

LIVESTOCK MANDATORY PRICE REPORTING SYSTEM

Report to the Secretary of Agriculture

LMPR Review Team

July 2, 2001

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Summary

On April 2, 2001, the U.S. Department of Agriculture's (USDA) Agricultural Marketing Service (AMS) implemented the Livestock Mandatory Price Reporting (LMPR) System, an ambitious and novel effort to provide livestock market information on a near real-time basis over the internet. To perform this function, AMS developed an automated system capable of accepting hundreds of thousands of pieces of market information from the livestock industry and generating market news reports in as little time as one hour after receipt of data. AMS faced many challenges in developing this system, including tight timeframes for implementation, varied input data from the livestock industry, high volumes of data, complex calculations for aggregating data into a usable form, development of complex computer software systems, restrictions on obtaining actual data from companies prior to implementation, and strict provisions for ensuring the confidentiality of proprietary business information.

For the most part, AMS has succeeded in gathering and reporting accurate data in a timely fashion. As of June 15, 2001, 22 out of 91 reports were not being released, because of technical problems, many of which are weekly reports that cannot be completed because of problems in 6 daily reports. AMS is working to correct these problems. With one exception, AMS identified technical problems with a report type before any reports of that type were released or immediately after the release of a report with inaccurate data. However, an error in the cutout values for Choice and Select boxed beef carcasses and primals (the major components of carcasses) went undetected, with incorrect values reported over a period of 29 days from April 3, 2001, through May 11, 2001. The problem was not identified as a result of an ongoing quality assurance testing program. The problem only became apparent when reporters observed that Choice cutout values were decreasing even though prices of Choice meat cuts prices were increasing. In addition, reporters did not observe the expected seasonal widening of the price spread between Choice-graded carcasses and Select-graded carcasses

On May 18, 2001, Secretary of Agriculture Ann Veneman, appointed a LMPR Review Team to evaluate measures in place to ensure integrity of information reported under LMPR and to assess the economic impact the misreported data may have had on livestock producers. As part of its activities, the Review Team met with representatives of the livestock and meat packing industries, Congress, AMS, and contractor officials.

The Review Team believes that despite initial difficulties the mandatory reporting system of AMS can provide substantial benefits to participants in the livestock and meat industry. The Review Team's major finding is that testing conducted by AMS was not adequate to ensure that the LMPR system was accurately calculating reported data. AMS did develop a testing plan to be sure inputted data would be entered into planned reports. However,

the plan did not address all possible data configurations that could be submitted to AMS. Testing was also hampered, because AMS could not require the industry to submit data ahead of official implementation of the system. After AMS began receiving input data from the industry on April 2, 2001, AMS did not conduct parallel testing to check for accuracy by comparing the output of the new system with output generated with the methods used under the voluntary reporting system. AMS should have developed more realistic test data sets, conducted parallel testing after April 2, 2001, and incorporated additional automatic checks on input data that could have assisted in the early detection of erroneous data.

Subsequent to meeting with the Secretary's Review Team, AMS initiated parallel testing to ensure the accuracy of output generated by the LMPR system. The Review Team recommends that parallel testing be conducted by AMS personnel for several months and cover a wide range of reporting conditions that may not have been experienced during the initial stage of implementation, e.g., seasonal differences and holiday periods. Thereafter, parallel testing should be conducted periodically. The Review Team also recommends that AMS work with the livestock and meat packing industries to develop more realistic validation test data sets to ensure that any future changes to the system can be fully evaluated prior to the release of information over the LMPR system. These test data sets should anticipate a greater range and type of data submitted for the various reports. Test data sets should be utilized to test for accuracy after any programming changes regardless of magnitude and utilized periodically for a quality assurance measure even if no programming changes have been made. Tests of changes using the validation data sets should be done on test or beta systems before being brought to primary production and backup systems. In addition, AMS should incorporate additional automatic checks to ensure that the system quickly identifies questionable data for further review by program officials. By adhering to these recommendations, AMS can better anticipate problems and initiate corrections to inputted data or formulas and ensure a higher level of integrity for the system.

The Review Team found that AMS' plan to implement an audit surveillance plan is behind schedule. Under the mandatory reporting system, there is little to no time for verification of data with producers, feedlots, or retailers as was done with the voluntary system. Therefore, auditing of reporting firms is extremely important to ensure the accuracy of reporting. AMS established a plan to audit at least quarterly the 119 entities reporting data to the program. Through June 21, 2001, AMS had audited the records of 19 entities. AMS plans to audit all entities by the end of August 2001. A major barrier to conducting audits has been the difficulty experienced in attracting and hiring qualified compliance officers. AMS currently has 8 compliance officers, but has a target of 27 officers. The Review Team recommends that AMS take steps to accelerate the audit process by considering changing the specifications of the compliance officer position in order to attract more candidates or seek personnel details or reimbursable agreements with other agencies to obtain the needed expertise.

The Review Team found that confidentiality provisions of the program are preventing the release of a significant quantity of information under mandatory reporting, undermining the

objective of the authorizing legislation. With reporting by firms during windows as short as a few hours, multiple times per day, and given the high level of concentration in the meat packing industry, it is not surprising the confidentiality standard (3/60 or at least 3 firms reporting with no one firm accounting for more than 60 percent of the information) is frequently not met for any one reporting time window. The Review Team recommends that AMS develop alternative standards that would be applied over a multi-day reporting period, incorporate measures that ensure adequate frequency of reporting by firms to maintain confidentiality, and be appropriately reviewed.

With assistance from USDA's Economic Research Service, the Review Team examined the economic impacts of the misreporting of boxed beef cutout values. Based on econometric analysis of the relationship between boxed beef cutout values and live cattle prices, it appears that the price transmission between cutout values and live cattle prices is well below one-for-one. Between April 3, 2001, through May 11, 2001, the Choice grade cutout was under reported by an average of \$2.85 per cwt. and the Select grade cutout was under reported by an average of \$0.71 per cwt. Over that period the econometric analysis suggests that had the reporting errors not occurred, the price of Choice slaughter steers (65-80 percent choice) would have averaged \$0.31 per cwt. higher; the price of Select steers (35-65 percent choice), \$0.29 per cwt higher; and the price of feeder cattle (Oklahoma City), \$0.33 per cwt higher. One reason for reduced transmission from cutout values to live animal prices is that many other prices, such as a packer's own beef sale prices, are involved in cattle price determination. Based on the number of cattle slaughtered or marketed from April 3 to May 12, the value of sales of feeder cattle was estimated to be reduced by \$7.4 million and sales of fed cattle by about \$13 million. Losses of sales revenue of cattle producers are estimated to range from \$15 to \$25 million. A more precise point estimate cannot be made, because of uncertainties in econometric results, various assumptions on volumes and grades sold under alternative arrangements, and the fact that cattle feeders who purchased feeder calves may have had some of their potential losses offset by the undervaluation of feeder calves. Insufficient data exists for calculation of potential losses to small processors who priced their output off the boxed beef cutout or individuals who traded live cattle futures on the Chicago Mercantile Exchange.

The Review Team examined three avenues for compensation of losses to livestock market participants as a result of the misreporting of boxed beef cutout values. The first avenue was whether producers could sue the USDA for damages. USDA's Office of the General Counsel advised that there is no basis for liability on the part of the United States for claims which may be filed under the Federal Tort Claims Act. The second avenue was whether the USDA could make direct compensation payments to producers. The Office of the General Counsel advised that the Department has no authority to pay compensation for losses which may have been sustained by producers as a result of errors in implementation of USDA's price reporting system. The third avenue examined was special legislation to provide authority for compensation. The Review Team believes a legislative solution is the only viable option for compensation. However, the Review Team is not recommending that the Department support such legislation.

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INTRODUCTION

On April 2, 2001, the Agricultural Marketing Service (AMS) began collecting and reporting livestock market data under the Livestock Mandatory Price Reporting (LMPR) program, as required by the Livestock Mandatory Price Reporting Act of 1999. The goals of the program are to provide information on the marketing of cattle, swine, lambs, and products of livestock that is readily understood, improve price reporting and market news services of the Department of Agriculture (USDA), and encourage competition in the marketplace. Prior to mandatory reporting, livestock market information, primarily for negotiated sales and cash transactions, was reported to AMS on a voluntary basis. Under the mandatory program, large packers and importers are required to report to AMS the details of all transactions involving purchases of livestock and imported boxed lamb cuts, and the details of all transactions involving domestic and export sales of boxed beef cuts, sales of domestic and imported boxed lamb cuts, and sales of lamb carcasses. Additional reports cover the prior day swine market; forward contract and formula marketing arrangement cattle purchases; packer-owned cattle and sheep information; sales of imported boxed lamb cuts; and live lamb premiums and discounts.

On May 14, 2001, AMS discovered an error in the composite cutout values for Choice and Select boxed beef carcasses and primals (the major components of carcasses). The composite cutout values are constructed from the prices of individual meat cuts and other products which had been reported accurately and were not subject to the programming error. On May 23, 2001, AMS released corrected Choice and Select boxed beef cutout and primal cut values for April 3, 2001, through May 11, 2001.

To ensure the integrity and accuracy of the LMPR system, the Secretary of Agriculture directed Keith Collins, USDA's Chief Economist, to establish a Review Team composed of six USDA executives from outside the marketing and regulatory programs area of USDA to: (1) review the LMPR process and procedures being implemented by AMS, with particular emphasis on the boxed-beef cutout value report, (2) review the performance of the system to date, (3) assess the consequences of the misreporting of the boxed beef cutout value data series; and (4) recommend actions that can be taken to ensure the integrity of the LMPR system and ensure accurate reporting in the future.

The Review Team consists of the following members: Keith Collins, Chief Economist; Rich Allen, Associate Administrator of the National Agricultural Statistics Service (NASS); Jack Nealon, Director of the Information Technology Division of NASS; Greg Parham, USDA's Associate Chief Information Officer; Shayle Shagam, Chairperson, Interagency Livestock Estimates Committee, World Agricultural Outlook Board; and Scott Steele, Deputy Director, Office of Budget and Program Analysis.

The review team and AMS officials met with industry representatives of the cattle, hog, sheep, and meat packing industries to discuss the reporting problems on May 21, 2001. Briefings were also held for the House and Senate staff on May 22, 2001, to discuss the problems. The House Agriculture Committee held a hearing on the LMPR System on May 24, 2001, to review the system.

The Review Team thanks the Economic Research Service (ERS) of USDA for the quantitative assessment of the effect of the boxed-beef cutout value reporting error on cattle prices in Part IV of this report. ERS staff participants in this analysis included: Kenneth Nelson, William Hahn, Ronald Gustafson, and Janet Perry. The Review Team also thanks the staff of AMS for providing much information, as requested. Principal AMS staff assisting the review included Ken Clayton, Barry Carpenter, John VanDyke, Weldon Hall, and Michael Sheats. The Review Team also thanks Roy Carter and the staff at PEC Solutions for their input. Finally, the Review Team thanks Christopher Zehren of USDA's Office of Budget and Program Analysis for excellent assistance in preparing this report.

BACKGROUND

Voluntary Market News Program

The Voluntary Market News Program for livestock was authorized under the provisions of the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 et seq.). In that Act, Congress declared that a sound, efficient, and privately operated system for distributing and marketing agricultural products is essential. Under the Act, USDA provided for the collection and dissemination of information to facilitate the orderly and efficient marketing of agricultural products.

