby?

Mr. RABY. I am not prepared to answer that one. I will furnish an answer for the record.

(The following letter was subsequently received:)

DEFENSE SUPPLY AGENCY,
Alexandria, Va., April 16, 1968.

Mr. PETER S. BARASH,
Legal Assistant, Special Consumer Inquiry, Government Operations Committee, House of Representatives, Washington, D.C.

DEAR MR. BARASH: During the hearings on April 2, 1968, Chairman Rosenthal asked about the sales by surplus stores of shirts similar to the shirts prescribed for wear by the Army. At the time I indicated that I would furnish an answer for the record.

Based on my review, I believe that the question is properly one which should be referred to the Federal Trade Commission since the sale of the shirts might violate the Federal Trade Commission Act (15 U.S.C. 45). I have therefore asked Mr. Frank Hale, Acting Director, Bureau of Deceptive Practices, Federal Trade Commission, to contact you for further information. Enclosed is a copy of my letter to Mr. Hale.

Sincerely,

ALBERT RABY, Jr.,
Assistant Counsel.

DEFENSE SUPPLY AGENCY,
Alexandria, Va., April 16, 1968.

Mr. FRANK HALE,
Acting Director, Bureau of Deceptive Practices,
Federal Trade Commission,
Washington, D.C.

DEAR MR. HALE: During hearings on consumer protection held on April 2, 1968, by Congressman Rosenthal, chairman, Special Consumer Inquiry, Special Studies Subcommittee, House Government Operations Committee, a question arose concerning sales by surplus stores of shirts such as those prescribed for wear as a part of the U.S. Army uniform.

Chairman Rosenthal displayed a shirt purchased by a member of the Special Consumer Inquiry staff and stated that it was not made for or sold to the Army and that its sale was "sheer deception and fraud". The shirt appeared to be the Army, fatigue type, green shirt known as the shirt, mens, cotton sateen, OG–107 and had on it, above the left pocket, the lettered "U.S. Army" insignia prescribed by paragraph 14–21, Army Regulation 670–5. The label on it did not disclose the manufacturer, but stated that it was "guaranteed Trooper fatigues" and "100-percent cotton". It was purchased from Sunny's Surplus Store, Ninth and E Streets NW., Washington, D.C.

The sale of these shirts might constitute a violation of the Federal Trade Commission Act (15 U.S.C. 45). Since the primary responsibility for interpretation and enforcement of that act is vested in the FTC, the Special Consumer Inquiry staff has been informed that your office would be asked to contact Mr. Peter S. Barash of that staff for further information.

Sincerely,

ALBERT RABY, Jr.,
Assistant Counsel.

Mr. ROSENTHAL. In other words, this says "U.S. Army"; it looks like a fatigue jacket of one sort or another. Obviously, it was never made for the Army. It is sheer deception and fraud and it seems to me that maybe you would want to think about trying to enjoin these people from doing these things or at least notifying the Federal Trade Commission that this is a matter you have an interest in.

Mr. RABY. We have in the past notified the Federal Trade Commission when there were articles being sold as—I guess I should say articles being sold which were represented as articles that had been purchased at one time by the Government, but in fact weren't.

Mr. ROSENTHAL. Another small item.

The surplus store sells a can of paint and paints it the color the Army would use; they have a specification number on here, obviously a phony specification, 1964–65. It is a green Army paint sold in Army surplus stores, obviously not made for, by, or having anything to do with the Army. What is building up is a big fraudulent surplus business.

I don't even know in my own mind how far your responsibility should go in stopping these things. I think if you tighten up your own procedures there will be sort of a residual effect that might stop these things, but if there isn't it might be something you will want to look into.

Thank you very much. I want to compliment you on doing a good job for your consumers, the Army, and the services.

The fault, wherever the fault lies, it is all of our fault throughout the Government. The problem is that there is no central consumer-oriented agency or person that keeps an eye on all these things and some of these things we stumble onto, and I think the fact that we stumbled onto this has led to enormous improvement, not only in your procedures but in procedures relating to foods and drugs.

When you reject an item that is either unsafe or a particularly bad buy, you have done your job on behalf of the Federal Government.

The question is: Do you have an extra job? Do you have an extra job to let the American consumer know that you have rejected these products?

You know the cost of the laboratory that tested these things is also being paid for by the American taxpayer. It is a question of whether you take that extra safeguarding step and pass the information along to your wife and to my wife so they don't get stuck.

General LEE. As much as we can, within our procedures we will do this.

Mr. ROSENTHAL. Thank you.

Tomorrow's hearings will involve the Department of Agriculture and Public Health Service. The committee stands adjourned.

(Whereupon, at 11:59 a.m., the committee was adjourned.)

GOVERNMENT-REJECTED CONSUMER ITEMS

WEDNESDAY, APRIL 3, 1968

HOUSE OF REPRESENTATIVES,
SPECIAL CONSUMER INQUIRY,
SPECIAL STUDIES SUBCOMMITTEE
OF THE COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C.

The subcommittee met at 10 a.m., in room 2203, Rayburn House Office Building, The Honorable Benjamin S. Rosenthal presiding.

Present: Representatives Rosenthal, Gallagher, Wydler, and Myers.

Also present: Peter S. Barash, professional staff member in charge; I. Warren Harrison, professional staff member; and Dolores L. Fel' Dotto, clerk.

Mr. ROSENTHAL. The subcommittee will be in order. Our first witness this morning is Dr. George L. Mehren, Assistant Secretary of Agriculture. You have a statement and you may proceed. We want to thank you for coming here and taking time out from a busy schedule. We very much appreciate your appearance.

STATEMENT OF GEORGE L. MEHREN, ASSISTANT SECRETARY, DEPARTMENT OF AGRICULTURE; ACCOMPANIED BY GEORGE GRANGE, DEPUTY ADMINISTRATOR, CONSUMER AND MARKETING SERVICES, DEPARTMENT OF AGRICULTURE

Dr. MEHREN. Thank you.

I have with me Mr. George Grange, who is Deputy Administrator of the Consumer and Marketing Services in the Department for marketing services. I am happy to respond to your request for information about practices of the Department of Agriculture governing sale in commercial channels of food products which fail to meet departmental purchase specifications.

We have a twofold interest in your inquiry. First, we carry major responsibility in the field of consumer protection through enforcement of the meat and poultry inspection programs along with many other services and regulatory functions. Secondly, we are one of the major Federal agencies buying food. With our relatively tight specifications for the school lunch and needy family distribution programs, many rejections of commodities are made.

The Department provided or helped to provide food to almost 26 million people during fiscal year 1967. Some 22 million schoolchildren, 1.3 million people in institutions and 3.3 million needy persons received almost 1.5 billion pounds of foods costing about $247 million. In conducting these programs, we have made a continuous—and we believe a successful—effort to insure that only high quality, wholesome foods

reach the people who participate. At the same time, we took definitive steps to insure that foods purchased by the Department do not reenter commercial channels in a manner that might be deceptive or in any other way harmful for ultimate consumer use.

Generally speaking, most rejections by the Department of proffered products result from the product not meeting the relatively high specification standards set for our own food programs. Normally, rejection for these programs does not render the product unwholesome or in any other way unfit for human consumption. USDA specifications for the food products it purchases are generally considerably higher than minimum commercial standards. This difference in specifications is entirely reasonable in the light of differences in purposes and in handling conditions. There are many instances where the distribution of USDA donated food at the local level is—and necessarily must be—made with inadequate equipment and under difficult conditions not prevalent, necessary, or generally permissible in commercial trade. In order to insure the wholesomeness and the acceptability of these food products distributed in our programs, it is necessary to establish and to maintain higher standards than are needed for regular commercial distribution. For example, our maximum temperature specification at the time of unloading at destination of 0° F. for frozen orange juice and 15° F. for frozen meat and poultry is tighter than required by good commercial practices when these products are moving in regular wholesale-retail distribution channels.

RELABELING OF REJECTED PRODUCTS

The Department makes every possible effort to insure compliance with its regulations concerning the reentry of rejected food into commercial channels. Department of Agriculture personnel in the course of routine field reviews for their respective programs, as well as personnel from the Office of the Inspector General, take continuing steps to insure that products with USDA markings on the container are not available after rejection, or under any other circumstances, for commercial use.

Because our procedures are quite effective, I would like to explain them in detail. The Department routinely sets out its terms and conditions for procurement. These notices to the trade explicitly include reference to the Department's prohibitions affecting disposition of excess or rejected products, containers, and cases. Each of the commodity divisions procuring the various food items states the following in its purchase terms and conditions:

Containers, which bear markings required under the contract, shall be used only for the product to be delivered to USDA under the contract. Any such markings on any containers, whether empty or containing rejected products which are not so delivered and accepted by USDA, shall be completely and permanently obliterated or destroyed. The release or use of any containers, bearing markings required under the contract, to outlets other than USDA, will result in damage to USDA in increased expenses in answering inquiries or complaints, the cost of which would be difficult to prove. Contractor agrees to pay, as compensation and not as a penalty, liquidated damages of $100 for the first inquiry or complaint received by USDA arising from any actual breach of this provision and $24 for each additional inquiry or complaint arising from the same breach. It is mutually agreed that such amounts are a reasonable estimate of the actual damages which may result from the breach.

In essence, if commodities are rejected upon offer by the shipper, it is his responsibility to see that USDA markings are obliterated. He accepts the responsibility unequivocally, and he agrees to payment of damages if he breaches it.

When a shipment of USDA-donated foods is received in damaged condition and the entire shipment is not to be rejected back to the shipper, consignees are required to accept all commodities which are usable for human consumption. Such commodities are recoopered and used. Unusable portions that may have salvage value may, upon demand of the delivering carrier, be turned over for railroad salvage.

A review of the prices paid for foods used in the Department's various food programs indicates that there is little or no increase in cost as a result of the Department's relabeling requirements and procedures with respect to rejected foods.

These procedures originated in consequence of complaints received by the Department over a period of years. The complaints usually were confined to the policy question of whether we would allow foods originally packed for the exclusive use of the Department of Agriculture to be sold in commercial retail channels.

Labels on all packaged foods distributed domestically by USDA contain the statement:

Purchased by the
U.S. Department of Agriculture
Washington, D.C.

Not to be sold or exchanged

Nearly always, when any products bearing this kind of label appeared in salvage stores or other retail outlets, the Department was flooded with complaints or tips that stolen goods were being offered for sale. Consequently, we decided that something should be done to avoid this confusion and misunderstanding, short of barring its commercial sale entirely.

Originally, the first remedial step taken was to require that sellers remove from the label the portion stating not to be sold or exchanged. This requirement went into effect in the late fifties.

In 1960 the Department adopted an even more restrictive policy regarding foods rejected by us. At that time, the Department stated that all USDA markings required under the contract must be removed after rejection and before entry into commercial channels of trade. The only exception involves products which are rejected to railroad carriers. They are not required to obliterate markings on containers or products rejected to them but are required to stamp the containers with the words "Railroad salvage."

We believe that these restrictions on the commercial sale of USDA labeled products have served a worthwhile purpose and have been carried out at no appreciable cost to the Government.

Mr. WYDLER. Why that exception?

Dr. MEHREN. Because this is a standard part of railroad and transport procedure. They are subject to every requirement of wholesomeness and honesty of presentation that other products are, but it is a part of the damage claim of a consignee or a shipper against the railroad. It is, I believe—Mr. Grange can check me if I am not right—a part of standing procedure and standing law that railroads may claim usable products fit for consumption honestly labeled and use part of

those receipts to cover the damage costs that are involved in whatever trouble occurs. This is essentially correct, is it not?

Mr. GRANGE. Yes.

Mr. WYDLER. What law?

Dr. MEHREN. The ICC regulation and I presume the ICC statute; I don't know the precise law. This is a standard procedure.

Mr. GRANGE. If I might add——

Mr. WYDLER. The law prohibits you from requiring them to obliterate markings? Is that what you are telling me, Dr. Mehren?

Dr. MEHREN. No, it requires that the product, in a partially damaged case or container involving damage which has occurred in the process of transportation, can be salvaged by the railroads.

Our regulations don't require, for this one exception, the obliteration of the USDA markings, but we do require them to overstamp with "Railroad salvage," so the product is identified to the consumer.

Mr. WYDLER. Fine; now you are back to my question: "Why the exception?"

Dr. MEHREN. The exception really is because this is a part of standard procedure in the transportation claim matters; and I believe it is also authorized under the ICC statute. I am not sure. Do you know?

Mr. GRANGE. I am not positive of that. I know, as you say, that it is standard, accepted, longstanding practice. We have had no misunderstanding or confusion, as far as I know, concerning the matter of railroad salvage.

This is usually caused by some rough handling, an accident or something. You have physical damage to the goods. You see the stamp "Railroad salvage" on the goods and it is obvious to everyone what it is being used for.

Mr. WYDLER. I understand exactly what you have said three times now, that you don't require it and that instead of requiring the obliteration of the markings you require them to stamp it with "Railroad salvage." That is clear. What I don't understand is why we make that exception.

Mr. GRANGE. It seems——

Dr. MEHREN. I also answered that three times, but if it pleases you I will try it again.

Mr. WYDLER. All right, try it again, Dr. Mehren, without telling me you stamp it "Railroad salvage." I know that. Why do we make the exceptions?

Dr. MEHREN. My understanding again, Congressman, if the reason for the exception is that if they be wholesome and no deception be involved in their handling, it is standard procedure, I know—and I believe law, the legal authority of the transport carrier—to salvage that which under standard law can effectively be sold in commerce as a means of minimizing or mitigating the impact of the transport loss and the consequent damage claims that impinge upon the transportation company.

This, to my knowledge, is the reason for this exception.

Mr. WYDLER. That is just another reason for introducing the matter into commercial channels. It is not a reason for not requiring them to obliterate the markings as you require everybody else to do.

Dr. MEHREN. We require an overstamp of the marking in this case.

Mr. ROSENTHAL. Maybe we should leave the record open on this

point and you can have your legal counsel draft a response to this question. I think that would be more useful.

Dr. MEHREN. I would be happy to do that.

Mr. GRANGE. There is one practical aspect of this we have not yet mentioned. In connection with railroad salvage, in practically all cases we are dealing with portions of cargo. It is not an entire cargo that has been rejected. They have it in their railroad yard some place. We are talking about 25 cases or something like this. They are dealing not only with our foods but others.

This matter of using the railroad salvage stamp applies pretty much generally. We are simply conforming to a standard practice in setting up this exception.

This, I think, is the principal reason.

Mr. ROSENTHAL. Mr. Wydler's question was quite specific. We understand why you have to put down railroad salvage. Why don't you obliterate the Department of Agriculture stamp?

Dr. MEHREN. If it is satisfactory to you, I will ask General Counsel of the Department to give the precise legal and regulatory specifications involved here. I have answered as best I can. At any rate, I have tried.

(The following material was furnished:)

We are advised that there are no statutory nor administrative regulations with respect to the obliteration of labels on shipments rejected to the railroads nor to the disposal of such shipments by the railroads.

Railroads normally request the shipper to furnish instructions for disposition of such merchandise. If the merchandise is abandoned to the railroad, it is disposed of in the most expeditious manner possible.

Railroad officials confirm that it is a general standard practice to mark such merchandise as "railroad salvage" prior to its sale. Therefore, the USDA requirement conforms with the standard practice for identifying all rejected merchandise which is sold by railroads. We have no knowledge of instances where sale of merchandise marked "railroad salvage," with commercial or Government labels, has caused or been accompanied by any false or misleading impressions on the part of the purchaser.

Dr. MEHREN. Now with respect to consumer awareness of government rejection, we see no reason to question the legality or propriety of selling Government-rejected food products in commercial channels if such products comply with all applicable Federal standards for wholesomeness, identity, minimum quality and labeling. Conversely, no food products which are unfit for human consumption—or below minimum standards—should be permitted to move in commerce whether or not such products have been rejected by a Government procurement agency.

We do not know of any consequential rights over the ultimate disposition of rejected products which might inure to the Department as the result of the contractor having submitted himself to the procurement process set out in our regulations and contract terms. As indicated above, we use the liquidated damages approach in implementing the requirement that all USDA ownership markings shall be obliterated or removed whenever products are rejected.

Presumably, other justifiable restrictions against actions which would result in damages to the procuring agency could be handled in the same manner. We have no suggestions, however, for additional restrictions at this time.

Another factor to keep in mind is that prohibiting the commercial use of our distinctive USDA ownership label on rejected products is relatively easy to enforce. Other merchandising restrictions might not be.

We see no reason to think that new legislation requiring disclosure on the label of all Government-rejected products would be constructive or beneficial to consumers. A wholesome, suitable product meeting regular commercial-level standards should be sold without the stigma or onus of carrying a "rejected" label.

Many commercial distributors and retail firms carefully select commodities for their own brand identification either by their own specifications and examination or by use of USDA inspection and grade standards or by some combination. These firms often reject large quantities of products which fail to meet some or all of their specifications. It would serve no useful purpose for a consumer to know that a commercial firm had rejected a product which is lawfully being offered for sale by a different firm. My point in making this comparison is to indicate that we see no difference in this regard between rejection under special standards by a commercial firm and rejection by a Government agency when wholesomeness, safety, and honesty are not at issue in either case.

REPORTING REJECTIONS TO USDA INSPECTION ACTIVITIES

There are no written regulations relevant to the reporting by other Federal agencies to USDA regulatory inspection authorities concerning the identity of foods which they reject.

Our regulatory authority relating to fitness for human consumption applies on a mandatory basis only to meat and poultry products. The Food and Drug Administration exercises such authority for other foods.

Within the Department, we have a standing and continuous arrangement whereby our meat and poultry inspectors are notified of any USDA-rejected meat or poultry product which is considered to be unfit for human consumption. In many instances, such inspectors also perform the acceptance or rejection examination in our procurement operations, so that their notification takes place automatically.

We have recently reviewed with the Defense Supply Agency its procedure for reporting rejections of meat and poultry products. A procedure has been established which is comparable to our own internal arrangement. In other words, if the DSA rejection occurs at a meat or poultry plant which is operating under USDA inspection, such rejection will be routinely reported to our inspector-in-charge for his consideration and appropriate action. If the rejection of a meat or poultry product occurs at destination, the DSA Regional Headquarters will notify the appropriate USDA field office if such action appears to be desirable in view of the nature of the standards and the product deficiency in response to which DSA rejected the product.

Mr. ROSENTHAL. Is this procedure in effect as of today?

Dr. MEHREN. I don't believe it is formally in effect. I do believe the procedures have been agreed upon and the formal drafting of the interagency agreement is underway.

Mr. ROSENTHAL. When would you project it would be in effect?

Dr. MEHREN. I would say very shortly. I would think within a matter of 1 or 2 weeks. I believe this formal interrelationship was generated by the inquiries your committee started.

TESTS ON MEAT OR POULTRY PRODUCTS RETURNED TO OFFICIAL ESTABLISHMENTS

All meat or poultry products returned to a plant operating under official USDA inspection are received at a designated location in the establishment and are given an organoleptic inspection by a USDA employee before acceptance back into the establishment. Products rejected or returned for suspected unwholesomeness are examined by selecting a sufficient number of samples from the lot to judge its condition. If such examination discloses evidence of unwholesomeness, the product is then subjected to individual examination of each unit. Also, laboratory tests are made if warranted by product conditions. If the unwholesomeness is found to be limited to a few units, a part of the lot might be salvaged and the balance condemned and destroyed for food purposes. If, however, the unwholesomeness is found to be general in nature, the entire shipment would be condemned and destroyed or diverted to nonfood uses.

SPECIFIC REJECTION CASES

Most of the USDA rejection cases on which the committee requested our appraisal on possible bacteriological, nutritional, dehydration or flavor effects describe the cause of the rejection as "temperature of commodity exceeded contract specification." In responding to this request for our appraisal on these factors, I would like to quote from an article, "Quality vs. Safety in Frozen Foods," written by Dr. R. Paul Elliott, our chief microbiologist for meat and poultry inspection:

> Home freezers are not equipped with thermometers, and the consumer neither knows nor cares what the temperature of the freezer is, as long as the food remains hard. The consumer should be informed of the importance of low temperature storage.
>
> However, in order to protect the industry, it should be made clear somehow that the question of public health is not involved.
>
> I think the "do not refreeze" label has done just the opposite. It has instilled into the minds of the consumers, retailers, distributors, and even lawmakers, the mistaken belief that freezing a food twice makes it dangerous to eat.
>
> When a food is thawed and refrozen, there will be a quality loss. Such loss due to one such experience may not be detectable, depending on the nature of the food. We are not recommending that you allow frozen foods to thaw and then refreeze them, because several such experiences will ruin the food from the standpoint of quality.
>
> But this quality loss is not connected with danger to health of the consumer unless during the thawing the product temperature went to above 38° F. for at least a couple of hours, and even then only certain types of foods may be a potential danger.

Lowest recorded temperatures (° F.) for growth of food poisoning bacteria

Type:	
Staphylococcus	44
Salmonella	44
Clostridium botulinum:	
A	50
B	50
C	50
E	38

The table above shows the lowest temperatures at which growth and/or toxin production have been reported by the more common types of food poisoning bacteria.

Note that except for Cl. botulinum type E, we could safely store all goods at slightly below 44° F. Type E is a relatively rare organism. Like the other botulism strains, it requires the absence of air and absence of competing spoilage organisms, and needs a neutral food to grow.

But unlike the other strains, it also seems to prefer fish products, and most important of all, it is rather easily killed by heat. The latter fact probably accounts for its rarity.

In any case, at adequately low chill temperatures foods do not become dangerous to eat. Any frozen-thawed food that has some ice in it would certainly not have become unsafe.

NOT HAZARDOUS

Frozen fruits and vegetables are not potentially hazardous no matter what temperatures they are held at after they thaw, because they either will not support growth of such bacteria, or they will become putrid from spoilage organisms before the dangerous bacteria have a chance.

Raw meat is known to be a source of food poisoning bacteria, but cooking makes it safe.

The precooked, moist, bland foods may be of potential danger to health, but only if they are held in the danger zone, say 50° to 110° F. for several hours, for food poisoning bacteria can survive freezing and grow in such products after thawing.

But the record of frozen foods is very good. Although the "do not refreeze" label implies otherwise, there is nothing about freezing or even refreezing foods that introduces any special hazard. In fact, the opposite is nearer the truth, because of the inability of these bacteria to grow at low temperatures and the tendency of many of them to die off to some extent in frozen storage.

Dr. MEHREN. I would like to add another observation on this general subject. Thawing and refreezing food products is standard commercial practice in producing many items. Seasonal products such as turkeys, orange juice, green beans, peas, red tart cherries, and cranberries are first frozen and stored in bulk containers. At a later date, processors of these products use them in preparing the final consumer item such as turkey pie or dinner, blended fruit juice, mixed vegetables, cherry pie, or cranberry cocktail. The final consumer item is then either refrozen or canned and distributed for retail sale.

CONTINENTAL BAKING CO. CASE

The Defense Supply Agency did not notify USDA that it had rejected 18,563 precooked frozen meals awarded under a DSA contract on October 12, 1966. We did not learn of this particular rejection until your current inquiry on rejected products was started. USDA inspectors stationed at this plant have no record or recollection of this product.

Since receiving your letter of March 20 requesting the Department's comments at this hearing, we have asked the Continental Baking Co. for information about these frozen dinners.

We are informed that there were 25,000 dinners in the original contract, DSA accepted over 6,000 of the dinners, and that 18,563 were rejected. Continental informs us that 18,293 of these dinners are still in storage at their plant. Therefore, only 265 of them have been utilized—practically all of which were used for laboratory testing. A few were sold last fall to employees in the company's thrift store.

Continental informs us that none were sold which, according to their tests, contained high bacteria counts. Continental assured us that they

have no intention of selling the remaining 18,293 dinners for human use if there is any question of their safety or wholesomeness.

Also, we have requested Continental not to dispose of any of these dinners until Department microbiologists have had an opportunity to conduct examinations and tests. Continental has agreed to this request.

Mr. ROSENTHAL. Are you aware that on the container in which the dinners were sold it says "U.S. Inspected and Passed by Department of Agriculture, EST233A"?

Now, there was a rejection here and you say for some reason your people didn't know anything about it.

Dr. MEHREN. At that time, Mr. Chairman, the Department of Agriculture had no authority and no responsibility for the cleanliness, wholesomeness, or any other attribute of any product once it had been passed in the Federal Establishment.

Since the passage of the Wholesome Meat Act, which was made effective a couple of months ago, we do have the responsibility now for surveillance, seizure, detention.

Mr. ROSENTHAL. The question I raise is this: Obviously, you did inspect and approve these dinners and DSA didn't approve them. In other words, there was a difference of opinion between two Federal agencies.

Dr. MEHREN. Yes; obviously, nor did they advise us of this. This could quite conceivably have occurred—and we don't know yet what did occur—but it could have occurred through contamination in the process of transit from the shipping dock of the inspected plant to whatever receiving area was used by the Continental people.

Mr. ROSENTHAL. You say that they still have in their possession some 14,000 dinners. Are you aware of the bacteria count that was obtained from laboratory tests on these dinners?

Dr. MEHREN. Yes; I am aware of those which DSA later reported to us. I have the numbers, very high, as I recall, 1½ to 2.7 million plate count, which is vastly high.

Mr. ROSENTHAL. We showed that to Dr. Goddard yesterday and he said that he, under no conditions, would want humans to consume these dinners.

Dr. MEHREN. As a layman, I would concur fully in his judgment.

Mr. ROSENTHAL. As of now, have you requested Continental or Morton to hold these dinners and not to further dispose of them in any fashion.

Dr. MEHREN. Yes; as a matter of fact, we got this information, which I have transmitted to you now, last night and the request has been made that the remaining 18-odd thousand be held, and the Continental people have concurred.

Now that we know the details, our microbiologist will be there.

Mr. ROSENTHAL. I want you to understand one thing: Our interest is not the specifics of any case but the procedures and mechanism under which the Government operates.

Why do these things happen? Why is there a breakdown in communications between agencies?

Going back to this specific case, if they were frozen when they left the plant, the microbiological organisms wouldn't be growing during the frozen process.

Dr. MEHREN. Generally not, with very few exceptions.

Mr. ROSENTHAL. So it would have happened in the plant or after it thawed out when it reached DSA?

Dr. MEHREN. I would be most doubtful that it occurred in the plant. I have observed most of the inspection activities of our people. I have been close to the matter of inspection and food service. They are effective. There are, however, breakdowns.

Mr. ROSENTHAL. Did you order a reinspection of this particular plant now that you have additional authority?

Dr. MEHREN. Yes; Mr. Grange and Dr. Somers, who handles the inspection work for this agency, have been in direct contact with the plant but they have advised me no information is available there.

The information I gave you with respect to the status and disposition of these products was obtained from the New York office yesterday afternoon. They don't keep records, apparently, there. And we therefore followed it to the headquarters office in New York and got this information last night and their concurrence in holding the product.

Mr. WYDLER. Would the gentleman yield?

Mr. ROSENTHAL. Yes.

Mr. WYDLER. Let me understand this, Dr. Mehren. These dinners were inspected by your inspectors at the plant; is that correct?

Dr. MEHREN. Yes.

Mr. WYDLER. Do you have the reports they submitted on the inspections they made of this particular batch?

Dr. MEHREN. Those have been checked and there was no evidence of any deviation from the normal requirements for passage of this kind of product.

Mr. WYDLER. In other words——

Dr. MEHREN. If I may add, Mr. Wydler, there is a standing regulation in the Department that any rejections, any condemnations, must be identified with respect to reasons for such condemnation and disposition thereafter.

Mr. WYDLER. In other words, your records show that these particular dinners were inspected at the plant and found to be free of this bacteria?

Dr. MEHREN. No; they don't show that. They show they met the standard regulations of the meat inspection division for the passage of products.

Bacteriological standards are not a mandatory or universal element of such standards. The bacteriological testing is not a continuous analysis of every item that goes through a meat plant under our standing rules.

Mr. WYDLER. Were these dinners inspected for this bacteriological content?

Dr. MEHREN. Not to my knowledge, but I don't know that they weren't so inspected.

Mr. WYDLER. Well, in other words, you are telling me that these particular dinners could well have been inspected and approved and have had the bacteriological content in them at the time they left the plant?

Dr. MEHREN. It is not impossible, but it is not likely. We had, as I recall, 120,000 bacteriological tests in all of our inspection and service activities last year.

I say, again, unequivocably that we don't, nor could we ever, I think, undertake bacteriological testing on every item going through food plants.

Mr. WYDLER. How was it that the DSA came upon this bacteriological count?

Dr. MEHREN. I believe they—I speak from advice and not certain knowledge—I believe DSA regularly, on this kind of product, samples it out and tests it bacteriologically as a standard part of their procurement practice. Basically, I would think, to assure against any contamination in the process of shipment from an inspected plant to their receiving areas.

