AN OVERVIEW OF QUALITY CONTROL PROCEDURES IN THE ECONOMIC AREA OF THE BUREAU OF THE CENSUS

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I. INTRODUCTION

The Bureau of the Census conducts mail surveys and censuses of both a demographic and economic nature. Mailout preparation and initial processing of returned report schedules are performed by a large processing center located approximately 600 miles from headquarters. These operations are subjected to a number of quality control (QC) procedures. This paper will review the organizational structure of the Bureau as regards QC in the economic area. Descriptions of the various processes subject to QC will be provided, along with the corresponding QC methodology. Finally, some of the factors affecting QC and the Bureau approach to QC will be discussed. For the convenience of the reader, a glossary of technical terms, including some whose usages are unique to the Bureau, is provided at the end of this paper.

II. BUREAU ORGANIZATION

The ultimate responsibility for any product generated by the Bureau of the Census rests with the Bureau Director and the Deputy Director. This responsibility is delegated to five associate directors. General policy and direction for economic programs are provided by the Associate Director for Economic Fields, aided by the Assistant Director for Economic and Agriculture Censuses and the Assistant Director for Economic Surveys. Responsibility for individual censuses and surveys is assigned to the subject-matter divisions. **The economic area covers agriculture; wholesale, retail, and service trades; construction; imports and exports; Federal, state, and local governments; and manufacturing and mining. Except for the joint processing activities of the combined economic and agriculture censuses, all quality control responsibilties for surveys conducted in the economic area are assigned to the respective subject-matter divisions.**

Economic Surveys Division (ESD)

ESD is responsible for the centralized processing of the combined economic and agriculture censuses and the processing of several miscellaneous economic programs. ESD also is responsible for QC for those processes for which it has production responsibility. QC methodology prepared by ESD is by far the majority of all QC methodology prepared by the economic areas.

The Assistant Division Chief for Research and Methodology provides overall supervision for the QC program. Procedures, recommending statistical QC plans, are prepared by the Statistical Methods Branch. Methodology personnel have no authority over matters of QC budget, staffing, or implementation.

The Assistant Division Chief for Directory Development and Operations has responsibility for processing systems for the combined economic and agriculture censuses, as well as the annual data base update projects for the Standard Statistical Establishment List (SSEL) [1]. As such, this assistant division chief controls the budgets for these projects, of which the QC budget is a portion. Implementation of QC procedures and the staffing of inspectors for each project is controlled by this production manager.

Statistical Standards and Methodology

The Office of the Associate Director for Statistical Standards and Methodology performs review and consultation functions for methodology staff throughout the Bureau. Assistant division chiefs for research and methodology within the economic areas meet regularly with the associate director to discuss current and proposed methodology. (QC methodology is just one of numerous subjects discussed.) The associate director's office does not normally issue methodological policy, but when problems arise, the office becomes actively involved in their resolution.

The Statistical Research Division (SRD) performs research and acts as consultant to the Bureau on theoretical aspects of statistical methodology, including QC. On occasion, QC methodological personnel meet with QC experts within the SRD to discuss theory and problems encountered with the development of general QC methodology. Normally, SRD is not involved in the development and implementation of applied QC procedures.

Processing Center

For mail surveys and censuses, all activities related to preparation of mailing packages, response receipt, and initial processing of forms and data for later computer processing are handled by the Data Preparation Division (DPD) in Jeffersonville, Indiana. Although DPD, organizationally, reports to the Associate Director for Field Operations, it deals directly with each division sponsoring a survey or census. DPD employs hundreds of clerical and support personnel. Within DPD, the QC Section is responsible for coordinating the implementation of QC methodology originating from the sponsoring divisions, the training of inspection personnel, and the collection and distribution of QC data to the sponsoring divisions. Additionally, the QC Section is the initial point of contact within the DPD for questions concerning QC or its implementation. The QC Section refers questions it cannot immediately answer to methodology personnel in the sponsoring divisions. For small-scale processes and certain mechanical processes, inspection personnel are usually members of the QC Section.

For some large-scale clerical processes, such as data entry, industry and product coding, and other automated processes, production personnel are utilized as QC inspectors within their own operating units. Most QC methodologies recommend that inspectors be separated, organizationally, from the production units, or at least, that inspectors be the most experienced and most highly qualified of available production personnel. These recommendations often are not implemented. The reasons vary; some are related to the emphasis placed on production, while others are related to wages. Data entry units, for example, rotate their keying (production) personnel **through the inspection phase of the operation, a practice which allows all keyers an opportunity to earn incentive bonuses based on negotiated production rates, while distributing the**

inspection workload. Similar incentive programs are not available for inspection processes.