The data collected by the Voluntary Market News Program were used by market participants to make intelligent and informed marketing decisions. These reports provided data on cattle, hog, sheep, and lamb sales, plus carlot meat sales of boxed beef, lamb, veal, and pork cuts. Under the program, 39 reports were released daily. In addition to the market participants in the livestock and red meat industry, a wide range of users outside of and peripheral to the livestock and red meat industry depended on the information provided in these reports, including Federal and State governmental agencies, foreign governmental agencies, academia, analysts, and news media.

The Voluntary Market News Program relied entirely upon cooperation from the industry to obtain information on negotiated or cash sales. AMS market news reporters would collect information daily by telephone, including talking directly with producers, packers, feedlot operators, retailers, distributors, brokers, and other industry participants. Reporters were on site at major auctions and terminal markets, gathering market information first hand. Regular trips were made to observe livestock in feedlots, on farms, ranches, and in packer holding pens. Meat packing and processing facilities were visited to observe current industry practices and conditions. Reporters also attended industry meetings, seminars, and trade shows to keep abreast of the latest information. In addition, the Voluntary Market News Program maintained voluntary working agreements with many States to cooperatively collect and disseminate market information.

In recent years, the livestock industry has undergone significant changes due to changes in production and processing methods, consumer demand, and retail practices. These changes are reflected in the structure and marketing practices used. In 2000, four firms slaughtered about 80 percent of all fed cattle, about 55 percent of all hogs, and about 80 percent of all lambs. On the producer side, about 116 feedlots accounted for about 40 percent of feedlot cattle marketed in 2000. The rest of the 97,091 feedlots collectively accounted for 60 percent of the marketings. Some 110 hog operations owned about 45 percent of the hog inventory in 2000 with the remaining 77,150 farms accounting for about 55 percent.

Increasingly, animal sales are being transacted under marketing arrangements where neither the details of the arrangements nor the final purchase prices are publicly disclosed.

To assure consistent quantities and qualities of animals, many packers will enter into private marketing agreements with livestock producers, often at a premium price, such as forward contracts, formula pricing, and other arrangements. In addition, some large slaughter establishments feed their own cattle. Packers use these procurement methods to be assured of larger lots, scheduled delivery, and consistent quality animals that yield meat with characteristics desired by consumers.

While some of these marketing arrangements use publicly reported prices as a base, many use the base price plus a premium/discount schedule depending upon the quality of the carcass. The voluntary reporting program did not capture these pricing mechanisms. With the growing importance of alternative marketing arrangements and the decline of trading in traditional cash markets, a gap emerged in publicly available market information under the voluntary program for cattle, swine, and sheep. The lack of market data made it difficult for livestock producers, particularly those who utilize cash markets or wish to consider alternative marketing arrangements, to determine the actual purchase prices and other terms of trade for livestock.

The Livestock Mandatory Reporting Act of 1999

The Livestock Mandatory Reporting Act of 1999 (Act) was enacted into law on October 22, 1999, (P. L. 106-78; 113 Stat. 1188; 7 U.S.C. 1635-1636h) as part of the 2001 Agriculture Appropriations Act. The legislation was first considered by the Senate Agriculture, Nutrition, and Forestry Committee, which held a hearing on mandatory price reporting and other issues of concern to the meat industry on May 26, 1999. Subsequently, legislation authorizing mandatory price reporting was reported to the Senate. However, the bill was incorporated into the 2001 Agriculture Appropriations Act.

The Act amended the Agriculture Marketing Act of 1946 by establishing a program for collecting and disseminating information regarding the marketing of cattle, swine, lambs and products of such livestock. AMS is responsible for provisions of the Act requiring the establishment of a program for the mandatory reporting of market information on livestock and livestock products. The Act also directs the Secretary to encourage continued voluntary reporting by packers to which these mandatory reporting requirements do not apply. Other USDA agencies are responsible for related provisions, such as hog inventory data and retail price data. The final rule establishing provisions of AMS' responsibility was issued on December 1, 2000, (7 CFR Part 59).

The Act is intended to address the deficiencies experienced in the voluntary price reporting program. Appendix 1 identifies the major differences between the voluntary and mandatory reporting programs. In contrast to the voluntary reporting system, the mandatory program requires that larger packers report not only negotiated sales, but also forward contract and formula arrangement transactions. Packers and importers covered by the program are required to report the details of all transactions involving the purchase of cattle, swine, and lambs, lamb carcasses and lamb cuts, and the details of all transactions involving boxed beef sales, including branded product, sales of boxed lamb

cuts, including branded product, and lamb carcasses. The result is that a significant amount of new pricing information is reported compared to the voluntary program.

Many voluntary-based market news reports were not affected by the Act, including reports covering livestock auction sales, packer sales of pork cuts and byproducts, and grain trading. AMS has encouraged the continued participation in these voluntary efforts. In other instances, information that was once provided on a voluntary basis must be provided on a mandatory basis under the Act. This includes packer direct purchases of slaughter cattle, packer sales of boxed beef and lamb cuts including branded boxed cuts, packer sales of lamb carcasses, and packer negotiated purchases of swine. In other instances, the Act requires that information be reported on a mandatory basis that has never been reported under the existing voluntary reporting program. This information provides the basis for newly published market news reports not previously provided for under voluntary reporting, including reports covering the prior day swine market, forward contract and formula marketing arrangement cattle purchases, packer-owned cattle and sheep information, sales of imported boxed lamb cuts, and live lamb premiums and discounts.

The following information is collected under mandatory reporting:

- **Cattle:** Packers are required to report the prices for each type of cattle purchase, categorized to clearly delineate imported from domestic market purchases, including negotiated purchases, formula marketing arrangements, and forward contracts; the quantity of cattle, categorized to clearly delineate imported from domestic market purchases, purchased on a live weight basis and a carcass basis; the weight; the quality grade; and premiums and discounts.
- **Boxed Beef:** Packers are required to report information on boxed beef cut sales including the price per hundredweight, the quantity in each lot of boxed beef cuts sold, information regarding the characteristics of each lot (i.e., domestic vs. export sale, USDA Quality Grade, etc.), the type of beef cut, and the trim specification.
- **Swine:** Packers must report all purchase data including the number of swine purchased, swine scheduled for delivery and the base price and purchase date for slaughtered swine for which a price has been established. The required information also includes all slaughter data by class for the total number of swine slaughtered including information concerning the net price, average net price, lowest net price, highest net price, average carcass weight, average sort loss, average backfat, average lean percentage, and total slaughter quantity. When a packer reports the average lean percentage and whenever the packer changes the manner in which the average lean percentage is calculated, the packer shall make available to the Secretary the underlying data, applicable methodology and formulas, and supporting materials used to determine the average lean percentage.
- **Lamb:** The Act gives the Secretary the authority to establish a mandatory lamb price reporting program, but does not specify the requirements as it does for cattle and

swine. Accordingly, a mandatory lamb price reporting program which is similar in nature to those for cattle and swine was established. Under the program, a packer must report the price of each type of lamb purchase, including negotiated purchases, formula marketing arrangements, and forward contracts; the quantity of lambs purchased on live weight or carcass weight, including a range and average estimated live weights; and quality grade; premiums and discounts; state of origin; and estimated dressing percentage. In addition, lamb packers are required to report information from the prior week on the first reporting day of the week. This information includes the quantity and certain carcass characteristics of lambs purchased through a negotiated purchase, formula marketing arrangement or forward contract that were slaughtered, plus the quantity and carcass characteristics of packer owned lambs that were slaughtered.

- **Boxed Lamb:** Packers of boxed lamb must report the same information as required for carcass lamb sales plus the quantity of boxes of each cut and the weight range of each cut.

According to the Act, packers and importers must report purchases within the following timeframes: swine reported three times each day; cattle and lambs reported twice each day; domestic and export sales of boxed beef cuts, including branded boxed beef cuts, reported twice each day. The Act authorizes, and the regulation requires, the reporting of sales and purchases of lamb carcasses and boxed lamb cuts, including branded boxed lamb cuts, to be reported once daily and sales of imported lamb cuts once weekly. The Act further requires AMS to collect, assemble, analyze, and report the data within 1 hour of receiving the data from the industry. Appendix 2, identifies the rigorous reporting time sequences for assembling and disseminating of each of the market news reports containing that information. Specifically, AMS must issue the reports in the following timeframes:

- **Cattle:** Packers are required to report market information twice a day not later than 10:00 a.m. and 2:00 p.m. Central Time. AMS is required to issue reports to the public containing this information at least three times each day. The Act further requires that a packer report market information not later than 9:00 a.m. Central Time on the first reporting day of each week for cattle bought by the type of purchase during the prior week. In addition, packers must report weekly information on the first reporting day not later than 9:00 a.m. Central Time for cattle purchased on a formula or contract marketing arrangement and slaughtered during the prior week. For both of these weekly reporting requirements, AMS is required to issue a public report not later than 10:00 a.m. Central Time on the first reporting day of the current slaughter week.
- **Boxed Beef:** Packers are required to report market information to AMS at least twice each reporting day and not less frequently than once before and once after 12:00 noon Central Time. AMS must report this information to the public twice each reporting day.

- **Swine:** Packers must report market data for the previous day not later than 7:00 a.m. Central Time. AMS is required to publish the information in a prior day report not later than 8:00 a.m. Central Time on the reporting day on which the information is received from the packer.

The Act also requires packers to report market information for all transactions other than through a negotiated purchase in the morning not later than 10:00 a.m. Central Time and in the afternoon not later than 2:00 p.m. Central Time each reporting day. AMS is required to make the morning report available to the public not later than 11:00 a.m. Central Time and the afternoon report at 3:00 p.m. Central Time on each reporting day.

AMS is also required to compile and issue a weekly noncarcass merit premium report on the first reporting day of the week not later than 5:00 p.m. Central Time. This report is prepared from information furnished to AMS by packers who must report not later than 4:00 p.m. Central Time on the first reporting day of the week.

- **Lamb:** As authorized by the act, the regulations require packers to report market information to AMS once per day. AMS must issue a report to the public on this information not less than once each day. Lamb packers are also required to report information from the prior week on a weekly basis on the first reporting day of the week. AMS makes this information available on the second reporting day of the current slaughter week for information and the first reporting day week for premium and discounts packers are expected to pay during the current week.

Packers also report information on daily transactions of carcass lamb and sales of boxed lamb cuts each reporting day. AMS issues to the public a report on carcass lamb sales and boxed lamb cut sales once each reporting day.

Confidentiality Provisions

The Act requires that information obtained by LMPR program only be released to the public if the identity of a reporting entity is not disclosed and the information conforms to aggregation guidelines established by the Secretary. The final rule established guidelines for aggregating data in a manner that ensures confidentiality, which are outlined in Appendix 3. The guideline is commonly referred to as the “3/60 guideline.”

PART I: MANDATORY PRICE REPORTING PROGRAM DEVELOPMENT AND TESTING

Regulatory Development and Implementation Time Line

The Act required that the program be implemented within 180 days of enactment and stipulated a schedule for issuing proposed and final rules. Section 941 of the Act required proposed regulations to be published within 90 days of enactment with a 30-day comment period and final regulations to be published and implemented within 60 days after the close of the comment period on the proposed rule. The Act was enacted on October 22, 1999, which would have required implementation by April 14, 2000. However, due to the complexity involved in developing a computer information system to meet the demands of the Act, AMS was unable to meet the prescribed legislative deadlines.

On March 17, 2000, AMS issued a proposed rule identifying the programmatic requirements for establishing the LMPR system, including a complete set of forms the industry would be expected to complete and file with AMS. There was a 30-day comment period, which closed on April 17, 2000. In response to the proposed rule, AMS received 703 comments covering a wide range of issues and concerns.