Mr. ROSENTHAL. In other words, even today you don't make bacteriological tests at the packing plants?

Dr. MEHREN. Not on all of it. We take many bacteriological tests, but we don't, on meat products, sample all of it. We sample on an intermittent basis, designed to give us specified reliability intervals, primarily as a flag, an indicator to check back against plant equipment and processing lines.

Mr. ROSENTHAL. You do that not withstanding the fact that these dinners do bear the stamp on here "U.S. inspected and passed by Department of Agriculture."

Dr. MEHREN. Yes.

Mr. ROSENTHAL. In other words you are putting your seal of approval on this without thorough inspection which is risky to do.

Dr. MEHREN. We are putting our seal of approval on these without, in all cases, undertaking bacteriological tests. That is true, Mr. Rosenthal. I would advise our people not to undertake bacteriological tests on every item that goes through a food plant.

Mr. ROSENTHAL. Then you should take off your stamp of approval.

Dr. MEHREN. Not at all. I think that is a misconception, Mr. Chairman. High count is not necessarily associated with the processes of preparation or even with the plant. It can come from hands, air, or from a great many other things.

We use it, as I say, on a sample basis primarily to check the adequacy of the conformity of the plant processes to our own sanitation standards.

Mr. ROSENTHAL. I understand that.

Dr. MEHREN. I might also add that a very low bacterial count is not by any means an indicator of acceptible plant or processing lines.

Mr. ROSENTHAL. I understand that. The point I make is this: I, like most consumers, am rather simple minded. And if it says inspected and passed, I think it is OK.

I don't want to know about any problems you have in inspection. I think it is okay. You are lending your good name to something you are really not supervising very thoroughly.

Dr. MEHREN. That is not at all true. If it is USDA inspected and passed, it is totally fit for human consumption at the time that stamp is put on. We can't ever control the handling of products after they depart from the inspection areas in the plants. I think to assume we could do so, is unrealistic.

Mr. WYDLER. You don't know that, do you? Whether it's fit for human consumption when it leaves the plant?

Dr. MEHREN. Yes, we do. We have a continuing inspection of the raw material that comes in. It is, in fact, a reinspection. Occasionally, a third reinspection, if it's an imported product.

Mr. WYDLER. As far as you know, these particular dinners sold could have been bacteriologically contaminated when they left the plant.

Dr. MEHREN. That is not impossible, but it would be most unlikely.

Mr. WYDLER. But that statement is totally inconsistent with your prior statement that you knew that when they are inspected and approved by the U.S. Department of Agriculture, that they are fit for human consumption.

Dr. MEHREN. I think if you refer back to what I said, it was that essentially there is very high likelihood—of course, errors can occur in USDA inspection or anybody else's inspections. We don't routinely try to make bacteriological analyses of every item that goes through a plant.

I stated further why we use and how we use and to what purpose we use. I state again that our major mechanism, where the assurance of a wholesome product involving meat or poultry products, is to assure clean, inspected, and reinspected raw materials, and then a clean plant and appropriate processes within that plant, plus appropriate quality control mechanisms in the plant itself.

We use the bacteriological testing on the only basis it is operationally effective to use, as a check and a flag.

Mr. WYDLER. I will point out to you once again that you stated in your layman's opinion and in Dr. Goddard's opinion that these dinners are not fit for human consumption. We know they were approved by the Department of Agriculture and were so stamped when they left the plant. And we don't know whether or not they were contaminated with this bacteria at the time they left the plant.

That, to me, does not add up to the fact that we know, when we put that stamp on those packages, whether they are fit for human consumption or not. It's a guess to some extent, or a calculated risk on your part and on the part of the Government.

Dr. MEHREN. Certainly there is a calculated risk in any inspection process, Mr. Wydler, including the item-by-item examination of slaughter which is quite different from processed foods, but we minimize the risk. While it may be difficult and unpleasant to accept the fact, there is risk in any police activity.

Mr. WYDLER. That is what I wanted to hear you say.

Dr. MEHREN. I don't know; again, it's most difficult to disprove a hypothesis. I can't prove there was no bacterial infestation at the time our people stamped it. I know if there were any organoleptic symptoms they would not have gone through, but they could have gone through.

Mr. WYDLER. I think we should have for the record, a copy of the inspection records that were made on this particular batch. I would be interested to read those.

Dr. MEHREN. I think they are available.

Mr. WYDLER. If it does turn out these biological tests were made and the particular shipment was cleared, it may require some further investigation.

Mr. ROSENTHAL. We will hold the record open at this point, Dr. Mehren, you will be able to supply us with copies of those records?

(The following information was supplied:)

Production of frozen dinners under this DSA contract covered the period of December 6, 1966, to October 31, 1967. No USDA inspection records are now available covering this merchandise.

Mr. ROSENTHAL. I also want to correct the record. There were 18,563 of these dinners that were rejected and they still have 14,000. It's our understanding that——

Dr. MEHREN. No, they have 18,293, they advise us.

Mr. ROSENTHAL. I have a letter from the company, signed by the director of quality control—which I would be happy to put into the record at this point.

(The letter referred to follows:)

MORTON FROZEN FOODS DIVISION,
CONTINENTAL BAKING CO., INC.,
Crozet, Va., November 7, 1967.

Hon. BENJAMIN S. ROSENTHAL,
Chairman, Special Inquiry on Consumer Representation in the Federal Government, Washington, D.C.

DEAR SIR: Following is the information you requested in your letter of October 25, 1967, concerning the 18,563 meals, precooked frozen, offered by Continental Baking Co., Morton Frozen Foods Division under contract No. DSA 130–7–C–30570, October 21, 1966, rejected because of a failure to meet Government requirements:

(1) The product is being sold through the Company Thrift Store outlet as individual units. No record is being kept of the purchasing parties nor of the quantities purchased by each nor of the dates of sale. There was no further processing prior to sale. The Company Thrift Stores are used as outlets for finished products which we feel are unconditionally satisfactory for consumption but because of damage or other conditions might not withstand the rigors of introduction into retail channels of distribution.

(2) The frozen meals when offered for Federal use were packed in cartons which make reference to the U.S. Government by virtue of having a USDA establishment inspection legend imprinted on both the carton and the parchment information sheet inserted into the carton. These cartons are packed for shipment in cases bearing the contract number as well as the USDA establishment inspection legend.

(3) The frozen meals when offered for sale after rejection, were removed from the shipping cases and left in the protective carton described above. Samples of the cartons and inserts are included with this letter.

(4) At the present time, we have approximately 14,000 of these dinners in our possession.

I trust the foregoing information adequately satisfies your request. Please feel free to contact me if we can be of further help.

Sincerely yours,

RAY B. DONOHUE,
Director of Quality Control.

Dr. MEHREN. That is at variance with the information they gave us last night.

Mr. ROSENTHAL. I have no special insight. The copy of this letter says that 18,563 dinners were rejected and they still have 14,000, so I assume they disposed of, and they acknowledged disposing of, 4,563 or thereabouts. Not 263.

Dr. MEHREN. Perhaps we'd better check, because this is a rather gross variance from the information telephoned to me.

Mr. WYDLER. They did sell some of these to the general public, didn't they?

Dr. MEHREN. The information given to us last night is that 265 of these dinners were utilized, practically all of which were used for laboratory testing. Their statement to us last night was that a few were sold last fall to employees. I don't have the numbers other than those I have given you here.

Mr. WYDLER. They sold them in their thrift shop to the employees?

Dr. MEHREN. A few were sold last fall to employees in the company's thrift store. Our information is that only 265 of the 18,563 were used, most of those for testing.

Mr. WYDLER. Do you know how they knew the employees bought them at the thrift store?

Dr. MEHREN. I have no information other than what I obtained last night to be as responsive as I could to the questions of the chairman.

Mr. ROSENTHAL. We have a letter from them which says they disposed of 4,000 or so in their thrift stores, sold to anybody. I guess the more the bacteria, the lower the price. [Laughter.]

Dr. MEHREN. At the time this happened, the Department had no authority or responsibility to move against this.

Mr. ROSENTHAL. You have a responsibility once you put your stamp on there. I'm not sure that if someone got sick they couldn't sue you. There is almost a warranty of fitness for use when your stamp is on there.

Dr. MEHREN. Our authority and similarly our responsibilities, since we operate under law, did end on meat and poultry products when the stamp of inspection went on.

Mr. ROSENTHAL. You are interposing your training against my training. I have a sneaking suspicion I might be right.

Dr. MEHREN. It's not impossible, but I proceed under legal advice of the General Counsel.

Mr. ROSENTHAL. Have you made any special inspection of this plant since being notified of this? Bacteriological inspections?

Dr. MEHREN. Your people have been down there, haven't they? [To Mr. Grange.]

Mr. GRANGE. Yes. We have three inspectors stationed at this particular plant. All this happened in the last few days, since we got your notification concerning this case in your letter of March 20, so some of this is still in process—our examination of the remaining stocks is yet to be done.

We will know what we find insofar as the bacteriological contamination is concerned. We are informed, Mr. Chairman—again, all I can give you is what we are told by the company—we are informed that there is only a certain portion of this rejected quantity where the bacterial estimate was involved. So we just don't know yet what we will learn when we have had a chance to sample and run the tests on the product being held.

Mr. ROSENTHAL. Would you submit to the committee a copy of your report when this is finalized so we can include it in the record too?

(The furnished report follows):

REJECTED FROZEN DINNERS, MORTON FOODS; CREZET, VA., EST. 233A

BEEF POT ROAST DINNER, LOT NO. 40

Sample No.	Description	Coliforms per gram	E. Coli per gram	Coagulase+Staphylococci per gram	Enterococci per gram	APC [1] per gram	Salmonella	Other
1149A	Beef and gravy	0	0	Not finished	X	8,600	X	
1149B	Green beans	0	0	do	X	200	X	
1149C	Mashed potatoes	0	0	do	X	17,000	X	
1150	Beef and gravy	0	0	do	X	300	X	
1151	do	0	0	do	X	500	X	
1152	do	0	0	do	X	400	X	
1153	do	0	0	do	X	400	X	
1154	do	0	0	do	X	2,400	X	
1155	do	0	0	do	X	250	X	
1156	do	0	0	do	X	4,800	X	
1157	do	0	0	do	X	600	X	
1158	do	0	0	do	X	100	X	

BEEF POT ROAST DINNER, LOT NO. 41

1159A	Beef and gravy	0	0	Not finished	X	23,000	X	
1159B	Green beans	0	0	do	X	400	X	
1159C	Mashed potatoes	100	0	do	X	120,000	X	
1160	Beef and gravy	0	0	do	X	2,400	X	
1161	do	0	0	do	X	[2] 100	X	
1162	do	0	0	do	X	2,700	X	
1163	do	0	0	do	X	350	X	
1164	do	0	0	do	X	6,200	X	
1165	do	0	0	do	X	900	X	
1166	do	0	0	do	X	550	X	
1167	do	0	0	do	X	1,200	X	
1168	do	0	0	do	X	600	X	

TURKEY AND DRESSING DINNER, LOT NO. 55, PLANT 333

1208A	Turkey, dressing, and gravy	0	0	Not finished	X	4,200	X	
1208B	Mixed vegetables	0	0	do	X	100	X	
1208C	Mashed potatoes	0	0	do	X	750	X	
1209	Turkey, dressing, and gravy	10	0	do	X	5,500	X	
1210	do	0	0	do	X	5,500	X	
1211	do	0	0	do	X	2,200	X	
1212	do	100	0	do	X	2,300	X	
1213	do	0	0	do	X	1,400	X	
1214	do	100	0	do	X	1,200	X	
1215	do	10	0	do	X	2,800	X	
1216	do	0	0	do	X	9,700	X	
1217	do	10	0	do	X	300	X	

See footnotes at end of table, p. 59.

REJECTED FROZEN DINNERS, MORTON FOODS; CREZET, VA., EST. 233A—Continued

Sample No.	Description	Coliforms per gram	E. Coli per gram	Coagulase+Staphylococci per gram	Enterococci per gram	APC [1] per gram	Salmonella	Other
	TURKEY AND DRESSING DINNER, LOT NO. 58, PLANT 333							
1169A	Turkey, dressing, and gravy	10	0	Not finished	X	4,400	X	
1169B	Mixed vegetables	0	0	do	X	350	X	
1169C	Mashed sweetpotatoes	0	0	do	X	2,100	X	
1170	Turkey, dressing, and gravy	100	0	do	X	4,400	X	
1171	do	10	0	do	X	2,200	X	
1172	do	10	0	do	X	1,700	X	
1173	do	0	0	do	X	1,600	X	
1174	do	0	0	do	X	1,000	X	
1175	do	10	0	do	X	3,300	X	
1176	do	10	0	do	X	1,500	X	
1177	do	10	0	do	X	7,700	X	
1178	do	10	0	do	X	1,500	X	
	SWISS STEAK DINNER, LOT NO. 58A EST. 233A							
1179A	Swiss steak and gravy	0	0	Not finished	X	150	X	
1179B	Green peas	0	0	do	X	500	X	
1179C	Au gratin potatoes	10	0	do	X	140,000	X	
1180	Swiss steak and gravy	10	0	do	X	100	X	
1181	do	0	0	do		300	X	
1182	do	0	0	do	X	1,000	X	
1183	do	0	0	do	X	[2] 100	X	
1184	do	0	0	do	X	250	X	
1185	do	0	0	do	X	350	X	
1186	do	0	0	do	X	400	X	
1187	do	0	0	do	X	[2] 100	X	
1188	do		0	do	X	9,900	X	

TURKEY AND DRESSING DINNER, LOT NO. 59

1189A	Turkey, dressing, and gravy	10	0	Not finished	1,700	X
1189B	Mixed vegetables	0	0	do	150	X
1189C	Mashed sweetpotatoes	0	0	do	[2] 100	X
1190	Turkey, dressing, and gravy	10	0	do	1,600	X
1191	do	0	0	do	550	X
1192	do	10	0	do	3,200	X
1193	do	0	0	do	3,000	X
1194	do	0	0	do	2,600	X
1195	do	0	0	do	3,000	X
1196	do	0	0	do	7,300	X
1197	do	10	0	do	750	X
		10	0	do		X

TURKEY AND DRESSING DINNER, LOT NO. 60, PLANT 333

1198A	Turkey, dressing, and gravy	0	0	Not finished	1,900	X
11988	Mixed vegetables	0	0	do	450	X
1198C	Mashed sweetpotatoes	0	0	do	200	X
1199	Turkey, dressing, and gravy	10	0	do	1,000	X
1200	do	10	0	do	2,800	X
1201	do	10	0	do	3,600	X
1202	do	10	0	do	1,200	X
1203	do	10	0	do	1,000	X
1204	do	0	0	do	2,200	X
1205	do	10	0	do	5,800	X
1206	do	10	0	do	3,800	X
1207	do	0	0	do	1,100	X

[1] APC=35° C., 48 hours.
[2] Less than.

X=Denotes no analysis—32° C.; 72 hours.
0=Indicates not found in 0.1 gram portion

Dr. MEHREN. Yes. While it's out of the usual procedure, it would be useful to us to have a copy of the letter from Continental to the committee so we can check the variance in the information passed to us.

Mr. GRANGE. If I might add, on that point, Mr. Chairman, I was told, in my conversations on this, that the inventory control is maintained at a different location from where your response was received and therefore they recognized that some information has been submitted which was at variance with what they now have determined to be the actual fact.

Mr. ROSENTHAL. Then they are sloppy not only in their manufacturing but they are sloppy in their letter writing, if what you say is so.

Dr. MEHREN. It could be. Shall I proceed?

Mr. ROSENTHAL. Yes.

Dr. MEHREN. The *Vilas & Co.* case. This truckload of frozen turkeys was rejected on arrival at destination because the temperature ranged from acceptable level (under 15° F.) to as high as 30° F. Since the temperature never exceeded 40° F. (the level below which bacterial action is practically nil), the inspector allowed the product to be returned to vendor. The turkeys were reinspected at the plant and found to be wholesome and fit for human consumption. They were then relabeled, refrozen, and shipped for commercial sale.

Mr. ROSENTHAL. Let me tell you what our investigation reveals about this case. There were 30,000 pounds of turkeys involved, and the contractor was from Storm Lake, Iowa. They were sent from Storm Lake, Iowa on November 11, 1967, to Jersey City, N.J., and rejected on November 14 because of excessive temperature of up to 30°.

They were placed in a blast freezer in Jersey City and refrozen. They were sent back to Iowa on December 8, 1967. They were defrosted in Iowa on December 9, 1967. They were subsequently—at a date we don't know—refrozen and were sold to the Loblaw Stores in Buffalo, N.Y. and sold under Linden Farm, grade A label, December 13, 1967. They were sold as first-quality turkeys.

Now, aside from the health hazard, which apparently we could argue back and forth, because neither one of us knows if the temperature went to 40 before it went back to 30; when the housewife buys that, and pays the regular price, isn't she being mistreated in not being told that they are likely to be below quality because of the thawing and freezing and the thawing and refreezing?

Dr. MEHREN. If I may respond, the grade A is a different insignia from the "Inspected and Passed for Wholesomeness." The grade A is applied by graders who operate under a statute, who are further governed in their operations by regulations developed by public rule-making, setting the standards, the attributes, the magnitudes, the tolerances around those which define grade A, and if they met those standards, it's the grader's responsibility to put them in grade A, even if they were refrozen 10 times.

Mr. ROSENTHAL. Is grade A first quality?

Dr. MEHREN. In turkeys, yes.

Mr. ROSENTHAL. Is it your testimony that it does or doesn't lose quality upon defrosting and refreezing?

Dr. MEHREN. The evidence indicates that quality is lost on refreezing, depending upon the temperatures and the time involved. This does not, in any measure, indicate that short-term thawing and refreezing

would require, under the statutes and regulations defining what grade A is, that it not be put under grade A.

Again, I say we operate by law and regulation.

Mr. ROSENTHAL. One of our responsibilities is to change laws and to exert an influence to change regulations, and these events today may lead to those things taking place; but isn't it a fact that you lower the eating quality of the turkey by freezing and refreezing a few times?

Dr. MEHREN. Whatever "eating quality" is, this is the judgment of our own people who have done most of the work in temperature-time relationships to quality attributes. It does not by any means mean that the specific thawing and refreezing and time involved here would so have altered the product as to require the removal of a grade A stamp. This is a matter in which I can't speak, because I didn't do the grading.

Mr. ROSENTHAL. Let's establish one thing. There is no question about it that thawing and refreezing lowers the quality of the product.

Dr. MEHREN. I think there are two facts fairly well established. One, that there is a deterioration in quality attributes as a function of time—of time without rethawing. It is apparently established that freezing, thawing, refreezing, does adversely affect quality attributes which may or may not be sufficient to lower the USDA grade.

Mr. ROSENTHAL. There isn't any question about it. The answer to the question is "Yes", because all the material I have from your shop says the refreezing may result in very low quality.

Dr. MEHREN. Yes. It may or may not.

Mr. ROSENTHAL. At any rate, this housewife who bought these turkeys in Buffalo, N.Y., obviously for the Christmas period of 1967, thought she was getting a bird that, because it said grade A, was a first-rate, high-quality, top-notch, high-priced turkey, and the fact is she was getting a good deal less than that.

Dr. MEHREN. The fact is not necessarily so at all. You buy green peas—if you will read, Mr. Chairman, the materials that were prepared in the Albany Laboratory of U.S. Department of Agriculture, you will find that quality changes may be totally nondetectable, depending upon the time and the level of thawing prior to refreezing, the speed at which the refreezing occurs, and the level to which the freezing goes, so that the word quality is a most difficult one, and it does not lead to any reasonable basis that mere thawing and refreezing has so altered the quality, whatever that may be, to justify a grade B.

Mr. ROSENTHAL. I don't know whether it justifies—you are not suggesting that the freezing and refreezing a few times improves the quality?

Dr. MEHREN. Certainly not, but I am also saying that with respect to such things as cranberries, green peas, frozen meats, frozen meals, it is standard practice to thaw, prepare, and process, and refreeze, and that is not necessarily deceptive to a consumer either, is it?

Mr. ROSENTHAL. Let me read for the record so those people who read this record long after I'm gone will understand I wasn't making some of this up. I'm reading from a booklet published by the U.S. Department of Agriculture, Home and Garden Book, Bulletin No. 70, published by U.S. Government Printing Office, January 1967. It says on page 5:

Frozen, raw or cooked poultry that has thawed may be safely refrozen if it still contains ice crystals or if it is still cold, about 40° F. and has been held no longer than 1 or 2 days at refrigerated temperatures after thawing. Thawing and refreezing may lower the eating quality of the food.

Again, in your bulletin issued in 1960, Home Care of Purchased Frozen Foods, it says:

If foods have thawed only partially and there are still ice crystals in the package, they may be safely refrozen. Even this partial thawing reduces the quality, of course, and if some of the high quality has already been lost during previous partial thawing, the additional loss may result in very low quality.

(Excerpts from USDA publications are printed in the appendix.)

Mr. ROSENTHAL. Now, the story I told was of the turkeys that were frozen and refrozen and it just seems to me that we have no way of knowing whether the quality has changed, other than what you told us in your pamphlets issued by the Department of Agriculture.

Your suggestion is that, presumably, there was no alteration in quality.

Dr. MEHREN. I go much further than that.

Mr. ROSENTHAL. Presumably the lady got a fair shake.

Dr. MEHREN. I made no presumptions at all. I might note in your first sentence that you read from the USDA material there was a presumptive or disjunctive statement, that quality may be affected.

Mr. ROSENTHAL. I said that.

Dr. MEHREN. If you take the technical materials on which that is based, you will find there are systematic, functional relationships between temperature levels, time, and even vacuum. Now the question is simply this in this case. A USDA grader clearly put a grade A stamp on those turkeys after the freezing, thawing, refreezing process. If they didn't meet the legally specified standards for grade A after this thaw, and refreeze, then he failed and made a mistake or was derelict; but generally speaking, he looks at it and the grade A after thawing doesn't go on unless it's grade A.

Mr. ROSENTHAL. We understand that.

Dr. MEHREN. I'm not sure I understand your question.

Mr. ROSENTHAL. That's a good principle, but you also don't let frozen TV dinners out of a factory if they have bacteria.

Dr. MEHREN. Not if we can help it.

Mr. ROSENTHAL. So that one mistake that happened in factory "A" seems to indicate the same—human beings are fallible. The point I made is that your inspector rejected these turkeys.

Dr. MEHREN. He rejected these turkeys for Government procurement, requiring 15° F. This is not a requirement for commercial use. They were at 30° F., which is totally safe for human consumption and totally compatible with normal commercial activity.

Mr. ROSENTHAL. But commercial requirement is 0° F., isn't it?

Dr. MEHREN. No.

Mr. ROSENTHAL. That's what we were told.

Dr. MEHREN. No; it isn't. The 15° F. happens to be the USDA for commodity distribution, school lunch——

Mr. WYDLER. What is satisfactory for commercial use?

Dr. MEHREN. Anything, really, that shouldn't be much higher than 38° F. except for one rare type of bacteria.

Mr. WYDLER. Is that standard?

Dr. MEHREN. I don't think there is any standard. We put it very low for very clear reasons. We have to go into country areas without refrigeration. There is a substantial difference in running it into country institutions or schools with no facilities and running it from a cold-storage house to a chainstore coldroom.

Mr. ROSENTHAL. Let's understand the facts in this case. Your man in Jersey City rejected these for distribution where?

Dr. MEHREN. I don't know the facts. Either school lunch or direct distribution. Mr. Grange tells me school lunch in this case.

Mr. ROSENTHAL. Where?

Dr. MEHREN. In that area.

Mr. ROSENTHAL. He said they weren't satisfactory for the school youngsters in Jersey City?

Dr. MEHREN. No. I think, Mr. Chairman, there is a massive misunderstanding. He rejected it here because our regulations for anywhere require a maximum temperature of 15° F. And we do that for simple, operational reasons. It was well below safety limits for normal commercial use. It was not a deteriorated product, obviously.

We have, as I said in the beginning, special standards for distribution within our programs for good reasons.

Mr. ROSENTHAL. We understand that.

Dr. MEHREN. That doesn't mean there is a poor-quality product.

Mr. ROSENTHAL. How do we know it wasn't 60° F.?

Dr. MEHREN. Because the records given to me by my people say at the time of rejection it was rejected by our procurement people it was 30° F. Not 60° F.

Mr. ROSENTHAL. It says 30° F.?

Dr. MEHREN. Yes.

Mr. ROSENTHAL. Does it say for how long?

Dr. MEHREN. 30° F. upon time of test by our people receiving the product.

Mr. WYDLER. Could you tell me, Mr. Secretary, why, if these turkeys were under 30° F. and were very safe for commercial purposes, they were placed in a blast freezer and refrozen before they were shipped back to Iowa?

Dr. MEHREN. I can't say.

Mr. WYDLER. Do you know who did that?

Dr. MEHREN. No. I don't know the details of this case. All I know is what has been prepared for me and what I have transmitted here.

Mr. GRANGE. I think I can give you a commonsense answer to why it was done, not knowing the actual details at the time. It is common commercial practice, when a frozen product, meat or any other frozen product, leaves a cold-storage place aboard a truck or railroad car, to have it at 0° F. We know that during transit, even with the improved refrigeration equipment, trying to pull it down from some higher temperature in transit is a difficult job. So, if they were going to move it back to Iowa, the first thing they would do, even though the product still was not thawed, it's still at 30° F.——

Mr. WYDLER. And very safe, right?

Mr. GRANGE. But they would move it into a cold-storage plant and get it down to zero before putting it back aboard a truck going to Iowa.

Mr. WYDLER. This is what I'm trying to get at, because we are arguing that these standards you set are not necessarily for commercial use. I'm curious what the commercial standards may be?

Mr. ROSENTHAL. Let me add a word. We have a communication from the National Association of Frozen Food Packers who have developed a code: "Recommended voluntary operating practices for the handling of consumer packaged frozen foods." Is there a difference between packaged foods and turkeys? No? Then they tell us that seven States have adopted its code and it says that—

Any frozen food shipment shouldn't be tendered to nor accepted by a carrier for transportation when the product temperature exceeds 0° F.

Dr. MEHREN. Those are not our regulations.

Mr. ROSENTHAL. Once they reach 30° F., no carrier should have accepted it any more.

Mr. MYERS. He says you start the trip at 0° F.

Mr. ROSENTHAL. But once they reach 30°F., something happened to them.

Mr. MYERS. It says the carrier won't accept them.

Mr. ROSENTHAL. Shouldn't accept them.

Dr. MEHREN. That's well below freezing.

Mr. ROSENTHAL. This code is mandatory in seven States.

Mr. GRANGE. No, sir.

Mr. ROSENTHAL. If it's not, have the record show it.

Mr. GRANGE. If I might, Mr. Chairman, if you are interested in the status of that code, that is the code prepared by the Association of Food and Drug Officials of the United States, commonly known as AFDOUS Code.

Mr. ROSENTHAL. And there are, I believe, seven States that have adopted it. Certain portions of it are mandatory. Some of it is advisory. The matter of 0°, when you offer it for transit, is advisory.

Dr. MEHREN. This is good commercial operating practice. We don't quarrel with this. This is a good target. This is what they should have. The question we got into here is, how much deviation from it is possible before it affects either quality or wholesomeness.

Mr. ROSENTHAL. You made the statement your standards were higher than commercial, 15° was higher than commercial, and now we find out commercial—some aspects of commercial are lower than yours.

Mr. GRANGE. They don't reject. Go ask commercial buyers if, in fact, they will reject as we do when it exceeds a certain stipulated temperature. I think you will find our statement will stand up, that we are generally tighter than the minimum commercial requirement. Now, Mr. Chairman, part of that code also gives a 10° tolerance. They recommend zero all the way through, freezer boxes in the stores, in transit or out of storage, but they give a 10° tolerance. If it's 10° F. then they should detain it until they run tests; organoleptic examination or other examinations to determine whether or not it has been damaged to the extent that some action should be taken against it. There is not in that code—if my understanding of it is correct—there is not in that code any automatic trigger at a certain temperature when they automatically would say this is not fit to be moved.

It just serves as a flag to run further tests to determine its condition.

Mr. WYDLER. I will read from the model code that the association was talking about, which has been adopted by seven States, and let's just see if what they say is in keeping with what you told us here this morning.

It says:

All frozen foods shall be held at an air temperature of zero degrees Fahrenheit or lower except for defrosting cycles, loading and unloading, or for other temperature conditions beyond the immediate control of the person or company under whose care or supervision the frozen food is held, provided that only those frozen foods destined for repackaging into smaller units may be defrosted for that purpose.

(b) the internal product temperature of frozen foods shall be maintained at 0° F., or lower, except when the product is subjected to the above mentioned conditions, then the internal product temperature shall not exceed 10° F. and such product shall be returned to 0° F. as quickly as possible.