III. PRODUCTION PROCESSES AND QUALITY CONTROL METHODOLOGY

This section discusses the major activities for which QC methodology is provided. The production operations are discussed in the approximate order in which they are processed for a large mail census or survey. QC methodology is provided after each group of related processes.

General QC Methodology

Most QC plans issued by ESD are based on an acceptable quality level (AQL) [2] acceptance sampling plan for attributes [3]; a selected piece of work is judged correct or incorrect. Work is batched for each process into convenient-sized lots for ease of production and control of flow. Some processes utilize the same batching as the previous process, others require rebatching due to work being split into several operations. Due to budget considerations and variation in lot sizes, variable-rate sampling plans are implemented in order to obtain lot samples that are not excessively large, and yet large enough to make reliable decisions. These samples are systematically selected with a random start for each lot. Each selected piece of work is inspected, usually dependently [4], for conformance to specifications for proper processing. The acceptability of a lot is determined from acceptance tables, based on the sample size and the number of unacceptable pieces of work. Rejected lots are reworked or rectified, as applicable, and reinspected. QC records are maintained separately by lot, and are then tabulated and analyzed.

Pre-mailout Processes

The operations listed below involve the preparation of materials for mailing to establishments [5] selected for participation in surveys and censuses: contractor printing of census and survey materials; report form data imprinting; imprinting of mailing labels; and assembly of mailing packages.

Contractor Printing of Census and Survey Materials

The manufacturing and printing of most of the paper materials used in mailout censuses and surveys are contracted out to private industry. The materials include report forms, both flat cut (separate pieces of paper) and pin-fed (continuous forms for later use by a high-speed computer printer), instruction manuals, introductory and follow-up letters, mailout and return envelopes, and other miscellaneous material. Each item has a set of design specifications, which include paper stock, dimensions, paper color (tone), ink color, layout alignment, and type style, which are coordinated with the specifications of the other items. Some contracts also provide for assembly (inserting mailout materials into envelopes) to be performed by the contractor.

For large printing contracts, such as those issued for the economic censuses, a Bureau representative from the Printing Branch of the Publications Services Division (PSD) is sent to the print site to check the samples from the first production run. However, for most contracts the inspection is performed by DPD as soon as possible after delivery of the materials. A sample is selected based on the number of boxes in the shipment. Each sample box is opened and an item randomly selected from the top, middle, and bottom sections of each box. The shipment is accepted or rejected based on the number of items not conforming to the contract specifications. The final decision for any shipment receiving a reject decision is made by the sponsoring division and PSD, but any request for reprinting of material must be made through the Government Printing Office (GPO), who actually awards the printing contracts.

Report Form Data Imprinting

Certain types of census and survey report schedules are mailed to establishments with preprinted data such as, prior-year data, prior-quarter data, establishment listings (mailed to company headquarters), and mailing address information. These data are printed by computer onto pin-fed report schedules. Also, the computer-readable barcode (containing the census file number (CFN) [6] and other essential data) is imprinted onto the report schedule.

Imprinting of Mailing Labels

Certain mailing packages and survey report schedules are affixed with a mailing label instead of being imprinted directly with mailout information. These mailing labels are computer imprinted with mailout information on either of two media: pressure-sensitive (peel-off, stick-on) labels, on pin-fed forms; and unlined, pin-fed computer paper, which is cut and pasted by machine (see the section on assembly of mailing packages).

Inspection of Imprinting

The following inspections are performed for data and label imprinting: the barcode is checked by a wand barcode reader [7] for readability and content; a cursory inspection is performed for formatting (location of printed data) and completeness (content of data--is it all there). Errors at this stage could indicate programming errors inherent in all label files; and detailed inspection for other quality aspects such as: legibility; alignment of data within the label or the item blocks; extra or omitted characters critical for later processing; and form or label mutilation by the high-speed printer making mailout impossible.

Assembly

The assembly operation consists of tasks associated with putting together the mailing packages. Materials such as report forms, instruction sheets, return envelopes and other survey-related materials (inserts) are placed into appropriate mailing packages. These packages vary from small window envelopes containing an introductory letter and report form, to mailing cartons (boxes) containing up to 300 questionnaires.

