

# 2020 Census Detailed Operational Plan for: 7. Local Update of Census Addresses Operation (LUCA)

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*A New Design for the 21st Century*

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# Approvals

This LUCA Detailed Operational Plan has been reviewed and approved for use.

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## Table of Contents

<b>1. Document Purpose.....</b>	<b>1</b>
<b>2. Operational Overview .....</b>	<b>2</b>
2.1 Operation Purpose .....	2
2.2 Background .....	2
2.2.1 LUCA Operation Background .....	2
2.2.1.1 Census 2000 LUCA Program.....	2
2.2.1.2 2010 Census LUCA Program.....	3
2.2.1.3 The LUCA Operation.....	4
2.3 Design Overview.....	6
2.3.1 High-Level Operational Design.....	6
2.3.2 LUCA Operational Context .....	8
2.3.2.1 LUCA Operational Inputs .....	10
2.3.2.2 LUCA Operational Controls .....	12
2.3.2.3 LUCA Operational Outputs .....	13
2.3.2.4 LUCA Operational Mechanisms .....	14
2.4 LUCA Data Flow and Operational Influences .....	17
2.5 LUCA Design Assumptions.....	19
<b>3. LUCA Detailed Process Description.....</b>	<b>21</b>
3.1 LUCA Outreach [LUCA 7-1] .....	22
3.1.1 Prepare for LUCA Outreach and Participation [LUCA 7-1.1] .....	23
3.1.1.1 Obtain OMB Clearance for LUCA Operation [LUCA 7-1.1.1] .....	24
3.1.1.2 Prepare and Publish Procedures for LUCA Appeals [LUCA 7-1.1.2].....	27
3.1.2 Conduct LUCA Internal Training and Promotions [LUCA 7-1.2].....	27
3.1.2.1 Conduct LUCA Internal Training [LUCA 7-1.2.1] .....	28
3.1.2.2 Conduct LUCA Promotions [LUCA 7-1.2.2] .....	29
3.1.3 Provide LUCA Outreach Materials and Training [LUCA 7-1.3] .....	30
3.1.3.1 Provide LUCA Advance Notice Package [LUCA 7-1.3.1] .....	30
3.1.3.2 Provide LUCA Invitation Package [LUCA 7-1.3.2].....	33

3.1.3.3	Conduct LUCA Participant Training [LUCA 7-1.3.3] .....	37
3.2	LUCA Review [LUCA 7-2] .....	37
3.2.1	Provide LUCA Participant Review Materials [LUCA 7-2.1] .....	39
3.2.2	Support LUCA Partners during Review Process [LUCA 7-2.2] .....	43
3.3	LUCA Returns and Validation [LUCA 7-3] .....	44
3.3.1	Process LUCA Feature Updates [LUCA 7-3.1] .....	46
3.3.2	Perform Pre-Processing of LUCA Address Updates [LUCA 7-3.2] .....	47
3.3.3	Perform LUCA Matching [LUCA 7-3.3] .....	48
3.3.4	Conduct LUCA Address Validation and Processing [LUCA 7-3.4] .....	50
3.4	LUCA Feedback and Appeals [LUCA 7-4] .....	50
3.4.1	Support OMB in Establishing LUCA Appeals Office [LUCA 7-4.1] .....	52
3.4.2	Provide Feedback to LUCA Participants [LUCA 7-4.2] .....	53
3.4.3	Process Accepted LUCA Appeals from OMB [LUCA 7-4.3] .....	54
3.5	LUCA Closeout [LUCA 7-5] .....	55
3.5.1	Closeout LUCA Participants [LUCA 7-5.1] .....	56
3.5.2	Closeout LUCA Operation [LUCA 7-5.2] .....	57
<b>4.</b>	<b>Cost Factors.....</b>	<b>59</b>
<b>5.</b>	<b>Measures of Success .....</b>	<b>60</b>
<b>Appendix A – Terminology and Acronyms.....</b>		<b>61</b>
<b>Appendix B – References.....</b>		<b>64</b>
<b>Appendix C – Activity Tree for Local Update of Census Addresses Operation (LUCA) .....</b>		<b>65</b>
<b>Appendix D – Business Process Models.....</b>		<b>66</b>