Dr. MEHREN. Is that a law or recommendation?

Mr. GRANGE. That is a recommendation.

Mr. WYDLER. Would you comment on that in connection with what you told us this morning?

Dr. MEHREN. Will you comment on that, Mr. Grange? In connection with what we told the committee this morning, please?

Mr. GRANGE. This is an AFDOUS recommendation. It is not a law as such.

Mr. WYDLER. Subscribed to by the American Trucking Associations, the National Association of Food Chains, the National Association of Frozen Food Packers, the National Association of Refrigerated Warehouses, the National Association of Retail Grocers of the United States, the National Fisheries Institute, the National Frozen Food Association, and the National Prepared Frozen Food Processors Association. They all think it's a good rule.

Dr. MEHREN. Yes, sir. If this be true, and they do it—if they do it and if it be mandatory—a tighter standard on temperature than we do for institutions, direct distribution in schools, because such are the numbers.

Mr. WYDLER. You have told us here today that the reason that you have tighter rules than they do in the commercial line and therefore you reject goods which are good for the commercial line, because you have higher standards. But they seem to have higher standards than you do.

Dr. MEHREN. If those be standards rather than a recommendation of an industry group, the fact that we reject at levels well below any reasonable safety levels, 15° is not a temperature at which difficult or unpleasant bacteria proliferate; 30° is not either. A product at 30° is quite safe. We reject at 15° because we don't have good control over holding temperatures in many of the entities that receive our products.

Mr. ROSENTHAL. I think we should go on, because we have people from the Public Health Service who are more qualified than we are to discuss this issue, and I think they will address themselves to that.

(The text of the AFDOUS Code appears in the appendix.)

Dr. MEHREN. Next is the Armour & Co. case. This truckload of frozen turkeys was rejected on arrival because the temperature exceeded the contract specifications of 15° F. The range was 24° to 30° F. The vendor sold the product in commercial channels. As long as the product temperature did not exceed 40° F. and was handled in a sanitary manner, there was no reason to consider that the product was unwholesome.

City Packing Co. case: This truckload of ground beef was rejected at point of origin because of improper packaging, damaged cartons,

and evidence of having been defrosted. The examination was made by a Federal meat grader. His certificate showed no indication that the product would be hazardous to health or otherwise unfit for human consumption. Consequently, it was released to the vendor for disposition.

Farmer's Product Co. case: This truckload of frozen turkeys was rejected at destination because the temperature ranged from 15° to 28° F. The contract called for 15° F. or below. The product was otherwise in good condition and was therefore released to the vendor for refreezing and sale into commercial channels. School lunch labels were removed and the proper labels applied for domestic sale.

Goldkist Co. case: This truckload of frozen chickens was rejected at destination and returned to vendor due to excessive temperature ranges above the contract specification of 15° F. The recorded range was 20° to 30° F. The product was returned to the plant where it was reinspected, repackaged, and refrozen. Goldkist has since sold 31,500 pounds of this lot to commercial buyers. A USDA poultry inspector on last Thursday, March 28, examined the remaining 4,500 pounds in storage in Boaz, Ala. He found that the product is in good condition.

Mr. ROSENTHAL. Did he make a bacteriological test?

Dr. MEHREN. I can't answer that. I don't know. We can find out and enter that.

(The Goldkist analysis follows:)

REJECTED FROZEN, RAW, CUT-UP POULTRY PARTS, PLANT 413, GOLDKIST POULTRY, BOAZ, ALA.

Sample No.	Description	Coliforms per gram	E. Coli per gram	Coagulase+Staphylococci per gram	Enterococci per gram	APC [1] per gram	APC room temperature	Other
1275	Frozen, raw, poultry parts	0	0			4,800	5,800	
1276	do	0	0			2,000	2,300	
1277	do	3	0			5,600	7,000	
1278	do	3	0			3,400	3,000	
1279	do	3	0			31,000	41,000	
1280	do	3	3			5,700	6,400	
1281	do	0	0			2,700	3,200	
1282	do	3	0			2,300	2,200	
1283	do	3	0			6,100	6,800	
1284	do	0	0			1,900	2,400	

X=Denotes no analysis.
0=Not found in 0.1 gram portion.

[1]APC=35° C., 48 hours.

Swift & Co. case: This truckload of frozen chickens was rejected at destination and returned to the vendor due to a temperature range reaching 30° F., whereas the contract specification called for 15° F. The product was returned to the plant, where it was reinspected, repackaged, and refrozen. Swift has since sold 9,000 pounds of this lot to commercial buyers. A USDA poultry inspector on last Thursday, March 28, examined the remaining 27,000 pounds in storage in Los Angeles. He reports that the product is in good condition.

Mr. ROSENTHAL. Can we also get a bacteria check on that?

Dr. MEHREN. I will check and see. If it would be helpful, I have available and would be happy to submit to the committee a statement of the 12 different products on which we run bacteriological tests, Mr. Chairman, the nature of such tests, the sampling basis for them, the degree of continuity, et cetera.

(The Swift & Co. analysis follows:)

REJECTED FROZEN RAW POULTRY, PLANT 312, SWIFT & CO., FRESNO, CALIF.

Sample No.	Description	Coliforms per gram	E. Coli per gram	Coagulase + staphylococci per gram	Enterococci per gram	35° C. APC per gram	Room temperature [1] APC/gram	Other
1129	Drumsticks, 1 lb. box	25	3			170,000	250,000	
1130	Thighs, 2 lb. box	3	3			39,000	68,000	
1131	Drumsticks, 1 lb. box	0	0			190,000	220,000	
1132	Thighs, 2 lb. box	3	3			120,000	130,000	
1133	Drumsticks, 2 lb. box	3	0			130,000	130,000	
1134	Breasts, 1 lb. box	3	0			52,000	79,000	
1135	Drumsticks, 2 lb. box	3	0			120,000	120,000	
1136	Thighs, 1 lb. box	25	0			430,000	640,000	
1137 [2]	Thighs, 2 lb. box	2,500	0			52,000	87,000	
1138	Wings, 1 lb. box	25,000	250			20,000,000	45,000,000	
1939	Drumsticks, 2 lb. box	0	0			48,000	74,000	
1140	Breasts, 1 lb. box	3	0			120,000	140,000	
1141	Thighs, 1 lb. box	3	0			47,000	82,000	
1142	Drumsticks, 2 bl. box	3	0			19,000	21,000	
1143	Thighs, 2 lb. box	25	0			98,000	140,000	
1144 [2]	Wings, 1 lb. box	25,000	25			13,000,000	34,000,000	
1145	Drumsticks, 1 lb. box	3	3			34,000	50,000	
1146	Thighs, 2 lb. box	25	0			27,000	50,000	
1147	Thighs, 1 lb. box	25	3			94,000	160,000	
1148	Drumsticks, 2 lb. box	3	0			75,000	150,000	

X—Denotes no analysis.

[1] Room temperature counts—plates counted after 4 days' incubation.

[2] This lot was voluntarily destroyed by Swift & Co., under USDA supervision, on Apr. 26, 1968.

Dr. MEHREN. I can also give you the product breakdown over all the bacteriological testing we did in the past year if that would be helpful.

Mr. ROSENTHAL. Yes. Without objection that will be included in the record.

Dr. MEHREN. I will ask Mr. Grange to get copies of this and we will submit it.

(The information referred to follows:)

FOOD PRODUCTS WHICH WERE SUBJECTED TO BACTERIOLOGICAL TESTS ON EITHER A REGULAR BASIS OR AN ORGANIZED SURVEILLANCE PROGRAM IN 1967 BY USDA INSPECTION SERVICES

1. Frozen orange juice: Tested on a regular basis, in all plants under inspection.
2. Nonfat dry milk: Tested on a regular basis.
3. Dry whole milk: Tested on a regular basis.
4. Wheat flour blend: New product which will be tested on a regular basis.
5. Butter: Tested on an organized surveillance basis.
6. Frozen blueberries: Tested on a spot-check surveillance basis.
7. Meat and poultry products: Tested on spot-check basis only.
8. Questionable products: Tests are made on all products that are observed which present reason to be questionable.
9. Egg products: Salmonella tests performed by producing company. USDA reviews the test results. Positive samples are returned for reprocessing. (There is a zero tolerance.)
10. Dry eggs: Each lot is tested—zero tolerance.
11. Frozen eggs: Statistical sampling—tests for Salmonella only.
12. Imported meats: Tests for Salmonella. Spot-check basis only.

Number of bacteriological tests performed by USDA inspection services in 1967

Product	*Number of samples*
Meat products	4,362
Poultry products	3,056
Poultry and meat products:	
Domestic	730
Import	1,575
Frozen orange juice	5,000
Dairy products:	
Plate	60,000
Salmonella	5,000
DMC	15,000
Grain products	500
Liquid eggs	7,000
Dry eggs	18,000
Total (approx.)	120,000

Dr. MEHREN. Bacteriological testing. Selective use of bacteriological tests, if properly interpreted, is an important adjunct to a sound and effective food standards and inspection program. Microbial standards taken by themselves alone would not, however, be an adequate substitute for plant inspection in determining if sanitation is good or bad. High aerobic plate counts may not reflect contamination but, instead, may be caused by time-temperature abuse in processing. Conversely, a low count food does not necessarily reflect good sanitation or wholesomeness because bacteria can easily be cooked to destroy evidence of unsanitary conditions during processing.

Good examples of the significance of microbial standards are provided by dry milk and dry eggs. The level of micro-organisms in dry milk provides a guide to the conditions under which the fluid milk

was produced and handled as well as to whether any abuse occurred in the processing plant. Consequently, the USDA standards for dry milk provide specific bacterial limitations. About 75,000 samples of dry milk were tested last year under our voluntary inspection program in certifying 800 million pounds of product, or 49 percent of the national production.

Incidence of Salmonella in dry eggs is a particularly difficult problem because this airborne micro-organism is so easily transported by the large volume of warm air required to dry the pasteurized, liquid eggs. Therefore, all dry eggs produced under the USDA continuous inspection program are required to be tested for Salmonella bacteria prior to release for consumption. Last year, about 18,000 tests were performed under our voluntary inspection program in certifying 45 million pounds of product, or 72 percent of the national production.

Dried milk and dried eggs are the only products under USDA mandatory or voluntary inspection standards for which bacterial estimates for each lot of product are required as part of our inspection process. For meat and poultry products (as well as other foods under voluntary inspection), many surveillance bacteriological tests are made. The primary function of these tests is to try to correlate good sanitary practice with microbial levels for specific products. Abnormal results can then be used as a warning device for intensified inplant sanitary inspections to guard against some hidden or overlooked source of contamination. Our inspection services performed more than 20,000 such tests during this past year.

And this, Mr. Chairman, ends my formal statement.

Mr. ROSENTHAL. Your full statement will be printed at this point in the record.

(The statement referred to follows:)

PREPARED STATEMENT OF GEORGE L. MEHREN, ASSISTANT SECRETARY, DEPARTMENT OF AGRICULTURE

Mr. Chairman and members of the committee, I am happy to respond to your request for information about practices of the Department of Agriculture governing sale in commercial channels of food products which fail to meet Departmental purchase specifications.

We have a two-fold interest in your inquiry. First, we carry major responsibility in the field of consumer protection through enforcement of the meat and poultry inspection programs along with many other service and regulatory functions. Secondly, we are one of the major Federal agencies buying food. With our relatively tight specifications for the school lunch and needy family distribution programs, many rejections of commodities are made.

The Department provided or helped to provide food to almost 27 million people during fiscal year 1967. Some 22 million school children, 1.3 million people in institutions and 3.3 million needy persons received almost 1.5 billion pounds of foods costing about $247 million. In conducting these programs, we made a continuous—and we believe a successful—effort to insure that only high quality, wholesome foods reach the people who participate. At the same time, we took definitive steps to insure that foods purchased by the Department do not re-enter commercial channels in a manner that might be deceptive or in any other way harmful for ultimate consumer use.

Generally speaking, most rejections by the Department of proffered products result from the product not meeting the relatively high specification standards set for our own food programs. Normally, rejection for these programs does not render the product unwholesome or in any other way unfit for human consumption. U.S. Department of Agriculture specifications for the food products it purchases are generally considerably higher than minimum commercial standards. This difference in specifications is entirely reasonable in the light of

differences in purposes and in handling conditions. There are many instances where the distribution of USDA donated food at the local level is—and necessarily must be—made with inadequate equipment and under difficult conditions not prevalent, necessary or generally permissible in commercial trade. In order to insure the wholesomeness and the acceptability of these food products distributed in our programs, it is necessary to establish and to maintain higher standards than are needed for regular commercial distribution. For example, our maximum temperature specification at time of unloading at destination of 0° F. for frozen orange juice and 15° F. for frozen meat and poultry is tighter than required by good commercial practices when these products are moving in regular wholesale-retail distribution channels.

RELABELING OF REJECTED PRODUCTS

The Department makes every possible effort to insure compliance with its regulations concerning the reentry of rejected food into commercial channels. Department of Agriculture personnel in the course of routine field reviews for their respective programs, as well as personnel from the Office of the Inspector General, take continuing steps to insure that products with USDA markings on the container are not available after rejection, or under any other circumstances, for commercial use.

Because our procedures are quite effective, I would like to explain them in detail. The Department routinely sets out its terms and conditions for procurement. These notices to the trade explicitly include reference to the Department's prohibitions affecting disposition of excess or rejected products, containers and cases. Each of the commodity divisions procuring the various food items states the following in its purchase terms and conditions:

"Containers, which bear markings required under the contract, shall be used only for the product to be delivered to USDA under the contract. Any such markings on any containers, whether empty or containing rejected products which are not so delivered and accepted by USDA, shall be completely and permanently obliterated or destroyed. The release or use of any containers, bearing markings required under the contract, to outlets other than USDA, will result in damage to USDA in increased expenses in answering inquiries or complaints, the cost of which would be difficult to prove. Contractor agrees to pay, as compensation and not as a penalty, liquidated damages of $100 for the first inquiry or complaint received by USDA arising from any actual breach of this provision and $25 for each additional inquiry or complaint arising from the same breach. It is mutually agreed that such amounts are a reasonable estimate of the actual damages which may result from the breach."

In essence, if commodities are rejected upon offer by the shipper, it is his responsibility to see that USDA markings are obliterated. He accepts the responsibility unequivocally, and he agrees to payment of damages if he breaches it.

When a shipment of USDA-donated foods is received in damaged condition and the entire shipment is not to be rejected back to the shipper, consignees are required to accept all commodities which are usable for human consumption. Such commodities are recoopered and used. Unusable portions that may have salvage value may, upon demand of the delivering carrier, be turned over for railroad salvage.

A review of the prices paid for foods used in the Department's various food programs indicates that there is little or no increase in cost as a result of the Department's relabeling requirements and procedure with respect to rejected foods.

These procedures originated in consequence of complaints received by the Department over a period of years. The complaints usually were confined to the policy question of whether we would allow foods originally packed for the exclusive use of the Department of Agriculture to be sold in commercial retail channels.

Labels on all packaged foods distributed domestically by USDA contain the statement:

Purchased by the
U.S. Department of Agriculture
Washington, D.C.

Not to be sold or exchanged

Nearly always, when any products bearing this kind of label appeared in salvage stores or other retail outlets, the Department was flooded with com-

plaints or tips that stolen goods were being offered for sale. Consequently, we decided that something should be done to avoid this confusion and misunderstanding, short of barring its commercial sale entirely.

Originally, the first remedial step taken was to require that sellers remove from the label the portion stating "not to be sold or exchanged." This requirement went into effect in the late fifties.

In 1960 the Department adopted an even more restrictive policy regarding foods rejected by us. At that time, the Department stated that all USDA markings required under the contract must be removed after rejection and before entry into commercial channels of trade. The only exception involves products which are rejected to railroad carriers. They are not required to obliterate markings on containers of products rejected to them but are required to stamp the containers with the words "Railroad Salvage."

We believe that these restrictions on the commercial sale of USDA labeled products have served a worthwhile purpose and have been carried out at no appreciable cost to the Government.

CONSUMER AWARENESS OF GOVERNMENT REJECTION

We see no reason to question the legality or propriety of selling Government-rejected food products in commercial channels if such products comply with all applicable Federal standards for wholesomeness, identity, minimum quality and labeling. Conversely, no food products which are unfit for human consumption—or below minimum standards—should be permitted to move in commerce whether or not such products have been rejected by a Government procurement agency.

We do not know of any consequential rights over the ultimate disposition of rejected products which might inure to the Department as the result of the contractor having submitted himself to the procurement process set out in our regulations and contract terms. As indicated above, we use the liquidated damages approach in implementing the requirement that all USDA ownership markings shall be obliterated or removed whenever products are rejected. Presumably, other justifiable restrictions against actions which would result in damages to the procuring agency could be handled in the same manner. We have no suggestions, however, for additional restrictions at this time. Another factor to keep in mind is that prohibiting the commercial use of our distinctive USDA ownership label on rejected products is relatively easy to enforce. Other merchandising restrictions might not be.

We see no reason to think that new legislation requiring disclosure on the label of all Government-rejected products would be constructive or beneficial to consumers. A wholesome, suitable product meeting regular commercial-level standards should be sold without the stigma or onus of carrying a "rejected" label.

Many commercial distributors and retail firms carefully select commodities for their own brand identification either by their own specifications and examination or by use of USDA inspection and grade standards or by some combination. These firms often reject large quantities of products which fail to meet some or all of their specifications. It would serve no useful purpose for a consumer to know that a commercial firm had rejected a product which is lawfully being offered for sale by a different firm. My point in making this comparison is to indicate that we see no difference in this regard between rejection under special standards by a commercial firm and rejection by a Government agency when wholesomeness, safety and honesty are not at issue in either case.

REPORTING REJECTIONS TO USDA INSPECTION ACTIVITIES

There are no written regulations relevant to the reporting by other Federal agencies to USDA regulatory inspection authorities concerning the identity of foods which they reject. Our regulatory authority relating to fitness for human consumption applies on a mandatory basis only to meat and poultry products. The Food and Drug Administration exercises such authority for other foods.

Within the Department, we have a standing and continuous arrangement whereby our meat and poultry inspectors are notified of any USDA-rejected meat or poultry product which is considered to be unfit for human consumption. In many instances, such inspectors also perform the acceptance or rejection examination in our procurement operations, so that their notification takes place automatically.

We have recently reviewed with the Defense Supply Agency its procedure for reporting rejections of meat and poultry products. A procedure has been established which is comparable to our own internal arrangement. In other words, if the DSA rejection occurs at a meat or poultry plant which is operating under USDA inspection, such rejection will be routinely reported to our inspector-in-charge for his consideration and appropriate action. If the rejection of a meat or poultry product occurs at destination, the DSA regional headquarters will notify the appropriate USDA field office if such action appears to be desirable in view of the nature of the standards and the product deficiency in response to which DSA rejected the product.

TESTS ON MEAT OR POULTRY PRODUCTS RETURNED TO OFFICIAL ESTABLISHMENTS

All meat or poultry products returned to a plant operating under official USDA inspection are received at a designated location in the establishment and are given an organoleptic inspection by a USDA employee before acceptance back into the establishment. Products rejected or returned for suspected unwholesomeness are examined by selecting a sufficient number of samples from the lot to judge its condition. If such examination discloses evidence of unwholesomeness, the product is then subjected to individual examination of each unit. Also, laboratory tests are made if warranted by product conditions. If the unwholesomeness is found to be limited to a few units, a part of the lot might be salvaged and the balance condemned and destroyed for food purposes. If, however, the unwholesomeness is found to be general in nature, the entire shipment would be condemned and destroyed or diverted to nonfood uses.

SPECIFIC REJECTION CASES

Most of the USDA rejection cases on which the committee requested our appraisal on possible bacteriological, nutritional, dehydration, or flavor effects describe the cause of the rejection as "temperature of commodity exceeded contract specifications." In responding to this request for our appraisal on these factors, I would like to quote from an article "Quality v. Safety in Frozen Foods" written by Dr. R. Paul Elliott, our chief microbiologist for meat and poultry inspection:

"Home freezers are not equipped with thermometers, and the consumer neither knows nor cares what the temperature of the freezer is, as long as the food remains hard. The consumer should be informed of the importance of low temperature storage.

"However, in order to protect the industry, it should be made clear somehow that the question of public health is not involved.

"I think the 'do not refreeze' label has done just the opposite. It has instilled into the minds of consumers, retailers, distributors, and even lawmakers, the mistaken belief that freezing a food twice makes it dangerous to eat.

"When a food is thawed and refrozen, there will be a quality loss. Such loss due to one such experience may not be detectable, depending on the nature of the food. We are not recommending, that you allow frozen foods to thaw and then refreeze them, because several such experiences will ruin the food from the standpoint of quality.

"But this quality loss is not connected with danger to health of the consumer unless during the thawing the product temperature went to above 38° F. for at least a couple of hours, and even then only certain types of foods may be a potential danger.

"Lowest recorded temperatures (° F.) for growth of food-poisoning bacteria

Type:	
Staphylococcus	44
Salmonella	44
Clostridium botulinum:	
A	50
B	50
C	50
E	38

"The table above shows the lowest temperatures at which growth and/or toxin production have been reported by the more common types of food-poisoning bacteria.

"Note that, except for Cl. botulinum type E, we could safely store all goods at slightly below 44° F. Type E is a relatively rare organism. Like the other botulism strains, it requires the absence of air and absence of competing spoilage organisms, and needs a neutral food to grow.

"But unlike the other strains, it also seems to prefer fish products, and most important of all, it is rather easily killed by heat. This latter fact probably accounts for its rarity.

"In any case, at adequately low chill temperatures foods do not become dangerous to eat. Any frozen-thawed food that has some ice in it would certainly not have become unsafe.

"NOT HAZARDOUS

"Frozen fruits and vegetables are not potentially hazardous no matter what temperatures they are held at after they thaw, because they either will not support growth of such bacteria, or they will become putrid from spoilage organisms before the dangerous bacteria have a chance.

"Raw meat is known to be a source of food poisoning bacteria, but cooking makes it safe.

"The precooked, moist, bland foods may be of potential danger to health, but only if they are held in the danger zone, say 50° to 110° F. for several hours, for food poisoning bacteria can survive freezing and grow in such products after thawing.

"But the record of frozen foods is very good. Although the 'do not refreeze' label implies otherwise, there is nothing about freezing or even refreezing foods that introduces any special hazard. In fact, the opposite is nearer the truth, because of the inability of these bacteria to grow at low temperatures and the tendency of many of them to die off to some extent in frozen storage."

I would like to add another observation on this general subject. Thawing and refreezing food products is standard commercial practice in producing many items. Seasonal products such as turkeys, orange juice, green beans, peas, red tart cherries, and cranberries are first frozen and stored in bulk containers. At a later date, processors thaw these products and use them in preparing the final consumer item such as turkey pie or dinner, blended fruit juice, mixed vegetables, cherry pie, or cranberry cocktail. The final consumer item is then either refrozen or canned and distributed for retail sale.

CONTINENTAL BAKING CO. CASE

The Defense Supply Agency did not notify USDA that it had rejected 18,563 precooked frozen meals awarded under a DSA contract on October 12, 1966. We did not learn of this particular rejection until your current inquiry on rejected products was started. USDA inspectors stationed at this plant have no record or recollection of this product.

VILAS & CO. CASE

This truckload of frozen turkeys was rejected on arrival at destination because the temperature ranged from acceptable level (under 15° F.) to as high as 30° F. Since the temperature never exceeded 40° F. (the level below which bacterial action is practically nil), the inspector allowed the product to be returned to vendor. The turkeys were reinspected at the plant and found to be wholesome and fit for human consumption. They were then relabeled, refrozen, and shipped for commercial sale.

ARMOUR & CO. CASE

This truckload of frozen turkeys was rejected on arrival because the temperature exceeded the contract specifications of 15° F. The range was 24° to 30° F. The vendor sold the product in commercial channels. As long as the product temperature did not exceed 40° F. and was handled in a sanitary manner, there was no reason to consider that the product was unwholesome.

CITY PACKING CO. CASE

This truckload of ground beef was rejected at point of origin because of improper packaging, damaged cartons, and evidence of having been defrosted. The examination was made by a Federal meat grader. His certificate showed no indication that the product would be hazardous to health or otherwise unfit for human consumption. Consequently, it was released to the vendor for disposition.

FARMER'S PRODUCE CO. CASE

This truckload of frozen turkeys was rejected at destination because the temperature ranged from 15° to 28° F. The contract called for 15° F. or below. The product was otherwise in good condition and was therefore released to the vendor for refreezing and sale into commercial channels. School lunch labels were removed and the proper labels applied for domestic sale.

GOLDKIST CO. CASE

This truckload of frozen chickens was rejected at destination and returned to vendor due to excessive temperature ranges above the contract specification of 15° F. The recorded range was 20° to 30° F. The product was returned to the plant where it was reinspected, repackaged, and refrozen. Goldkist has since sold 31,500 pounds of this lot to commercial buyers. A USDA poultry on last Thursday, March 28, examined the remaining 4,500 pounds in storage in Boaz, Ala. He found that the product is in good condition.

SWIFT & CO. CASE

This truckload of frozen chicken was rejected at destination and returned to the vendor due to a temperature range reaching 30° F. whereas the contract specification called for 15° F. The product was returned to the plant where it was reinspected, repackaged, and refrozen. Swift has since sold 9,000 pounds of this lot to commercial buyers. A USDA poultry inspector on last Thursday, March 28, examined the remaining 27,000 pounds in storage in Los Angeles. He reports that the product is in good condition.

BACTERIOLOGICAL TESTING

Selective use of bacteriological tests, if properly interpreted, is an important adjunct to a sound and effective food standards and inspection program. Microbial standards taken by themselves alone would not, however, be an adequate substitute for plant inspection in determining if sanitation is good or bad. High aerobic plate counts may not reflect contamination but, instead, may be caused by time-temperature abuse in processing. Conversely, a log-count food does not necessarily reflect good sanitation or wholesomeness because bacteria can easily be cooked to destroy evidence of unsanitary conditions during processing.

Good examples of the significance of microbial standards are provided by dry milk and dry eggs. The level of micro-organisms in dry milk provides a guide to the conditions under which the fluid milk was produced and handled as well as to whether any abuse occurred in the processing plant. Consequently, the USDA standards for dry milk provide specific bacterial limitations. About 75,000 samples of dry milk were tested last year under our voluntary inspection program in certifying 800 million pounds of product, or 49 percent of the national production.

Incidence of Salmonella in dry eggs is a particularly difficult problem because this airborne micro-organism is so easily transported by the large volume of warm air required to dry the pasteurized, liquid eggs. Therefore, all dry eggs produced under the USDA continuous inspection program are required to be tested for Salmonella bacteria prior to release for consumption. Last year, about 18,000 tests were performed under our voluntary inspection program in certifying 45 million pounds of product, or 72 percent of the national production.

Dry milk and dry eggs are the only products under USDA mandatory or voluntary inspection standards for which bacterial estimates for each lot of product are required as part of our inspection process. For meat and poultry products (as well as other foods under voluntary inspection), many surveillance bacteriological tests are made. The primary function of these tests is to try to correlate good sanitary practice with microbial levels for specific products. Abnormal results can then be used as a warning device for intensified in-plant sanitary inspections to guard against some hidden or overlooked source of contamination. Our inspection services performed more than 20,000 such tests during this past year.

In conclusion, I thank you for the opportunity to respond to the question submitted to us. My colleagues and I shall be glad to answer any other questions you may have.

Mr. ROSENTHAL. Thank you very much. I shall be brief.

When, for example, the *Villas & Co. Turkey* Case, when they were rejected by your school lunch inspector in Jersey City and then sent back to the plant in Iowa, does your inspector in Iowa know they were rejected and does he have a copy of the rejection so he knows the grounds.

Dr. MEHREN. I don't know if he has it. He is advised and it is reinspected at a specifically designated place in the receiving plant after rejection by us. He would know—I don't know the details of how you send the notice but he is advised.

Mr. GRANGE. He is notified and knows the cause of the rejection.

Mr. ROSENTHAL. We make an extra effort to have tests made?

Dr. MEHREN. He would have an organoleptic inspection, probably, and if there was any suspicion, bacteriological counts would be taken.

Mr. ROSENTHAL. There doesn't seem to be any question that there is a possibility of quality loss in the freezing and refreezing process. Just so we keep the record straight. Is that the way you feel about it?

Dr. MEHREN. There is what could be called a quality loss but let me emphasize again, for full understanding here, that if the grade A goes on after the product goes back, say, to Iowa, one of our graders has checked the item against the specified standards and finds it is grade A. If it isn't, he isn't permitted to put grade A on it. That might mean before the thawing it was this much above the lower level of grade A. Afterwards it might be here but still above the grade A limits.