Some assembly is accomplished by the printer who had the contract for printing the report forms. Most packages are assembled by DPD. Matrials are collated and inserted by hand or by machine. Multipage reports and most reports for multiunit companies [8] require some imprinting and are almost always hand assembled. The materials are placed into folders according to a mailout control listing (MCL) [9]. The materials are checked by the production staff and then placed in the appropriate mailing packages.

Packages prepared by the printers are treated

as materials from contractors, and are inspected as prescribed in a previous section. Packages assembled by DPD containing nonimprinted forms are inspected via an acceptance sampling plan using a Shadograph [10]. Several packages are inspected and used as standards. Each sample package is placed on the Shadograph and compared to the standard. Packages containing a single-page imprinted form are inspected on a 100-percent basis using the Shadograph to prevent the inclusion of other forms (a possible disclosure) [11]. For multipage reports and reports for multiunit companies each package is manually inspected for required report forms and inserts based on the MCL. In censuses and large surveys that require multiple report forms in a package, a bar code reader (laser wand) is used to capture the CFN of each report in the folder. The CFNs are compared to an inventory list for that company which is stored in the computer. Any necessary corrections are made and the materials are placed in the mailing package. The package is then manually checked to assure that the package contains the proper inserts.

Assembly for follow-up mailings and complete remails takes the same approach as the initial mailout. Reminder mailings usually consist of a letter inserted in a window envelope. This process is monitored for label positioning and mutilation during the labeling operation. Imprinted reminder cards are sometimes used; they are inspected as part of imprinting.

Check-in

The check-in operation is used to control the daily receipts, which in turn is used to determine delinquent reports. Depending upon the survey or census, and the package or form type, different paths may be taken through the processing. Ultimately, the data base is updated for each receipt. At a minimum, this record contains the CFN, a status code, and the date the code was assigned. The status code helps determine which companies will be included in the next follow-up.

Single-unit [12] company reports are almost always sorted and sent directly to the laser reader for check-in. Unreadable single-unit reports, receipts with no visible bar code, and all multiunit company reports are opened and processed with a hand-held laser wand reader. Bar codes which are unreadable at this stage are entered via a keyboard to which the laser wand is usually attached. Receipts other than report forms, including unattached correspondence [13], are batched and sent to data entry for keying. The data entry method is also used as a back-up system for the laser reader.

During the 1982 Economic and Agriculture Censuses, daily samples were selected from the check-in operation to verify the transmission of data to the data base. Immediately after a work unit (batch) was processed through check-in, either at the laser reader or wand/keyboard station one report was selected from those reports which were successfully processed. The CFN and status code for this report were recorded on a control sheet, and later matched against the data base. Batches containing sample cases for which the check-in data does not correspond to the data base information were recycled through the check-in operation and subject to selection of a new check-in sample.

Microfilming

Census and survey report schedules are photographed on microfilm before data entry. A four-digit reel number is assigned to each reel of film loaded into the machine. Report schedules are automatically fed into the machine, and each page is stamped with the reel number and a four-digit frame number before the photographic image is taken. (Later, during data entry, the reel and frame numbers are keyed. These numbers are then processed into the SSEL.) After film development, the microfilm is inspected for legibility, density (contrast), image alignment, and reel and frame numbers. After inspection, several copies of each reel are produced using a heat transfer process. The microfilm is then checked for packaging, labeling (identification), and number of copies.

Automated Processes

In the last 2 years, many processing functions have been converted from clerical (manual) activities to computerized activities, utilizing clerks working interactively [14] with computer terminals. Topics discussed in this section include an introduction to the interactive system, background information on several major operations which have been converted to the system, and overviews of the production and QC processes for the system.

Census Control System (CCS)

The CCS utilizes two large data bases (the SSEL and the Census of Agriculture Data Base) and a set of complex interactive computer programs. Automated operations include: directory processing; correspondence processing; industry coding; analyst problem solving; and research (search and/or display of establishments).

Currently, the directory, correspondence, and industry coding operations are subject to QC using the interactive terminals.

Directory Processing

Directory processing consists of many individual operations related to the update and maintenance of the SSEL data base. Data base records are created, altered, and manipulated for the following activies: addition of new establishments to existing companies; companies selling or acquiring establishments; corporate mergers; physical location changes of establishments; establishments closed or idle; investigation of entries in the remarks section of report schedules for possible update actions; removal of duplition of entries in the remarks section of report schedules for possible update actions; removal of duplicated establishments; postmaster returns (undeliverable questionnaires); single establishment firms reporting multiple establishments; and other establishment and data changes.