## List of Figures

Figure 1: LUCA Context Diagram .....	9
Figure 2: 2020 Census Frame Development - Integrated Operations Diagram (IOD).....	18
Figure 3: LUCA Operation Context Model.....	21
Figure 4: LUCA Outreach [LUCA 7-1] Activities .....	22
Figure 5: Prepare for LUCA Outreach and Participation .....	24
Figure 6: Obtain OMB Clearance for LUCA Operation .....	24
Figure 7: Prepare and Publish Procedures for LUCA Appeals.....	27
Figure 8: Conduct LUCA Internal Training .....	28
Figure 9: Conduct LUCA Promotions .....	29
Figure 10: Provide LUCA Advance Notice Package .....	30
Figure 11: Provide LUCA Invitation Package.....	33
Figure 12: Conduct LUCA Participant Training .....	37
Figure 13: LUCA Review Activity [LUCA 7-2].....	38
Figure 14: Provide LUCA Participant Review Materials .....	39
Figure 15: Support LUCA Partners during Review Process .....	43
Figure 16: LUCA Returns and Validation [LUCA 7-3] Activities.....	45
Figure 17: Process LUCA Feature Updates.....	46
Figure 18: Perform Pre-Processing of LUCA Address Updates .....	47
Figure 19: Perform LUCA Matching.....	48
Figure 20: Conduct LUCA Address Validation and Processing .....	50
Figure 21: LUCA Feedback and Appeals [LUCA 7-4] Activities .....	51
Figure 22: Support OMB in Establishing LUCA Appeals Office .....	52
Figure 23: Provide Feedback to LUCA Participants .....	53
Figure 24: Process Accepted LUCA Appeals from OMB.....	54
Figure 25: LUCA Closeout [LUCA 7-5] Activities .....	55
Figure 26: Closeout LUCA Participants .....	56
Figure 27: Closeout LUCA Operation.....	57

## **List of Tables**

Table 1: LUCA Operational Inputs.....	10
Table 2: LUCA Operational Controls.....	12
Table 3: LUCA Operational Outputs.....	13
Table 4: Staff Resources used within LUCA Operational Activities .....	14
Table 5: Infrastructure Sites for LUCA Operational Activities.....	15
Table 6: Systems used within LUCA Operational Activities .....	15
Table 7: Acronyms and Abbreviations List .....	61



## **1. Document Purpose**

The 2020 Census Detailed Operational Plan for the Local Update of Census Addresses Operation (LUCA) is intended for use by U.S. Census Bureau managers, staff, contractors, and other internal and external stakeholders working on the 2020 Census. The document presents the detailed operational design for the 2020 Census LUCA Operation and includes a summary of the operational processes involved, their inputs, outputs and controls, and the basic mechanisms employed to conduct the operational work.

Anticipated uses of this document include the following:

- Communication – Documents operational design details for internal and external stakeholders
- Planning – Documents planning assumptions and key milestones
- Staffing – Documents staffing needs and strategies
- Design – Describes operations and flows, which inform design of Information Technology (IT) systems, manual processes, and training
- Development – Identifies business rules and required capabilities to be developed
- Testing – Provides a basis for developing integrated test plans for IT systems and processes

This document complements the 2020 Census Operational Plan, which presents the initial baseline version of the 2020 Census operational design and covers all operations required to execute the 2020 Census, starting with precensus address and geographic feature updates and ending once census data products are disseminated and coverage and quality are measured.

This document will be updated over time to reflect changes in strategies that result from 2020 Census planning, research, and testing activities.