Mr. ROSENTHAL. The difference between us is just one: Your prima facie belief that because a label on there says it is grade A, everything is OK.

Dr. MEHREN. May I interrupt, please, because that is not what I believe and that is not what I said. I said if our inspectors mark it grade A under the regulations defining grade A, it either was grade A or he was grossly derelict in his duty and if he was he would probably be working elsewhere.

Mr. ROSENTHAL. That is what we are getting down to. Some inspector permitted these frozen TV dinners to get out with your very attractive stamp on it.

Dr. MEHREN. And perhaps he didn't.

Mr. ROSENTHAL. I don't assume anything. That is what we are trying to find out. If there is anything we can do to change procedures to improve the service to the American consumer, that is why we are here.

What you are suggesting is, notwithstanding three refreezings, you believe that because the grader allowed the grade A label to stay on there, that the turkeys were grade A quality?

Dr. MEHREN. Graders are supervised with people on circuits, with their own supervisors, with their own forms, with their own regarding, and if there were a deviation and they weren't really grade A, then something went wrong in the system which on rare occasions does happen.

Mr. ROSENTHAL. How many occasions have there been when you found that an inspector put a grade A label on while in fact it wasn't the case?

Dr. MEHREN. As a totally routine basis, in all our grading activities, there are circuit riders who check. There is a standing and routine procedure for comparison of grade outs in different parts of the country.

There are standing procedures whereby an item, once graded, is pulled out by a supervisor or by the circuit people and rechecked and the numbers of deviations are relatively minor; is that correct?

Mr. GRANGE. It is very small, Mr. Chairman.

Mr. ROSENTHAL. Have you ever found any examples of rejection for school lunch program of turkeys or poultry where for reasons of temperature in excess of 30°?

For example, where it had been 40°, Dr. Mehren?

Dr. MEHREN. None have been reported to me. There may have been such but none have been reported to my office. You may know. I know of none.

Mr. ROSENTHAL. Does that strike you as a little unusual, that all the rejections we have records of were those of around 30°?

Mr. GRANGE. No, sir. These all move under mechanical refrigeration and sometimes the equipment does not work properly. It is not a question of the equipment going out entirely because even on a truck the driver knows this immediately, you see. You are working within a relatively narrow range here. It would be detected and something done before it got up to the 40° or 50° that you are speaking of.

If I might make one observation on this matter, the effect on quality of the freezing: I think we have said, and I think our bulletin says that this is what you should do—that this is what is desirable.

We also say—I wouldn't want to try to argue with you—that repeated and prolonged thawing and refreezing is going to have a harmful effect on the quality of the product. But one or two or three refreezings—and we have run tests on this and had taste panels and so forth—where you are working within a narrow range—actually these turkeys were not at all thawed out. They were just starting to thaw at 30°. You can't, through any kind of examination of the character of the flesh, tissue, taste or anything else, be able to ascertain that there has been, at that point, a damaging effect as far as quality is concerned.

Prolonged and repeated freezing and thrawing, yes, it is bound to have an effect at some point. Within these narrow ranges that we are dealing with here, we are saying in our certifying the quality of the product to the best of our knowledge and ability that we weren't able to detect any change in the quality that would justify saying that it shouldn't move under our grade A label.

Mr. ROSENTHAL. Mr. Wydler?

Mr. WYDLER. To go back to your statement, where you say that in order to insure wholesomeness and acceptability of these food products—distributed in your program—it is necessary to establish and maintain higher standards than are needed for regular commercial distribution. You give as an example of that the fact that you have higher standards for freezing and you maintain 0° to 15°.

Let's assume that wasn't so for the sake of argument, and that the standards that the industry set up are even more stringent than yours.

Would you give me another example of where your standards are higher than the standards of industry, so when you reject something it can safely then be sold to the consumer as something that is fit for them and not for your consumers but for the commercial consumers?

Dr. MEHREN. I think any item we distribute through our commodity distribution program, such as flour, grits, and rolled oats, requires

substantially heavier packaging, for very good reasons, than is normal in the commercial trade.

I would like also to be rather sure before I agree with the point you have made that retailers, in fact, do turn it down. I would say practically all our packaging requirements are substantially higher than those which prevail generally in commercial channels.

To our knowledge, the temperature requirements are substantially tighter—lower, but more stringent than those which to our knowledge prevail in commercial utilization.

The quality specifications on such things as canned fruits, the foreign material requirements are higher than those which are normal in regular channels.

So that practically everything we do through these distribution channels are tighter than that which our people consider at least to be the normal commercial practice.

You may want to expand on that, George.

Mr. GRANGE. I think you covered it. There is no question about it, sir: The specifications on the foods we purchase are above the minimum commercial standards that can be distributed freely in this country. We could give you many examples—just to cite one: The maximum fat that we allow in ground beef or hamburger is 24 percent. Then we discount and cut it out completely at 27 percent. The maximum fat that can be included in ground beef for commercial sale in interstate commerce is 30 percent. We found that 24 percent is a most acceptable product for our school lunch use so we just have a tighter specification.

I could cite tighter specifications on canned peaches, canned tomatoes, and many other commodities.

I am not saying we buy a better product than some top brands sold commercially in this country. I don't want that misunderstood.

But tighter than the minimum requirement that is established for interstate sale.

Mr. ROSENTHAL. Safeway here tells us that theirs is 24 percent.

Mr. GRANGE. It could well be. The minimum is 30 percent. Again, that illustrates the point I was just making about our specifications being tighter than the minimum.

Mr. WYDLER. When you go back to your office you might consider thinking out again the exception you make for allowing railroads to have the right to keep your markings on their cans because I really—in spite of your explanations—fail to see any reason why they should be an exception to the general rule.

I would like to ask you in that connection: Is their failure to put on the can the statement—what is the statement?

Dr. MEHREN. Railroad salvage.

Mr. WYDLER. Is their failure to put that on the cans subject to the $100 fine you told us about?

Mr. GRANGE. It subjects the contractor to the $100 fine. We have no legal hold over the carrier but our contract provides that if it is rejected to the railroad and if he does not put this railroad salvage stamp on it, then the shipper or contractor will be subject to the liquidated damages.

Mr. WYDLER. Because I am sure you are well aware of the fact that some of these products are being introduced into the commercial market without that stamp on them.

Dr. MEHREN. We committed ourselves to get you a statement of General Counsel of the Department with respect to the law on this.

Mr. GRANGE. Did I understand you correctly to say that you knew of some of our products that were being introduced in the commercial market without this stamp?

Mr. WYDLER. Yes. I have been shown a letter since I started to ask these questions dated December 8 of last year, written within your Department, so I presumed you were aware of it. Maybe you aren't. I don't know.

Dr. MEHREN. If we knew of any we would move rapidly. It is illegal.

Mr. WYDLER. I will show you the letter.

Dr. MEHREN. We don't know of any.

Mr. GRANGE. We have a case I am aware of where we are in the process of assessing some liquidated damages.

Mr. WYDLER. This was a report from your northeast district office.

(The memorandum follows:)

U.S. DEPARTMENT OF AGRICULTURE,
CONSUMER AND MARKETING SERVICE,
Washington, D.C., December 8, 1967.

To: JOHN WENN, Jr.,
Director, ASCS Commodity Office.
From: DEPUTY DIRECTOR, COMMODITY DISTRIBUTION DIVISION.
Subject: Complaints—Sale of donated commodities—Syracuse, N.Y.

Our northeast district office in New York has reported that they have investigated some complaints in recent months which have disclosed that USDA commodities appearing in commercial outlets were acquired through railroad salvage sales. Two complaints stemmed from the fact that apparently no effort had been made to obliterate the container markings.

Their investigation on these complaints has indicated that USDA commodities appearing in commercial channels had come from salvage sales made by the New York Central Railroad, Syracuse, N.Y.

We know that your instructions to vendors and carriers require the obliteration of markings before salvage sales are made. However, we suggest that another contact be made with the New York Central Railroad to reemphasize this requirement. Your cooperation is appreciated.

Mr. GRANGE. It probably is this instance I am speaking of where there are liquidated damages involved.

Mr. MYERS. I am sorry I missed part of your testimony this morning but in the cases you cite here about rejections and then you go back—Is that routine that you go back and check or recheck the product after you once rejected it when it is returned to the original packer, Dr. Mehren?

Dr. MEHREN. When the man rejects it at point of reception, there are forms specifying why he rejected it. Then that goes back to wherever that product is received and there is reinspection there. If we reject in New Jersey and it goes back to a plant in Iowa, our man in Iowa would have been informed of the basis. Within the plant in Iowa there is a specified location at which the product is received. It is reexamined and reinspected there. Then on the way out it is inspected again.

Mr. MYERS. So the answer to my question would be "Yes."

Dr. MEHREN. Yes

Mr. MYERS. That is all.

Mr. ROSENTHAL. Thank you.

Just again, for the record, Dr. Mehren: You rejected these turkeys for the school lunch program because they failed to meet certain refrigerated standards?

Dr. MEHREN. Contract terms.

Mr. ROSENTHAL. Contract terms?

Dr. MEHREN. Yes.

Mr. ROSENTHAL. Why should you have those contract terms and why should they be unsatisfactory for your clients and then be satisfactory for the general public?

Dr. MEHREN. Well, it is an entirely safe product at 15°. There is no bacterial infestation or proliferation. At 30° there isn't either, but the common sense of our practice is that if we get it to the receiving point within the State for institutional, needy families, or school use, in many States—not all—but in many there is not really very good transfer facility or holding facility, so we want it at 15° so that by the time it is there it has not gone above 30°. That is why we require 15° where we receive it.

Mr. ROSENTHAL. Is it true or possible that in commercial channels there are also some inadequate facilities?

Mr. MEHREN. Of course I would think there are but generally not. Most of the major distributors have routinized procedures whereby they could, I would think, more easily than we, receive a product at 30° and assure it doesn't get higher than that. We can't do that.

Mr. ROSENTHAL. Are there some States where that is not true?

Dr. MEHREN. I don't know.

Mr. GRANGE. Mr. Chairman, may I just take a couple of moments here—I know you want to finish with us and proceed with your next witness but there apparently is a misconception being expressed between Dr. Mehren and myself and you and your colleagues regarding this matter of the AFDOUS Code and whether our standards are, in fact, tighter than commercial requirements. There are only seven States that have adopted AFDOUS as regulatory standards so when we say we are tighter than commercial standards, of course we are tighter than any regulatory requirements elsewhere.

If you would refer to those standards, and I think it is section G in those standards, you will find that even when it exceeds the 10° it still provides that the product then would be tested organoleptically or bacteriologically, to determine whether or not it should be accepted. This is exactly what we are doing. We support this AFDOUS Code too. We think it is a good code.

We would like to see all frozen foods move in accordance with it. But we are actually rejecting without doing further testing at the 15°, because of our special requirements. Then, knowing that it is still proper when we check it in plants, under the Poultry Products Inspection Act, in the case of the frozen poultry, we would have no justifiable reason to say this product has now become unfit for human consumption and we are going to order it to be destroyed under the Poultry Products Inspection Act. This would be arbitrary and capricious and we wouldn't be able to justify it even under that AFDOUS Code because our tests wouldn't have revealed anything.

So there isn't really, as I see it, any difference or basic conflict here between what you are reading in that code and what we are trying

to express as being the USDA procedure and policy. I hope that explanation will help to clarify this matter.

Mr. ROSENTHAL. Mr. Barash has some questions.

Mr. BARASH. Mr. Secretary, in your statement on page five you say, "We see no reason to think that new legislation requiring disclosure on the label of all Government rejected products would be constructive or beneficial to consumers."

I would like to read to you from section 224 of the "Guide for Retail Advertising and Selling" put out by the Association of Better Business Bureaus, which I think can be said serves as a conscience of sorts of the business community and as a link in the chain between consumers and businessmen, and a fairly effective one, I gather. They say in section 224:

> When Government goods, articles made of Government goods, or goods made for but not accepted by the Government are not new and in perfect condition, their true condition should be disclosed in advertising and selling by an appropriate descriptive material such as "used," or "rejects," "reclaimed," "reconditioned," "seconds," "irregulars," "damaged," * * *.

And so forth.

So I gather then that the better business bureau believes that items rejected by the Government for reasons which cast doubt on their suitability or fitness for private consumer use should be labeled as "rejected."

Dr. MEHREN. I would take no exception, and I believe elsewhere in the statement we did say if for any reason other than failure to meet our contract terms, the product was unwholesome or deceptive or in any other way inimical to the interest of consumers, we would prefer to see standing statutes become effective. If there are deficiencies, I would think the Department would support the remedy of such deficiencies. But there is no variance between what I said and what you said so far as I am concerned.

Mr. BARASH. I am not sure that that is true, because what you said was: "You spoke in terms of wholesomeness, safety, and honesty."

Dr. MEHREN. Which are our legal authority and responsibility, and none others, I might add.

Mr. WYDLER. I want to clear that up. I know that you have to operate under the law.

Dr. MEHREN. It is desirable.

Mr. WYDLER. We are in a position to do something about the law so we don't start off with the assumption that because the statute is written a certain way we are bound by that, and that is it.

Dr. MEHREN. Nor do I.

Mr. WYDLER. If the law isn't satisfactory, we can change it. That is what we were sent here to do by the people.

Dr. MEHREN. That is the duty and prerogative of the legislative. That of the executive is to conform with the law as passed.

Mr. WYDLER. The rules and regulations are only man-made.

Dr. MEHREN. I repeat that with respect to the questions you addressed to us, the commodities and the distribution thereof, we consider we have adequate law for our purposes to assure against unwholesome product, deceptive product, dishonest handling, or any other inimical effect.

Mr. BARASH. We are talking about products in an important no-man's land. Products that are substantially below the quality you can

purchase in the private marketplace but which are, at the same time, not unwholesome, unsafe, and the labeling is not dishonest.

Dr. MEHREN. We would support any legislation which would enhance the capacity of consumers accurately to know what the product is and precisely what its condition is. With respect to the questions you addressed us, these issues weren't present and they are not relevant to resale of products which we reject.

Mr. BARASH. We have a case here, Mr. Chairman, and I will take just one more moment, of a situation in which some margarine was—I think 23,000 pounds of margarine was rejected by USDA because it didn't have potassium sorbate or any other preservative. It was then sold into the private marketplace.

Now, I am advised that without a preservative the shelf life of a margarine item is greatly reduced.

Now, this is a situation in which I understand there may not be any standards for the existence of preservatives in margarine——

Dr. MEHREN. We have them, obviously.

Mr. BARASH. You do, but the point I make is that a consumer purchasing such a product in the private marketplace would be receiving an inferior quality product.

Dr. MEHREN. Without appraising the relevance of your argument, I know that 16 hundredths of 1 percent of the 39 million pounds of margarine delivered to us was rejected so that this is not a matter of major importance in our margarine program.

Mr. BARASH. Except to the people who bought it.

Dr. MEHREN. The 16 hundredths of 1 percent.

Mr. ROSENTHAL. It represents 23,940 pounds. I think the point Mr. Barash is making is, for example, if you knew that these 23,940 pounds of margarine had a modest minimum shelf life, did you have a responsibility to do anything about it?

Dr. MEHREN. No. Because the little bit of margarine we rejected on the basis of our own unique and special contract terms and in the judgment of our technical people was totally fitted for consumer distribution if it were so permitted to enter——

Mr. BARASH. Except that every margarine I have ever seen on a commercial shelf has a preservative, I suppose for good reason. I have the chiffon margarine, the preservative of which is potassium sorbate together with another one. Every one I looked at has a preservative. This is the no-man's land area that I had reference to.

Mr. GRANGE. I think it is quite true there are many millions of pounds of margarine produced in the United States with no chemical preservatives. I know this is true in Europe where margarine is a very large item.

Under the food, drug, and cosmetic law there is a standard of identity for margarine. There are a half dozen different chemical preservatives that are authorized. None are required.

If your premise is correct, the remedial action should be to change the standard of identity to make a preservative required.

Now, potassium sorbate is not normally used in commercial margarine. This is a mold inhibitor. Much of our margarine is stored for longer periods of time than in the commercial market. It doesn't turn over nearly as fast.

We have Puerto Rico and other areas to think of because of the high temperature. Therefore, we added up to one-tenth of 1 percent as a mold inhibitor. We didn't use sodium benzoate, which many of the commercial margarines use as a preservative to keep the fat in suspension better. It is a taste matter. It is a matter of preserving the high taste for a longer period of time.

Mr. ROSENTHAL. It has nothing to do with shelf life.

Mr. GRANGE. Not as such. Not as far as spoilage is concerned.

Mr. ROSENTHAL. That is the reason you rejected it.

Mr. GRANGE. The mold inhibitor we used would definitely tie in with shelf life.

My point is: Our rejecting this particular carload didn't in any way, in our judgment, connote that this was a product that would be inferior, if sold commercially, to many other types of margarines that also are being offered under commercial labels for retail sale.

Dr. MEHREN. And meeting the standards of identity for margarine.

Mr. ROSENTHAL. Thank you very much.

Mr. MYERS. In the case of your frozen products, what prevents the processor from refreezing it, getting it down below the 15 degrees and sending it back to you?

Dr. MEHREN. I don't know what would prevent it, if anything.

Mr. MYERS. You would have no objection if they did that?

Dr. MEHREN. I would have some objections, yes. I think our contract terms would specify the requirements for procurement, would specify all that he is required to do in preparing turkey for us and there would be an ante mortem inspection, inspection during the slaughter process, postslaughter inspection, the preparation of a raw bird into freezing—and those are the terms and none others.

I would think if he took it back and on the sly refroze it and tried to slip it back it would be a prima facie breach of procurement terms.

Mr. MYERS. Knowingly you wouldn't buy it back.

Dr. MEHREN. Knowingly our people would take a dismal view of this.

Mr. MYERS. Would they buy it?

Dr. MEHREN. Not knowingly.

Mr. MYERS. It would still be grade A.

Dr. MEHREN. We wouldn't buy it. We go beyond grade A. We specify the procedures and the raw materials in every procedure that must be met up to the time of delivery. It doesn't include refreezing. If he refroze it he would be deviating from contract terms.

Mr. MYERS. Why shouldn't you accept it?

Before I believe I heard you say you could refreeze without any damage done except it might drop a little bit. It would still be above grade A. Why would you not accept it? On what grounds would you refuse it?

Dr. MEHREN. We would not accept it unless there was specific provision within those contract terms as to refreezing.

Mr. MYERS. Just by contract.

Dr. MEHREN. Yes.

Mr. MYERS. Arbitrarily you would——

Dr. MEHREN. Not arbitrarily.

Mr. MYERS. For no reason.

Dr. MEHREN. Not arbitrarily.

Mr. MYERS. What would be the reason behind it?

Dr. MEHREN. The reason behind that is we maintain 2,200 inspectors in poultry and 6,600 people in meat inspection and we have to have procedures in order effectively to use our inspection service.

Mr. MYERS. I hope there is a reason behind these procedures.

Dr. MEHREN. Yes. We want a clean product to come out.

Mr. MYERS. What is the reason behind this one?

Dr. MEHREN. For the convenience of our procurement of any product we not merely say what the grade and quality attributes of that are but in general we will specify what raw materials must be used, in what condition and what procedures are followed.

Most of those contracts specify in detail the procedures to be followed. If there were no authorization in those terms for refreezing, this would not be conformity to the procurement contract and it would be a breach thereof.

Mr. MYERS. But you said in your testimony that frequently this is done and you realize it is done, that you freeze in quantity, even mass, and then break it down and thaw it and refreeze it then and you would accept this, wouldn't you?

You said you would a while ago.

Mr. GRANGE. Mr. Myers, if I might explain we have been—perhaps you would call it arbitrary. We have a general prohibition against accepting an item once it has been rejected, for whatever the reason.

Mr. ROSENTHAL. Why?

Mr. GRANGE. The reason is this: If we didn't have this rule, it would mean that vendors would be—some of them—would be trying to get by with the absolute minimum requirement to barely meet our standard. We might be faced with making many, many rejections because we would be offered borderline goods. I am not talking about frozen foods now. I am talking about this as a general rule, you see.

So in order to know that we are giving ourselves this much protection and not dealing in borderline goods from some of the vendors who get competitive bids with Government agencies, we have the general rule that once we have rejected something, it is going to stay rejected. They couldn't reoffer it.

Mr. WYDLER. It has to be rejected for your consumers but not somebody else's.

Mr. GRANGE. Right.

Mr. MYERS. Do you ever reject bids because of repeated violations?

Mr. GRANGE. Yes, sir. There is a general blacklist for us as well as all Government agencies for repetitive failure to perform in accordance with contracts.

Dr. MEHREN. I am not sure the committee understands that in our procurement we specify the process that must be followed. This is because we have to operate and administer it and do it efficiently and as low cost as we can. One must not merely deliver a clean and wholesome and honestly packed product, he must conform to the contract terms in its total processing activity. Once it is rejected, that is it. It is out.

Mr. MYERS. The reasoning behind this is what I want.

Why do you set one standard you said a while ago you could refreeze without any damage and now you say you wouldn't accept it for your own use?

Dr. MEHREN. Again I say we must administer a large procure-

ment program paralleled by large inspection and grading programs. Therefore, as a matter of administrative procedure, of efficiency in the use of our people we specify not merely the raw material and the end product but all details of processing intermediate between those points and any deviation is a breach of the contract terms.

Mr. ROSENTHAL. I think you are saying for your own people, to protect yourself, you don't want to take any chances of inspectors' fallibility.

Dr. MEHREN. We want to get our stuff as cheaply as we can.

Mr. ROSENTHAL. But in the commercial market we have to rely on those inspectors.

I understand your point. Because you have such a big operation, you want precise procedures to reduce the room for human error and you don't want any discussions or arguments of any kind with anybody.

What you are permitting in the commercial market are all those discussions and negotiations with an inspector, a different standard from what you want for yourself.

Dr. MEHREN. Different procedure, not standard. If it is not safe, we will knock it over for commercial use.

Mr. ROSENTHAL. You are willing to permit the inspector, whether at Morton's or Buffalo or Iowa, to make that individual judgment?

Dr. MEHREN. How else would you do it?

Mr. ROSENTHAL. For the commercial consumer. For your own, you are not willing to?

Dr. MEHREN. For our own, like any other procurement agency I know about, we specify process as well as product attributes. There is nothing wrong with it.

Mr. WYDLER. Mr. Secretary, would you have allowed the shipping company of the turkeys to have taken the turkeys when you found they were somewhere above the 15° level and have refrozen them down to zero so you could have distributed them to any school at all with great safety?

Dr. MEHREN. I don't know what the rules are there, frankly.

Mr. WYDLER. In other words, as I understand your rationale, for the low-level items just because it might have to go to some school that doesn't have good freezing equipment so the important thing, then, would be that it was at 0° when it left the point of shipment at Jersey City.

So if the company took the turkeys and put them down to zero right there at the shipment point, would you have taken them to let them be used in schools?

Dr. MEHREN. I don't know if that is compatible with the procurement terms or not.

Mr. GRANGE. No, sir.

Dr. MEHREN. Mr. Grange says the answer is "No."

Mr. WYDLER. Then beyond the reason you gave for requiring them to be 15° or less—you said it was because some of the places they were going to go might not have the equipment to keep them at low temperature—if they were at the low temperature when leaving Jersey City, it would seem you would accomplish everything your objection raises.

Dr. MEHREN. Except to open up a variety of operating difficulties, arguments, necessities for resolutions which we avoid by putting into the contract, as I said before, requirements for processes, not merely

for quality of the product or condition of the product, to sell to us, for school lunch or institutions or anything else, you must conform to the processes.

We have just taken a position that once it is rejected and it is all right for other people, they may take it if they wish, but we don't. It is primarily a matter of operating efficiency.

Mr. MYERS. This would be handling rather than processing. I don't know the technical difference but the processing——

Dr. MEHREN. If it comes in over our minimum requirement, we don't provide in our procurement contracts for refreezing. It is just not for us.

Mr. ROSENTHAL. Do you want to take one more crack at this record?

Mr. GRANGE. I just wanted to add this one point in answer to the last question. Perhaps this is too tight a requirement, if they bring it down immediately to zero. Why, then, won't we take it? My answer is simply that once we started permitting deviations from contracts and then accepting after they had reworked, redone, changed the product in some way, we are opening up a territory that we just have not gotten into insofar as the product characteristics are concerned, and it—well, this has been our buying policy.

If we rejected it, because the container is not properly marked, they can re-mark it and correct that. But when you get into product characteristics, we have followed this rather tight procurement policy that, once we turn something down, we don't want that particular product being reoffered to us.

If you recall, you questioned the Department of Defense witnesses because I think the specification was 60 degrees for their eggs. A shipment was above 60 degrees when offered. They took them back, reduced the temperature to below 60 degrees, and reoffered the eggs. You questioned why Defense would let them do that.

If it were damaging at 60, why let them in at the later point? We have been tight in the fact we will not let them change the product and reoffer it.

Mr. MYERS. Then your reasoning behind it is punitive rather than quality control.

Mr. GRANGE. Protective, Mr. Myers, rather than quality control. It would apply to all different kinds of deviations from quality requirements.

Mr. MYERS. Protective, I don't think, means much in this instance.

Dr. MEHREN. We give a man an offer to buy from him if he meets certain conditions. He understands them. That is the basis we operate on. If he deviates in terms of process as well as quality or safety attributes, he hasn't kept it. We can't have a variety of procurement practices.

If we do, we would have a rather——

Mr. MYERS. It has nothing to do with quality control?

Dr. MEHREN. Not necessarily. It is illegal as well as improper for a Government agency to be punitive except under the procedures of law. We would never think of being punitive. But we think of running the shop as well as we can, and this is one way we try to do it.

Mr. ROSENTHAL. Thank you very much. We have one more witness. Thank you very much. We appreciate you being with us. Next witness is Dr. Keith Lewis of the Public Health Service.

Mr. ROSENTHAL. Dr. Lewis, do you have a prepared statement?

STATEMENT OF DR. KEITH LEWIS, CHIEF, FOOD PROTECTION PROGRAM, PUBLIC HEALTH SERVICE; ACCOMPANIED BY WINSTON M. DECKER, DIRECTOR, OFFICE OF RESEARCH AND DEVELOPMENT, BUREAU OF DISEASE PREVENTION AND ENVIRONMENTAL CONTROL, PUBLIC HEALTH SERVICE

Dr. LEWIS. Yes, sir.

Mr. ROSENTHAL. Why don't you read it?

Dr. LEWIS. I have a prepared statement entitled "Public Health Hazards for Microbiological Contamination of Foods."

Mr. ROSENTHAL. You will scare us away. Why not tell us in your own words? You heard the testimony this morning. Why don't you comment on it?

Mr. WYDLER. Mr. Chairman, I ask unanimous consent that the statement be put in the record.

Dr. LEWIS. All right. I would like to mention I have two backup statements submitted for the record also.

Mr. ROSENTHAL. We will put those in, too, without objection.

(The full statement and backup statements are printed at this point in the record:)

PUBLIC HEALTH HAZARDS FROM MICROBIOLOGICAL CONTAMINATION OF FOODS[1]

(By Keith H. Lewis, Ph. D.[2])

PROGRESS TOWARD FOOD SAFETY

Development of Sanitation Programs

Contamination of foods with pathogenic microorganisms has been recognized for more than 60 years as an important factor in the spread of disease. The frequent occurrence of outbreaks associated with contaminated milk, food, and water, aroused the concern of industry and public health agencies during the early years of the 20th century, and led to the development of control measures that now form the basis for food protection in the United States. The better known techniques include pasteurization of milk, chlorination of water, controlled heat-processing of canned goods, refrigeration of perishable products, sanitation of food establishments, veterinary inspection of meats, exclusion of diseased cows from dairy herds, and laboratory examination of foods for microorganisms and filth. The success of these measures is based, not on the eradication of the causative agents from the environment, but on the use of multiple sanitary barriers to prevent transmission of contaminants through the food-preparation chain to the consumer. Application of control measures on a continuing basis is, in fact, essential for effective food protection.

The administrative procedures for obtaining compliance with sanitary requirements were originally carried out mainly at the local and State levels, because most foods, except for a relatively few staple items, were produced, processed, and consumed within the same geographical area. The health department could determine by inspection the sanitary history of a product from farm to dinner table, and the role of the Federal Government was largely one of assisting the States in developing programs for consumer protection. For example, the Public Health Service has, since 1924, published and periodically revised a model milk ordinance, now known as the "Grade A Pasteurized Milk Ordinance," that has been adopted voluntarily by most States and municipalities as the basis for con-

[1] Presented to the Subcommittee for Special Inquiry on Consumer Representation in the Federal Government, Government Operations Committee, House of Representatives, Washington, D.C., Apr. 3, 1968.