At the time the proposed rule was published, AMS indicated that it was in the process of hiring staff, developing software, and purchasing equipment needed to implement the new reporting requirements and that an implementation date of mid-to late summer was anticipated. On April 7, 2000, AMS awarded a contract to Computer & Hi-Tech Management, Inc., to assess the capability of meat packing establishments to comply with an electronic data reporting system. On May 1, 2000, AMS issued a Request for Proposals for the development of an electronic data collection and dissemination system to collect and process data from packers, and compile and release price reports. On July 7, 2000, AMS issued a Statement of Work (SOW) that identified the technical and programmatic specifications for a computer system necessary to implement the Act. On July 13, 2000, PEC Solutions submitted to AMS a technical proposal for developing the LMPR system based on specifications established in the SOW. After bid and proposals were evaluated, AMS awarded the contract to PEC Solutions on August 2, 2000. PEC Solutions submitted a systems project management plan to AMS on August 16, 2000. On August 25, 2000, PEC Solutions delivered to AMS a document, entitled Mandatory Price Reporting Requirements Analysis and Design Document, that defined the technical requirements that would serve as the foundation for the LMPR system design. The implementation strategy was amended a number of times during the development phase as technical issues were identified and AMS began working on the final rule.

Final regulations governing the program were published on December 1, 2000, with an effective date of January 30, 2001, 60 days after publication in the *Federal Register*. However, on January 30, 2001, the effective date was postponed until April 2, 2001, to ensure enough time to adequately test the automated LMPR system and ensure that all

program requirements were met. AMS was not permitted to discuss data or reporting issues with the livestock and meat industry until the final rule was published. Voluntary testing of the program began on February 26, 2001. On April 2, 2001, packers were required to submit data and AMS began reporting data.

Data Collection and Processing

To collect and analyze data and issue reports, AMS developed a web based software system that allows establishments to either load data directly to a web based form or upload completed files into the LMPR data base. Appendix 4 shows the flow of information from the packer, through AMS, to a published market news report.

Regardless of the manner in which data are submitted to the LMPR database, establishments are required to have a valid user identification and password given by USDA and a Public Key Infrastructure (PKI) certificate for transferring data. In order to assist establishments in entering data, PEC Solutions prepared for AMS the Mandatory Price Reporting Meat Packing Industry Users Guide. This guide provides detailed instructions and a step-by-step guide to the industry for loading data into the system.

When data are submitted, they are automatically loaded into a storage and validation database within a quarantine directory that provides security to the system. At that time, AMS employees, known as reporters, validate and correct data, recording each instance data that are manipulated and why. The changes and the associated explanations are saved as part of the file. Once the full data set is validated, reporters are able to automatically generate market news reports for editing purposes. Such editing is primarily for report formatting, such as arranging data for explanatory reasons or including an explanation to more fully explain market conditions. The final step is for the reporter to upload the reports for dissemination through the USDA Market News Information System and posting to the AMS website.

Contract Management

To ensure the timely and effective implementation of the computer system needed to automate livestock market news reporting, AMS identified the responsibilities and tasks the contractor was expected to fulfill in the Statement of Work and other contractual documents. Under these arrangements, AMS provided PEC Solutions detailed programmatic information describing required input data, forms, formulas, output data, and reports that the automated system would have to handle. This included the layout of livestock reporting forms, the computer files establishments would be required to submit, the layout of mandatory price reports, and the data sources and formulas associated with each report. In turn, PEC Solutions worked to develop the hardware and software necessary to complete the tasks within the specifications established by AMS.

To accomplish these tasks, PEC Solutions developed teams of programmers for each major commodity grouping and AMS assigned a subject-matter specialist (a reporter with experience in a particular commodity) to work with each team. These teams were in constant communication and met weekly to assess their progress in developing the program. After the programmers completed their work, the system was tested by a different group of PEC Solutions' programmers to ensure that the various components of the system were functioning as intended. The tests were conducted using data sets prepared by PEC Solutions. These tests did not evaluate whether the formulas or calculations were accurate, but that the hardware and software were transferring data and generating reports in a particular format as specified by AMS. After the system passed PEC Solutions' tests, AMS tested the system using simulated production data, because actual data was not available until after implementation on April 2, 2001. The same reporters that worked with programmers developing the software would enter the simulated data through the system and compare the automated output to manually calculated output or output generated by using spreadsheets from the voluntary system.

Technical Problems Experienced Since Implementation

Since the LMPR system's implementation on April, 2, 2001, 41 of the 91 reports experienced some type of computer software or data transfer problems that resulted in the report not being released. Appendix 5 lists the reports and the instances in which they were not released due to various technical problems for each day during April 2, 2001, through June 15, 2001. (This table also shows the nonreporting due to confidentiality issues to be discussed later.) Technical problems included incorrect formulas, inclusion of data in a calculation that should not have been included, assigning packer data to the wrong geographic area when aggregating data, and inaccurate reporting of data submitted by packers. As of June 15, 2001, 4 daily reports were not being released, because data submitted by packers was not formatted correctly or in a way that software could accommodate. These technical errors in the daily reports have prevented the release of 16 weekly reports. AMS is continuing to address this problem by working with packers and reconfiguring software to accommodate the different types of data being submitted by the packers. Another two daily reports were not released as of June 15, 2001, because the programs had incorrect formulas. At this time, the problems have been corrected and are undergoing testing. When technical problems have prevented the launch of a report, voluntary reporting, should there have been a voluntary report prior to mandatory reporting, has been continued to ensure the availability of market information.

Estimated Boxed Beef Cutout Values

All of the technical problems experienced since the implementation of mandatory price reporting, except one, were identified prior to, or immediately after the release of a report with inaccurate data. The exception is the National Daily Boxed Beef Cutout and Boxed Beef Cuts - Negotiated Sales morning and afternoon reports, which were released with

inaccurate data between April 3, 2001, and May 11, 2001, before being identified. The boxed beef cutout is a calculation that approximates the value of a beef carcass based upon reported prices for boxed beef cuts (beef carcass parts). Appendix 6 provides a detailed discussion of the boxed beef cutout calculation, Appendix 7 is a copy of the form used by packers to report boxed beef data, and Appendix 8 is a copy of the report issued by AMS on June 21, 2001, as an example.

In the calculation, the values of the various parts are reflected back to the value of the whole in their respective proportions. A calculation is made for two weights of Choice product and for two weights of Select product. Choice and Select are the two most common USDA quality grades of beef and the majority of boxed beef cuts are produced from these two grades. Cuts from beef carcasses not conforming to Choice and Select grades are often marketed without a USDA grade and are commonly referred to as "no-roll." Although the value of some ungraded products, such as fat or bone, is used, the calculation of the Choice boxed beef cutout values is based only on the values for Choice graded boxed beef meat cuts and likewise for the Select boxed beef cutouts. No ungraded meat cut prices are used in either the Choice or Select boxed beef values.

Identification of Error in Boxed Beef Cutout Value Reports

The computer program that was created to generate the boxed beef cutout values under mandatory reporting utilized Choice meat cuts in the Choice cutout calculation and Select cuts in the Select calculation. However, the program was inadvertently set up to also include no-roll cuts in the calculations of both the Choice and the Select. This had the effect of lowering the value of the Choice and the Select cutouts with the greater effect on Choice, as it normally trades at a higher price level to both Select and no-roll, and the lesser effect on Select as it normally trades at a price level between Choice and no-roll product.

In the week prior to the implementation of mandatory reporting, the calculations generated by the new mandatory system were compared to the results generated by using the spreadsheets under voluntary reporting using the same input data. The mandatory and voluntary cutout values matched perfectly, because the simulated input data used for both methods did not include no-roll data. No-roll cut data was not included in the test data set, because no-roll information was not collected under the voluntary system, which served as the basis for the test data. As a result, the fact that the mandatory calculation was utilizing no-roll product went undetected.

On April 2, 2001, AMS initiated the system, but used spreadsheets from the voluntary system to produce the first day's reports. On April 3, 2001, the new mandatory calculation took effect and the software immediately began to collect and find no-roll meat cut prices that it brought into the Choice and Select cutout calculations as it was accidentally programmed to do. At first, the effect of adding no-roll values to the Choice and Select cutouts was very small and went undetected. The problem only became apparent when AMS staff observed that Choice cutout values were decreasing while Choice cut prices were increasing. This was an important indicator that something was wrong, because

when Choice cut prices increase the Choice cutout values should also increase. In addition, reporters did not observe normal seasonal price patterns that result in a widening spread between Choice-graded carcasses and Select-graded carcasses in reported boxed beef carcass and primal cutout values. These observations alerted reporters to look for a potential problem.

Once the problem was identified, AMS immediately suspended publication of boxed beef reports pending review of the situation. On May 16, 2001, AMS determined that the formulas, or algorithms, generating the boxed beef reports were flawed. Arrangements were made immediately to utilize mandatory packer-reported data with the spreadsheet that had been previously used under voluntary reporting to resume reporting cutout and primal values. Between May 21, 2001, and May 23, 2001, AMS, in cooperation with PEC Solutions, conducted a review of algorithms used to generate the reports. On May 23, 2001, the review found the programming errors, which were verified using test data supplied by AMS and spreadsheets programmed with the same algorithms. PEC Solutions is making the necessary software changes to the system. Prior to releasing cutout data generated by the LMPR system, complete parallel and beta testing will be conducted to ensure that all programming errors were identified and corrected. AMS continues to use spreadsheets to calculate primal and cutout data.

On May 23, 2001, AMS released corrected Choice and Select boxed beef cutout and primal cut values for the period from April 3, 2001, to May 11, 2001, in the National Daily Boxed Beef Cutout and Boxed Beef Cuts -- Negotiated Sales reports. Appendix 9 provides the correct data that was released.

Testing Methods Used for the LMPR System

Planned Testing: Testing requirements for the LMPR system were addressed in the LMPR Project Management Plan and the Technical Proposal documents prepared by PEC Solutions. Under the Technical Proposal, PEC Solutions identified a range of specific test plans and exercises to ensure confidence in the system and meet the testing requirements identified in the Statement of Work.

PEC Solutions proposed the following tests:

- **Integration Tests:** Hardware, software, and telecommunications equipment are tested to ensure interoperability.
- **Unit Testing:** Each component of the LMPR system is tested to ensure that both functional and performance requirements are met; specifically, components are tested to ensure that the system can handle the estimated number of users, the volume of data, and variety of data expected under production conditions.

- **Beta Testing:** Programmers conduct a 5-day review of the system using dummy data to ensure functionality before allowing potential users to test the system.
- **System Acceptance Testing:** A 5-day review of the system is conducted by LMPR system users, including AMS personnel and other users, including the industry, to test hardware, software, communications, network interfaces, security testing, disaster scenarios, and volume testing in a production environment.

Actual Testing Conducted Prior to April 2, 2001, Implementation: The testing methodology AMS and PEC Solutions used consisted of integration testing, unit testing, beta testing, and system acceptance testing.