## **2. Operational Overview**

### **2.1 Operation Purpose**

The LUCA Operation provides an opportunity for tribal, state, and local governments to review and improve the address lists and maps used to conduct the 2020 Census. This operation supports the Census Address List Improvement Act of 1994 (Public Law (P.L.) 103-430).

### **2.2 Background**

#### **2.2.1 LUCA Operation Background**

The Census Address List Improvement Act of 1994 (P.L. 103-430) authorized the Census Bureau to provide individual addresses to officials of tribal, state, and local governments who agreed to conditions of confidentiality in order to review and comment on the Census Bureau's Address List prior to the Census 2000. The Act strengthened the Census Bureau's partnership capabilities with participating governments by expanding the methods that the Census Bureau could use to exchange address information. Since the Census Address List Improvement Act of 1994, there have been two LUCA operations in support of the 2000 and 2010 Decennial Censuses.

##### **2.2.1.1 Census 2000 LUCA Program**

The Census 2000 LUCA Program consisted of two phases: LUCA 1998 and LUCA 1999. LUCA 1998 included areas to be enumerated in Census 2000 by mailout/mailback, where the Census Bureau mailed questionnaires directly to households. The Census Bureau provided address lists that contained city-style addresses that have a house number and street name (e.g., 212 Elm Street) used for mailing or to provide location information for emergency services, such as police, fire, and rescue (E-911 addresses). Participants could review and make updates to the address list by adding new addresses, correcting addresses, deleting addresses, identifying nonresidential addresses, and identifying out-of-jurisdiction addresses.

LUCA 1999 included areas to be enumerated by the Update/Leave or Update/Enumerate operations, where the Census Bureau sent field staff to each household either to leave a questionnaire or to interview and enumerate residents directly, respectively. The Census Bureau provided address lists that contained noncity-style addresses, which did not contain a house number and/or a street name (e.g., General Delivery, Rural Route and Box Number, Highway Contract Route and Box Number, and Post Office Box only delivery). In addition, the address lists could also include location descriptions such as "BRICK HOUSE with ATTACHED

GARAGE ON RIGHT,” structure points (geographic coordinates), and census geographic codes including state code, county code, census tract number, and census block number. Participants received block counts of all housing unit addresses within their jurisdiction and could review those counts and provide block count challenges to the Census Bureau for census blocks where address count discrepancies existed.

Participants in both phases received census maps that they could update and use for geocoding addresses. Additionally, all participants could appeal the Census Bureau’s address determinations at the end of the Census 2000 LUCA Program.

#### **2.2.1.2 2010 Census LUCA Program**

As a result of various participant surveys and evaluations, the 2010 Census LUCA Program identified various improvements to the LUCA Program:

- The two separate Census 2000 LUCA phases were combined into one review cycle for all address types.
- Expansion of the review time from 90 days to 120 days helped participants by providing more time to complete their review.
- The Census Bureau provided a more advance notice of the pending LUCA Program and initiated a comprehensive communication program with participants.
- The Census Bureau provided participants with the opportunity to use the Census Bureau supplied MAF/TIGER Partnership Software (MTPS) application as a tool for providing both address and feature updates.

Furthermore, the Census Bureau provided the choice of one of the following three participation options:

- Option 1—Title 13 Full Address List Review, where participants signed the Title 13 Confidentiality Agreement and completed a Self-Assessment Checklist designed to measure participants’ ability to meet the Census Bureau’s security requirements. The participants also received the Census Address List and Address Count List to review and could submit address updates to the Census Address List and/or challenge the Address Count List. The participants could appeal address results.
- Option 2—Title 13 Local Address List Submission, where participants signed the Title 13 Confidentiality Agreement and completed a Self-Assessment Checklist designed to measure participants’ ability to meet the Census Bureau’s security requirements. The

participants also received the Census Address List and Address Count List to review. Participants submitted their entire local address list instead of updating the Census Bureau's list. Additionally, participants could appeal address results.