[2] Chief, Food Protection Section, environmental sanitation program, National Center for Urban and Industrial Health, Bureau of Disease Prevention and Environmental Control, Public Health Service, Department of Health, Education, and Welfare, Cincinnati, Ohio.

trolling the quality of fluid milk. General acceptance of the ordinance provisions by the milk industry has converted a once hazardous food into one of the safest products available to the public.

Recently a memorandum of understanding was signed by the Secretaries of Agriculture and Health, Education, and Welfare to improve sanitation of milk for manufacturing purposes by recommending that the States conduct farm inspections and other control measures. This action resulted indirectly from outbreaks of food poisoning attributed to nonfat dry milk and cheese.

As centralized processing and interstate distribution of foods grew, increased control activities became necessary on the part of Federal agencies, particularly the Food and Drug Administration and the Department of Agriculture. Also, expansion of the Military Establishment has made the Department of Defense the largest purchaser of processed foods in the United States. For esthetic, economic, or other reasons not necessarily directly related to health, Federal requirements applicable to food may sometimes exceed and in other instances be less stringent than those of the States. Nevertheless, local ordinances and State laws are the primary determinants of food quality in restaurants and retail markets, and the Public Health Service continues, within the limits of resources allocated for food protection, to help the States and food industries update their programs for prevention of food-borne disease.

During the past 15 years, food scientists and public health workers have been concerned about the decline of public support for food protection activities needed to cope with the changing practices of production, processing, packaging, distribution, and serving in the food industries. In 1964, the Food Protection Committee of the National Academy of Sciences-National Research Council issued a report (Publication 1195) entitled "An Evaluation of Public Health Hazards From Microbiological Contamination of Foods." About a dozen previous reports by well-qualified groups are cited in support of the recommendation "that immediate action be taken to develop a national program in which the efforts of industry and government can be coordinated for protection of consumers and food industries against the adverse effects of microbial food contaminants." The scientific basis for this appeal to modernize food protection programs and practices is presented in much greater depth than can be discussed in the remainder of this brief statement. Nevertheless, an effort will be made to highlight some of the problems and control measures needed to minimize health hazards from microbiological contamination of foods.

Occurrence of Food-Borne Disease

In the United States today, food safety is taken for granted by most consumers, because they have been educated through advertising, news releases, and official publications to expect the wholesomeness of commercial products to be above reproach. While their confidence is, in large part, borne out by personal experience in purchasing foods for home use, and eating meals prepared commercially, the National Health Surveys indicate that 5 million to 10 million cases of acute intestinal illnesses occur annually in the United States. The affected individuals usually recover in a few days, often without seeing a physician, and the attacks go almost unnoted in official records. However, the National Communicable Disease Center listed only 17 outbreaks and 20,080 cases of milk, food, and water-borne disease in the weekly morbidity and mortality reports for 1965. In 1966, the reports included 176 outbreaks and 8,220 cases. The consensus among food scientists is that the detection and investigation of food-borne diseases is so inadequate at the local level that accurate reporting on a State and national basis is impossible. We do not, therefore, have a realistic picture of the extent to which foods are disseminating disease among the population. This view is supported by the fact that a third or more of the reported outbreaks typically come from one State (California), while 15 to 20 other States may make no report of food-borne diseases to the Public Health Service during the same year.

Compared with the widespread prevalence of food-borne infant diarrhea, tuberculosis, typhoid fever, botulism, brucellosis, poliomyelitis, and other severely debilitating diseases during the first two decades of this century, the situation has been vastly improved. The credit for this change belongs, in part, to the health-oriented professional workers in academic and governmental circles who demonstrated the importance of foods and drinking water as vehicles for disease transmission and then developed the principles of sanitation on which control depends. The U.S. food industries also deserve a large share of the credit for developing the equipment, manufacturing techniques, sanitary practices, and quality control procedures that make possible mass production of enough food

to serve more than 200 billion meals a year. Some foods, particularly those of animal origin and those prepared under insanitary conditions, are, however, much more vulnerable to contamination than others. Maintenance of this remarkable record depends on the continued awareness of industry with respect to the elimination of hazardous contaminants from foods reaching the consumer and on the alertness of Governmental agencies to changes in commercial operations that may adversely affect public health.

SOME CURRENT MICROBIOLOGICAL PROBLEMS OF FOOD PROTECTION

Since World War II, a technological revolution has occurred in all phases of the food industries, and governmental agencies have been hard pressed to keep pace with those developments. Not only have conventional processes been modified to reduce costs, increase shelf life, and improve consumer acceptance, but a profusion of new partially or completely prepared foods have appeared in the market. The general trend is toward centralized processing and wire distribution of convenience products that must be kept refrigerated, frozen, dry, or hermetically sealed to prevent microbial growth.

Prevalence of pathogenic organisms in food

With few exceptions, commercially produced foods are not free of microorganisms, and unless great care is exercised in their preparation, agents potentially capable of causing illness may be present. Numerous surveys of foods in distribution channels have demonstrated the occurrence of disease-producing micro-organisms or their toxic products in meats, poultry, seafoods, nonfat dry milk, candy, yeast, coconut, commercial egg products, cheese, cake mixes, peanuts, and a variety of specialty items. Studies of foods in retail markets, conducted over the past several years by the Food Protection Research Laboratory of the National Center for Urban and Industrial Health, have revealed salmonellae in 17 percent of dressed raw poultry, coagulase-positive Staphylococci in 20 percent of cheddar cheese, and *Clostridium perfringens* in 58 percent of raw red meats and 20 percent of processed meats. If not destroyed by cooking, all of these bacteria have the capability of multiplying in food whenever favorable growth conditions arise from mishandling, and they may produce illness in susceptible individuals.

Salmonellosis

At the present time, nationwide attention is focused on salmonellae in foods, as a result of enforcement actions taken by the Food and Drug Administration against interstate shipments of contaminated products such as dry milk, commercial egg products, and chocolate candy. While these bacteria are readily destroyed by pasteurization or through cooking, they are so widespread in nature that the risk of contaminating raw materials or recontaminating finished products poses a continuous threat to the manufacturers of nonsterile foods and to the food service industry.

More than 1,200 types of salmonellae have been identified by serological tests, and most are capable of infecting man as well as a variety of animals, including cattle, swine, poultry, wild birds, rodents, turtles, snakes, and a number of other species. *S. typhi*, the cause of typhoid fever, is an exception because it infects only man. Public health measures designed to prevent man-to-man transmission, either directly or through the environment, have been successful in reducing the number of typhoid cases reported in the United States from many thousands to less than 500 per year.

Control of the other salmonellae is a more complex problem because of the multiple sources and numerous routes by which the organisms can contaminate products intended for human consumption. For the past several years, the salmonella surveillance reports from the National Communicable Disease Center have recorded about 20,000 isolations annually from human sources and 5,000 to 7,000 from nonhuman sources, but these figures are generally recognized to represent no more than 1 to 10 percent of the cases occurring in the United States. They more nearly reflect the interests of investigators than the incidence of the disease.

These organisms are so well adapted to the intestinal tract that they may persist in symptomless individuals for weeks after exposure. Salmonellae from both active cases and healthy carriers are shed irregularly in the excreta, and they may be transferred to the hands or other extenrnal surfaces and to the surroundings. There is no method of inspection, except protracted laboratory tests, by which to determine whether an apparently healthy animal or a food

handler is carrying salmonellae. Segregation of contaminated individuals is, therefore, impractical in commercial operations, and other control measures, such as heat treating the final product just before or after packaging, must be relied upon. Heat treatment of liquid egg products has, for example, been introduced recently with considerable success.

Improved farm practices and increased sanitation in the manufacture of commercial feed supplements will help to reduce the occurrence of salmonellae among poultry and meat animals but total exclusion of salmonellae from the animal environment is difficult to achieve. At present, the best prospects for control of foodborne salmonellosis in man appear to depend on the employment of processing systems that destroy the organisms and prevent their transfer from contaminated raw materials, equipment, or workmen to the finished product. Extensive laboratory work is necessary to monitor such systems, but no feasible amount of laboratory testing can, by itself, assure the absence of salmonellae from commercial lots of food.

The National Academy of Sciences has recently appointed a Committee on Salmonellosis that is now studying the control problem. Presumably it will make recommendations for minimizing human exposure through food and other routes of transmission.

Staphylococcal food poisoning

Some strains of Staphylococci produce heat-stable enterotoxins that cause severe vomiting and diarrhea within a few hours after ingestion of small doses. These toxins are not destroyed by cooking; therefore, food in which very large numbers of staphylococci have grown at any stage of production, processing, or distribution should be regarded as unfit for human consumption. About 2 or 3 years ago, 4.5 million pounds of cheese were placed under embargo by the Food and Drug Administration, because certain lots had caused Staphylococcal food poisoning. Fortunately, the owner was able to separate the few toxic cheeses from the rest by a serological method recently developed through the joint research efforts of the Food and Drug Administration, the Public Health Service, the Department of the Army, and the Food Research Institute. The toxic cheese was destroyed and the much larger nontoxic portion was returned to the market.

C. perfringens food poisoning

When *C. perfringens* is consumed in large numbers, it causes distressing abdominal pain and diarrhea. Outbreaks typically occur about 12 hours after the consumption of food that has been cooked insufficiently to destroy the heat-resistant spores of this organism and then held without adequate refrigeration for sufficient time to allow massive growth. Dishes containing meat or poultry products are particularly vulnerable to this type of contamination. In 1965, for example, frozen beef from Government surplus stocks, when served in a Georgia high school cafeteria, caused illness in 256 of the 447 persons who ate the meal. Similarly turkey a la king, prepared from USDA graded and inspected turkeys, caused 171 cases of *C. perfringens* food poisoning in two public schools in Little Rock, Ark.

Other microbial agents of foodborne disease

In the technical literature of the past 2 years, more than 30 infectious or toxin-producing organisms have been associated with food poisoning. They include a number of viruses, bacteria, molds, protozoa, animal parasites, and marine plankton organisms. In addition, there have been numerous illnesses associated with foods, for which no causative microbial or chemical agent could be identified. Discussion of the circumstances surrounding these incidents is beyond the scope of this paper, but it should be noted that each poses a health hazard relating to some part of the food industry for which further research is needed to improve food protection.

Impact of technological changes

As indicated earlier in this discussion, the rapidly changing commercial practices keep introducing new situations that need evaluation in terms of consumer protection. Sometimes competition or a shift in consumer preference may cause industry to make changes without investigating fully their public health implications. In addition, the ready availability of rapid transportation, increased use of refrigeration and freeze drying, and packaging in plastics or other new materials have encouraged marketing practices, with respect to nonsterile foods, that require special control to avoid trouble.

For example, vacuum-packed smoked whitefish from the Great Lakes area caused at least 17 cases of botulism and five deaths in Southeastern United States during 1963. This type of product had been made and used locally for a century without any previous indication of illness among consumers. In more recent years, consumers tended to prefer less smoking; plastic containers were introduced for vacuum packaging; and marketing was extended from the local area to include at least three Southeastern States. These changes, together with failure to maintain refrigeration in transit, produced conditions favorable for the growth of *Clostridium botulinum* from spores that were probably already in the fish when caught, and allowed eventual formation of type E toxin. If the original methods had been employed, the smoked fish would have been eaten or spoiled and discarded before the toxin was produced. Subsequent study has shown that a safe product can be prepared by controlled processing and distribution practices.

A host of engineering and technological problems are associated with the design, construction, and operation of sanitary food processing equipment and facilities. The importance of such items as pure air, easily cleanable machinery, and separation of raw materials from finished products has not been fully appreciated by some food industries. This aspect of processing has also been somewhat neglected by the Government agencies responsible for food protection, there is need to provide more assistance, especially to the smaller operators, in the improvement of their facilities.

Employee training and public education

The training and motivation of workers to employ sanitary practices is a major problem for the entire food industry and is especialy acute in the food service industry. It involves reaching milions of workers, many of whom have relatively little formal education or special knowledge about their jobs. The turnover is rapid, amounting to about 300,000 food service employees per year, and pride in workmanship is often lacking. The techniques for creating awareness of good sanitary practices and a desire to apply them on the job are not well developed.

While a continuing effort on the part of industry and Government is necessary to protect the consumer from exposure to hazardous micro-organisms in his food supply, the consumer also has a responsibility not to abuse products used in the home, and he can also help by being more observant of sanitary practices in food service establishments. More effective consumer education along these lines seems necessary.

Development of microbiological standards

Neither the private citizen nor his local health department can, by themselves, determine the safety of foods made of ingredients from worldwide sources, processed in centralized factories, and distributed nationwide in prepackaged form. They are, in fact, dependent upon the integrity of the food industry and the watchfulness of the Federal Government. This situation has created the need for microbiological criteria and testing procedures that can be used by receiving areas to evaluate prepared foods without inspecting the sources or the processing and distribution chain through which they have passed before arriving in the local store or restaurant.

A number of national and international organizations are now attempting to develop uniform criteria and standard methodology for examination of manufactured food products. Among the groups most active in this field are the Association of Food and Drug Officials of the United States, the Food Protection Committee of the National Academy of Sciences, the Association of Official Analytical Chemists, the American Public Health Association, the World Health Organization, the International Association of Microbiological Societies, and the Codex Alimentarius Commission.

Progress has been substantial but slow, and no system of laboratory evaluation of finished products is likely to replace completely the more conventional sanitary inspections and quality control procedures in the near future.

The Public Health Service, together with other Federal agencies, university groups and industry associations, has taken part in these activities, but it has placed more emphasis on continuing to work with the States and industry to improve established sanitation procedures through research, training, technical assistance, and consultation. Serious difficulties have been encountered in responding to the array of new problems that have arisen in recent years, without an increase in operating resources, but in a few priority areas, such as the inter-

state milk shipment program, voluntary cooperation of the States and industry under leadership of the Public Health Service has been successful in achieving a high degree of consumer protection.

Food Protection Research in the Public Health Service[1]

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INTRODUCTION

The environmental sanitation program of the National Center for Urban and Industrial Health encompasses activities related to interstate carriers, recreation, and urban sanitation, but its research component is associated with food protection. Although the main thrust of the research is directed toward prevention and control of food-borne disease, a variety of projects have been undertaken that are of mutual interest not only to other components of the program and of the Center, but to other Federal agencies that have, in part, supported this research effort.

The Public Health Service has been actively engaged for more than 50 years in assisting agencies of Federal, State, and local governments, and industry to improve the safety and quality of our food supplies. Its efforts are based on the knowledge that proper diet is essential for the physical development of every individual and that food can be a major source of human exposure to hazardous contaminants from the environment, including microbial agents of disease and toxic chemical residues. The past contributions of the Service to improved sanitary practices in the dairy industry and in food service operations (through development of recommended ordinances, codes, manuals, and guides to safe practices) are so well known that detailed recitation is not necessary. Over the years, the recommendations of the Public Health Service have been incorporated into many State laws, local ordinances, and Federal regulations. They now constitute the invisible framework within the structure of public health protection that is used by enforcement agencies and industry to prevent food-borne illness in the United States.

Modifications of these recommendations repeatedly have been necessary, especially in recent years, to cope with the rapid technological changes that have occurred throughout the food producing, processing, distribution, and serving industries. As the technology of feeding the increasing urban population has become more and more complex, the need has increased for research to investigate potential hazards to health and to devise appropriate new measures for the prevention and control of food-borne illnesses. Since the close of World War II, the Public Health Service has maintained a modest research effort in Cincinnati and a substantial grants program in the field of food protection. The intramural studies were conducted under the auspices of the Robert A. Taft Sanitary Engineering Center from 1954 through 1966, when they were transferred to the National Center for Urban and Industrial Health.

Substantial contributions have been made by this group to the detection, identification, and reduction of such potential health hazards as radionuclides in milk, pesticide residues in drinking water and foods, and several types of microbial food poisoning including staphylococcal food poisoning, botulism, and salmonellosis. Extensive research on time-temperature relationships of bacteria and their toxins, as well as viruses, has resulted in improved refrigeration, pasteurization, and other heat treatments of foods. Pilot plant studies have revealed sanitary deficiencies in commercial equipment and processes that have been overcome through experimental engineering.

The findings of these studies have been presented in more than 250 technical publications and have been used extensively in the development of model ordinances, codes, and industry sanitation guides. They have also been incorporated in specialized training courses for professional personnel employed in food

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industries and governmental agencies. Requests for consultation and specialized technical assistance related to the research activities are estimated to exceed 700 per year. The senior staff also receives invitations at least once a week to talk about the public health aspects of food protection, and by selective acceptance reaches an audience of 3,000 to 5,000 persons per year. Individual staff members are frequently asked to serve on national or international committees concerned with the control of food hazards and currently hold about 30 such appointments.

In recent years, requests from other Federal agencies for research by this group have resulted in the negotiation of direct reimbursement or interagency agreements within the National Aeronautics and Space Administration, Department of the Army, National Cancer Institute, and National Center for Radiological Health.

A limited number of research contracts have also been negotiated to obtain the help of selected State, municipal, and private laboratories. These studies have been mainly related to the detection and prevention of food contamination with *Clostridium botulinum*, because funds were allocated specifically for this purpose. A much broader contract program would be desirable to foster the application of laboratory and pilot-plant studies to actual field problems.

For convenience, the remainder of this discussion is presented in three sections that correspond to the organizational pattern of food protection research; that is milk sanitation, food chemistry, and food microbiology. In addition to conducting the types of studies illustrated, the food protection research staff devotes much effort to the technical assistance and training functions already mentioned.

CONTRIBUTIONS OF MILK SANITATION RESEARCH

Research is being conducted in several areas, with major emphasis on pathogenic micro-organisms in dairy products and on engineering problems of public health significance associated with the processing of these products. In addition to research, the group conducts a nationwide program on the evaluation of milk laboratories, and this effort is supported by a program on the development of improved methods for the examination of dairy products. To illustrate the scope of this research, three examples follow together with a brief description of the laboratory evaluation program.

The first example relates to studies on the most common group of food poisoning toxins, staphylococcal enterotoxins. At the inception of this program, enterotoxins could be assayed only in cats, monkeys, or human volunteers. In concert with other laboratories, however, reliable, inexpensive, and rapid in vitro techniques were developed to assay these toxins by means of gel-diffusion procedures. These techniques have been used to demonstrate that some strains of the coagulase-positive staphylococci, which occurred in 20 percent of the market samples of cheddar and colby cheese, are capable of producing enterotoxins (1, 2). These strains will grow rapidly in raw milk that meets the standards of grade "A" milk, and detectable levels of enterotoxin can be produced in as little as 6 hours at 35° C. (3). Enterotoxin has been demonstrated in milk and cheese by extraction and concentration procedures followed by assay using gel-diffusion procedures (4, 5). Although prophage is necessary for the production of toxin by some bacteria, demonstrable prophage is not essential for enterotoxin production by S. aurens (6). Once enterotoxin is formed in milk, the heat resistance of this toxin is such that it will not be completely inactivated by either pasteurization or sterilization processes (7). Similarly, enterotoxin will withstand the processes used for the sterilization of foods by gamma irradiation (8).

The second example relates to recent reports that milk may contain C-type particles similar in morphology to known leukemic viruses. This observation reopened the question of the efficacy for virus detection of processes recommended by the Public Health Service for the pasteurization of dairy products. With financial support from the National Cancer Institute, tissue culture procedures have been developed for the isolation and enumeration of viruses from both raw and pasturized milk and milk products. These procedures are being used to establish the times and temperatures required for the thermal inactivation of viruses. Fortunately, the results to date indicate that the present processes used for pasteurization of dairy products are adequate to inactivate the several types of viruses under study (9). On the other hand, the radiation resistance of viruses has been found to exceed that of bacterial spores.

The third example is concerned with engineering studies of pasteurization processes. In the most common process used today, the length of time required for the product to traverse the holding tube and the efficacy of the controls used to prevent its forward flow when underheated are of prime public health concern, because they determine to a large degree whether the process will be effective for the inactivation of pathogenic micro-organisms (10). Studies done in the research pilot plant have shown that present methods of measuring or calculating holding times for viscous products, such as ice cream mix and egg yolk, are inaccurate. The actual holding time for the fastest flowing component in the holding tube may be 45 percent less than indicated. These studies have precipitated a reevaluation of these processes and, in the case of egg pasteurization, adjustment of the operating conditions so that proper holding times are obtained.

Laboratory evaluation is an important feature of the cooperative State-Public Health Service program on interstate shipment of milk. The laboratories that test the milk are regularly surveyed to determine whether they are uniformly applying prescribed methods (11). A representative of the milk sanitation research staff visits each State central milk laboratory every 3 years. Laboratory survey officers are certified after they have demonstrated the ability to survey local milk laboratories. This program has been instrumental in standardizing and improving the procedures used to examine milk in over 500 laboratories in the United States (12). In addition to the surveys made of laboratories, split samples of milk are sent to each State and local laboratory, and the results are analyzed for accuracy. The uniformity of the split sample results has indicated rapid and progressive improvement over the 10 years this program has been in operation. The laboratory evaluation activity is supported by research on methods (13, 14), and by the participation of the research staff in regional seminars, training courses, and conferences with State and local laboratory personnel.

CONTRIBUTIONS FROM FOOD CHEMISTRY

The food chemistry unit conducts research and provides technical assistance on a variety of health-related problems associated with foods. Characteristically, the unit carries out intensive investigations in specific areas of concern rather than attempting to cover the entire field of food chemistry at any one time. Also, we attempt to balance the work between problems requiring immediate solution and those of a more basic nature concerning the potential hazards relating to changes in man's environment. The areas of research that have been emphasized in the food chemistry unit include public health problems associated with paralytic shellfish poison and other marine toxins (15, 16, 17), the presence and significance of radionuclides and pesticides in foods (18, 19, 20), research and technical services concerning the developmnet and evaluation of standard methods of analysis (21), and the exploration of instrumental methods of analysis for application in the field of food protection (22, 23).

Current activities of the food chemistry unit include the exploration of gas chromatographic procedures for the determination of toxic or otherwise undesirable substances in food, the development of chemical methods for the direct measurement of fecal pollution and for the identification and enumeration of bacteria, and the development of an indicator test for measurement of heat treatment applied to commercial egg products.

Instead of simply listing projects, two projects are discussed that illustrate the scope and philosophy of food chemistry activities.

In recognition of the potentially harmful effects of radioactive fission products to man and the importance of food, particularly milk, as a major vector of exposure, the food chemistry unit was requested in the early months of 1957 to develop a program of research in this area, which has been continued over the past 10 years. The high points of the work include (a) the development of rapid methods of analysis for specific radionuclides (24), which are suitable for surveillance of milk and other foods; (b) the establishment of a pilot surveillance network that demonstrated the feasibility of a nationwide monitoring program to assess the levels of exposure to man from his foods (25); and (c) the development of commercially feasible methods for the selective removal of fission products of biological significance from milk by use of properly charged ion-exchange resins, without appreciable change in the flavor or nutritional quality of the product (26, 27).

Another problem of current interest in food chemistry is the concentration and distribution of trace elements in food. Although the biological significance of

certain trace elements has long been known, exploration in this area has traditionally been slow and laborious. The recent availability of atomic absorbance spectrophotometers has, however, provided a basis for the greatly simplified methods of analysis and, in turn, given rise to a resurgence of interest in the field. Fortunately we obtained an instrument quite early and undertook a study of the application of atomic absorbance to problems concerning the presence of trace elements in food and water (23). The studies have already been extended to include the determination of concentrations of rubidium, lead (28) cadmium, and silver in milk as influenced by seasonal variation and area of production. Our findings indicate that cadmium and rubidium vary markedly with season and geographical location. The observed concentrations of these elements usually are between 0.017 and 0.030 parts per million for cadmium and 0.057 to 3.39 part per million for rubidium. In the case of silver and lead, no significant geographical differences were noted and seasonal variations seemed to be restricted to the Southeastern States. The concentration of silver varied between 0.027 and 0.054 parts per million, whereas that for cadmium ranged from 0.023 to 0.079 parts per million. A further extension of these studies is under way to determine other trace elements in milk and to investigate the levels of trace elements in whole diets.

Our reasons for investigating the concentration and distribution of trace elements in foods came from the recognition that although many are hazardous at certain concentrations, these same elements at other concentrations are often absolute nutritional requirements of man and most living things. Also, the level of uncontrolled intake through food frequently represents a major source of exposure, as in the case of lead, where this level and the tolerance level are quite close (29). For these reasons, we believed that consideration of man's exposure to trace metals without knowing how much he received from his food would be meaningless. In this connection, I quote goal No. 6 of Task Committee on Environmental Health and Related Problems in the report entitled "A Strategy for a Livable Environment," which reads as follows: "A materials, trace metals, and chemical control effort to establish, by 1970 human safety levels for synthetic materials, trace metals, and chemicals currently in use, and prohibit after 1970 general use of any new synthetic material, trace metal, or chemical until approved by the Department of Health, Education, and Welfare." (Ch. II, p. 20.)

CONTRIBUTION FROM FOOD MICROBIOLOGY

The Food Microbiology Unit conducts research on the incidence, occurrence, identification, and quantification of pathogenic and indicator organisms and their toxins in foods (30, 31). The research is designed to provide technical information that can be used by regulatory agencies and quality-control laboratories of industry to improve the public-health safety of foods.

During recent years, this research has resulted in the development of several media and procedures that have found application in the field of food microbiology. For example, a medium (TPEY) (32) has been developed that selectively isolates staphylococci from foods. Its composition is such that most micrococci and other gram-positive organisms are severely inhibited, whereas *S. aureus* grows well and produces typical enzymatic reactions that aid in its recognition. Another medium (SPS agar) (33) that will quantitatively recover the vegetative cells of *Clostridium perfringen* from foods has been developed and field tested. This medium has been evaluated by other workers both in this country and abroad and has been found to be well adapted to the examination of foods involved in food-borne disease outbreaks. A methodology using this medium for the examination of foods is being evaluated for the Association of Official Analytical Chemists.

Other studies or media and methods have included the development of an enrichment medium for *Clostridium botulinum* (34) that selectively enhances growth and toxin production without the use of meat particles.

Over the years, the Food Microbiology Unit has had a keen interest in the incidence and occurrence of microorganisms of public health significance in foods and related sources. This interest has led to the determination of the incidence of salmonellae in market meats (35) and grade A dry-milk powder (36), of *C. perfringens* in raw and prepared meat products (37) and in the feces of food-handlers, and of coliform organisms and *E. coli* in market foods. These studies have been extended to determine the characteristics of the *C. perfringens* strains associated with foods and food-borne diseases (38), and to establish that Enteropathogenic *E. coli* may occur occasionally in foods, and in the feces of 6 per cent of the food handlers (39, 40).

Research related to the toxins associated with food-borne illness has included the development of *in vitro* tests for the detection of paralytic shellfish poison (41, 42), and hemagglutination and hemagglutination inhibtion tests for the detection and identification of the botulinal toxins and the enterotoxins produced by *Staphylococcus aureus* (43, 44). Additional work on the enterotoxins has resulted in the development of a method for their detection in foods, other than dairy products, by means of extraction procedures and gel-diffusion techniques (45, 46).

The results of the above research activities have been applied to the development of a series of methods for the examination of foods for purposes of surveillance and quality control, as well as for investigation of foods implicated in disease outbreaks. These methods have been incorporated into the training course manual used for food protection training and into the PHS publication No. 1142 on "Examination of Foods for Enteropathogenic and Indicator Bacteria" (47).

Another highly gratifying aspect of the work of the Food Microbiology Unit is the cooperative activities with others in this country and abroad who have similar interests and problems. These activities include correspondence and sharing of ideas as well as actual laboratory studies. For example, during the past year more than 200 cultures of *S. aureus* have been received for enterotoxin determinations from State health departments and from foreign countries such as the Netherlands, Italy, Israel, and Greece. Our contributions to methodology have also been used extensively by the American Public Health Association, the Association of Food and Drug Officials of the United States, the Association of Official Analytical Chemists, the International Committee on Microbiological Specifications for Foods, and the International Atomic Energy Agency in selecting procedures for microbiological examination of foods. We are, therefore, encouraged to think that food protection research has served and will continue to serve the immediate interests of both the Public Health Service and of the scientific community at large.

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Role of the Public Health Service in Prevention and Control of Food-Borne Disease

(By John H. Fritz [1])

Food protection in the United States, except where interstate commerce is involved, has traditionally been a function of State and local governments. The authority of the Federal Government in this area relates to foods introduced into interstate and foreign commerce and to the provision of technical and consultative assistance to the States, local governments and industry in the development and maintenance of effective food protection programs on a nationwide basis.

Since the Public Health Service is the agency at the Federal level having primary responsibility for health matters, the States and food industries have looked to the Service for leadership and guidance in the identification and resolution of health problems associated with the human food chain.