- **Integration testing:** This was performed by PEC Solutions to determine if infrastructure and interoperability among system components functioned as required. PEC Solutions used an independent quality control person to perform this integration testing.
- **Unit Testing:** This was performed by PEC Solutions' programmers using dummy data to ensure that the individual program modules and reports communicated data accurately and generated output in the required format.
- **Beta Testing:** This was performed by PEC Solutions to review system functionality and ensure that it met the technical criteria established by AMS before allowing AMS to test the system. PEC Solutions used an independent quality control person to perform the beta testing.
- **System Acceptance Testing:** This was performed by AMS using all hardware, software, communications, and network interfaces to be implemented in the production environment. The system acceptance test included security testing and disaster scenario testing. Another component of the testing was the validation of the disclosure algorithm based on the (3/60) rule. Output was compared with the (3/60) rule applied and not applied to evaluate the appropriate application of the (3/60) rule. Although AMS had intended to test the system with the participation of the industry, AMS was prevented from doing so by the Act, which required that reports be generated and released immediately after receipt of data from the industry.

PEC Solutions also developed test plans and scripts intended to be utilized by AMS during this phase of the testing. These test plans and scripts involved testing all facets of the system, including data entry, transport, report generation, and formulas. The purpose of these scripts was to ensure that all components and functions of the system were tested in a manner such that any problem could quickly be identified and resolved. PEC Solutions delivered test data with the Test Acceptance Document deliverable on October 5, 2000, to AMS. AMS chose not to use this test data during

the System Acceptance Test, because they felt that the data did not accurately reflect the variety of data that would ultimately be submitted by the meat packing industry.

Instead, AMS developed simulated production data for each of the mandatory reporting forms and ran that data through the new system, as well as the system previously used for the voluntary reporting system. Under voluntary reporting, AMS used spreadsheets or manual calculations. For example, the spreadsheet for the boxed beef cutout value from the voluntary system, which has been used operationally for about 10 years, was used for validating the output from the new system. Also, spreadsheets from the voluntary system were used for validating output from the new system for reports that were very similar between the voluntary and mandatory systems. Manual calculations were used for simple calculations and for new items such as forward contracting and new reports which did not have spreadsheets from the voluntary system. Output from each method was then compared to validate the output of the new system. Differences in output were resolved with PEC Solutions to ensure the calculations were correct for live cattle, live sheep, live hogs, and meats.

Testing Conducted Subsequent to April 2, 2001, Implementation: Some testing has continued after the implementation of the new system. For example, for swine reports where the calculations are simple, AMS personnel have been manually calculating numbers for a subset of items on a frequent basis and comparing them with the output from the new system to validate the numbers. This is being done primarily to make sure that changes made to the system by PEC Solutions after April 2, 2001, do not accidentally introduce other calculation errors. For complicated calculations, such as boxed-beef cutout value calculations, AMS personnel devoted their efforts to reviewing the aggregates of the reported data, but did not validate the calculations.

FINDING: Testing Was Not Adequate to Identify the Problem with the Boxed Beef Reports

- **The Implementation Timeframes Did Not Provide Sufficient Time to Fully Develop and Test the System:** The new system (hardware, software, security, setting up servers at two sites) was developed in a relatively short-time frame given the complexity and size of the program. The developmental work started in August 2000 and was implemented in April 2001 or in approximately 8 months. This included development of a proposed rule with a 30-day comment period and did not provide for any field testing prior to implementation. Similar market data programs have taken over a year to develop, in addition to several months of field testing. The tight timeframes established in the Act created a situation where accuracy, quality control, and thoroughness may have been sacrificed for speed of implementation.
- **AMS Did Not Develop a Sufficiently Rigorous Plan to Test and Validate Formulas and Algorithms:** The most critical phase, and possibly, the most time

consuming phase, of all the testing for the new system is the testing of the formulas and algorithms that generate the livestock numbers used in the 91 reports. To carry out this type of testing properly, AMS needed to develop a testing plan defining exactly what was to be tested, how it was to be tested, and who was to be responsible for each part of the testing. The testing plan should have identified all tasks necessary to ensure every aspect of the formulas and algorithms were tested. In meetings with the Review Team, AMS personnel agreed that they did not devote the necessary time to develop and implement a sufficiently rigorous testing of the formulas due to the short window of time available to implement the new system.

- **Incomplete Test Data Was Utilized to Test the Accuracy of the System:** The miscalculations for boxed-beef items that occurred between April 3, 2001, and May 11, 2001, under the LMPR system could not have been detected during the testing, because the test data only included data on Choice and Select grades of meat cuts. Only Choice and Select grades of meat cuts were used in calculating boxed beef carcass and primal cutout values, because what had been done under the voluntary system was used as the basis for developing the test data for testing the new system. Therefore, the output for boxed beef carcass and primal values was the same for the spreadsheets from the voluntary system and for the new computerized system when both used the test data. Under the new system, data from packers includes information not only on Choice and Select grades of cuts, but also on ungraded, no-roll, meat cuts. By not including ungraded cuts in the data used to evaluate the formulas and algorithms for Choice and Select boxed beef carcass and primal cutout values, the error could not have been detected. These miscalculations could have been detected and avoided prior to April 2, 2001, the beginning of the mandatory reporting program, if the test data prepared by AMS had represented the data packers were to report. Realistic test data sets should have been developed by subject-matter specialists for each of the forms to simulate input data in the new system. Finally, all calculations should have been checked by someone “independently” from the programming staff at PEC Solutions in order to validate that all formulas and algorithms in the new system were correct prior to implementation.
- **Appropriate Testing Methods Were Not Applied after Implementation:** The inappropriate use of ungraded test data was not detected after implementation, between April 3, 2001, and May 14, 2001, because AMS did not run the mandatory reporting data through the voluntary reporting system’s boxed-beef spreadsheet for comparison.
- **Lack of Industry Involvement Hampered Testing the LMPR System’s Accuracy:** In the LMPR Project Management Plan, PEC Solutions proposed that as many meat packing plants as possible participate in testing of the system to ensure that the LMPR system could function under production conditions, to ensure that volume testing replicates production conditions, and to test AMS’ telecommunication infrastructure. Furthermore, testing methodologies were based on the assumption that the system had two distinct user communities -- AMS and the livestock and meat industry. Both

meat packers and livestock producers are considered users of the system, because they submit data to the system or utilize the mandatory reports. The proposed testing approach was designed to include both AMS and industry involvement during the testing phase to ensure system accuracy and functionality. The industry was involved in some early testing, but only to ensure that the data input section of the system was working properly, not to test the validity of the output data. Early and full participation of the meat packers in the development and testing of the system would have substantially increased the likelihood that realistic test data and data volumes would have been used during the development and testing of the system.

The Act prohibited AMS from collecting data without releasing reports. Consequently, only some packers agreed to provide data prior to April 2, 2001. So, testing with a complete, packer-generated test data set prior to implementation was not possible. AMS personnel began to contact packers in January 2001 to obtain product codes and start the transition process to the new reporting system. However, this time was spent with packers to familiarize them with the new system and to ensure they would report the right data accurately not in testing the accuracy of the new system.

RECOMMENDATIONS FOR ENSURING ACCURATE CALCULATIONS

- **Parallel Testing Should Be Continued to Verify LMPR System's Accuracy:** Subsequent to meeting with the Secretary's Review Team, AMS initiated parallel testing to ensure the accuracy of output generated by the LMPR system. Under parallel testing, AMS is downloading actual data reported by the packers and running it through the new computerized system, as well as through the spreadsheets used for the voluntary system or manual calculations if spreadsheets are not available. Output from both of these systems are being compared to serve as a check on the new system. Parallel testing should be conducted by AMS personnel for several months and cover a wide range of reporting conditions that may not have been experienced during the initial stage of implementation, e.g., seasonal differences and holiday periods. AMS should document the time periods that parallel testing or comparisons will be conducted. AMS also should conduct such tests periodically for all reports.
- **More Realistic Validation Data Sets Should Be Developed to Test the System:** Validation data sets should be created by AMS that simulate a wide range of data conditions that occur in practice for all the reporting forms completed by packers. All calculations that will appear in any reports should be derived using the validation data sets and documented to serve as the official record of the correct or baseline output. Whenever programmers change anything in the system, no matter how trivial the change, the validation data sets should be run to ensure that programming changes have not affected the integrity of the output. As discussed earlier, formulas and algorithms should be programmed and verified by different people to ensure proper oversight during program development. Also, as a "best practice," it is recommended that the validation data sets be run through the new system periodically, even if system

changes may not have been made, as a quality assurance measure. If the reporting forms used by packers change over time, validation data sets should also be changed to reflect the current input data. AMS and the contractor should each name a person to be responsible for ensuring that the output is promptly reviewed and matches the baseline output.

- **Test Data Should Be Developed with the Cooperation of Industry:** This step would negate any potential issues of proprietary data being used during testing and it would provide industry with the opportunity to use the reports with available data. In some cases, developing test data could be accomplished using data previously submitted for the voluntary reports as input to the mandatory reports, where applicable. This would allow for validation of the report's accuracy and algorithms and allow for feedback from industry on the reports.
- **All Changes Should Be Tested on a Beta System Prior to Being Put on the Primary Production and Backup Systems:** Currently, programming changes are made by the contractor and the impact is first seen by AMS using live data from the production server. In the future, all programming changes should be tested on the beta or test server first and only moved to the production and backup servers after AMS personnel have validated that the output using the validation data sets matches the benchmark output. As an example of the problems that may occur without appropriate validation on a beta server and timely backup on a backup server, the primary server crashed 1 week before implementation and all corrections that had been made to the system for swine reports in the previous 2 month period were lost. As a result, the corrections had to be regenerated and tested before being used in a production environment and release of some reports was delayed into later April. This illustrates the importance of having appropriate beta and backup systems in place.
- **Industry Participation in Testing Prior to the Release of a New Report Is Critical:** Industry participation in the testing and input into the design and development of the system would have been mutually beneficial for several reasons. AMS would have benefitted by having early insight into the quality and volume of the data available. The meat industry would have been able to modify and test their information system changes and data transmission more thoroughly. In addition, industry would have been able to provide more feedback to AMS on the mandatory reports and AMS could have provided industry with more insight on the report's characteristics. Now that the system is running with full industry involvement, AMS should meet with industry officials periodically to review system performance.

RECOMMENDATIONS FOR ENSURING THE CORRECT INPUT OF DATA

AMS needs to develop additional procedures to ensure that the correct input data are fed to the various algorithms for the 91 reports. The following are some procedures that should be improved to ensure that correct input data are used in the calculations:

- Although AMS is utilizing some programming code at the front of the application that performs the calculations that excludes from the calculations any data not meeting certain criteria, additional programming code can be used. Additional programming code should be developed to provide greater assurances that erroneous data passed to the application, as was done with the boxed-beef application, will be detected.
- AMS is utilizing in some instances an automated feature called referential integrity, which ensures that only valid data enter the database used for the calculations. These checks flag suspicious data entries for review by a reporter. For example, if the data set contained an invalid Institutional Meat Purchase Specifications (IMPS) code that should not be included in the calculations, then the invalid data would be dumped into a discard file for review rather than being used in the calculations. IMPS codes describe various meat-cut specifications. AMS should incorporate more checks such as these into the system.
- Often, a program can be written to generate counts that will signal to the data reviewer if there are any abnormalities in the input data set. For example, the program can generate a count of the number of packers reporting for a given report. An inconsistent count compared with historical counts could indicate an error in the input data set. The reporter, for example, could also be warned when data are plus or minus one standard deviation or more from the mean. Various ratios could also be automatically generated to identify outliers. AMS should incorporate more checks such as these into the system.