All directory activities are processed and controlled using the interactive computer system described in a later section.

Correspondence Processing

The processing of all correspondence other than the receipt of survey and census schedules, whether originating from the establishment or the Bureau, is handled by the correspondence unit. Several of the major types of establishment-originated correspondence are as follows: request for time extension on the due date of a particular census or survey schedule; request for additional materials, such as forms, instruc-

tions, envelopes, etc.; request for information on Title 13 [11] authority, confidentiality, or the Freedom of Information Act; request for other material, including Bureau publications; claim that the establishment has already responded to, or that the establishment never received original mailing of survey form; and notification that the establishment has written or threatens to write to a government official ranking higher than the Bureau Director (such as the President, Vice President, Senator, cabinet official, congressperson, etc.).

The correspondence is read and a category code is entered into the interactive system based on the type of correspondence. Based on the category code, certain clerical (manual) actions are taken, including preparation of mailing packages with forms, standard letters, labels, etc. QC methodology for the clerical portion of correspondence processing provides for a 100-percent dependent inspection of all mailing packages prior to the sealing of the package. All detected errors or problems are corrected before mailout. The QC for the interactive portion of this operation is covered in a later section.

Industry and Product Coding

To promote the comparability of statistical data, establishments are classified according to the major economic activity in which they are engaged. This coding is based on the Standard Industrial Classification (SIC) [15] system. SIC coding is accomplished either clerically (manual) or interactively (computerized). Product line coding is performed manually using the Industry and Product Classification (IPC) manual, a system related to the SIC. Clerical coding is accomplished by a clerk using a published manual containing descriptions of the various industries, many in detail. QC is performed on a dependent basis. An inspector looks at the recorded code and determines whether it is correct. In cases of discrepancy or ambiguity, the coding supervisor determines the correct code as well as to whom (if any) to assign the error.

Interactive coding utilizes computer terminals and a program which uses keyword input as the basis for assisting the clerk in coding the establishment. The clerk may either enter the code directly into the system, or the system will display possible codes and descriptions based on the keywords entered by the clerk. The clerk then selects the appropriate code. Interactive QC is described in a later section.

Analyst Problem Solving

Many situations occur during interactive processing where a clerk cannot continue to process an establishment or company for various reasons. When this occurs, routines automatically generate an analyst referral action. The processing unit delivers the report forms to the analyst unit, where professional and paraprofessional problem solvers, including subject-matter specialists on temporary assignment from headquarters, using special research routines and powerful update routines, attempt to resolve the problem and process the establishment. Problems not resolved within the analyst unit are sent to the survey's sponsoring division at Bureau headquarters for resolution. Due to the complexity of the operation, no QC is performed on analyst work.

Interactive Processing

For the selected establishment, the clerk enters the CFN and a code representing the interactive computer program (routine) to be called. The routine performs a validity check on the CFN, and if valid, requests information about the establishment from the clerk by means of special terminal screen formats and/or standardized messages. The clerk's responses, whether answers to queries or input of data, are checked for validity and processed by the routine. Each invalid response, whether data, CFN, or query answers, must be reentered by the clerk before the routine will continue to process. A second invalid response to the same query, CFN, or data request will cause the routine to generate an analyst referral for that establishment, ending the clerk's processing of that establishment. Each successive valid response or input is processed by the routine. Then, based on the input data and other data for the establishment resident on the data base, the routine displays any of the following to the clerk via the terminal: additional queries or data input requests; instructions for final processing of the establishment; and a list of establishments or data sets from which the clerk must select the one which most closely corresponds to the establishment being processed (or no choice, if none is close enough).

At critical steps in the processing, the routine displays to the clerk the data it is processing, or the data base information it is trying to match to the processed establishment, with a confirmation message requiring a yes/no response. These responses instruct the computer to take certain paths in the processing of the establishment, as a safeguard against inadvertent misprocessing of the establishment.

The end result of the processing of the establishment, whether analyst referral, creation of a new establishment, changes to existing establishments, etc., is the generation of one or more computer transactions. A transaction is a computer record in a generalized format, that is stored in a production hold file [16] for the purpose of data base update at a later time. Transactions are identified by a two-character transaction code which determines the type of data base update to be performed and the types of data fields which contain data. Not all data fields on all transactions will contain data, only those applicable to that type of data base update. Final instructions to the clerk usually involve annotating the report schedule with certain processed data, especially new CFNs, SIC codes, or other data.