In fulfillment of this role, the Service has engaged in a number of coordinated and related activities which are broadly grouped as follows: (1) development of program guides, particularly model laws and regulations intended for State and local adoption, (2) research and investigation, (3) technical and consultative assistance to State and local programs, (4) education and training, (5) development of food equipment standards and recommended laboratory methodology, and (6) voluntary interstate program certification activities.

While the objective of the PHS program, that is, the prevention of food-borne illness, remains unchanged, its specific program activities and priorities are continually being modified meet the health needs of a rapidly expanding and changing technology, as well as changes in the socio-economic pattern of living in this country. Adequate State and local control legislation, strict, uniform enforcement and industry support of and day-to-day compliance with Federal, State and local laws and regulations continue to be the major bases for effective preventive programs. However, the rapid expansion in the percentage of our foods which move interstate has created a situation which requires increased participation by the Federal government if adequate control over the safety of our food supply is to be effected. More than ever before a Federal-State-local agency-industry partnership is needed to cope with the many unresolved and emerging food protection problems currently facing the Nation.

As noted above, the adoption of uniform laws and regulations by State and local governments is an important factor in the establishment of effective control programs. Over the years the recommendations in the form of model ordinances, laboratory methodology, and so forth of the Public Health Service have been incorporated into many State and local laws and ordinances and Federal regulations. Being health oriented they constitute minimum health criteria which

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must be met if the foods to which they relate are to be safe and wholesome when processing has been completed. They have generally been promulgated to cope with an identified food-borne disease problem, for example typhoid fever in milk and shellfish, staphylococcal food poisoning in food service establishments and botulism from improperly processed fish. Their widespread adoption now constitutes an invisible framework within the structure of public health protection that is used by enforcement agencies and industry to prevent food-borne illness in the United States. Recent outbreaks of salmonellosis from eggs have prompted the service to develop a model ordinance and code, designed to eliminate this source of human illness, is currently nearing completion and has already in its draft form been used by the United States Department of Agriculture and State and local agencies in the development and implementation of their respective laws and regulations and control programs.

Since the close of World War II, the Public Health Service has maintained a modest intramural research effort in Cincinnati. Formerly under the auspices of the Robert Taft Sanitary Engineering Center, it was transferred in 1967 to the National Center for Urban and Industrial Health.

Substantial contributions have been made by this group to the detection, identification, and reduction of such potential health hazards as radionuclides in milk, pesticide residues in drinking water and foods, and several types of microbial food poisoning including staphylococcal food poisoning, botulism, and salmonellosis. Extensive research on time-temperature relationships of bacteria and their toxins, as well as viruses, has resulted in improved refrigeration, pasteurization, and other heat treatments of foods. Pilot plant studies have revealed sanitary deficiencies in commercial equipment and processes that have been overcome through experimental engineering.

In recent years, requests from other Federal agencies for research by this group have resulted in the negotiation of direct-reimbursement or interagency agreements within the National aeronautics and Space Administration, Department of the Army, National Cancer Institute, and National Center for Radiological Health.

A limited number of research contracts have also been negotiated to obtain the help of selected State, municipal, and private laboratories. These studies have mainly related to the detection and prevention of food contamination with Clostridium botulinum, because funds were allocated specifically for this purpose. A much broader contract program would be desirable to foster the application of laboratory and pilot plant studies to actual field problems.

One of the Service's major contributions in the prevention of food-borne illness has been its technical and consultative assistance program. This assistance has taken the form of, (1) interpretations of Service model ordinance and code provisions to assure uniform application in adopting jurisdictions, (2) epidemiological investigations of suspected outbreaks to determine the causative agents and modes of transmission so that preventive measures may be developed and applied, (3) evaluation of State and local programs, including laboratory programs with subsequent recommendations for changes in program direction or emphasis, (4) field and laboratory investigation of special food protection problems which exceed the resources of the States or communities to resolve, (5) the standardization and certification of State survey officers whose job it is to evaluate State and local programs to assure coordination of program efforts within their respective States, (6) participation with governmental agencies health related organizations and the food industries in the conduct of special studies, equipment standards development and coordination activities designed to assure a uniform nationwide approach to problems of mutual concern, (7) surveillance over market foods to identify potentially hazardous processing, serving, and marketing practices so that preventive measures may be instituted before illnesses occur, and (8) training of health agency and industry personnel in the principles of food protection.

Some examples of the activities undertaken include studies and field investigations relating to the control of salmonellae in dry milk, eggs, poultry, meats and fish, provision of technical assistance to the Association of Food and Drug Officials of the United States in development of a frozen food code, cooperative development with the Bureau of Commercial Fisheries, Department of Interior, of a sanitary standard for smoked fish processing, development in cooperation with the U.S. Department of Agriculture and the Food and Drug Administration, of criteria for the pasteurization of eggs and egg products, and the establishment by the National Communicable Disease Center of a salmonellae surveillance system.

The importance of these activities becomes increasingly apparent when we view food protection comprehensively. Centralization of food processing operations and extensive expansion of the geographical areas over which a given food is marketed have created a need to coordinate governmental and industry food programs to fill the voids left by the more provincial approach to food protection of previous years. Within the limits of its resources, the Public Health Service has continually modified its programs to accommodate such changes in fulfillment of its basic responsibility to provide assistance to other Federal agencies, State and local jurisdictions and the food industries, i.e., the development of a coordinated nationwide system which would effectively deal with both interstate and intrastate problems.

Technological needs not withstanding, the need for well-trained, highly motivated personnel in the field of food protection has become perhaps our most pressing problems. Many of the outbreaks of food-borne illness which occur annually in this country are the result of either a lack of knowledge about the cause and prevention of such illnesses, or a lack of motivation on the part of persons who are employed by industry. The Public Health Service has devoted a considerable amount of its resources to correction of this situation but admittedly we have not found the answers to this complicated problem. More behavorial research is needed to provide a basis for overcoming motivational impediments before effective participation by people in the food industries can be achieved. The magnitude of this problem is difficult to appreciate. As but one example, turnover in the 3.3 million persons employed in the food service industry is high, and about 300,000 new employees entering the business each year. In an attempt to find an economical, effective method for training this many people, the Public Health Service has made a grant to a State health department to study the efficacy of educational television as a medium for communicating needed information to food service personnel, particularly owners, managers, and supervisory personnel. Since actual prevention of food-borne illness is dependent upon the day-to-day application of the principles of food protection to their individual work situation by highly trained and motivated people, the Service has placed emphasis on training in its food protection program.

The Public Health Service has long recognized the importance of sanitary design and construction of food equipment to preventing contamination of foods with pathogenic microorganisms, toxic metals and other hazardous substances. Accordingly, the Service has for many years participated in the activities of groups such as the Department of Defense, the National Sanitation Foundation, the National Automatic Merchandising Association, the Baking Industry Sanitation Standards Committee and the 3A Standards Committee, which develop sanitary standards for a wide variety of food equipment. Equipment built to the specifications set forth in these standards is readily cleanable and in harmony with equipment requirements of PHS model laws and regulations.

Included in the food sanitation program of the Public Health Service are three activities of an interstate nature. Included are the sanitary control of foods served on interstate carriers, certification of interstate shellfish shippers, and the certification of interstate milk shippers.

Interstate carrier sanitation is a direct responsibility of the Service and is governed by the interstate quarantine regulations. It encompasses the sanitary control of food served on trains, buses, vessels, and airplanes, and the enforcement of sanitary regulations applicable to commissaries, eating establishments and dining cars operated by carrier companies.

The programs for the certification of interstate shellfish shippers and interstate milk shippers are similar in nature. Both are voluntary programs based on cooperative endeavors of the States, the industry concerned and the Public Health Service. In these programs the appropriate standards of the Service are used as a yardstick and inspection and laboratory control are performed by the States and/or their political subdivisions. The States report those shippers whose products and plants comply with the applicable sanitary requirements, and the Service periodically publishes a list of the shippers so certified, for the information of Federal purchasing agencies and receiving States. The work of each State is periodically spot checked by the Service to assure that a uniform approach is followed by the States in making the certifications.

Dr. LEWIS. And if your staff would like it, I will leave with them another report on microbiological contamination called "An

Evaluation of Public Health Hazards from Microbiological Contamination of Foods" which comes from the National Academy of Sciences.

Mr. ROSENTHAL. Thank you very much. Why not tell us in laymanlike language what you think of what happened this morning?

Dr. LEWIS. I have with me Dr. Decker, director of research and development for the Bureau of Disease Prevention and Environmental Control.

Mr. ROSENTHAL. Have you seen the report on the bacterial count of the precooked frozen dinners?

Dr. DECKER. Yes.

Mr. ROSENTHAL. Are you in a position to comment on them?

Dr. DECKER. Yes.

Mr. WYDLER. Would you want to eat one? Put it that way.

Dr. LEWIS. The first part of the statement that I mentioned deals with the development of sanitation programs which I think may account for some of the difficulties we are hearing now, because in the initial stages of development of sanitary concepts, most food was prepared locally, eaten locally, raised locally, and the local inspector could examine this product from farm to dinner table with relative ease.

We have converted over the years from that kind of agricultural country to a highly industrialized food supply in which the Federal Government now must have a great deal more to do with interstate shipment, but still, fundamentally, food protection is a function of local and State governments, and this relationship is the one that the Public Health Service has dealt with most.

I can see that it may leave some gaps where quality control, among these agencies, may not be easy. The occurrence of food-borne diseases in this country has been reduced, unquestionably, by the sanitation programs that have been applied, by industry and by government together.

Most consumers take it for granted that any food offered for sale is above reproach healthwise. They have been educated to do this by news media, by official publications, and other means such as, advertising, and I believe their confidence is largely borne out by experience.

When we go to the market to buy food to eat at home, it usually is good. When we eat in a restaurant, there is seldom any problem about it. Nevertheless, the national health surveys have shown that somewhere on the order of 5 to 10 million cases of acute digestive diseases do occur in this country annually. I am not saying that these are all food-borne, but some of them no doubt are.

The majority of the individuals so affected recover in a few days and very frequently they don't even see a physician, so there is no official record about the occurrence of these outbreaks for this reason. Perhaps, one may turn to the records of the National Communicable Disease Center as they are published in the weekly morbidity and mortality reports. I found for 1965, in the items we had available only 17 outbreaks and 20,080 cases that were milk-, food-, or water-borne, and in 1966 something like 176 outbreaks with 8,220 cases. There is a consensus among food scientists and public health workers that the local detection and investigation of food-borne disease is so poor that we can't make an accurate estimate at the State or national level of the contribution of food to the dissemination of disease.

We are working in a little bit of a "no man's land" here. We know the official record is grossly deficient, and that perhaps 10 or 100 times the number of cases actually occur. No one could say exactly how many.

However, compared with the prevalence of these agents at the turn of the century, let's say, during the first two decades when very large and very common widespread outbreaks of typhoid fever, infant diarrhea, TB, and other diseases were occuring, the situation is vastly improved.

I think we should give the health-oriented people in the academic and government circles and the industry credit for bringing about this change.

Mr. ROSENTHAL. What is your view, if I may interrupt you, your view of what you heard about this morning about turkeys at 30 degrees and thawing and freezing and potential bacteria infestation?

Dr. LEWIS. From a technological standpoint, that is a public health standpoint, I agree essentially with the testimony you heard this morning from the Department of Agriculture. The fact that food may be melted, if I may use that word, does not automatically mean that it is unsafe. There is a time-temperature relationship here, and you were given the figures on the growth of different organisms, which is the determining factor.

Defrosting is objectionable from a consumer standpoint. I don't like the appearance, perhaps you don't like the taste, but just public healthwise, until that food has been held for a number of hours at a range above, as was said, 38° F.—and I think it can go substantially higher than that unless the time is very long—there would be no multiplication of the organisms in this food.

Mr. ROSENTHAL. If it is held at 32 degrees, 34 degrees, for a few days, would that be of any significance?

Dr. LEWIS. To the best of my knowledge; no, sir. As long as that product is frozen, so there is no moisture available, the organism can not grow. I do not have the same confidence as the Department of Agriculture seems to have in the ability of its veterinary inspections to detect the presence of disease-producing organisms or their toxic products in foods.

I don't want to pick on any particular item, but I believe it is scientifically sound to say the usual type of gross veterinary inspection, ante mortem or post mortem, cannot be relied upon to detect such agents as the Salmonella organisms we heard so much about recently, or a number of other agents that could be involved in food poisoning.

It is very difficult to exclude such organisms from raw products, and unless the processing procedure is fully adequate to destroy them, they may appear in the final product. As a matter of fact, there are listed in my paper two or three instances in which outbreaks have been caused in school lunch cafeterias by foods which were USDA-inspected.

I don't necessarily blame USDA for these outbreaks, because mishandling at time of preparation is also a very considerable possibility. But it is also true that the organisms could have been present in some number in the raw product. If mishandled and allowed to grow out, the organisms could have reached dangerous proportions during preparation of the food in the local school.

Mr. ROSENTHAL. In your opinion, does USDA do enough and competent enough bacteriological inspection?

Dr. LEWIS. I am not familiar with the details of the USDA inspection program. While I know some of the people, I have no basis for answering that question factually. I could say, though, that the problem of sampling commercial lots of food is a very substantial one in relation to frozen foods, because I happen to be involved in one of the committees that has been trying to extend the Frozen Food Code to add to it microbiological criteria.

Considering the statistics representative sampling and the fact that the organisms are not uniformly distributed through the product, then the detection of a low level of hazardous contamination becomes a very difficult matter, and I can understand the problem that USDA or FDA face in trying to do enough sampling—this is destructive sampling, very often—to get a reliable estimate of these low levels.

Industry finds this difficult to do likewise, because it reduces the margin of profit. There is also some problem about getting adequate laboratory examinations. For this reason, I certainly would not recommend that laboratory tests be made a primary determining factor, but rather a means—in the case of Salmonella contamination, for example—a means of monitoring what is considered a safe system.

Now, there is, of course, a considerable demand these days for tests that can be applied to final products. Where receiving areas are getting products from jurisdictions that they are not able to visit and inspect, they have no way of knowing the sanitary history of the food from the farm to the point of final distribution.

The local health agencies and some consumer groups have advocated very strongly that we develop microbiological standards by which finished products could be evaluated for safety. There are, as indicated in my prepared statement, a substantial number of international and national organizations attempting to do this job.

There has been progress, and I believe there will eventually be microbiological standards for certain foods. The AFDOUS committee that I mentioned, is in the process of developing proposals—recommendations, if you will—with regard to frozen pot pies, turkey pot pies, beef pot pies, and similar products.

The report has not been issued yet, but I believe it will contain a recommendation on numbers of bacteria and other.

I can extend these remarks in any direction you would like, I think there is a problem not only of the technical side of this, to make food safe, but one of training the people who work in the food business and education of the consumer.

As was mentioned this morning, the problem of consumer abuse does occur, and in the food plants the problem is one of getting the workers to do what is right; that is, what would be good sanitary practice. Many of these people do not have much formal education or much sense of motivation to do anything more than getting their hands in and doing their work the easiest way possible.

Training them and getting them to adhere to sanitary practices is a problem that involves millions of people, and we don't necessarily understand the techniques of accomplishing it. There is a large turnover in this industry. In the food service industry, for example, 250,000 to 300,000 people a year are now coming into it all the time.

Mr. BARASH. (staff). May I interrupt a moment? On the subject of abuse, there are a lot of consumers in this country who are also not very well educated, who probably mishandle food products, including frozen food products. In a situation where you have a frozen turkey or a frozen chicken that is defrosted 30 degrees over a several-day period and is then subsequently sold into commercial channels and mishandled by a consumer, would that product be any more susceptible to bacteriological infestation because of the fact that at one point, from producer to consumer, it was handled at thirty degrees for several days as opposed to fifteen or zero, whatever the desirable temperature would be?

Dr. LEWIS. At 30 degrees, I have no indication that there would be any difference, though I have no specific data on the point either.

Mr. BARASH. You don't think it would be any more susceptible because it was held at 30 degrees?

Dr. LEWIS. No, if the temperature went up substantially higher, there could be problems. I can't prove to my own satisfaction there would be none, but from what I know about growth of micro-organisms, my judgment would be if the temperature never went above 30° F. substantial growth of any disease-producing organism would be unlikely to occur.

Mr. MYERS. Would it thaw out at 30 degrees?

Dr. LEWIS. Some foods would thaw, but I still say the temperatures of growth for most of these organisms are near our body temperature, which is substantially 98° F., so 30° F. is a long way below their normal range of growth.

The lowest temperature that anyone has found a disease-producing organism to multiply at is 38° F., as far as I know, within any reasonable period of time.

Mr. BARASH. Certainly it would be more desirable if before it was abused by the consumer it was handled at a temperature of 15 or zero.

Dr. LEWIS. Quality-wise, appearance-wise, certainly I would prefer it as a consumer. Are there other aspects of this subject that you want me to discuss?

Mr. ROSENTHAL. I wanted to get your view on this report we had from the Defense Supply Agency about these TV dinners and how you interpret those counts, and then we shall conclude. Just tell us what that means to you and what it might mean to us.

[Data sheet was handed to Dr. Lewis.]

Dr. LEWIS. In the deliberations of the AFDOUS committee that I mentioned, which was trying to develop recommended bacterial limits for frozen foods, we have done a collaborative study of pot pies in four different laboratories; specifically, the Food and Drug Administration's laboratory, U.S. Department of Agriculture laboratory, State of Maryland laboratory, and an industry laboratory.

We gathered the data on many different lots. I am not saying the committee has done this yet, but if it were to establish a level of 100,000 program, based on plate count, which is one of the items on the data sheet, and of 100 coliform organisms per gram, which is another test given here, these limits would be very easy for those industries to meet that supplied us samples. They include about a dozen of the big manufacturers who are under USDA inspections. We did not get samples from the small operator who may have less technical know-how.

On this basis, I would say the samples with plate counts of millions or plate counts of 200 coliforms are way above the capabilities of the industry to carry out their operations in a sanitary fashion.

Mr. ROSENTHAL. Those counts there in Items 4 and 5, what are they and what would it mean to an individual consuming those foods?

Dr. LEWIS. The high counts of these organisms are only indicative of exposure of that food to conditions where contamination or growth of contaminants could occur. These organisms do not, themselves, necessarily prove the product is harmful.

Their presence suggests that there might have also been opportunities for disease-producing organisms to be introduced or to grow; therefore, they are indicators of the sanitary history of the product, rough indicators though they be.

Mr. ROSENTHAL. Mr. Myers?

Mr. MYERS. Thank you, Mr. Chairman. Did I understand you a while ago to say that, say this meat or product has been contaminated with some of these germs, whatever they are; but can you cook it then and would it still be all right for consumption after it was cooked? If it was properly cooked, long enough and so forth?

Dr. LEWIS. That would depend on the causative organism that is involved. Take the salmonella organisms, for example. Thorough cooking——

Mr. MYERS. What is that?

Dr. LEWIS. The internal temperature of the food, at the coolest point, should reach roughly 160 to 165° F.

Mr. MYERS. Then we shouldn't be eating rare steaks; should we?

Dr. LEWIS. I must say I do.

[Laughter.]

Mr. MYERS. Neither one of us is dead yet, so——

Dr. LEWIS. The point is that much of this contamination is on the surface. It may be transferred from the gut or from some piece of equipment. I think there is a difference between eating meat from a great big chunk and from a small animal, even though both were cooked at a rare temperature. The likelihood of the contamination in the interior, where it is rarest, is less than it is on the surface. Dr. Decker reminds me that I won't eat rare poultry because I know there is a hazard. Trichinosis in pork is another example.

Mr. MYERS. Dr. Decker didn't answer the question a while ago about——

Dr. DECKER. About would I want to consume the TV dinners? No. There is a definite indication that the conditions would allow growth of disease-producing germs, if present, and I wouldn't want to take the risk.

I would want to assume that they were present, and therefore, that the food would be hazardous.

Mr. MYERS. If they had been refrozen down to zero, would that change the——

Dr. DECKER. Refrozen? Not necessarily, Mr. Myers. I think Dr. Lewis was going to get to that point. One group of disease-producing germs produces a toxic material that continues on. Refreezing may kill the germ, but it will not destroy the chemical agent that causes disease.

I wouldn't want to risk the chance that this kind of organism had contaminated this food.

Mr. MYERS. Nor with proper cooking? It still wouldn't destroy this disease?

Dr. DECKER. In this particular group; no.

Mr. MYERS. Then you really can't protect yourself, can you? Even USDA with their 15° criterion still wouldn't prevent this; would it?

Dr. DECKER. Their 15° criterion is based on the assumption that the product never got above that temperature from the time it was processed to the point where it was delivered; and, of course, under those circumstances it definitely would.

That organism wouldn't be there in numbers sufficient to produce any detectable quantity of the toxic material at that kind of temperature.

Mr. MYERS. The organism you are speaking about, then, comes about when the product gets above 38°?

Dr. DECKER. It would multiply and produce significant amounts of its poison at 45° or above; something in that range.

Mr. MYERS. For personal information, are you experimenting or do you know of experimentation with gamma radiation?

Dr. LEWIS. I know of others who are, and we have done a little. I assume you are talking about exposure to cobalt 60 and this sort of thing. We have done work with viruses in cooperation with two other agencies, the National Cancer Institute and the Natick Laboratories of the military.

This project was to determine whether the viruses would be killed by the doses that will kill ordinary bacteria. Our data, though yet not complete, suggest that the viruses may be more resistant than most other micro-organisms and require a substantially higher dosage to be destroyed.

Mr. MYERS. Still isn't satisfactory, then?

Dr. LEWIS. The process, you are speaking of, Mr. Myers? I guess this would depend on the kind of food. I doubt that human viruses very often will contaminate some kinds of food.

Mr. MYERS. What I am speaking about is the packaging of meat and then subjecting it to gamma.

Dr. LEWIS. Let me say, on the other hand, that there is nothing in the raw meat processing today that would exclude the possibility of a virus being present if it weren't picked up by veterinary inspection; so you are no worse off than you are with the kind of procedure we use now.

Mr. MYERS. A few years ago, they were experimenting with a process whereby you didn't have to refrigerate the meat.

Dr. LEWIS. Because the spoilage organisms will not grow. Neither will the viruses. They require live tissue to grow.

Mr. MYERS. But that still hasn't been perfected.

Dr. LEWIS. I am sure more work needs to be done, though I think we are at a point where commercial treatment can be considered, if not for sterile products, at least for reduction of microbial content to extend shelf life in ways that would not be harmful.

Mr. MYERS. Thank you.

Mr. ROSENTHAL. Thank you very much for your taking the time out to come from Cincinnati to appear with us this morning. We shall keep the record open for any of those whose names have been mentioned to submit a statement or for anyone else who has a legitimate interest.

The subcommittee stands adjourned.

(Whereupon, at 12:20 p.m., the subcommittee was adjourned.)

APPENDIX

COMMUNICATIONS BETWEEN THE SUBCOMMITTEE AND THE FEDERAL TRADE COMMISSION

MARCH 22, 1968.

Hon. PAUL RAND DIXON,
Chairman, Federal Trade Commission,
Washington, D.C.

DEAR MR. CHAIRMAN: The Special Inquiry on Consumer Representation in the Federal Government has been examining for several months certain practices and procedures of departments and agencies relative to the sale in commercial channels of consumer items purchased for Federal use, but rejected because of a failure to meet specifications and standards. Our investigation indicates that numerous consumer items, rejected by the Government for reasons which relate to the products' fitness for private consumer use, do find their way into normal commercial channels. Most such instances uncovered have resulted only in economic loss to consumers. Some, however, involve considerations of health and safety.

Accordingly, I have scheduled hearings on this subject for April 2 and 3, 1968. It would be greatly appreciated if we could have the Commission's views, for insertion into the hearing record, on certain aspects of this matter, as follows:

I. (*a*) Please comment on the legality of the sale into normal commercial channels of consumer items rejected by agencies of the Federal Government in packages, cartons, or wrappings exhibiting markings or words indicating that the item was procured pursuant to Government specifications or for use in Government programs.

(*b*) What can be done under existing law to prevent such sales? And, can liaison be improved between the Federal Trade Commission and those agencies which frequently reject consumer items likely to turn up in normal commercial channels in Government containers?

II. (*a*) Please comment on the legality or propriety of the sale in normal commercial channels of consumer items rejected for reasons which would render the item less fit or unfit for private consumer use, in containers or packages exhibiting only private labels or markings, without notice to the consumer of prior Government rejection.

(*b*) What rights to knowledge of the fact of previous Government rejection, if any, might the consumer have under present law. If none, does the Commission have any recommendations at this time for legislation governing such situations?

III. Has the Federal Trade Commission had any experience with or reports of the kinds of Government rejected sales discussed above?

If there are any questions regarding the contents of this communication, please contact Mr. Peter S. Barash on code 180, extension 5051. A reply by April 1 would be appreciated.

Best personal regards,

BENJAMIN S. ROSENTHAL,
Chairman, Special Inquiry into Consumer Representation in the Federal Government.

FEDERAL TRADE COMMISSION,
Washington, D.C., April 3, 1968.

Hon. BENJAMIN S. ROSENTHAL,
Chairman, Special Inquiry into Consumer Representation in the Federal Government, Committee on Government Operations. House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in reply to your letter of March 22, 1968, requesting the Commission's views on certain aspects of the situation you mentioned

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relating to consumer items rejected by the Government which find their way into normal commercial channels.

We believe it will be of interest that the Commission's case record includes a long line of matters involving the misrepresentation of numerous products as having been officially endorsed, approved, tested, used, graded, or as otherwise having some official connection with the Government. They have involved such items as proprietary drugs, oil and gasoline additives, hearing aids, shoes, correspondence courses, food-freezer plans, men's jackets, and numerous others, but there has been no general pattern of misrepresentations of this nature of any particular type of commodity, or by any particular manufacturer or seller. The false claims, in general, were affirmative in nature. Copies of the available papers pertaining to some typical situations are enclosed.

Our response to your specific questions is being made in the same order in which they were presented. The sale into normal commercial channels of consumer items rejected by agencies of the Federal Government in packages, cartons, or wrappings exhibiting markings or words falsely indicating that the items were procured pursuant to Government specifications or for use in Government programs, would be contrary to section 5 of the Federal Trade Commission Act. The purpose of a Commission action in such a situation would be to remove the deception, and to insure to the consumer his right to information material to his decision to purchase. The Commission could invoke such measures as were necessary to accomplish this objective.

The Commission has no statutory authority to proceed to prevent the sale of products generally, but it is authorized by the Fur Products Labeling Act, the Wool Products Labeling Act, and the Flammable Fabrics Act to institute condemnation proceedings in U.S. district courts seeking to remove products of those types from the market that are being sold in violation of the provisions of those statutes.

The Commission has liaison arrangements with a number of Federal agencies, including several others whose programs are also consumer oriented. Among them are the Food and Drug Administration, Department of Agriculture, Department of Justice, and the Post Office Department. We would welcome the formulation or improvement of liaison arrangements with agencies frequently having occasion to reject consumer items likely to turn up in normal commercial channels in Government containers. We are presently trying to enlarge and improve upon our liaison activities. We understand that you plan to advise us of those agencies you particularly have in mind. You may be assured that we will welcome this information, and that we will promptly institute measures to initiate liaison arrangements with them or to improve them in any case where they already exist.

The sale in normal commercial channels of consumer items rejected for reasons which would render them less fit or unfit for private consumer use in containers or packages exhibiting only private labels or markings, without notice thereon to the consumer of such prior Government rejection, would be contrary to section 5 of the Federal Trade Commission Act. Here again, the purpose of a Commission action against such a practice would be to remove the deception and to insure to the consumer his right to the information material to his decision to purchase, and the Commission could invoke such measures as were necessary to accomplish such objective.

We have no pending matters relating to the kinds of Government-rejected sales products you mentioned. Please be assured, however, that we are very concerned. We understand that you plan to supply us with information on the subject. We welcome this, and the data supplied will receive expeditious attention.

By direction of the Commission.

PAUL RAND DIXON *Chairman.*

EXCERPTS FROM USDA PAMPHLETS CONCERNING HANDLING AND FREEZING OF POULTRY

U.S. DEPARTMENT OF AGRICULTURE,
CONSUMER AND MARKETING SERVICE,
Washington, D.C., September 1967.

SIGNS OF SAFE FOOD HANDLING FOR USDA FRESH-FROZEN TURKEY AND CHICKEN

Danger.—Thaw only the amount of poultry needed for one day's use. Do not refreeze.

U.S. DEPARTMENT OF AGRICULTURE,
CONSUMER AND MARKETING SERVICE,
Washington, D.C., September 1967.

INSTRUCTIONS FOR HANDLING FRESH-FROZEN, CUT-UP YOUNG CHICKENS

Storing

Store frozen chicken in shipping container. Keep hard frozen at 0° F. or below.

Cooking, preparing, and serving

Cook chicken promptly after thawing. Do not refreeze. Do not hold thawed poultry in refrigerator for longer than 24 hours before cooking.