USING DATA ANALYSIS TO IMPROVE THE ACCURACY AND ANALYTICAL CAPABILITY OF THE LIVESTOCK MANDATORY PRICE REPORTING SYSTEM

The current processing system is designed to generate statistics in 91 cattle, swine, and sheep reports using data collected from 16 collection forms. The current system makes some use of previously-reported data from packers or plants, such as comparing information from the current and previous days. The role of previously-reported data in the LMPR system is naturally limited at this time since the program is in its infancy. As time passes, the LMPR system will accumulate a deep history of detailed plant data. The Review Team believes this history can be of great value to AMS and the public. This detailed data may provide opportunities not only to improve the **accuracy** of the daily livestock reports, but also to enhance the knowledge of livestock purchasing, sales, and pricing through improved data **analysis**. Some examples of future benefits to the LMPR program by tracking previous data in an integrated database follow.

Accuracy:

- Data history on a plant can be used to create a data profile for each plant that can then be used during the very brief, daily data review to readily identify data abnormalities for review using a consistent and objective statistical approach.

- Data history on a plant can be used on a given day to adjust for missing data entries or a missing collection form from a plant using a statistically-defensible method.
- Data history on a plant can be used to identify potential data reporting problems that can then be used to prioritize plants for timely data auditing.

Analysis:

- Data history would be beneficial for effectively monitoring the proper adherence over time to confidentiality requirements.
- Data history would provide analysts the capability to evaluate purchasing, sales, and price trends across years for cattle, hogs, and sheep.
- Data history would provide analysts the ability to measure potential price changes before and after particular events, such as unforeseen supply and demand developments.
- Data history would provide auditors the ability to evaluate packer compliance with the regulations by comparing current submissions against historical trends.

The Review Team believes that AMS should consider developing a single, dimensional database with about six or seven tables that would provide the vehicle for tracking all the detailed data history from the 16 collection forms for the life of the LMPR program. These data would be readily and easily accessible not only to help improve the **accuracy** of the daily reports, but also to support any *ad-hoc* or planned **analysis** of the data at any time in the future.

PART II: AUDIT SURVEILLANCE OF DATA BEING SUBMITTED TO ENSURE INTEGRITY

Plan to Audit Reporting Entities and Staffing

Under the mandatory reporting system, there is no time for verification of data with producers, feedlots, or retailers as was done with the voluntary system. Therefore, auditing is important to ensure the accuracy of reporting. To ensure the accuracy of data reported by packers, AMS established a plan to audit at least quarterly the 119 entities reporting data to the program following the audit plan outlined in Appendix 10. Through June 21, 2001, AMS had audited only the records of the 19 entities identified in Appendix 11. AMS plans to audit all establishments by the end of August 2001. A major barrier to conducting audits has been the difficulty experienced in attracting and hiring qualified compliance officers. AMS currently has 8 compliance officers conducting the audits, but has been trying to hire an additional 19 personnel over the last several months in order to reach a target of 27 compliance officers. AMS has announced job openings on 3 separate occasions without attracting more than a few qualified candidates. One reason it has been difficult to attract candidates is that AMS is offering 4-year term appointments to coincide with the sunset provisions of the Act.

FINDING: AMS has not kept pace with its plan to audit packers at least quarterly due to inadequate staffing levels.

RECOMMENDATIONS FOR IMPROVING AUDIT PERFORMANCE

AMS should consider not hiring individuals on term appointments. AMS is not required to limit personnel to a 4-year term. Many programs in the Department have similar sunset provisions, yet the agencies administering these programs hire permanent staff. AMS should realize that the benefits of having a complete, well-trained staff in place to ensure the integrity of the system outweigh the risks of having to run a reduction-in-force (RIF) at some later date should the Act not be extended. If AMS believes that the risk of a RIF is too great, then AMS should consider utilizing alternative staffing mechanisms for conducting the appropriate level of audits as soon as possible, such as details or reimbursable agreements. AMS should consider entering into reimbursable agreements with other agencies to facilitate the audit process, such as the Grain Inspection and Packers and Stockyards Administration, that conduct similar activities or already have a presence in these establishments.

AMS should also develop a training program and handbooks for compliance officers. This is necessary to ensure that compliance officers have the knowledge and skills required to fully and fairly evaluate industry records.

PART III: CONFIDENTIALITY PROVISIONS

Regulatory Provisions to Ensure Privacy of Proprietary Information

The Act requires AMS to make available to the public market information obtained from packers in a manner that ensures confidentiality is preserved regarding the identity of persons, including parties to a contract, and proprietary business information. In order to ensure that information obtained by LMPP program is released to the public in a manner that does not disclose the reporting entity, the final rule established guidelines for aggregating data in a manner that ensures confidentiality, which are outlined in Appendix 3. The guideline is commonly referred to as the “3/60 guideline” and reads as follows:

“Submitted information will only be published by USDA if: (a) It is obtained from no fewer than 3 packers or importers representing a minimum of three companies; (b) the information from any one packer or importer represents not more than 60 percent of the information to be published; and (c) AMS does not have any reason to believe the information cannot be reported in a manner that protects the confidentiality of the source packer.”

The 3/60 guideline follows similar guidelines used by the Department of Labor, the Department of Education, the Department of Health and Human Services and USDA’s Economic Research Service and National Agricultural Statistics Service. Further, it conforms to guidance materials developed by the Statistical Policy Office of the Office of Management and Budget (OMB). If fewer than 3 entities are reporting data, confidentiality would be violated. If a single entity represents 60 percent or more of data reported, it would represent such a significant portion of the data that its confidentiality might also be threatened. Federal agencies variously use 50 to 80 percent to protect confidentiality.

Impact of Confidentiality Provisions

Since the implementation of the LMPP system, the confidentiality provisions of the final rule have caused a significant amount of information not to be released. Appendices 5 and 12 indicate that between April 2, 2001, and June 15, 2001, 894 daily reports out of a potential of 3,740 reports (24 percent) and 46 weekly reports out of a potential of 230 reports (20 percent) were not issued as a result of confidentiality provisions. In particular, the following reports have almost never been released due to confidentiality: National Weekly Direct Slaughter Cattle - Formulated and Forward Contract - Import (never released); National Daily Lamb - Negotiated and Formulated Purchases (released twice); Western Daily Lamb - Committed and Delivered (released once); and, Weekly Western US Carcass Premiums and Discounts for Slaughter Lambs (never released). For lambs, significantly less information is being made available to the public under the mandatory system than was available under the voluntary system. In addition to the reports not

released, many of the released reports contain lines that do not have data because of confidentiality problems. For example, a daily direct slaughter cattle report may not contain price and volume data for all qualities of animals traded.

In addition, many data lines that do not contain data due to confidentiality contain zeros. A zero is a value and should not be used to represent nondisclosure due to confidentiality.

FINDING: Confidentiality provisions of the program are preventing the release of a significant quantity of information under mandatory reporting, undermining the objective of the authorizing legislation.

RECOMMENDATIONS FOR ADDRESSING CONFIDENTIALITY ISSUES

The Review Team believes that the mandatory reporting system can provide substantial benefits to participants in the livestock and meat industry. Unfortunately, substantial amounts of volume and value information are not being reported due to potential disclosure of the identity of the respondent. The Review Team recommends that AMS carefully consider alternative protocols to ensure nondisclosure. One of the most striking characteristics of the mandatory reporting system is the very short, tight reporting timeframes for meat packers. By reporting during windows as short as several hours, up to several times per day, and given the high level of concentration in the meatpacking industry, it is not surprising the 3/60 standard is frequently not met for any one reporting time window. While the 3/60 standard may be appropriate for typically collected industry data, such as production or sales during a month, a quarter or year, the standard may be unnecessarily restrictive for data generated during a several hour period, especially when 3 or more participants may be operating in the market every day, but not in every time window. An alternative is to apply the 3/60 standard over a longer time period, for example a multiday period.

The 3/60 standard measures two dimensions: number of reporting firms and market shares of reporting firms. If these dimensions are measured over a longer multiday timeframe, an additional measure should be considered to ensure confidentiality and this measure is frequency of reporting by firms. For example, too many successive days with only one and the same firm reporting could increase the chance that market participants could identify the reporting firm.

The Review Team recommends that the alternatives that AMS considers should include extending the time periods for assessing market participation and market share as a basis for determining whether to release data. In so doing, AMS needs to establish clear protocols on how long the time period would be for applying standards and identify and address conditions, such as frequency of reporting, that may result in disclosure of a respondent's identity during the time period, even if the standards for number of firms and market shares are satisfied for the time period in its entirety. AMS should test whether the

output of alternative standards would actually result in substantially more information available and the impact on confidentiality. AMS should also develop rigorous operating procedures, monitored continuously, to ensure reported data do not result in a loss of confidentiality. AMS should also obtain feedback on alternative standards from other government agencies that collect economic data, such as prices and production data from market participants.

LEGISLATIVE CONSIDERATIONS TO ADDRESS TECHNICAL AND CONFIDENTIALITY ISSUES

The Review Team has no specific legislative recommendations related to the problems identified in Parts I, II, and III of this report. However, the Review Team recommends that AMS work with the livestock and meat industry to determine whether a technical corrections bill should be proposed to address several issues that surfaced during this review.

One potential issue for legislative change is the legislated timeframes for reporting data to USDA. This review identified at least one report that has a reporting deadline before the reporting firms have the complete information on slaughtered cattle that is needed for the report. Another issue is the legislated timeframes for issuing reports. If alternative standards for confidentiality cannot be found that substantially increase reported data, while at the same time ensure confidentiality, then consideration should be given to altering reporting timeframes to eliminate reports that cannot be completed, and establish timeframes that permit completed reports while assuring confidentiality.

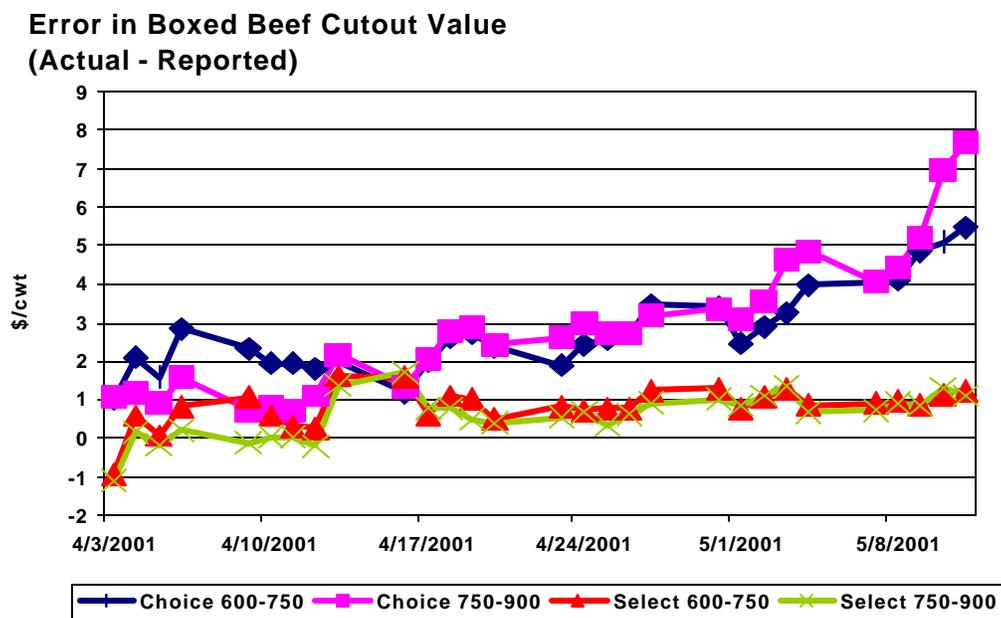
PART IV: ESTIMATED ECONOMIC IMPACTS OF MISREPORTING THE BOXED BEEF CUTOUT VALUES

How the Boxed Beef Cutout Value is Used in the Market

The boxed beef cutout compiled and reported by AMS is the most readily available measure of market conditions for a number of participants in the beef marketing chain. The cutout is a composite of the prices paid for a variety of beef cuts and can serve as a barometer of the supply and demand situation in the boxed beef wholesale market. Many participants, including USDA analysts, use the boxed beef cutout as input in market analysis. Producers may use the boxed beef cutout to gauge the potential value of their cattle as finished beef; processors and retailers may use the cutout as a public price against which they may gauge their pricing strategies for both inputs and outputs (see Appendix 6). In other cases, the boxed beef cutout value may be a component in price formulation or contract specification. The Chicago Mercantile Exchange, Inc., (CME) uses the boxed beef cutout to adjust the value of delivered cattle which do not meet the contract specifications.

