organoleptic examinations, is not fully effective in protecting the public from foodborne health hazards. FSIS was urged to move to a risk-based inspection system targeted at significant public health risks, especially those associated with pathogenic microorganisms.

The GAO has also been advocating improvements in the present inspection system in reports and Congressional testimony. In numerous reports (see list below), GAO endorses HACCP as a scientific, risk-based system to better protect the public from foodborne illness. This sentiment is most clearly expressed in the 1994 Food Safety: Risk-Based Inspections and Microbial Monitoring Needed for Meat and Poultry, which states:

A HACCP system is generally considered the best approach currently available to ensure safe foods because it focuses on preventing contamination rather than detecting contamination once it has occurred.* * * To better protect the public from foodborne illnesses, we believe FSIS must now move to a scientific, risk-based inspection system. Such a system would allow FSIS to target its resources towards the higher risk meat and poultry products and establishments by increasing inspection of such products and establishments, developing methods or tools that would help inspectors detect microbial contamination, increasing product testing, and helping establishments develop and operate microbial testing programs.

This report further recommends that Congress "revise the meat and poultry acts to provide FSIS with the flexibility and discretion to target its inspection resources to the most serious food safety risks."

These basic recommendations are echoed in the five GAO reports describing the current inspection system and recommending changes to improve its effectiveness, listed below:

"Meat Safety: Inspection System's Ability to Detect Harmful Bacteria Remains Limited" (1994);

"Food Safety: A Unified, Risk-Based System Needed to Enhance Food Safety" (1993);

"Food Safety: Building a Scientific Risk-Based Meat and Poultry Inspection System" (1993);

"Food Safety: Inspection of Domestic and Imported Meat Should be Risk-Based" (1993);

"Food Safety and Quality: Uniform, Risk-Based Inspection System Needed to Ensure Safe Food Supply" (1992).

A third major proponent of HACCP is the National Advisory Committee on Microbiological Criteria for Foods (NACMCF), which was established in 1988 by the Secretary of Agriculture to advise and provide recommendations to the Secretaries of Agriculture and of Health and Human Services on developing microbiological criteria to assess food safety and wholesomeness. Since 1989, NACMCF has prepared a series of reports on the development and implementation of HACCP. As one of its first tasks, the Committee developed "HACCP Principles for Food Production" in November 1989. In this report the Committee endorsed the HACCP system as a rational approach to ensure food safety and delineated seven HACCP principles to standardize HACCP in the Committee's own work, as well as in industry, regulatory applications, and training. In 1992, the Committee issued an updated guide, "Hazard Analysis and Critical Control Point System.

To describe the HACCP system more concretely, in 1993 NACMCF published *The Role of Regulatory Agencies and Industry in HACCP.* In that report, NACMCF articulated the roles of regulatory agencies and industry in implementing HACCP, and recommended what the responsibilities of FDA, USDA, other agencies and industry should be during various phases of HACCP implementation.

In June 1993, NACMCF developed a model, "Generic HACCP for Raw Beef," which provides a HACCP plan for beef slaughter and processing (see Appendix). It focuses on the slaughter and processing portions of the total "farm to consumption" scope of a complete HACCP program.

Similar recommendations for program change have come from consumer, industry, State, and local government representatives, as well as other constituent groups. Consumer representatives at recent public hearings and the HACCP Round Table held in March 1994 supported implementation of HACCP throughout the meat and poultry industry.

Industry groups, in clarifying their support for HACCP to control pathogens, contend that HACCP-based food production, distribution, and preparation by industry can do more to protect public health than any Federal inspection program. They recommended that HACCP be used to anticipate microbiological hazards in food systems and to identify risks in new and traditional products. State departments of health and agriculture also endorsed the HACCP approach.

FSIS Agenda for Change

The meat and poultry inspection program currently addresses many matters of great importance to the safety and quality of the food supply, including supervision of industry compliance with sanitation standards, exclusion of diseased animals from the food supply, examination of carcasses for other visible defects that can affect safety and quality, inspecting for economic adulteration, and monitoring for chemical residues. These activities respond to some of the public's most basic expectations regarding the safety and quality of the food supply and reflect the standards and requirements established by Congress in the laws FSIS administers. FSIS is strongly committed to effectively implementing these statutory requirements.

As the experience of recent years and the many external studies and reports indicate, however, there is a need for fundamental change in the FSIS program. The most critical reason for change is the need to ensure that the FSIS inspection program is fully meeting its paramount obligation to protect public health. To meet this obligation, there is a pressing need to better address the public health problem of foodborne illness associated with the consumption of meat and poultry products.

As documented in the preceding sections, many cases of foodborne illness are caused annually by pathogenic microorganisms that enter the food supply during the slaughter and processing of meat and poultry products. With respect to raw meat and poultry products, the current system of inspection addresses this problem only indirectly, by enforcing sanitation requirements and inspecting for visible fecal and ingesta contamination and other visible defects that can be pathways for contamination of carcasses by pathogenic microorganisms.

The current system must be enhanced to deal more directly with pathogenic microorganisms. In particular, the system needs to be changed to make better use of the science and tools of microbiology to reduce, and where possible eliminate, pathogenic microorganisms. Such change is needed to protect public health.

Change is also needed to clarify the respective responsibilities of the meat and poultry industries and the FSIS inspection program when it comes to the safety of the food supply. Companies producing meat and poultry products are responsible for ensuring that their products are safe and do not violate any of the statutory provisions defining adulteration and misbranding. FSIS is responsible for inspecting products and facilities to verify that these requirements have been met and for taking appropriate remedial and enforcement actions when the requirements have not been met.