U.S. DEPARTMENT OF AGRICULTURE HOME AND GARDEN BULLETIN No. 69,
ISSUED AUGUST 1960

HOME CARE OF PURCHASED FROZEN FOODS

Refreezing

Occasionally, foods are partially or completely thawed before it is discovered that the freezer is not operating.

If foods have thawed only partially and there are still ice crystals in the package, they may be safely refrozen. Even this partial thawing reduces quality, of course; and, if some of the high quality has already been lost during previous partial thawing, the additional loss may result in very low quality. Refrozen foods should be used as soon as possible.

If foods have slowly thawed and have warmed gradually over a period of several days to a temperature of 40° F., they are not likely to be fit for refreezing. Under these conditions meats, poultry, most vegetables, and some prepared foods may become unsafe to eat; most fruits and fruit products soon develop an undesirable flavor.

U.S. DEPARTMENT OF AGRICULTURE HOME AND GARDEN BULLETIN No. 70, ISSUED AUGUST 1960, SLIGHTLY REVISED SEPTEMBER 1964

HOME FREEZING OF POULTRY

Refreezing

Foods that have slowly thawed and have warmed gradually over a period of several days to temperatures of 36° F. are not likely to be fit for refreezing. Spoilage organisms in low-acid foods, such as poultry, become active when food thaws and quickly make the food unfit to eat. Partially thawed frozen poultry with ice crystals still remaining may be refrozen safely.

U.S. DEPARTMENT OF AGRICULTURE, HOME AND GARDEN BULLETIN No. 70,
REVISED JANUARY 1967

HOME FREEZING OF POULTRY

Refreezing

Frozen raw or cooked poultry that has thawed may be safely refrozen if it still contains ice crystals or if it is still cold—about 40° F.—and has been held no longer than 1 or 2 days at refrigerator temperatures after thawing. Thawing and refreezing may lower the eating quality of the food.

NATIONAL ASSOCIATION OF FROZEN FOOD PACKERS
919 18th Street, N. W. • Washington 6, D. C.

As a special membership service, the National Association of Frozen Food Packers has reproduced the recently published AFDOUS Frozen Food Code. Publication was made on pages 25 through 42 of the AFDOUS Quarterly Bulletin for January, 1962.

The Association of Food and Drug Officials of the United States adopted this code on June 22, 1961, during its 65th Annual Conference in Washington, D. C.

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PREFACE

The Frozen Foods Code was adopted by AFDOUS in June 1961 and is designed to be used as a guide or, with the addition of legal language and penalties, may be adopted in part or in its entirety as regulations or law.

Work on the Code started in 1956 as a result of the realization by members of AFDOUS and Industry that uniformity of standards to improve the product quality at all levels of the frozen food industry was badly needed.

Mr. Milton Duffy, Commissioner of Food and Drugs for California and Chairman of the AFDOUS Committee on Canned Processed and Frozen Foods, appointed a sub-committee to work with the Frozen Foods Industry and other regulatory officials in making a national survey of existing conditions in the frozen food industry and to eventually draft the Code.

Several segments of the industry worked very closely with the AFDOUS sub-committee in the development of the Code.

AFDOUS is also indebted to personnel of the Western Regional Laboratory of U.S.D.A. who have afforded us a great service with conferences concerning their time and temperature work and its relation to the quality of frozen foods. The Divisions of Meat and Poultry Inspection of U.S.D.A. have been very helpful in drawing up plant construction and layout standards for frozen foods.

The Food Engineering Division of the U. S. Public Health Service has been of invaluable assistance in the editing and format of the Code. Space will not permit the acknowledgment of the contributions made by many other people in Industry and Regulatory agencies.

Although a considerable amount of work has been done on methodology and bacterial standards for pre-cooked frozen foods, it was deemed advisable to continue this work rather than incorporate it in the Code at this time.

AFDOUS FROZEN FOOD CODE

ADOPTED JUNE 22, 1961

Washington, D. C.

CONTENTS

SECTION A. *Definitions*

The following definitions shall apply in the interpretation of this code:

1. *Accessible:* shall mean easily exposed for cleaning and inspection with the use of simple tools, such as those normally used by maintenance personnel.
2. *Air Temperature:* shall mean the equilibrated temperature of the air environment in question.
3. *Break-up room:* shall mean any area, or space within a warehouse, used for the purpose of organising cased frozen food into lots for individual consignment on route delivery.
4. *Carrier:* shall mean any person, firm, or corporation, operating or offering to operate, a vehicle for the purpose of transporting frozen food.
5. *Display cases:* shall mean any case, cabinet, or other facility, used for displaying frozen food for sale.
6. *Food product zone:* shall mean those surfaces with which food is normally in contact and those surfaces with which food may come in contact during processing, conveying, holding, refrigeration and packing, and which may drain onto product contact surfaces or into the product.
7. *Freezing cycle:* shall mean lowering of the internal product temperature of a food product to a temperature of 0° F. or lower.
8. *Frozen food:* shall mean any article used for food or drink for man, or other animals; (a) which is processed; (b) which is packaged and preserved by freezing in ac-

cordance with good commercial practices; and (c) which is intended for sale in the frozen state.

9. *Internal product temperature:* shall mean the equilibrated product temperature of frozen food.
10. *Operator:* shall mean any person, firm, or corporation, operating or maintaining a frozen food plant or warehouse for the purpose of commercially preparing or storing frozen food.
11. *Readily (or easily) accessible:* shall mean easily exposed without the use of tools, for cleaning and inspection.
12. *Readily removable:* shall mean that a component part shall be capable of being separated from the principal part without the use of tools.
13. *Ready to eat frozen food:* shall mean a frozen food product which has been factory processed to the point at which it is ready for use as a food, and may or may not require further heating before use.
14. *Removable:* shall mean that a component part shall be capable of being separated from the principal part with the use of simple tools such as those normally used by maintenance personnel.
15. *Retail outlet:* shall mean any building, room, or parts thereof, where the sale of frozen food to the public is conducted.
16. *Route delivery:* shall mean the transportation of frozen food with frequent stops for partial unloading.
17. *Sale:* shall mean any and every transaction including the dispensing, giving, delivering, serving, exposing, storing, or any other possessing of frozen food wherein frozen food is subject to transfer to another person.
18. *Storage room or facility:* shall mean any area or space, within a warehouse, used for the purpose of storing frozen food.
19. *Transportation:* shall mean the physical movement, or the acceptance for physical movement, of frozen food by a carrier.
20. *Vehicle:* shall mean any van, truck, trailer, automobile, wagon, ship, barge, freight car, airplane, or other means for transporting frozen food.
21. *Warehouse:* shall mean any structure, room, or part thereof, used for the purpose of storing commercially manufactured frozen food.

Section B. *Frozen Food*

1. General:
   a. All frozen food shall be held at an air temperature of 0° F. or lower except for defrost cycles, loading and unloading, or for other temporary conditions beyond the immediate control of the person or company under whose care or supervision the frozen food is held: Provided, that only those frozen foods destined for repackaging in smaller units may be defrosted for such purposes in accordance with good sanitary precautions.
   b. The internal product temperature of frozen food shall be maintained at 0° F. or lower except when the product is subjected to the above mentioned conditions; then the internal product temperature shall not exceed 10° F., and such product shall be returned to 0° F. as quickly as possible.
      (1) Internal product temperature for any case of frozen food shall be determined in accordance with the following procedure:
         (a) Only when an accurate determination of internal product temperature fails without sacrifice of packaged frozen food, shall representative packages or units be opened to allow for inserting the sensing element

for temperature measurement to the approximate center of the packages in question.

(2) Internal product temperature of consumer packages of frozen food shall be determined in accordance with the following procedure:

(a) Open the top of the case and remove two corner packages.

(b) With an ice pick or similar tool punch a hole in the case from the inside. Do not use the stem of the thermometer.

(c) This hole is positioned so that, when the thermometer stem is inserted from the outside, it fits snugly between packages.

(d) Insert the thermometer stem about 3 inches. Replace the two packages. Close the case and place a couple of other cases on top to assure good contact on the sensing portion of the thermometer stem.

(e) After 5 minutes, read the temperature.

(3) Thermometers or other temperature measuring devices shall have an accuracy of ±2° F.

c. This Code shall not apply nor be deemed to apply to articles subject to the Frozen Desserts Ordinance and Code, recommended by the U. S. Public Health Service—May, 1940.

SECTION C. *Construction and Layout of Frozen Food Plants*

1. Coverage:
   a. This section covers in general the location, construction, and layout of frozen food preparation plants, including construction and design requirements to promote cleaning and sanitary maintenance.
   b. The provisions of this section shall be applicable only to those establishments initiating operations subsequent to the first inspection based upon the requirements of this code: Provided, that existing plants shall be subject to the provisions of this code when the plant facilities are remodeled or rebuilt subsequent to the adoption of this code, or when such plant or plant facility constitutes an immediate health hazard.
2. Location:
   a. Food processing plants shall be located in areas reasonably free from objectionable odors, smoke, fly ash and dust or other contamination.[1]
   b. Adequate, dust-proof accessways for all vehicular traffic, connecting loading and unloading areas of the plant to the public streets, shall be available. Employee parking areas and access roads close by the food processing plant shall be hard surfaced with a binder of tar, cement or asphalt.
3. Separation:
   a. Frozen food preparation plants shall be completely separated from areas used as living quarters by solid, impervious floors, walls, and ceilings with no connecting openings.

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[1] These objectionable conditions are sometimes prevalent in the environs of the following list of facilities, but not necessarily limited to these type facilities: Oil refineries, city dumps, chemical plants, sewage treatment plants, dye-works, and paper pulp mills. In planning a plant, due consideration should be given to providing space and an arrangement of buildings that will permit future expansion. To this end, coolers, freezers, and the various processing departments should be located so that they may be enlarged without adversely affecting other departments.

4. Water Supply:
   a. The plant shall have an ample volume of potable water[2] available from an approved public or private source. If a non-potable water supply is necessary it shall not be used in a manner which will bring it into contact with the product or product zone of equipment. Such non-potable water systems shall be kept entirely separate from the potable water supply and the non-potable water lines shall be positively identified by a distinctive color.
   b. All equipment shall be so installed and used so that back siphonage of liquids into the potable water lines is precluded.
   c. Hot and cold water in ample supply shall be provided for all plant clean-up needs. Hoses used for clean-up shall be stored on racks or reels when not in use.
5. Plant Waste Disposal:
   a. The disposal of liquid wastes shall be to the public sewerage system if available and permitted by local ordinances, or to a properly designed and installed private facility. Private liquid waste treatment facilities shall be approved by the health authority having jurisdiction.
6. General Plant Layout:
   a. Product preparation and processing (including freezing) departments shall be of sufficient size to permit the installation of all necessary equipment with ample space for plant operations and with unobstructed truckways for conveyances of raw materials and processed products. The plant shall be so arranged that there is a proper flow of product, without undue congestion or back-tracking, from the time raw materials are received until the frozen, packaged article is shipped from the plant.
   b. Raw material storage rooms and areas where preparatory operations, such as washing and peeling of fruits and vegetables and the evisceration of poultry, are carried on shall be separate from rooms or areas wherein frozen food is formulated, processed and packaged. Doors connecting various rooms or openings to the outside shall be tight fitted, solid, and kept in a closed position by self-closing devices.
   c. Facilities for holding product under refrigeration until processed shall be provided.
   d. Facilities for quick freezing the processed product efficiently shall be provided and so located as to be convenient to the food processing and packaging departments. Ample freezer storage shall be provided convenient to the quick freezing facilities: Provided, that when the frozen product is immediately removed from the establishment, such freezer storage shall not be required.
   e. A separate room for storing inedible materials such as fruit and vegetable peels, feathers, and bones, pending removal from the plant, shall be provided in a location convenient to the various preparation and processing areas. This waste storage room shall be of sufficient size to permit the proper storage of filled and empty metal or other relatively nonabsorbent refuse containers and their lids. It shall be equipped with an efficient power exhaust ventilation system, hot and cold water outlets and adequate floor drainage. The discharge from the exhaust system shall be located well away from fresh air inlets into the plant.

[2] Standards of potability are set forth in "Drinking Water Standards" promulgated by the U. S. Public Health Service, Department of Health Education and Welfare, dated February 6, 1949

f. Packaging and labeling materials shall be stored in a separately enclosed space convenient to the packaging department. Packaging and labeling materials shall not be stored in the product processing and packaging departments: Provided, that small quantities of such supplies as are necessary for maintaining continuity of operations is permissible in the processing and packaging departments.

g. Facilities for inedible products and catch basins shall be suitably located so as to avoid objectionable conditions affecting the preparation and handling of edible products.

h. A separate room or area and proper facilities for cleaning equipment such as trays, hand trucks, and implements shall be provided in a location convenient to the processing department. A power exhaust system shall be provided to dispel steam and vapors from the room.

i. Dockage areas shall be of adequate size, constructed of impervious materials and so drained as to minimize the entrance into the plant of dust, dirt and other contaminants from the receiving and shipping operations. If live animals are received, a separate dock shall be provided for this purpose.

j. Well located, properly ventilated dressing rooms and toilet rooms of ample size shall be provided for employees.[3] The ventilation and lighting of toilet and dressing rooms; the ratio of toilets, of hand-washing facilities, and of urinals to number of employees using such facilities; and the type of fixtures used and manner of installing all plumbing in such rooms shall conform strictly to applicable State and/or local codes governing such matters.[4]

k. Employees shall not eat in food processing or packaging area.

7. Plant Construction:[5]

a. Floors shall be constructed of durable material which is easily cleanable and skid resistant. Where floors are wet cleaned, they shall be sloped to drain.

b. Interior walls shall be of a smooth and washable surface applied to a suitable base.

c. Coves with radii sufficient to promote sanitation shall be installed at the juncture of floors and walls in all rooms.

d. Ceilings shall be of adequate height and of smooth, washable material.

e. Window ledges shall be sloped at least 45° to the interior to promote sanitation.

f. Frozen food plants and warehouses shall be so constructed as to be rodent resistant.

g. All exterior window and door openings shall be equipped with effective insect and rodent screens. Where doors in outside walls of food handling areas are used for loading or unloading, "fly chaser" fans and ducts or other effective means shall be provided at such doors to prevent the entrance of insects.

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[3] Dressing room should be separated from adjoining toilet rooms by tight, full height walls or partitions. The toilet room should not be entered directly from a work room but through an intervening dressing room or a properly ventilated toilet room vestibule.

[4] When State or local plumbing code is not in effect, it is suggested that the National Plumbing Code American Standards Association number ASA A 40.8—1955, published by A.S.M.E., 29 West 39th St., New York 18, N. Y. be used as a guide.

[5] The requirements for building materials listed in this Code represent minimum requirements. Variations are acceptable provided substitutions equal or exceed minimum requirements.

h. Dressed lumber shall be used for exposed interior wood-work.

i. All exposed wood surfaces shall be finished with nontoxic oil or plastic paint or treated with hot linseed oil or clear wood sealer.

j. Stairs in product handling departments shall be constructed with solid treads and closed risers and shall have side curbs of similar material, 6 inches high measured at the front edge of the tread.

k. Refrigerator doors and jambs shall be covered with rust-resisting metal securely affixed to the doors and jambs. Joints necessary for installation shall be welded, soldered, or otherwise effectively sealed. The juncture of the metal covering on jambs and walls shall be sealed with a flexible type sealing compound. Doorways through which product is transferred on overhead rails or hand trucks shall be sufficiently wide to permit free passage of the largest trucks or widest suspended product without contact with the jambs.

8. Plumbing and Floor Drainage:

a. The minimum slope of the floor for drainage shall be ⅛-inch to ¼-inch per foot toward a properly located drain. Floor drains should be provided at the rate of one drain for each 400 square feet of floor area. The type and size of floor drains and sanitary sewage lines used and the method of installing such facilities and other plumbing equipment shall conform strictly to State or local codes.

b. Hand-washing facilities shall be provided convenient to all locations where product is prepared and processed. Each lavatory shall be supplied with hot and cold or warm running water; powdered or liquid soap in a suitable dispenser; an ample supply of single service towels; and a suitable receptacle for used towels. Lavatories in work-rooms and toilet rooms shall be pedal operated.

c. Where sterilizers are required they shall be of a size that will permit complete immersion of tools and other implements. Such sterilizing receptacle shall be equipped with a water line, means for heating the water, an overflow outlet, and means for emptying the receptacle.

9. Lighting, Ventilation:

a. Work-rooms and employee dressing rooms shall have means for furnishing adequate natural light (approximately 25% of the floor area in windows and/or skylights) and ventilation or an efficient air conditioning or mechanical ventilation system and adequate artificial lighting provided.

b. Fresh air intakes for mechanical ventilation systems shall be equipped with effective replaceable filters to prevent the entrance of air-borne contaminants. Fresh air intakes shall be located well away from power exhaust system discharges and other sources of air-borne contaminants.

c. The general light intensities in product preparation, processing and packaging areas shall be not less than 20-foot candles measured 30 inches above the floor. Where detailed visual tasks are required to assure a safe, wholesome product, the intensity of light on the surface of the product or product container shall be not less than 50-foot candles. At least 10-foot candles of light shall be provided in all dressing and toilet rooms and at least 5-foot candles in all other areas of the plant.

SECTION D. *Design and Construction of Frozen Food Processing Equipment*

1. Coverage:

a. These specifications apply only to equipment acquired after this Code is adopted by the agency responsible for the administration of food laws in your State or municipality. Provided, however, when processing equipment constitutes an

immediate health hazard it shall be subject to the provisions of this Section. In modifying existing machinery and equipment, efforts shall be made to conform to these specifications.

b. These specifications apply to the design, materials, construction and installation of equipment used in the processing, holding and packaging of ready-to-eat frozen food and the processing and holding of gravies, batters, and other food ingredients containing eggs, milk, broth and other food components capable of supporting rapid bacterial growth.

c. Some articles and/or materials may be subject to the Food Additives amendment to the Federal Food, Drug and Cosmetic Act and clearance for their use may be necessary thereunder. Notwithstanding the provisions of this section of the Code, nothing herein contained is intended to prohibit the use of a food additive under and in accordance with the terms of an effective regulation pursuant to the Federal Food, Drug and Cosmetic Act.

2. General Principles:

a. The design, materials, construction and installation of frozen food equipment shall be easily accessible for cleaning and sanitization.[6]

3. Equipment Classification:

a. Group "A"—Equipment used for the processing, conveying, holding, refrigeration and packaging of gravies, batters, or other food ingredients containing eggs, milk, broth, alone or in combination with other food ingredients, which are capable of supporting rapid bacterial growth. This includes, but is not limited to the following: Pumps, valves, pipelines and their fittings, heat exchangers, homogenizers, containers, hoppers, fillers.

b. Group "B"—Equipment in this group is used in the processing, holding and conveying of foods or food ingredients which are intended to be incorporated in ready-to-eat frozen food. This includes, but is not limited to reservoirs, holding tanks, kettles, mixers for liquids, mixers and blenders for powders, dough mixers, flour handling equipment, fryers, cutters, dicers, slicers, cutting boards, pumps, valves, tanks, lines and fittings for liquid sugar, oils and shortening.

Group "C"—Equipment used in the manufacture of ready-to-eat frozen food for which applicable standards are not available.

4. Equipment Groups A, B and C—Materials, Design and Construction.[7]

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[6] In order to encourage the cleaning of equipment, the time factor and the ease of disassembly are important considerations. The unit or units of equipment should contain the fewest number of parts to permit easy reassembly by unskilled labor following cleaning.

[7] Specifications and published standards for food equipment have been developed by official agencies and voluntary organizations other than those specifically mentioned in the Code. These standards may be worthy of consideration in the evaluation of certain equipment items. The development organization and the area in which standards are published are as follows:

a. National Sanitation Foundation—Food preparation and service equipment.

b. U. S. Department of Agriculture, Meat Inspection Division—Meat processing equipment.

c. U. S. Department of Agriculture, Poultry Inspection Division—Poultry processing equipment.

d. U. S. Department of the Interior, Bureau of Commercial Fisheries—Fishery products handling and processing equipment.

a. Equipment Group A.—Equipment in this category shall conform to the Standard[8] indicated.

(1) Pump—"3A Sanitary Standards for Pumps for Milk and Milk Products," including both Centrifugal and Rotary Type Pumps, as Amended April 30, 1952.

(2) Valves—"3A Sanitary Standards for inlet and Outlet Leak Protector Plug Valves for Batch Pasteurizers," dated October 8, 1952.

(3) "3A Sanitary Standards for Fittings and Connections Used on Milk and Milk Products Equipment," dated March 1950; "Supplement No. 1, to the 3A Sanitary Standards for Thermometer Fittings and Connections Used on Milk and Milk Products Equipment," dated August 1954, "Supplement No. 2, to the 3A Sanitary Standards for Fittings Used on Milk and Milk Products Equipment and Used on Sanitary Lines Conducting Milk and Milk Products", dated June 1952; "Supplement No. 3 to the 3A Sanitary Standards for Fittings Used on Milk and Milk Products Equipment and Use on Sanitary Lines Conducting Milk and Milk Products," dated April 26, 1955; "Supplement No. 4, to the 3A Sanitary Standards for Fittings Used on Milk and Milk Products Equipment and Used on Sanitary Lines Conducting Milk and Milk Products," dated April 26, 1955; "Supplement No. 5, to the 3A Sanitary Standards for Fittings Used on Milk and Milk Products Equipment and Used on Sanitary Lines Conducting Milk and Milk Products," dated April 26, 1955; and "Supplement No. 6, to the 3A Sanitary Standards for Fittings Used on Milk and Milk Products Equipment and Used on Sanitary Lines Conducting Milk and Milk Products," dated April 26, 1955.

(4) Heat Exchangers—"3A Sanitary Standards of Plate Type Heat Exchangers for Milk and Milk Products," dated September 1951, or "3A Sanitary Standards for Internal Return Tubular Heat Exchangers for Use with Milk and Milk Products," dated April 29, 1952.

(5) Pasteurizers—"3A Accepted Practices for the Sanitary Construction, Installation, Testing and Operation of High-Temperature, Short-Time Pasteurizers," published June 1958.

b. Equipment Group B.—Shall conform to the Standard[9] indicated.

(1) Mixers or Blenders for Powders—B.I.S.S.C. Sanitary Standard No. not yet completed.

(2) Horizontal and Vertical Dough Mixers—B.I.S.S.C. "Sanitary Standard No. 6, for Horizontal Mixers and Vertical Mixers," effective date November 1, 1954.

(3) Flour Handling Equipment—B.I.S.S.C. "Sanitation Standard for Flour Handling Equipment," effective date December 1, 1952.

(4) Liquid Sugar Handling Equipment—B.I.S.S.C. "Sanitary Standard No. not yet completed.

(5) Liquid Oil and Shortening Handling Equipment—B.I.S.S.C. "Sanitary Standard No. not yet completed.

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[8] 3A Sanitary Standards are promulgated jointly by the Committee on Sanitary Procedures, International Association of Milk and Food Sanitarians, Inc.; U. S. Public Health Service; and the Sanitary Standards Subcommittee, Dairy Industry Committee.

[9] B.I.S.S.C. Sanitation Standards are developed and promulgated by the Baking Industry Sanitation Standards Committee.

(6) Fryers—B.I.S.S.C. "Sanitation Standard No. 16, for Doughnut Equipment," effective date October 1, 1959.
(7) Depositors, Fillers—B.I.S.S.C. "Sanitation Standard No. 5, for Cake Depositors, Fillers and Icing Machines," effective date March 1, 1954.
(8) Conveyors—B.I.S.S.C. "Sanitation Standard No. 7, for Conveyors", effective date November 1, 1954.
(9) Homogenizers, Emulsifiers—B.I.S.S.C. "Sanitation Standard No. 18, for Emulsifiers and Homogenizers," effective date February 1, 1961.

c. Equipment Group C.
(1) Materials[10]
(a) All surfaces within the food product zone must be smooth, free from pits, crevices, and loose scale; and must be relatively non-absorbent. Furthermore, surfaces shall be non-toxic, and unaffected by food products and cleaning compounds.[11]
(b) The finish of corrosion-resistant (stainless steel, nickel alloy, etc.) surfaces must be of 125 grit, properly applied, or equivalent.
(c) The finish of cast iron, cast and forged steel, and cast nickel alloy are not to exceed a surface roughness of American Standard #125 or equivalent.
(d) The use of galvanized surfaces shall be minimal and where used of the smoothness of high quality commercial hot dip.
(e) Copper and its alloys shall not be used in equipment where edible oils, liquid shortening, chocolate liquor, and other fatty food products come in contact with the metal.
(f) Cadmium shall not be used in any manner or form on the food equipment.
(g) Lead shall not be used within or adjacent to the food product zone with the exception of its inclusion in dairy solder in an amount not to exceed 5%.
(h) Plastics shall be abrasion resistant, heat resistant to the degree needed for the product and for the cleaning process, shall be shatterproof, and shall not contain free phenol, formaldehyde, or a constituent which may result in the migration of any of the substances to the food or otherwise affect the characteristics of the food with which it comes in contact.
(i) All gasketing and packing materials shall be relatively non-porous, relatively nonabsorbent, and installed in a manner that results in a true fit to prevent protruding into the product zone or creating recesses or ledges between the gasketed joints.
(j) Coatings used in the food product zone as a lining to prevent corrosion of the base material of food equipment shall be non-toxic, unaffected by, and inert to the food in contact with it or cleaning preparations used on it. Furthermore, such coatings shall be relatively nonabsorbent, odorless and tasteless.
(2) Design and Construction—Food Product Zone:
(a) All parts of the product zone shall be readily accessible or be readily removable for cleaning and inspection.

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[10] Sponge rubber, stone slab, linoleum, flannel, unglazed ceramic material and other porous materials are basically objectionable and should not be used.
[11] Wood and cloth if used will be indicated under specific application.

(b) All parts of the food product zone shall be free of recesses, dead ends, open seams, and gaps, crevices, protruding ledges, inside threads, inside shoulders and bolts or rivets which form pockets and patterns.[12]

(c) All permanent joints of metal parts shall be butt welded.[13]

(d) All welding within the food product zone shall be continuous, smooth, even, and flush with the adjacent surfaces.

(e) All interior corners shall be provided with a minimum radius of ¼ inch, except where a greater radius is required to facilitate drainage or cleaning.

(f) The equipment shall be constructed and installed to provide sufficient pitch so as to be completely self-draining.

(g) Equipment which introduces air into the food product or uses air to convey the food product shall be fitted with a filter capable of withholding particles 50 microns or larger in size. Such filters shall be readily removable for cartridge replacement or cleaning.

(h) Bearings shall be located outside the food product zone or outboard and shall be of the sealed or self-lubricated type. Those intended for use with a dry granular or a dry pulverized product directly adjacent to the food product zone shall be of the sealed type, without grease fittings. The bearings shall be installed flush to eliminate any recessed areas around the shaft within the food product zone.

(i) Shaft seal assemblies and packing glands shall be outboard, and shall be readily removable. The shaft seal or packing shall be retractable within a space between the assembly and bearing to facilitate easy removal of the sealing assembly and materials, for cleaning and inspection.

(j) Screening and Straining Surfaces: All permanent screening and straining devices shall be readily removable for cleaning and inspection. They shall be designed to prevent replacement in an improper position.

((1)) Liquid: Permanent screening and straining surfaces intended for use with a liquid or a semi-liquid product shall be fabricated from perforated metal.

((2)) Dry: Permanent screening and straining surfaces intended for use with a dry granular or a dry pulverized product shall be fabricated from perforated metal. Provided, that wire screen of not less than 30 x 30 continuous mesh may be used.

(k) All filtering surfaces shall be readily removable for cleaning and inspection.

((1)) Filter papers shall be of the single-service type.

((2)) Filter cloths and spun glass filters shall be launderable.

(l) Hinges and latches shall be of the simple take-apart type.

(m) Motors shall be of the totally enclosed finless type and shall be mounted on the equipment whenever possible.

(n) Covers shall be provided on reservoirs, hoppers or other vessels, and they shall be readily removable and shall be fitted with drip protective

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[12] To prevent protruding ledges and impediment to flow following assembly of parts, factory pre-alignment of parts is urged.

[13] Dissimilar metals should not be used in equipment construction if their contact with liquid products may create deleterious chemical and electrolytic action.

devices or facilities to prevent foreign substances from falling into the product.

(3) Design and Construction-Non-Food Product Zone:

(a) All safety or gear guards shall be removable for cleaning and inspection.

(b) All external surfaces shall be free of open seams, gaps, crevices, unused holes, and inaccessible recesses.

(c) Horizontal ledges and frame members shall be kept to a minimum; external angles shall be rounded and internal angles shall be avoided.

(d) Where lubrication of equipment is required, provision shall be made to prevent leaking or dripping into the food product zone.