Scope of the Assessment

USDA reported an incorrect boxed beef cutout value between April 3 and May 11, 2001. On average, the Choice grade cutout was under reported by \$2.85 per cwt. and the Select grade cutout was under reported by \$0.71 per cwt. (see following figure and Appendix 9).



Potentially, all sectors of the marketing chain may have been affected by this error if pricing or purchasing strategies were based on the cutout values. However, two of those sectors, wholesalers and retailers tend to focus sales at the individual cut level. Because the individual cut prices were correctly reported by USDA, any entity pricing beef at the individual cut level would likely not have been materially affected by changes in the boxed beef cutout level. Therefore, this part of the report will attempt to assess the impacts of the reporting errors on 3 groups: feeder cattle producers, cattle feeders, and packers who may use the boxed beef cutout to market a full range of carcass cuts. In addition, traders delivering cattle on the CME may have also been affected but their damages may have been limited by trading rules.

Method of Analysis

USDA assessed the impacts of misreported cutout values by estimating the impact the misreported cutout values had on live cattle and calf prices. The first aspect of the assessment was to test whether USDA's boxed beef cutout values simply provide a summary of all the information the market uses in establishing cattle prices or whether they provide basic information that the market uses to establish cattle prices. If the cutout is only a summary, or one of many bits of information that the market uses in setting prices, the live animal price may follow the correctly calculated cutout even if the reported cutout was incorrect. However, if the cutout value is the primary vehicle for transmitting price signals to the live price, then the live price will respond to the incorrectly calculated cutout.

The analysis used weekly price data from January 2, 1999, to May 12, 2001, (124 observations) for Choice steers and heifers, Select steers and heifers, and feeder calves, and Select and Choice boxed beef cutout values. A weighted "all Choice" boxed beef value was derived by weighting the 600-750 lb. and 750-900 lb. Choice boxed beef values by the grading breakdown for Choice beef reported in AMS's Beef Carcass Price Equivalent Index. Weekly data were used because they more likely captured relationships between cutout values and live animal prices than daily data. Daily data are subject to many very short-term influences that could obscure the relationship. A weighted "all Select" boxed beef value was derived by weighting the 600-750 lb. and 750-900 lb. Select values by the grading breakdown for Select beef in AMS's Beef Carcass Price Equivalent Index.

To measure the contribution of the boxed beef cutout value to fed cattle prices, five simultaneous, price-dependent equations were estimated, one for each sex/grade pairing of fed cattle and one for feeder steer. Four cattle prices are reported by AMS as the "5 Area price," representing sales at Texas/Oklahoma, Kansas, Nebraska, Colorado, and Iowa/Minnesota feedlots. The fifth price is for feeder steers at Oklahoma City. Each of the five live prices are specified as dependent upon the Choice and Select boxed cutout values, with a coefficient testing whether the correct or misreported cutout value provided more information during the problem period. Each equation divided the 124 weeks of cutout value data into 3 segments. The first segment of 118 weeks used the cutout value variable calculated using the voluntary system. In the last 6 weeks, there are two cutout variables. One segment is the incorrect cutout that was published initially; the second is

the correctly recalculated value. Two “blending” coefficients (”, 1-”) on each segment for the last 6 weeks tested the amount of information that would have been drawn from each segment in determining the live animal prices. If the coefficient ” on the correctly calculated segment equaled 1, the coefficient on the incorrectly calculated boxed beef cutout (1-”) would equal 0. This would imply that no relationship between the original, misreported boxed beef price and the live price could be found, and that cattle prices were determined by other factors. Conversely, if ” equaled 0, it could be inferred that the incorrect segment was a component in live cattle price determination. The analysis showed that the hypothesis $a=1$ cannot be rejected. Conversely the alternative hypothesis $a=0$ could not be rejected either. Therefore, the misreported cutouts are inferred to have had some impact on live cattle prices. Further details of the equations and model statistics are available in the Appendix 13.

The next test determined the amount of the reporting error that was passed through to the live animal prices. The Choice and Select cattle prices reported by AMS are not uniquely Choice or uniquely Select but rather represent a mix of grades for each category. The model accordingly allows simultaneous effects of Choice and Select cutout values to determine each live price. The analysis indicated that live steer and heifer prices depended somewhat more heavily upon the Select cutout value than the Choice cutout value during the sample period. This result may reflect the relatively high number of Select cattle being marketed during the last 6 weeks (see following figure.) The estimated change in cattle prices resulting from the revisions in the boxed beef cutout values formed the basis of assessing potential errors (see Table 1 and figure following Table 1.)

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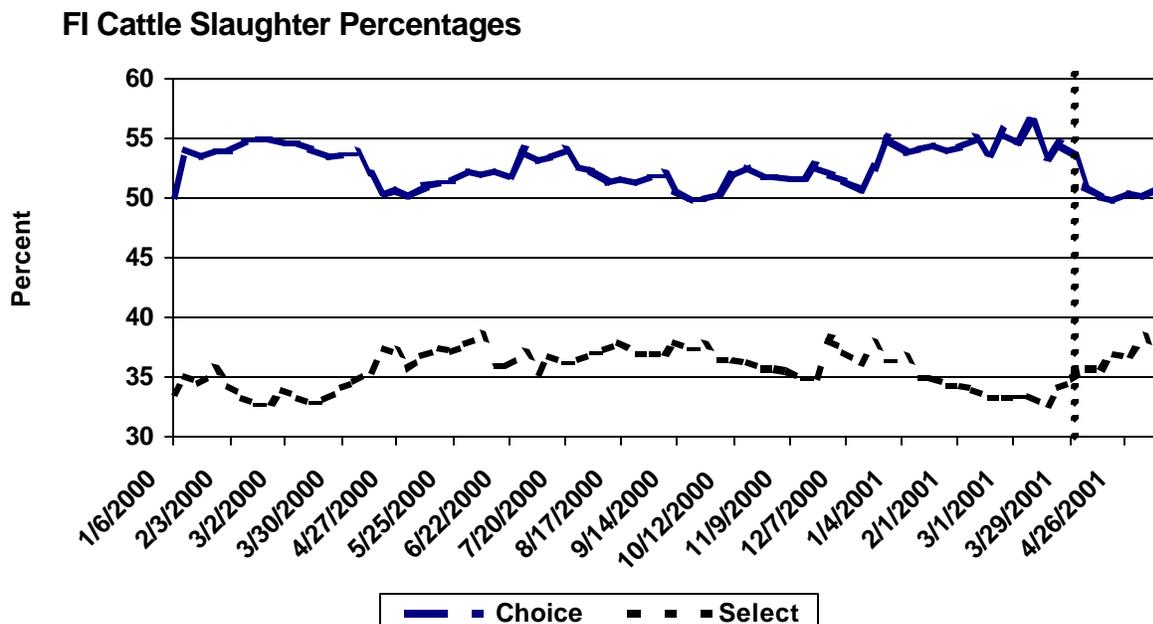
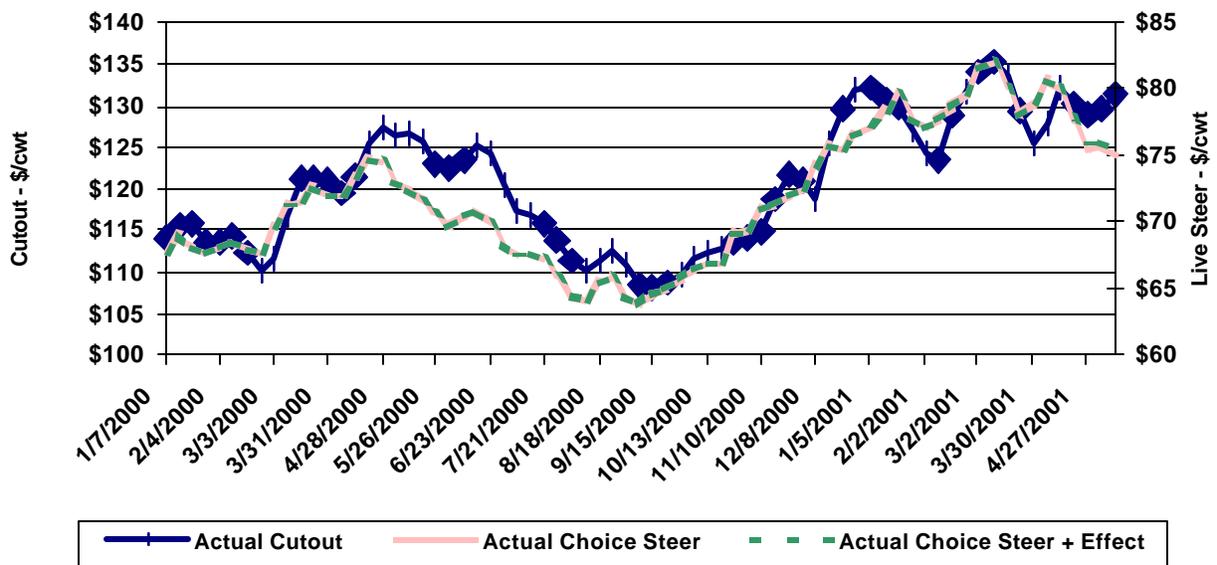


Table 1: Estimated Reduction in Cattle Prices Caused by Misreported Boxed Beef Values

Week	Slaughter steers 65-80% choice	Slaughter heifers 65-80% choice	Slaughter steers 35-65% choice	Slaughter heifers 35-65% choice	Oklahoma City Weighted Feeder Cattle Price
					\$/cwt.
07-Apr-2001	0.02	0.04	0.02	0.05	0.15
14-Apr-2001	0.21	0.21	0.20	0.21	0.20
21-Apr-2001	0.32	0.31	0.31	0.32	0.27
28-Apr-2001	0.33	0.33	0.32	0.34	0.32
05-May-2001	0.43	0.43	0.41	0.44	0.42
12-May-2001	0.53	0.54	0.50	0.56	0.61
Average	0.31	0.31	0.29	0.32	0.33

Estimates are based on a log-linear model with $\epsilon = 0$; see Appendix 13.

Choice Cutout Value and Steer Price



Limitations in Assessing the Impacts of an Error in the Calculation of the Boxed Beef Cutout

Estimating the potential amount of losses resulting from the under reporting of the boxed beef cutout value is difficult. Despite the advent of mandatory price reporting, there is still proprietary information maintained by various participants in the marketing chain. For example, the Act requires that processors provide USDA with information on the manner in which cattle are marketed, i.e., negotiated, formula, contracted, or packer-owned, but there is little publicly available information on the exact factors which go into a contract or price formula. A price formula or contract may use the USDA boxed beef cutout value, a proprietary cutout value (based on the value of the cuts marketed by a specific packer), an average of sale prices for the day, or other variables. However, no information is publicly available on the number of cattle sold under agreements using each price variable. Estimates of the use of alternative pricing mechanisms used in this analysis were based on discussions between packers and feeders with AMS and the Grain Inspection, Packers and Stockyards Administration.

