plan or verify process control under the plan, or

(iii) A processing failure results in production of adulterated product. (3) Invalid HACCP plans must be

corrected by:

- (i) Submission to the designated program official of a written, detailed verification by a HACCP-trained individual that a modified HACCP plan has been developed in consultation with that individual and that as modified the plan corrects the deficiencies found,
- (ii) In the case of a processing deficiency resulting in production of adulterated product, submission to the designated Program official of and adherence to a written plan for finished product produced under the modified HACCP plan to be tested by an external laboratory for chemical or microbial characteristics, at the establishment's expense, as appropriate to demonstrate that the process under the modified HACCP plan corrects the identified problem.
- (4) If the establishment fails to adhere to the modified HACCP plan and, if applicable, the testing plan, resulting in a subsequent suspension of the same process for the same or a related deficiency, the designated Program official will, upon receipt and before acknowledgement of any subsequent modified plan(s) under paragraph (c)(3) of this section, also review the establishment's performance under the inspection regulations generally and make a written recommendation to the Administrator as to whether any additional inspection or enforcement measures may be required.

(5) If the Administrator finds deliberate falsification of HACCP records, the Administrator will issue a complaint for withdrawal of inspection services from the establishment and will refer the case to the Department of Justice for criminal prosecution.

Done at Washington, DC, on January 25, 1995.

## Michael R. Taylor,

Acting Under Secretary for Food Safety.

Note: The following Appendix will not appear in the Code of Federal Regulations.

## Appendix—Generic HACCP for Raw

National Advisory Committee on Microbiological Criteria for Foods

Adopted June 17, 1993

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## I. Introduction

The following generic Hazard Analysis Critical Control Point (HACCP) plan for beef slaughter and processing focuses on the slaughter and processing portions of the total "farm to consumption" scope of a complete HACCP program. The Committee realizes that animal production practices can play a significant role in controlling microorganisms of food safety concern. An overview of key attributes of live animal management that significantly impact introduction or control of foodborne pathogens in relation to the ultimate microbiological safety of raw beef products is included in Section V.A. Likewise, specific practices and procedures are required to ensure the microbiological integrity of beef products while they are in distribution networks and during retailing. Improper handling of products during processing, distribution, in food service establishments or in the home, can result in the introduction, survival, or growth of pathogenic microorganisms. A lack of adequate controls throughout the complex food chain will increase the risk of foodborne disease. This portion of the total HACCP program is introduced in Section V.C. and will be additionally discussed in a more general document that will be developed to identify critical factors that must be controlled to ensure the safe distribution and marketing of meat and poultry products.

The generic HACCP plan reviews the processing steps of slaughter operations. The goal of HACCP for slaughter operations is to prevent, eliminate, or reduce both the incidence and levels of microorganisms pathogenic for humans. While beef slaughter operations do not include a lethal treatment (e.g., thermal process) that ensures elimination of pathogenic microorganisms, a number of the processing steps can be controlled

to minimize microbiological hazards. The overall objective of the HACCP program is to ensure that processing is conducted in a manner that enhances the microbiological safety of the product. This is achieved through the effective management of key operations that can be used to realistically prevent or control the introduction or growth of pathogens.

Integral to HACCP systems is adherence to the general practices common to all well controlled food production facilities such as adequate sanitation, good manufacturing practices (GMPs), effective equipment/ facility design, and maintenance (ICMSF, 1988; Druce, 1988). A knowledgeable, well trained workforce is essential in carrying out these practices. Important GMPs related to beef slaughter operations are outlined in ATTACHMENT A.

Several new technologies for beef slaughtering are in various stages of development, testing, and implementation. New technologies that are likely to become operational in the near future are included in the generic HACCP plan. A summary that discusses each of the new technologies and the anticipated benefits of implementation is included (Section VII). Areas where additional research is required are also discussed (Section VIII). Academic, government, and industry researchers should be encouraged to address these and related areas that provide new knowledge and technologies for enhancing the microbiological safety of beef products.

The generic plan provides general guidance for developing plant-specific plans. Such individualized HACCP plans for specific products and facilities should be developed and implemented by manufacturers as the optimal means for food safety management (NACMCF, 1992). HACCP is also recommended for use as a tool for inspection operations. The food processor has the responsibility for developing and implementing well-defined HACCP plans. The role of the regulatory agency is to verify that the processor's HACCP plans are effective and being followed. The USDA inspector should use the HACCP plan for monitoring and conducting verification as necessary. A discussion of the role of regulatory agencies and industry is included in Section VI.

In addition, a generic document which outlines the specific roles of the regulatory agencies and industry in HACCP has been prepared by a separate Working Group of the Committee.

The Committee recommends the adoption of HACCP principles to reduce