- Option 3—Non-Title 13 Local Address List Submission, for which participants did not receive the Title 13 Address List. However, the participants did receive the Census Address Count List to review and submitted their entire local address list. However, participants could not participate in the appeals process.

All participants could provide map feature and legal boundary updates regardless of the option they selected.

### **2.2.1.3 The LUCA Operation**

In order to meet the goals of increasing participation and coverage while reducing operational cost, and identifying ways to improve the quality of updates, the LUCA Operation Improvement Team undertook extensive research that resulted in 11 recommendations to the LUCA Operation as detailed in the 2020 Census Operational Plan. The research also identified the components of the 2010 Census LUCA Program that were successful and should be repeated for the LUCA Operation.

To reduce the complexity of the operation and increase the quality of addresses from participants, the 2020 Census LUCA Operation offers a primary method of participation, the Full Address List Review. This is a full Title-13 address list review allowing participants to add, delete, change or correct an address (including the location of the address). Additionally, participants will have the choice of receiving their LUCA materials in the following formats:

- Address List – paper, Excel spreadsheet, or comma-delimited text file.
- Maps – paper, Portable Document Format (PDF) or shapefile.

The LUCA Operation address list and small format PDF maps will include structure coordinates (the coordinate locations of housing units in the Master Address File /Topologically Integrated Geographic Encoding and Referencing (TIGER) System (MAF/TIGER System) and will allow participants to return structure coordinates with their submissions. In addition, the address list will include United States Postal Service (USPS) ungeocoded Delivery Sequence File (DSF) addresses for state and county partners. DSF ungeocoded addresses are addresses for which the Census Bureau is unable to assign a specific block. If LUCA Operation participants can identify the census tract and census block for any ungeocoded addresses, this will help to improve the

Census Address List. This will also save participants time by adding geocode information to existing address records instead of adding new address records.

For the Census 2000 LUCA Program, participant-submitted LUCA addresses were validated during the Block Canvassing and LUCA Validation Operations, depending on their geographic locations. In the 2010 Census LUCA program, the nationwide Address Canvassing Operation validated LUCA participant submitted addresses. The reengineered Address Canvassing for the 2020 Census will include an in-office address validation process that will eliminate the need to conduct in-field address canvassing for every census block nationwide. Therefore, LUCA Operation participants will be required to submit full address data, including individual unit numbers for multiunit structures (e.g., Apt 1, Apt 2, Unit 1, and Unit 2).

The LUCA Operation will use tools developed for evaluating and processing address files through the Geographic Support System (GSS), such as the automated Address Source Evaluation (ASE), as well as address data acquired from the Census Bureau's GSS partners. Furthermore, the Geographic Update Partnership Software (GUPS) provides participants with a Geographic Information System (GIS) application and is available to all participants.

The LUCA Operation will continue to provide a 120-day review time, continue the six-month advance notice, expand the comprehensive operation communications with participants, provide a variety of media types, improve the Partnership Software application (i.e., GUPS), and continue to expand state participation.

Planning for the feedback and appeals phases of the LUCA Operation will begin in late Fiscal Year 2016. It is expected that the process will be similar to that of the 2010 Census LUCA Program, though simplified where possible.

## **2.3 Design Overview**

The sections below present the high-level design for the LUCA Operation. Please refer to the 2020 Census Operational Plan for a complete inventory of design decisions for all 2020 Census operations.

### **2.3.1 High-Level Operational Design**

The design of the LUCA Operation for the 2020 Census includes five major operational activity areas:

- **LUCA Outreach**
- **LUCA Review**
- **LUCA Returns and Validation**
- **LUCA Feedback and Appeals**
- **LUCA Closeout**

Each of these major activity areas is summarized below. Together, these activity areas represent the complete set of work that needs to be performed to conduct this operation.