Another complication is that there are generally delays between marketing and delivery. Cattle may have been sold before April 3 with the expectation of delivery during the period under investigation or have been sold before May 11 for delivery later. In the former case, price changes resulting from the errors in the boxed beef cutout might not have affected the prices received for the cattle; in the latter case, some adjustment to correct for the misreported boxed beef price may have been made when the producer delivered cattle to the processor.

Finally, the mandatory price reporting program does not capture the full universe of cattle that moved through the marketing channel during the period under investigation. Small packers (less than 125,000 head slaughtered per year) are not required to report and sales via auctions are not included in the marketing data.

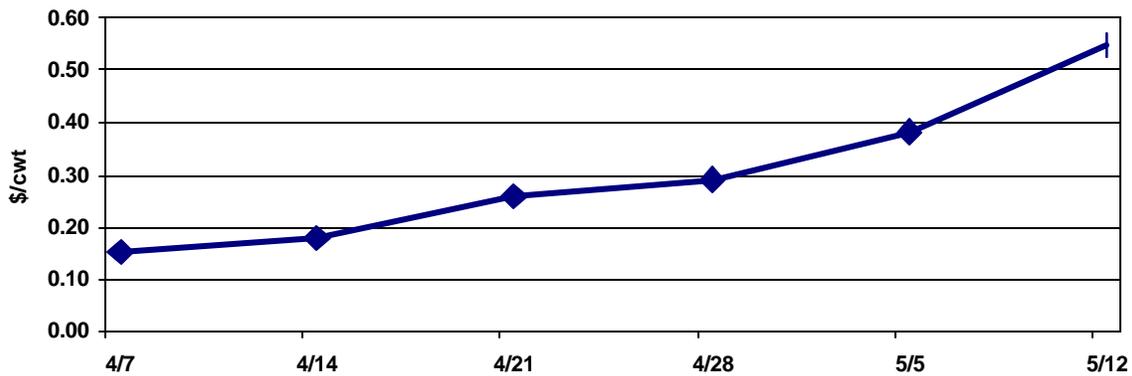
Assessment of Impacts: Feeder Cattle

Analysis of the relationship between boxed beef cutout values and feeder cattle prices indicated that the boxed beef cutout value likely had an effect on the prices cow-calf operators received for their calves. Feedlot operators look at the price of feeder cattle and feed as the two main inputs and fed cattle prices as the major output in their estimates of cash flow. Changes in fed cattle prices will cause cattle feeders to adjust purchasing decisions of feed and cattle in an attempt to remain profitable. During periods of higher fed cattle prices, feedlots may bid up feeder cattle prices to attract additional supplies and conversely may cut back on calf purchases or reduce bids as fed cattle prices fall.

USDA estimated that the benchmark Oklahoma City feeder cattle price may have averaged \$0.33 per cwt. higher during April 3-May 12 had the reporting error not occurred (see following figure.) Feeder cattle movement was estimated to be 2.84 million head

based on reported weekly movement and estimated placements in all U.S. feedlots during April. No adjustment was made to reflect imported versus domestic cattle. In addition, an estimated 200,000 head of stocker cattle may have moved through markets for placement on grass. The average weight of cattle moving through reported markets during the 6 weeks was 734 pounds. This implies that the potential loss incurred by feeder cattle producers on 3.04 million head was \$7.4 million (3.04 million head x 734 lbs. per head x \$0.33/cwt), or within a general range of

Estimated Under Valuation of Weighted Average Oklahoma City Feeder Steer Price



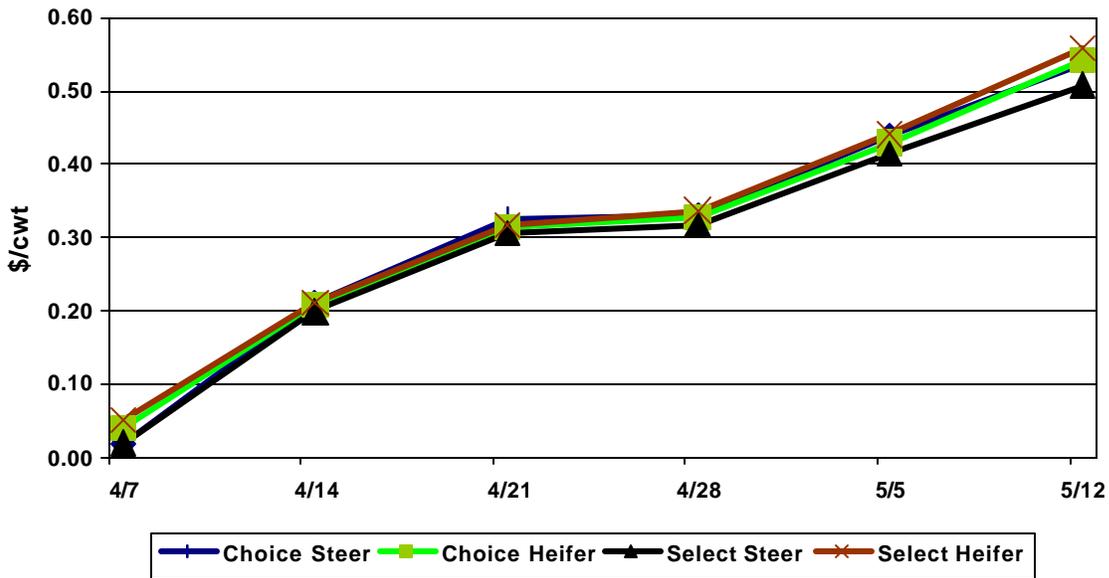
\$5 - \$10 million.

The volume assumed in this loss estimate is probably an upper bound on the volume of affected cattle. The loss estimate is based on the assumption that all feeder cattle were marketed during the week they were placed. Only about 26 percent of feeder calves estimated to have been placed during April were reported to have moved through the 22 reporting markets or through direct sales. Although the loss estimate assumes that the boxed beef cutout value affected all cattle prices, it is likely that many of the cattle may have been marketed in a manner that was not based on the USDA reported cutout value. In addition, if there were forward contracted feeder cattle, their price may have been established before or adjusted after the misreporting of the boxed beef price occurred, resulting in no loss to those cattle.

Assessment of Impacts: Fed Cattle

USDA estimates that misreporting boxed beef cutout values may have reduced fed cattle prices by an average \$0.29 - \$0.32 per cwt during April 3 - May 12, depending on sex and grade of the animal (see Table 1). The gap between the live animal price estimated had the cutout value been reported accurately and the actual price widened from about 3 cents per cwt. during the first week cwt. to 53 cents per cwt. by the end of the period (see following figure).

Estimated Under Valuation of 5 Area Market Price of Live Cattle



Based on the estimated difference in prices, losses on sales of fed cattle may be estimated by several methods. For potential losses to the fed cattle sector, only steers and heifers are assumed affected by the misreporting of the cutout values. Cow, bull, and stag slaughter, which represented just under 18 percent of total slaughter during April 3 - May 12, is likely influenced to a larger extent by changes in forage supplies, breeding decisions, dairy prices, and the prices of processing grade meat.

To establish an upper bound, all steers and heifers slaughtered during the period of under reporting were assumed to be affected by the misreported cutout values. During the period, 3.258 million head of steers and heifers were slaughtered under Federal Inspection (FI). The weekly sum of FI steer and heifer slaughter was multiplied by the percent of weekly slaughter grading Choice or Select published by AMS in the National Estimated Steer-Heifer Grading Report to estimate the number of steers and heifers grading Choice, Select and Prime. Subtracting Choice, Select, and Prime slaughter from total steer and heifer slaughter derived "Other" steers and heifers ("yield only" or not graded).

Commercial steer and heifer slaughter was estimated to be 3.318 million head by multiplying the weekly FI slaughter by the April percentage of FI slaughter to Commercial slaughter reported by NASS in the April Livestock Slaughter report.

The number of steers and heifers in each grade category was multiplied by the estimated live weight. The liveweight was estimated by inflating the weekly dressed weight for each sex by the relevant dressing percentage for the week as reported in USDA's National Estimated Steer-Heifer Grading Report. Dressing percentages were assumed to be constant across weight categories. The liveweight equivalent production for each sex/grade category was then multiplied by the estimated change in

the 5 Area cattle price for each grade and sex. Steers and heifers grading Prime were multiplied by the estimated change in the Choice steer price and other steers and heifers were multiplied by an average steer and heifer price change. Using this approach, the losses from misreporting the boxed beef cutout are estimated at \$12.9 million, or within a general range of \$10 - \$15 million.

However, using slaughter to determine the quantity of animals may not fully reflect the amount of loss. Cattle are not always slaughtered the same day or even week they are marketed. Cattle are usually sold in one week and slaughtered the next. This implies an overestimate of loss for the week of April 2 when cattle were purchased and priced under the voluntary reporting system the preceding week, and would not reflect potential losses for cattle sold during the week of May 12 but possibly not slaughtered until the week of May 17. In addition, forward contracted cattle may have had prices established weeks before their slaughter date. Excluding the first week and incorporating an additional week after the error raises the estimate to \$13.3 million, which is still within the range stated above.

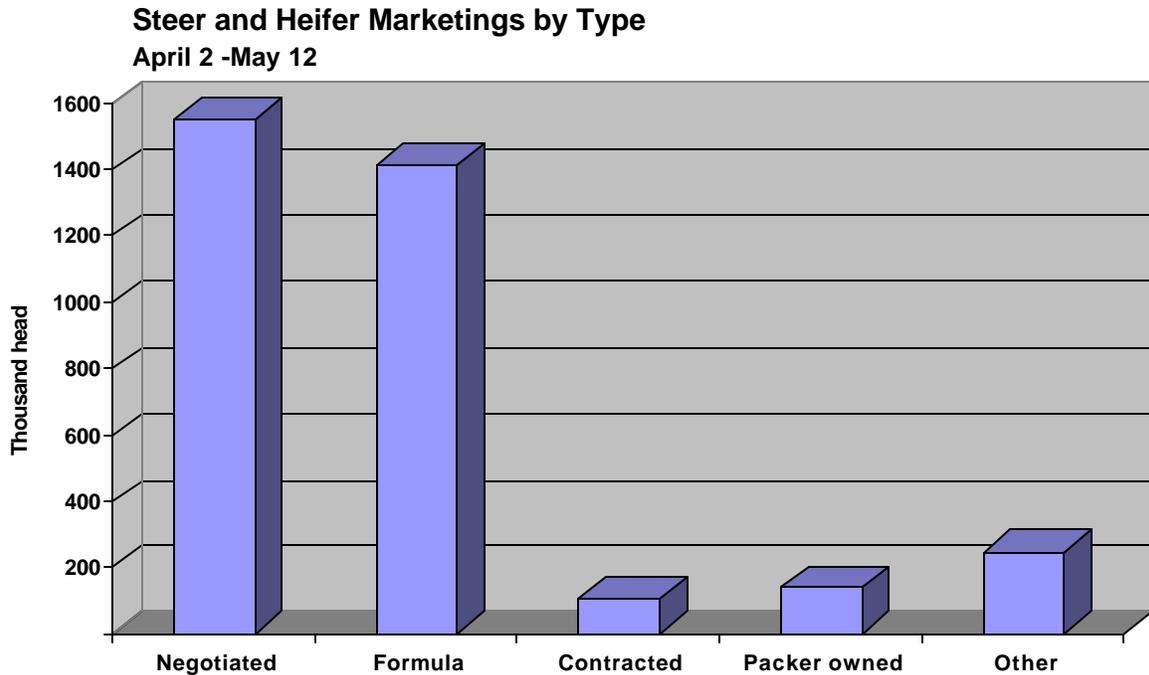
Alternatively, USDA estimated losses based on the number of cattle marketed rather than slaughtered during April 2 - May 12. Based on data from AMS, 3.211 million head of steers and heifers were marketed during those 6 weeks. This figure excludes data from packers not required to report or auction barns but does include data that may not have been released due to confidentiality restrictions. Assuming a one-week lag between marketing and slaughter, these non-reported marketings are estimated at about 8 percent of the following week's slaughter. Based on total marketings of 3.43 million head, it is estimated the loss to producers was \$13 million, or within a general range of \$10 - \$15 million, very close to the loss estimated by using slaughter numbers.