5. Installation of Equipment:

a. All equipment shall be installed on a foundation of durable, easily cleanable material.

b. Equipment shall be placed at least 18 inches[14] from walls and ceiling, or sealed watertight thereto. All portions of the equipment shall be installed sufficiently spaced above the floor on a minimum number of supporting members to provide access for inspection and cleaning, or be installed completely sealed (watertight) to the floor.

c. Whenever equipment passes through walls or floors, it shall be sealed thereto or sufficient clearance shall be allowed to permit inspection, cleaning and maintenance.

d. Where necessary, drains and catch pans shall be provided and shall be of such dimensions to collect all spill and drip and be readily accessible or readily removable for cleaning.

e. Where pipes pass through ceilings of processing areas, pipe sleeves shall be inserted in the floor above so that their upper periphery is at least 2 inches above the floor.

6. Connections:

a. All electrical connections, such as switch boxes, control boxes, conduit and bx cables, shall be installed a minimum of ¾ inch away from the equipment and walls, or be completely sealed to the equipment or wall.

SECTION E. *Operating Practices for the Commercial Manufacture of Frozen Food*

1. Handling and Storage of Materials:

a. Foods—All food ingredients received at the plant shall be wholesome. Storage shall be in rooms completely separate from food preparation and processing operations. Storage conditions shall preclude contamination from rodents, insects, and other sources. Temperature of storage shall be in accordance with the following practices:

(1) Ingredients requiring refrigeration shall be stored at an air temperature of 40° F. or lower;

(2) Frozen ingredients shall be stored at an air temperature of 0° or lower.

b. Packaging Materials—Storage shall be in rooms completely separate from food preparation and processing operations. Conditions of storage shall preclude contamination from rodents, insects, and other sources.

c. General Housekeeping—Plant and premises shall be maintained so as to present a neat and orderly appearance at all times.

2. Personnel Hygiene:

a. The services of an employee with any open sore on an exposed portion of the

[14] Space between walls or ceiling and equipment should be 30 inches preferably.

body or one afflicted with an infectious or contagious disease shall not be used. Provided that, services of employees with finger cuts, or with bandages, finger cots, and similar type coverings may be utilized on the condition that said employee wears rubber gloves. Any employee with an upper respiratory infection shall be assigned duties outside of the areas of food preparation, processing, and packaging.

b. Visitors to food preparation, processing and packaging areas shall comply with employee requirements and such visits by unauthorized persons shall be restricted.

c. Practices for Employees Handling Unpackaged Food.

(1) Employees shall wear head covering and shall keep clothing in a clean condition consistent with the duty being performed.

(2) Before beginning work, after each absence from post of duty, and after contact with non-sanitized surfaces, each employee shall:

(a) Wash hands with liquid or powdered soap and warm water dispensed from a foot or elbow operated device;

(b) Rinse hands in a chlorinated spray or other approved sanitizing agent;

(c) Dry hands with single-service towels.

(3) Minimize hand contact with food products.

(4) The use of a common dip bowl or tank is prohibited.

(5) In the event that rubber gloves are used, they shall be cleaned and sanitized in accordance with hand washing specifications in 2c(2)(a) and (b) of this Section.

(6) Using tobacco in any form, chewing gum, or eating in rooms where food products are stored, handled, or prepared shall not be permitted.

3. Plant and Equipment—Sanitation:

a. Plant and equipment shall be clean when put into service.

b. All floors, tables, splash boards, work surfaces, equipment, and utensils, shall be cleaned and sanitized with approved agents and methods at the close of each shift. Critical areas and all food contact surfaces shall be cleaned and sanitized at least once during each shift.

c. Equipment such as pipes, pumps, fillers and valves shall be dismantled for cleaning and sanitizing; Provided, that approved and effective in-place cleaning and sanitizing methods will be acceptable.[15]

d. A thorough rinse with potable water shall follow any sanitizing operation that has been completed with a chemical sanitizing agent.

4. Preparation and Processing:

a. Fans, blowers or air cooling systems shall not move air from raw material or preparation rooms into processing rooms.

b. Only adequately cleaned, prepared raw materials shall be introduced into areas where frozen pre-cooked foods are cooked and subsequently handled in processing operations.

c. Preparatory operations feeding to the packing line shall be so timed to permit expeditious handling of consecutive packages in production and under conditions to prevent contamination, loss of quality, or spoilage.

[15] Suggested criteria for accepting cleaned-in-place systems are: (a) arranged so that cleaning and bactericidal solutions can be circulated throughout the fixed system; (b) such solutions will contact all interior surfaces; (c) the system is self draining or otherwise completely evacuated; and (d) the cleaning procedures result in thorough cleaning of the equipment.

d. When batter, egg wash, or milk wash is an ingredient, it shall be maintained at a product temperature not to exceed 45° F. Cracked or flaked ice used to refrigerate batters shall meet bacterial standards for potable water. Batter remaining in machines and equipment at clean-up time shall be discarded.

e. Breading materials that have come in contact with batter and have been removed by screening shall be discarded.

f. Food ingredients or mixtures that are capable of supporting rapid bacterial growth shall be maintained either at a product temperature above 160° F., or below 45° F.

g. Cooked food such as meat, poultry, sauces, and gravies shall be:

(1) Refrigerated or incorporated into the finished product within one hour following preparation;

(2) Refrigerated within 30 minutes following preparation at an air temperature of 50° F. or less if the product is to be held from one to eight hours after preparation;

(3) Refrigerated within 30 minutes following preparation such that the internal temperature of the food product will be 40° F., or lower, within two hours of refrigeration if the food product has been comminuted, sliced, or is a liquid, and if the food is to be held more than eight hours. Large solid food components such as those that must be cooled before slicing shall be refrigerated at an air temperature of 40° F. or lower.

h. Trays, pans, or other containers of ingredients destined for incorporation into the finished product shall be protected with a clean cover unless these ingredients are used within 30 minutes of preparation. The cover shall not be of porous material.

i. Permanently legible code marks shall be placed on each immediate container or package at time of packing. Such code marks, as devised by management, shall include date of packing and establishment where packed.

j. The packaged product shall be placed in the freezer within 30 minutes of packaging. Placement of packages in cases before freezing is prohibited.

k. Refuse from the food operations shall be promptly placed in containers that are prominently marked "REFUSE" and equipped with lids. The handling of refuse shall be done in such a manner as not to constitute a nuisance. All refuse shall be removed from the premises on a daily basis and in such a manner as not to contaminate food products being manufactured within the plant. Refuse containers shall be thoroughly cleaned immediately after each emptying.

5. In-Plant Freezing:

a. During the freezing cycle products shall be cooled to 50° F. or lower within 2 hours and to 0° F. or lower within 36 hours.

b. Products shall be frozen by approved commercial methods.

c. When necessary, products shall be protected so that dehydration and discoloration will not occur during the freezing cycle.

d. The freezer shall be precooled to an air temperature of 0° F. before loading. However, during loading, the freezer may rise to temperatures above 0° F. for short periods of time.

e. If cold air is used as the freezing medium, the product shall be arranged by staggering the individual items or by employing dunnage, spacers, or other suitable methods to permit satisfactory circulation of cold air around the products. Also, the cold air shall be circulated by a positive method; natural air circulation is not satisfactory.

f. The freezer and associated equipment used for handling the product shall be maintained in a clean and sanitary condition at all times.
g. A suitable indicating or recording instrument shall be used to measure the temperature of the cooling medium (i.e., air, liquid, refrigerated plates or pipe coils).
h. Packaged items are to be frozen in a manner that will result in a minimum amount of bulging or distortion.
i. After the freezing cycle the frozen product shall be transferred to a storage facility as quickly as possible.

SECTION F. *Transportation*

1. Equipment:
   a. Vehicles of transportation shall be equipped:
      (1) With a combination of insulation and mechanical refrigeration system, or other refrigeration methods or facilities, capable of maintaining an air and product temperature of 0° F., or lower, while loaded with any frozen food; and
      (2) With a thermometer, or other appropriate means of temperature measurement indicating air temperature inside the vehicle. The dial or reading element of the thermometer shall be mounted on the outside of the vehicle.
   b. Vehicles used for route delivery shall comply with all equipment provisions herein specified for vehicles of transportation and shall be equipped with curtains or flaps in the doorway area, or with port doors, to maintain refrigeration during stops.
2. Handling Practices for Over-the-Road Transportation:
   a. Vehicles shall be precooled to an air temperature of 20° F., or lower, before loading.
   b. Frozen food shipments shall not be accepted for transportation when the internal product temperature exceeds 0° F.
   c. Frozen food shall be loaded within a vehicle of transportation to provide for free circulation of refrigerated air at the front, rear, top, bottom, and both sides of the load, except for vehicles of envelope type construction wherein refrigerated air circulates within walls of said vehicles.
   d. The mechanical refrigerating unit of vehicles shall be turned on and doors of vehicles shall be kept closed during any time interval when loading, or unloading, operations cease.
   e. The average product temperature of any shipment of frozen food shall be determined during loading and unloading by adequate temperature readings.
3. Handling Practices for Route Delivery:
   a. In addition to all provisions specified in 2. of this Section, the following provisions shall be met:
      (1) Each lot for individual consignment shall be refrigerated by means of mechanical refrigeration, dry ice, or by any other means capable of maintaining an air and product temperature of 0° F., or lower;
      (2) Insulated containers shall be precooled to a temperature of 20° F., or lower, before being loaded with frozen food; and
      (3) Doors of vehicles shall be kept closed during any time interval that loading, or unloading, operations cease.
4. Sanitary Provisions:
   a. All interior surfaces of vehicles and devices used for transporting frozen food

shall be clean and free of objectionable odors before being loaded with frozen food.

b. Frozen food shall be securely packaged, or wrapped, in a sanitary manner before they are accepted for transportation.

SECTION G. *Warehousing*

1. Equipment:
   a. Each warehouse shall be equipped with suitable mechanical refrigeration capacity to maintain, under extreme outside temperature and peak load conditions, an air temperature of 0° F., or lower.
   b. Each storage room and part thereof shall be maintained at an air temperature of 0° F., or lower.
   c. Each storage room shall be equipped with a thermometer, or other temperature measuring device which is easily visible.
      (1) The sensing element of thermometers and other temperature measuring and recording devices shall be located not more than six feet or less than five feet from the floor and not in a direct blast of refrigerated air or near entrance doors. When indicating thermometers only are used they shall be read and recorded at least once every twenty-four hours during each calendar day.
         (a) Recording thermometers equipped with charts shall have a chart perforator. Charts so used shall designate an operating range of at least 10° above and 10° below 0° F. in graduations of one degree.
         (b) The use of electric or hand wound clocks, as well as 24-hour or 7-day charts, for recording thermometers shall be optional at the operator's discretion.
      (2) Each chart, or record of observed temperatures, shall be dated showing the time interval covered thereby and shall be kept on file for a period of at least one calendar year.
   d. Each breakup room shall be maintained at a temperature not to exceed 20° F.
2. Handling Practices:
   a. The operator of a warehouse shall not accept custody of a lot or shipment of frozen food if internal product temperature exceeds 0° F., except as provided in Section B. 1. a. and B. 1. b. of the Code and such exception is duly recorded.
      (1) Notwithstanding this prohibition, custody of lots with an internal product temperature in excess of 10° F. may be accepted by the operator on request of the owner of said lot, provided said foods are detained from sale and the temperature of such product is promptly returned to and maintained at 0° F., or lower, for the purpose of maintaining residual quality pending chemical, bacteriological, or organoleptic examination.
   b. Before a lot of frozen food is placed in storage, it shall be marked, or stamped, with a code for effective identification.
   c. Frozen food in storage shall be placed on pallets, racks, or skids and shall be stored no closer than 18 inches to the ceiling and otherwise stored so as to permit free circulation of refrigerated air.
   d. Frozen food shall be stored under good sanitary conditions that preclude injury and contamination from, or to, other food held within the warehouse.
   e. During the defrosting of overhead coils in storage rooms, stacks of frozen food shall be effectively protected from contamination by condensation, drip or leakage.

f. Break-up rooms shall not be used for storage.

g. At time of removal from warehouse custody, the internal product temperature of frozen food shall not exceed 0° F.

3. Sanitary Provisions:

a. Floors, walls, and ceiling of a warehouse shall be maintained in a good sanitary condition.

b. Premises of a warehouse shall be maintained in a good sanitary condition.

c. Toilet, Hand-washing and Dressing Room Facilities:[16]

(1) Warehouses shall have water-flush toilets so located as to be convenient to employees. Toilet room or rooms shall be well lighted and ventilated and shall be maintained in a sanitary condition. The doors of all toilet rooms shall be full-length and self-closing.

(2) Adequate hand-washing facilities, including hot and cold or warm running water, powdered or liquid soap in a suitable dispenser, and single service towels, shall be provided adjacent to all toilet rooms. The use of a common towel is prohibited. Washrooms shall be well lighted and ventilated and shall be maintained in a sanitary condition.

(3) Warehouses shall have a dressing room or rooms for the changing and hanging of wearing apparel. If individual lockers are provided, they shall be well vented and maintained in a clean, sanitary condition and shall be free from disagreeable odors. The dressing room or rooms shall be adequately lighted and ventilated and shall be maintained in a clean, sanitary condition.

SECTION H. *Retail*

1. Equipment:

a. Each storage facility shall be equipped with suitable mechanical refrigeration capacity to maintain, under extreme outside temperature and peak load conditions, an air temperature of 0° F., or lower.

b. When storage facilities of the cabinet type are used:

(1) They shall be defrosted as frequently as necessary to maintain refrigeration efficiency specified; and

(2) They shall be equipped with a thermometer indicating a representative air temperature.

c. When storage facilities of the walk-in freezer type are used:

(1) Frozen food in storage shall be on pallets, racks, or skids, and shall be stored no closer than 18 inches to the ceiling and otherwise stored so as to permit free circulation of refrigerated air.

(2) They shall be equipped with a thermometer, the sensing element of which shall be located within the upper third of the distance between floor and ceiling. Said sensing elements shall not be placed in a direct blast of air from cooling units, cooling coils, and heat exchange devices, or near the entrance door; and

(3) They shall be equipped with an automatic mechanism for defrosting refrigerated coils when forced air blower type of refrigeration is used.

d. All frozen food display cases shall be designed, constructed, and equipped with mechanical refrigeration facilities capable of maintaining an air temperature of 0° F., or lower.

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[16] In States where legislation by reference is constitutional, the following may be substituted for c.: A warehouse shall be so constructed as to comply in all respects with State ordinances covering sanitary codes.

e. Frost on refrigerator coils and in air passages of display cases shall be removed as frequently as necessary to maintain refrigeration efficiency specified in subsection H. 1. d.

f. Each display case shall be equipped with a thermometer, the sensing element of which shall be located in an appropriate place within the path of refrigerated air being returned to the coils.

g. The product load line shall be designated by a distinctive line at inside terminal ends of each display case, and such lines shall be at the highest point of discharge and return of refrigerated air.

h. Each display case shall be equipped with separators to provide false walls located a minimum of one-half inch from terminal ends to provide for free circulation of refrigerated air between said terminal ends and displayed product.

i. All display cases in a retail outlet shall be so placed as to be relatively free:
   (1) of air currents resulting from door drafts, electric fans, and other factors that adversely deflect the current of refrigerated air within the display case; and
   (2) of heat elements such as lights, heating units, and related devices that tend to raise the temperature of refrigerated air within the display case.

2. Handling Practices:

a. Frozen food shall not be accepted for delivery by a retail outlet when the internal product temperature exceeds 0° F., except as provided in Section B. 1 a. and B. 1. b. of this Code and such exception is duly recorded

b. All frozen food received at a retail outlet[17] shall be immediately placed in storage facilities.

c. Each retail outlet shall be equipped with storage facilities of sufficient cubic displacement to accommodate the storage of frozen food.

d. Frozen food shall not be placed above the product food lines within any display case.

e. All frozen food in a retail outlet shall be stored, and displayed under good sanitary conditions.

[17] Retail outlets should employ the first-in first-out basis of inventory control

Recommended Voluntary Operating Practices for the Handling of Consumer Packaged Frozen Foods

The frozen food industry trade groups which have joined in approving these recommended voluntary operating practices have done so in recognition of their mutual responsibilities to the consuming public. They regard these responsibilities as requiring a good faith, organized effort on their part to continue making progress in improving operating practices in the handling and distribution of frozen foods.

These recommended voluntary operating practices are the result of extensive study by the industry with scientific advice and assistance. They have been given a most thorough consideration and are both sound and practical. In the context of the industry's program of progressive improvement, these far-reaching initial practices are endorsed by the undersigned but they are not to replace in any instance more rigid company or industry practices already in effect (such as in the frozen citrus concentrate industry). The industry's goal is to reach a 0° temperature from packer to retailer. These initial practices will be re-evaluated within 2 years.

The development of these goals is based on the principle that voluntary action undertaken by industry members will result in greater, as well as more rapid improvement in handling practices than would be produced by the use of force through the imposition of compulsory laws and regulations. The voluntary approach is the most realistic and the most effective, because these goals do not lend themselves to regulation.

This method is desirable to obtain and encourage a maximum of unified and enthusiastic cooperation from industry members. Harmful, unnecessary, and costly delays and interruptions in the supplying of high quality frozen foods to the public will be avoided by utilizing voluntary means instead of compulsion. The industry with its practical experience and knowledge, backed by guidance and assistance from scientific authorities, is better able to develop sound practices for meeting desirable goals to afford consumers high quality frozen food products. Compulsion in this matter serves neither the consumer interest nor the public interest.

Public health is not involved in this manner. The matters dealt with in these suggested practices relate to the merchandising aspects of the selling of frozen foods.

The recommended voluntary operating practices represent voluntary goals for achievement by the industry for the current year as well as for future years. We pledge in good faith our best efforts to achieve these goals. This commitment on our part is voluntarily accepted in recognition of our responsibilities. The program outlined is a serious effort to do the job in the best possible way.

We recognize the desirability of achieving a goal of a reasonably uniform temperature of 0° F. for the commercial handling of frozen foods. This objective must be applied with the understanding that all frozen foods do not require the same temperature levels for proper preservation; that the time in which frozen foods are held at a given temperature is an essential consideration since frozen foods held at a higher than recommended temperature for a brief time will not produce any distinguishable change in the product. The same objective obviously does not apply and these operating practices do not cover products intended to be sold in other than the frozen state.

These recommended voluntary operating practices are based on findings of extensive studies in frozen-food time-temperature tolerances by the Western Utilization Research and Development Laboratory of the U.S. Department of Agriculture. These findings were concurred in by the Refrigeration Research Foundation.

Foods for freezing should be promptly delivered to the plant where they should be processed and packaged with all reasonable promptness.

1. Similar care should be used by processors without freezing facilities in moving packaged product to refrigerated warehouses for freezing.

2. Where processor has his own freezer and warehouse, product should leave the warehouse at 0° F., or lower.

3. In movement from processor, who freezes but does not have sufficient warehouse space to complete the freezing, the product should leave processor's

plant promptly, at 10° F., or lower, in an insulated and refrigerated vehicle. Such movement to the primary warehouse for reduction of temperature to 0° F., or lower, should not exceed 8 hours. If the trip to the warehouse is 2 hours, or less, an insulated vehicle should be used.

4. Product temperature should be reduced to 0° F., or lower, upon reaching primary warehouse.

WAREHOUSE EQUIPMENT

1. Each warehouse should be of adequate capacity and should be equipped with suitable mechanical refrigeration to provide, under extreme conditions of outside temperature and under peak load conditions, for maintaining an air temperature of 0° F., or lower, for all rooms in which frozen foods are stored.

2. Each storage room should be equipped with an accurate temperature determining device or devices which should be located as to accurately reflect the average air temperature of the room. Each day the warehouse is open, temperatures of each room should be read, recorded, dated and a file of such temperatures maintained for a period of at least one calendar year.

WAREHOUSE HANDLING PRACTICES

1. The operator of a warehouse should take and record product temperature of all lots of frozen foods received, and should accept custody in accordance with good commercial practice. He should maintain records of temperatures of lots received for a period of at least one calendar year.

2. Whenever frozen foods are received with product temperatures of 15° F., or higher, the warehouseman should propose to the owner or consignee that such products be subjected to special handling procedures designed to reduce product temperature to 0° F., or lower as rapidly as possible. Special handling procedures may consist of any method available for successfully lowering temperatures such as, but not limited to, blast freezing, use of low-temperature rooms with air circulation, and/or proper use of dunnage and separators in stacking.

3. Before a lot of frozen foods is placed in storage, it should be marked, or stamped, with a code for effective identification.

4. Frozen foods should be moved promptly over dock areas to minimize exposure to high temperatures.

5. During the defrosting of overhead coils in storage rooms, stacks of frozen food should be effectively protected with tarpaulin, or other protective covering, or by removal from beneath the coils.

6. Frozen foods going into a separate breakup room for assembly of orders must be promptly moved out unless the breakup room is maintained at 0° F., or lower.

TRANSPORTATION EQUIPMENT

1. Vehicles of transportation should be equipped with—

(*a*) A combination of insulation and mechanical, or other refrigerating facilities, capable of maintaining a product temperature of—

Years	*Temperature*
1961 through 1962	0° F. with a tolerance to 15° F.
1963 through 1964	0° F. with a tolerance to 10° F.
By 1965	0° F. with a tolerance to 5° F.

(*b*) A thermometer or appropriate temperature measurement device indicating air temperature inside the vehicle. The dial or reading element of the thermometer should be mounted on the outside of the vehicle in a readily accessible position.

2. Delivery trucks used for route delivery should comply with all equipment provisions herein specified for vehicles of transportation and should be equipped with curtains or flaps in the doorway area, or with port doors.

3. Over-the-road equipment purchased after March 1, 1961, should be capable of maintaining a product temperature of 0° F. Delivery trucks used for route delivery purchased after March 1, 1961, should be capable of maintaining a product temperature of 10° F. (Prior to June 14, 1961 these temperatures were shown as 5° F. and 15° F. respectively.)

HANDLING PRACTICES FOR OVER-THE-ROAD TRANSPORTATION

1. Vehicles should be precooled to an air temperature of 20° F., or lower, before loading.

2. Frozen foods should be securely packaged, or wrapped, before they are offered for transportation.

3. Any frozen food shipment should not be tendered to nor accepted by a carrier for transportation when the product temperature exceeds 0° F.

4. Frozen foods should be loaded within a vehicle of transportation so as to provide for flow of refrigerated air at the front, rear, top, bottom, and sides of the load, except for vehicles of envelope-type construction wherein refrigerated air circulates within walls of said vehicles.

5. Product should be loaded in over-the-road trucks or railroad refrigerator cars as promptly as possible to minimize product temperature rise not to exceed 10° F., years 1961–62; 5° F., years 1963–64; 0° F., by 1965.

6. A period of 2½ hours should be allowed for the loading of vehicles purchased after March 1, 1961 and all vehicles in use by 1965. A tolerance of 2° F. should be allowed for each additional hour or portion thereof required in loading, but not to exceed a total of 10° F. In no case should delivery temperatures exceed the limits specified in 1 a. above or in number 7 of this section.

7. Product temperature during movement in an over-the-road vehicle should not exceed 15° F., years 1961–62; 10° F., years 1963–64; 5° F., by 1965; except in instances where the carrier is requested to perform multiple pick-up and/or delivery, a total tolerance of 5° F. should be allowed.

8. The mechanical refrigerating unit of vehicles should be turned on and doors of vehicles should be kept closed during any time interval when loading, or unloading, operations cease.

9. The average product temperature of any shipment of frozen foods should be determined during loading and unloading by adequate temperature readings.

HANDLING PRACTICES FOR ROUTE DELIVERY

1. In addition to paragraphs 1, 2, 3, 4, 8, and 9 specified in handling practices for over-the-road transportation, the following provisions should be met:

a. Each lot for individual consignment should be refrigerated by means of mechanical refrigeration, dry ice and tarpaulins, or by any other method of maintaining a product temperature of:

Years	*Temperature*
1961 through 1962	15° F. or lower, with a tolerance of 5° F. for a period not to exceed 6 hours.
1963 through 1964	15° F. or lower, with a tolerance of 5° F. for a period not to exceed 3 hours.
By 1965	10° F. or lower, with a tolerance of 5° F. for a period not to exceed 3 hours.

b. Devices should be precooled to a temperature of 20° F., or lower, before being loaded with frozen foods.

c. Doors of delivery trucks should be kept closed during any time interval that loading, or unloading, operations cease.

EQUIPMENT FOR RETAIL STORES

1. Frozen food storage facilities:

(*a*) Frozen food storage facilities should be capable of maintaining an air and product temperature of 10° F., or lower, during 1961–62; 5° F., or lower, during 1963–64, and zero degrees F., or lower by 1965, except for temporary conditions not wholly within the immediate complete control of the person or firm under whose care or supervision the frozen food is held. Any recommended or permitted tolerance in the product temperature of frozen food delivered to retail stores over and above the temperatures herein stated should automatically apply as an adjustment to all product temperature readings made at a retail outlet.

(*b*) Cabinet type frozen food storage facilities should be defrosted as frequently as necessary to maintain refrigeration efficiency, and should be equipped with an accurate thermometer indicating a representative air temperature.

(c) Walk-in-type storage facilities should have provision for circulation of refrigerated air and should be defrosted as frequently as necessary to maintain refrigeration efficiency, and be equipped with an accurate thermometer, the sensing element of which should be located within the upper third of the distance between the floor and ceiling. The sensing element should not be placed in a direct blast of air from cooling unit, cooling coils, and heat exchange devices, or near the entrance door.

2. Display cases:

(a) Display cases should be capable of maintaining an air temperature of 10° F., or lower, during 1961–62; 5° F., or lower, during 1963–64; and zero degrees F., or lower, by 1965, except for temporary conditions not wholly within the immediate complete control of the person or firm under whose care or supervision the frozen food is held

(b) Frost on refrigerated coils in air passage of display cases should be removed as frequently as necessary to maintain refrigeration efficiency.

(c) Display cases should be equipped with an accurate thermometer, the sensing element of which is located in an appropriate place within the path of refrigerated air being returned to the coils.

(d) The recommendations herein are conditioned upon all retailers being able to purchase from at least five large manufacturers display cases which satisfy recommended standards and meet retailers' requirements, and is not intended to suggest the replacement of display cases which are less than 5 years old, provided that such cases are capable of maintaining an air temperature of 15° F., or lower.

(e) Product loadline should be the highest point of discharge and return of refrigerated air and said loadline should be designated by a distinctive line at the inside thermal ends of each display case.

(f) Subject to the same conditions as in paragraph 2–d, each display case should be equipped with separators to provide false walls located a minimum of one-half inch from the terminal ends to provide for free circulation of refrigerated air between said terminal ends and displayed product.

RETAILER HANDLING PRACTICES

1. Frozen foods should not be accepted by a retail outlet when the product temperature exceeds 10° F. during 1961–62; 5° F. during 1963–64, and 0° F. by 1965, provided that any recommended or permitted tolerance in the product temperature of frozen food delivered to retail stores over and above the temperatures herein stated should automatically apply as an adjustment to all product temperature readings made at a retail outlet.

2. All frozen foods received at a retail outlet should promptly be placed in frozen food storage or in display cases.

3. Each retail outlet should be equipped with frozen food storage facilities of sufficient cubic displacement to accommodate the storage of those frozen foods (except those to be sold in thawed or semi-thawed condition) that are not placed directly in display cases at time of delivery.

4. Retailers should not place frozen foods above the designated product load line.

5. Retail outlets should employ the first-in first-out basis of inventory control.

"Product temperature" is that steady temperature determined—

1. By opening the top of the case; removing two corner packages; punching a hole through the case wall proceeding from the inside at a point coincident with the center of the first stack of packages and the first and second layer packages; inserting the sensing element of an accurate dial thermometer, or other appropriate means of temperature measurement, about 3 inches from the outside so that it will fit snugly between packages; replacing the two corner packages; closing the case; and placing a couple of cases on top to assure good contact of the sensing portion of the thermometer stem; or

2. By using a sharp blade, or razor knife, partially cutting out a small section of the case wall in the approximate area of the center of the first stack of packages and the first and second layer of packages, slitting the cut section to allow for inserting the sensing element about 3 inches and proceeding as in the preceding paragraph.

3. Only when an accurate determination of product temperature fails without sacrifice of packaged frozen foods should representative packages, or

units, be opened to allow for inserting the sensing element for temperature measurement to the approximate center of the packages in question.

Endorsed and subscribed to by—

American Trucking Associations.
National Association of Food Chains.
National Association of Frozen Food Packers.
National Association of Refrigerated Warehouses.
National Association of Retail Grocers of the United States.
National Fisheries Institute.
National Frozen Food Association.
National Prepared Frozen Food Processors Association.

Date: June 5, 1961.

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