#### ***LUCA Outreach***

The LUCA Outreach process is comprised of the three subprocesses and their associated activities:

- Prepare for LUCA Outreach and Participation subprocess, which consists of three activities:
  - Obtain Office of Management and Budget (OMB) clearance for LUCA
  - Publish Federal Register Notice for LUCA
  - Prepare the LUCA procedures for the operation
- Conduct LUCA Internal Training and Promotions subprocess, which consists of two activities:
  - Conduct LUCA internal training
  - Conduct LUCA promotions

- Provide LUCA Outreach Materials and Training subprocess, which consists of three activities:
  - Provide LUCA Advance Notice package
  - Provide LUCA Invitation package
  - Conduct LUCA participant training

### ***LUCA Review***

The LUCA Review process consists of the Support LUCA Review subprocess and has two activities:

- Provide LUCA participants their review materials
- Provide support to the LUCA partners during the review

### ***LUCA Returns and Validation***

The LUCA Returns and Validation process consists of the Manage and Validate LUCA Returns subprocess, which has four activities:

- Process LUCA Feature Updates
- Perform pre-processing LUCA address updates
- Perform LUCA address matching
- Conduct LUCA address validation, processing, and MAF/TIGER database updates for accepted LUCA records.

### ***LUCA Feedback and Appeals***

The LUCA Feedback and Appeals process consists of two subprocesses and their associated activities:

- The first subprocess is Conduct LUCA Feedback, which has one activity:
  - Provide feedback to LUCA participants
- The second subprocess is LUCA Appeals, which has two activities:
  - Support OMB in establishing the LUCA Appeals Office
  - Process the accepted LUCA appeals from OMB

### ***LUCA Closeout***

The LUCA Closeout process consists of one subprocess, Closeout LUCA, and contains two activities:

- Closeout LUCA participants
- Closeout the LUCA Operation itself

The full hierarchy of activities for the LUCA Operation is provided in Appendix C in the form of an Activity Tree. In the Activity Tree, each major operational activity area listed above is numbered and then decomposed into a numbered set of subactivities, some of which are further decomposed into more detailed numbered subactivities or steps.

For a full description of the operational subactivities that comprise the LUCA Operation, see the Detailed Process Description as outlined in Section 3 below.