Misreporting the boxed beef cutout has been shown to have some impact on live cattle prices but not all cattle marketed would have been affected to the same degree. Depending on the type of marketing arrangement, the cutout might drive the price a producer receives or may only have a psychological impact as an indicator of the strength of the market. Finally, if the price is established using a proprietary cutout, there may be no impact at all.

Estimates were made of the losses to producers by marketing arrangement (see following figure). It was assumed that the pass-through of misreported information would directly affect those cattle that were marketed through either negotiation or fell in the "Other" category. Any losses incurred in the transfer of packer-owned cattle were assumed to have been netted out within the parent company. Discussions with AMS market news reporters indicated that prices for forward contracted cattle likely would have been affected little by the misreporting of the boxed beef cutout value. Marketings under formula represent the greatest variation. Discussions between processors and AMS representatives indicated that 20 percent of the formulas use USDA's boxed beef cutout value as part of their price calculations. An additional 30 percent use the spread between USDA's Choice and Select boxed beef cutout values to establish premiums and discounts for cattle which do not grade according to the marketing agreement. The remainder use averages of prices paid by the plant, proprietary cutouts, or other adjustment mechanisms

that may be affected by live cattle prices. If all formula-driven marketings, regardless of pricing mechanism, are considered, losses are estimated at about \$12 million or in the general range of \$9 - \$14 million. This estimate likely overstates losses due to the inclusion of cattle which may have been marketed using proprietary boxed beef values.

There are other adjustments to losses that should be considered as well. Cattle feeders



who delivered cattle which had too great a proportion of Select would have had a gain, because they would have been docked by an understated adjustment, since the misreported difference between Choice and Select boxed-beef cutout value was narrower than the corrected value. Conversely, those cattle feeders who delivered more Choice cattle may have had a greater loss because they would have received too small a premium. Insufficient data is available to determine the levels of discounts or premiums which might be due producers.

Assessment of Impacts: Wholesale Beef Sales

USDA analysis indicates that the misreporting of the boxed beef cutout may have had an impact on a small number of thinly traded meat cuts. There is anecdotal evidence that some small packers, selling a full range of cuts to a single customer will price their product off the boxed beef price. However, it has not been possible to determine the amount of such sales that occurred during this time.

Assessment of Impacts: CME

The Chicago Mercantile Exchange uses the spread between the Choice and Select 600-750 pound boxed beef cutout to adjust for the proportion of Choice or Select cattle delivered in excess of the contract specifications. During the period in question, delivery intentions were announced for 83 contracts from the April futures. Under CME rules, all deliveries should have been made prior to May 12.

However, CME rules for live cattle delivery (1504.A CME Rulebook) state:

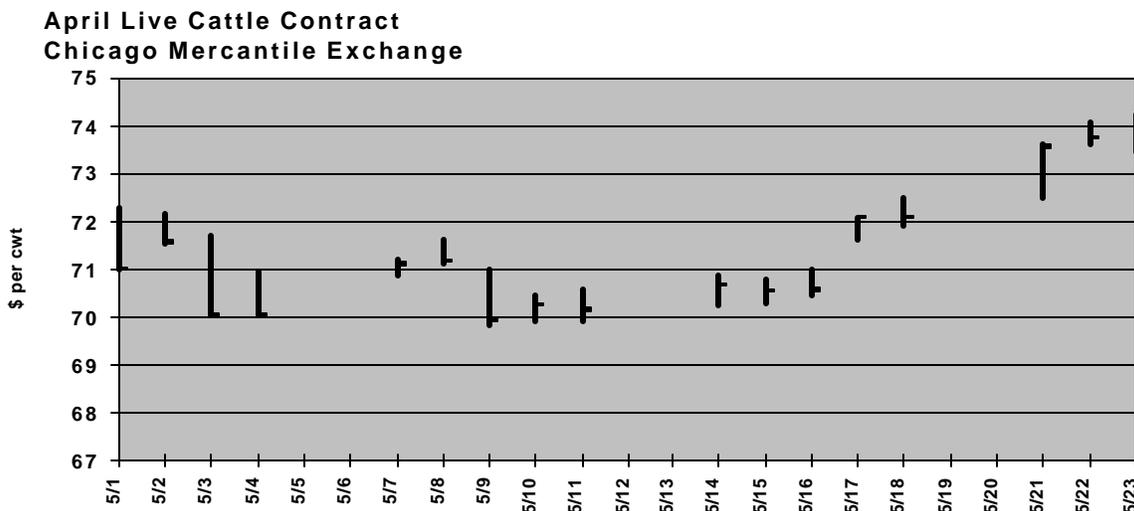
“Should the USDA determine that an error exists in any of the reports used to calculate adjustment factors and subsequently issues a corrected report, that corrected report shall be used in place of the original.”

The CME notified participants in the delivery process of the changes in the adjustment on May 29 and completed all account adjustments on June 11.

However, the traders at the CME may use the boxed beef value in their analysis of the supply and demand situation for beef and cattle. On May 14 and 15, USDA withheld publication of the boxed beef cutout with the notification:

“This report is not released due to data format and aggregation problems on the LM_XB403, which resulted in an inadequate volume of data necessary to compile the report. Releasing the report at this time could distort market conditions.”

This was the first indication for the market that there was potentially a problem with the report. During those 2 days, April futures traded in a relatively narrow range, losing 12.5 cents per cwt. on May 15 and gaining 2.5 cents on May 16 (see following figure.) On May 16, the boxed beef cutout value was released for May 14 - 16 which was an average of \$6.83 per cwt. higher for Choice compared with May 11 and \$1.45 higher for Select. On



May 17, the April, June, and August futures contracts for live cattle rose the \$1.50 per cwt. limit. Although it is likely that losses were incurred by traders who were unable to make offsetting transactions, insufficient data prevent an assessment of their potential losses.

SUMMARY OF FINDINGS:

Estimates of losses prepared for this report were hampered by gaps in information. However, based on statistical analysis of the historical relationship between boxed beef cutouts and live cattle prices, it appears that the price transmission between cutouts and live cattle is less than one-for-one. One reason for reduced transmission from cutout values to live animal prices is that some other prices, such as a packer’s own beef sale prices, are involved in cattle price determination. Based on the number of cattle slaughtered or marketed during April 3 - May 12, losses to cattle producers (cow-calf producers and feeders) are estimated to range from \$15 to \$25 million (see Table 2). A range of estimated losses is used rather than a point estimate to reflect uncertainties in econometric results, various assumptions on volumes and grades sold under alternative arrangements, and the fact that cattle feeders who purchased feeder calves may have had some of their potential losses offset by the undervaluation of feeder calves. Insufficient data exists for calculation of potential losses to small processors who price their output off the boxed beef cutout or individuals who traded live cattle futures on the Chicago Mercantile Exchange.

Table 2. Summary of Economic Impacts of Misreporting of Boxed beef Cutout Values

	Average Estimated Price Difference	Estimated Animal Movement	Estimated Damage
	\$/cwt.	Million head	\$ Million
<i>Stocker/Feeder Cattle</i>	\$0.33	3.04	\$5 - \$10
<i>Fed Cattle: 3 Versions</i>			
Based on Slaughter	\$0.31	3.32	\$10 - \$15
Based on All Marketings	\$0.31	3.43	\$10 - \$15
Based on Marketing Arrangement	\$0.31	3.20	\$9 - \$14
<i>Wholesale Beef Marketings</i>			Insufficient Data
<i>Futures Market</i>			
Trading			Insufficient Data
Delivered Cattle		(83 Contracts)	0
<i>Total Quantified Losses</i>			\$15 - \$25

The Review Team emphasizes that the levels of estimated losses identified in this report are very dependent on the assumptions and statistical approach used to derive the estimates. As an example of the sensitivity of the results to changes in assumptions or approach, consider the influence of the cutout value on live animal prices. Both the Choice and the Select cutout values were assumed to affect each of the live cattle prices that were examined. The statistical estimation procedure determined the relative influence that each type of cutout value has on live cattle prices, and the results indicated that the Select cutout value tended to have more influence. Had the model been constrained to have the Choice cutout value exert more influence on the live prices, the loss estimates would have been substantially higher.

COMPENSATION

The potential for financial losses incurred by cattle producers has led to the question of whether compensation is available for producers. The Review Team examined three avenues for compensation. The first avenue examined was whether producers could sue the USDA for damages. USDA's Office of the General Counsel advised the Review Team that there is no basis for liability on the part of the United States for claims which may be filed under the Federal Tort Claims Act. The second avenue examined was whether the USDA could make direct compensation payments to producers. The Office of General the Counsel advised the Review Team that the Department has no authority to pay compensation for losses which may have been sustained by producers as a result of errors in implementation of USDA's price reporting system. The third avenue examined was special legislation to provide authority for compensation. The Review Team believes that is the only viable option for compensation, however, the Review Team is not recommending that the Department support such legislation.

Legislation to provide compensation faces several problems. First, a funding source for the legislation would need to be identified. Second, the Federal Government releases a vast amount of economic data continuously. Federal agencies know that public economic data, such as the Consumer Price Index or the Gross Domestic Product deflator and other measures, are used in private contracts to establish wage or rental rate adjustments or by individuals to buy and sell commodities, stocks and other financial instruments. Consequently, agencies take care to ensure the data are as accurate as possible. However, it is neither practical or reasonable to expect that the Federal Government to pay compensation every time a reporting error results in a loss in a private trade between two parties who voluntarily utilize reported data to determine the terms of the trade. Third, although this report identifies the potential for losses, there was also the potential for gains. In some cases, the same party may have experienced both losses and gains. Fourth, while aggregate losses can be roughly estimated, establishing an individual producer's loss would be extremely difficult and imprecise. As identified in Part IV of this report, the relationship between the USDA-reported boxed beef cutout value and the live animal price is uncertain, except in a relatively small number of cases where a contract specifies that the USDA boxed beef cutout values are to be used to establish prices. In some of these

cases, adjustments in transactions prices between buyers and sellers may occur. In addition, while losses could be roughly approximated in the aggregate for feeder and fed cattle, a compensation program could reveal other claimants whose losses would be difficult to impossible to verify, such as packers and sellers of bulls and cows.

APPENDICES

Note: Appendices are available at
<http://www.usda.gov/oce/mp-report/index.htm>