Interactive QC

On a sample basis, establishments are reworked using the same routines available to the production clerk. Processing results are written as transactions to a separate QC hold file [16]. During overnight update processing, the production and QC hold files are matched, record by record, and within matched records, data field by data field. Errors in processing are indicated by mismatched transactions or mismatched data fields within transactions. Detailed listings are generated, and error and production counts maintained. The acceptability of the batch is determined by the computer, and generally the batch is automatically released

for update or deleted for reworking based on the batch decision. For each CFN containing at least one error, all data fields on all transactions for that CFN are listed from both the production and QC files, for analysis and evaluation purposes. Status listings and QC summary records are also created during the update processing.

Data Entry

The data entry operation is the phase wherein the data reported on the survey schedule or questionnaire are converted into computer-readable format. The current methodology utilizes personnel working at keyboard workstations with video display terminals. The data are visually scanned before entry for validity, then keyed into the system, and edited by the system. Edit failures must be corrected before another questionnaire can be keyed for that batch of work.

The QC procedure for data entry is to rekey a sample of documents using a special verification software package of the data entry equipment. The software matches the original entry to the verifier's entry. Discrepancies are displayed on the terminal, and the verifier corrects errors in the original data and maintains QC records. Rejected batches are reinspected and corrected on a 100-percent basis using the verification software. The QC summary data for each batch are keyed and transmitted to Washington for further summarization and analysis.

IV. FACTORS TO CONSIDER WHEN DESIGNING A QC PROGRAM

To develop an effective QC program, several factors need to be given serious attention. First, in order for any QC to be effective, the results reported must be timely, accurate, and relevant. To these ends, managers must identify the data needed to make informed decisions and then make provisions for a timely delivery of inspection data.

Second, if the goal is to provide an accurate picture of the production process, QC must be implemented according to the methodology developed. It is particularly important to resist the temptations to modify or eliminate QC whenever production backlogs develop. During these times of stress, errors are very likely to occur and a process, that until then was under control, can quickly go awry. QC is a tool which can identify these times and spot problem areas early and thereby be instrumental in keeping problems from becoming totally unmanageable.

Third, the method by which the inspection process is performed must be carefully considered. Independent [17] inspection methodologies tend to have the advantage of enhanced reliability of the inspection data when compared to dependent methodologies. However, independent inspections generally demand more resources of both money and personnel. However, by first developing precise production and QC procedures and then ascertaining that the procedures are being implemented as intended, an independent inspection program can eliminate the need for costly and time-consuming dependent adjudication.

Fourth, positive attitudes about the role of QC must be fostered throughout the organization. This involves educating personnel at all levels concerning the goals and expectations of the QC program, and dispelling the misconceptions some people may have developed about QC. For this effort to succeed, active support from all levels of management is crucial. Officials should be shown that a good QC program can be an effective management tool for improving the overall production system, and that QC helps reduce costs by identifying and correcting problems before they lead to costly delays.

Finally, quality should be designed into new processing systems as opposed to considering it for the first time shortly before the inaugural production runs. Although inspection of production runs and timely correction of problems is an important aspect of a QC plan, it is more important to prevent systematic problems from occurring during the design phase, thereby improving the efficiency of the inspection process.

V. CONCLUSIONS

This paper has presented an overview of the role of QC at the Census Bureau, discussing many of the processes that are monitored. Additionally, some of the factors contributing to the development of effective QC programs in general have been discussed. Efforts continue at the Bureau to improve production processes and to foster positive attitudes toward QC. Several projects initiated by the executive staff (from the Director down to the assistant directors) address the role of QC at the Bureau.

A 5-year research and development plan has been prepared by the Office of the Associate Director for Statistical Standards and Methodology covering numerous methodological areas for which the Bureau wishes to maintain its leadership role among producers of statistical data. The general proposals for QC, rated the highest priority, include a systematic reeducation of the Bureau staff, starting at the top, about the role of QC, and the development of a positive attitude about quality assurance throughout the Bureau. Various forums have been suggested to accomplish this reeducation, including small seminars and off-site technical conferences.