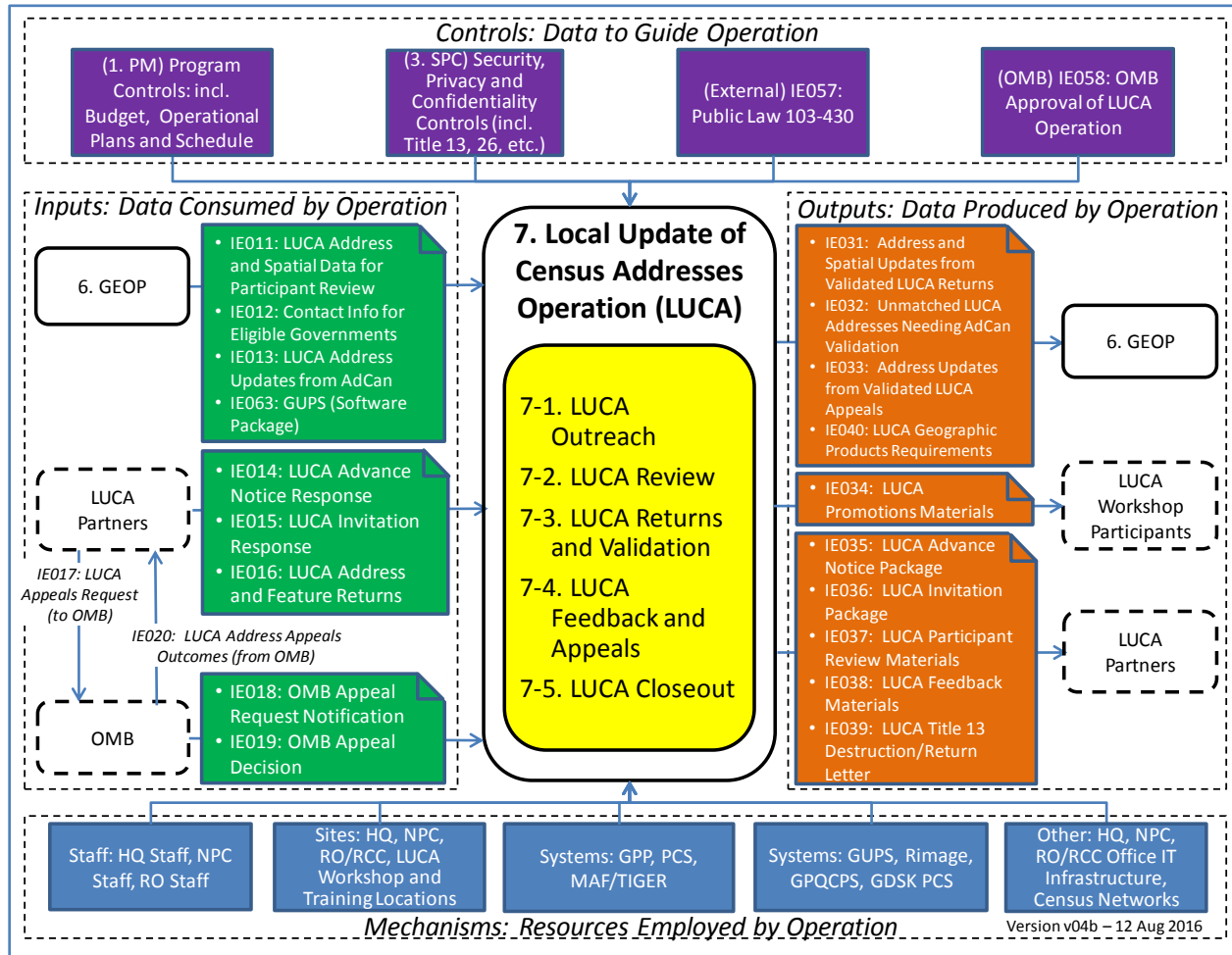
### **2.3.2 LUCA Operational Context**

The LUCA operational activities described above will be conducted within the context of other 2020 Census operations and other programs or data sources that are external to the 2020 Census. One way to depict an operational context is by using a “Context Diagram,” which shows the boundary of the operational environment, the operational activities it contains, and the information exchanged with its neighbor operations (or other entities) as well as the resources (mechanisms) needed to conduct the operational work.

Figure 1 is a top-level context diagram for the LUCA Operation represented as an Integrated Definition, Level 0 (IDEF0) Model. An IDEF0 Model of a process (or operation) shows the Inputs, Controls, Outputs and Mechanisms of the process. These IDEF0 model elements are summarized below and described further in the sections that follow.

The yellow box in the center of the IDEF0 model lists the major operational activity areas for the operation, numbered as given in the LUCA Operation Activity Tree in Appendix C. Specific Information Exchanges (IE) are shown in different colored boxes to represent the Inputs (green boxes on left side), Outputs (orange boxes on right side), Controls (purple boxes on top) and Mechanisms (blue boxes on the bottom). Boxes to the left of the Inputs indicate the Provider of the Inputs to the operation (typically another 2020 Census operation or an external source). The Provider of the Controls is noted in the box itself. Boxes to the right of the Outputs indicate the Receiver of the Outputs (typically another 2020 Census operation or external entity). Each Information Exchange has a name and a unique number for identification purposes.





**Figure 1: LUCA Context Diagram**

For the LUCA Operation, initial Inputs include address and spatial data from the MAF/TIGER System and governmental units' (GUs') contact information from the Geographic Programs Participants (GPP) database. Later in the LUCA Operation, Inputs include the returned address and spatial data from participating GUs, as well as the results of the Address Canvassing Operation for LUCA address records. At the end of the LUCA Operation, Inputs are the approved LUCA appeals received from the OMB LUCA Appeals Office.