Research has begun for the second phase of the Census Automated Processing System (CAPS II), a project whose goals include improving the quality and timeliness of the processing of the economic and agriculture censuses. Several committees have been formed to investigate new processing approaches in such areas as: forms scanning and retrieval; bar coding; form characteristics; data entry; edit referral; and analytical tabulation review. Most of these committees include methodological personnel, ensuring that QC considerations for proposed processing methods will be addressed from the outset.

A strategic planning committee has been organized by the executive staff to investigate, among other things, the role of QC at the Bureau. The committee currently is examining the Bureau's organizational culture as it pertains to issues related to product quality and is preparing reports documenting this culture and proposals for the further fostering of positive QC attitudes. During its investigation, an important issue is being addressed by the committee: How should product quality be defined given the Bureau's position as a Government agency? What are the important factors to be considered and how do they differ from those in the private sector?

It is hoped that all of these efforts will contribute to the continued improvement of at-

titudes and processes, and ultimately, to the continued improvement in product quality.

GLOSSARY

[1] Standard Statistical Establishment List (SSEL)--A computerized name and address file of all known single unit [12] and multiunit [8] employer firms operating in the United States. The SSEL contains records for approximately five and one-half million establishments [5] and is maintained on a data base system.

[2] Acceptable Quality Level (AQL)--A "producer's risk" plan; given a percent defective (quality level), the plan limits rejection of lots when work is produced at a better than the specified level, usually to five percent (95-percent acceptance).

[3] Acceptance Sampling for Attributes--The technique of inspecting a portion of a batch (lot) of work in order to make a decision concerning the acceptability of the entire batch. Each selected piece of work is judged either acceptable or not (attributes), rather than measured against a quantitative standard (variables). Sampling for attributes is also referred to as the "go/no go" principle.

[4] Dependent Inspection--The practice wherein the inspector, seeing or having knowledge of the production result, judges the result as correct or incorrect. Most QC inspections performed at the Bureau are dependent.

[5] Establishment--A single physical location where economic activity is performed.

[6] Census File Number (CFN)--A unique ten-digit number used to identify an establishment [5]. For single-unit [12] firms, the CFN consists of a leading zero, followed by the nine-digit employer identification number. For each establishment of a multiunit company [8], the CFN consists of the same six-digit company identifier (the alpha number), followed by a four-digit plant number unique for that establishment.

[7] Laser/Wand/Keyboard--A computer-assisted system for reading or capturing bar-coded information tion. The laser reader/sorter is a high-speed bar code reader that captures the CFN [6] and sort characters from packages without removing the contents from the packages, and sorts the packages. The wand is a hand-held pen-like device used to capture the same information. It is generally used for packages that cannot pass through the automated reader/sorter. The wand is attached to a keyboard station or terminal. For unreadable bar codes, the information is entered directly into the system from the terminal.

[8] Multiunit Company--A firm with more than one establishment [5].

[9] Mailout Control Listing (MCL)--A computer-generated listing of all items to be included in a mailing package for each multiunit company [8]. It includes the numbers and types of imprinted report forms, blank forms, punch cards (if any), flyers, cover letter, instruction manuals, suggested mailing containers, and the approximate weight of the complete mailing package.

[10] Shadograph--Trade name for a particular type of scale or weighing device, used to check the assembly of mailing packages. A standard weight or item is placed on one tray of the device and the item to be checked is placed on the other tray. The indicator appears as a shadow in the viewing area. The device is sensitive enough to indicate a difference as small as a single sheet of paper.

[11] Disclosure--Release of data which could identify a particular establishment [5], whether intentional or not. Release of tabulated statistical data for which any establishment's contribution can be easily determined is also a disclosure. Title 13 of the United States Code mandates that data collected by the Bureau must be kept confidential.

[12] Single-Unit Company--A firm with only one location. This is also referred to as a single establishment firm.

[13] Unattached Correspondence--Correspondence received by the Bureau, originating from a respondent that is not accompanied by a census or survey schedule.

[14] Interactive--Computer assisted processing. Many of the clerical processing tasks are performed in a conversational or query mode at a computer terminal.

[15] Standard Industrial Classification (SIC)--System of classifying establishments [5] by industry, published by the Office of Management and Budget.

[16] Hold File--Temporary storage for transactions created during interactive [14] processing. The production hold file is used to update the data base. The QC hold file is used in a match to determine the acceptability of the batches contained on the production hold file.

[17] Independent Inspection--The practice wherein the inspector reworks a selected item (piece of work) without knowledge of the results of the processing of the item by the production person.

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