LUCA Operation Controls include basic program controls such as budget and schedule, as well as P.L. 103-430, the law mandating that the Census Bureau conduct the LUCA Operation, and Title 13 of the U.S.C., which mandates data security, confidentiality, and stewardship practices.

Outputs for the LUCA Operation include four separate mailings to participants: the advance notice mailing in early 2017, the invitation mailing in summer 2017, the review materials mailing in early 2018, and the feedback mailing in summer 2019. Additional Outputs include promotional and training materials for LUCA partners, address records for the Address Canvassing Operation, as well as updates to the MAF/TIGER system.

Finally, LUCA Operation Mechanisms include the staff at various Census Bureau worksites, such as headquarters (HQ), regional offices (ROs), and the National Processing Center (NPC), as well as various systems and databases, such as the GPP, GUPS, Production Control System (PCS), and the MAF/TIGER system.

For detailed descriptions of the Inputs, Controls, Outputs and Mechanisms used by the LUCA Operation, see the sections that follow.

### **2.3.2.1 LUCA Operational Inputs**

Inputs are the data that are consumed by the operation. The inputs define the amount of operational work that needs to be performed.

Table 1 lists the inputs to the LUCA Operation.

**Table 1: LUCA Operational Inputs**

<b>Provider</b>	<b>Information Exchange</b>	<b>Description</b>
6. Geographic Programs Operation (GEOP)	IE011: LUCA Address and Spatial Data for Participant Review	Address and Spatial data from the MAF/TIGER System.
	IE012: Contact Info for Eligible Governments	Contact Information for LUCA Eligible Governments (State, Local and Tribal).
	IE013: LUCA Address Updates from AdCan	Address Canvassing Address updates for LUCA Addresses.

Provider	Information Exchange	Description
	IE063: GUPS (Software Package)	Geographic Update Partnership Software (GUPS) is a Census Bureau software tool that enables the collection of geographic updates from participants. The software image for GUPS is provided as an input for duplication and inclusion in materials provided to LUCA participants.
LUCA Partners	<ul style="list-style-type: none"> <li>IE014: LUCA Advance Notice Response</li> <li>IE015: LUCA Invitation Response</li> <li>IE016: LUCA Address and Feature Returns</li> </ul>	<p>Correspondence and Data from LUCA Partners including:</p> <ul style="list-style-type: none"> <li>Responses to LUCA Operational Notices</li> <li>Returns for proposed updates to Addresses and Features</li> </ul>
	IE017: LUCA Appeals Request (to OMB from LUCA Partners)	<p>Includes correspondence directly from LUCA Partners to OMB:</p> <ul style="list-style-type: none"> <li>Appeals Requests for results from LUCA Feedback Materials</li> </ul>
U.S. Office of Management and Budget (OMB)	<ul style="list-style-type: none"> <li>IE018: OMB Appeal Request Notification</li> <li>IE019: OMB Appeal Decision</li> </ul>	<p>Results of OMB Appeal Decision for submitted LUCA Appeals Requests from LUCA Partners.</p> <p>To Census:</p> <ul style="list-style-type: none"> <li>Notifications of pending OMB Appeals Requests</li> <li>Decision outcomes for OMB Appeals</li> </ul>
	IE020: LUCA Address Appeals Outcomes (from OMB to LUCA Partners)	<p>Results of OMB Appeal Decision for submitted LUCA Appeals Requests from LUCA Partners.</p> <p>To LUCA Partners:</p> <ul style="list-style-type: none"> <li>Outcomes for LUCA Partner Appeals Requests</li> </ul>

### 2.3.2.2 LUCA Operational Controls

Controls are the data that guide the behavior of the operation. They are not consumed by the operation, but rather they provide guidance, models, limits, criteria, cutoff dates, or other information that controls the way in which the operational work is performed.

Table 2 lists the controls for the LUCA Operation.

**Table 2: LUCA Operational Controls**

Provider	Information Exchange	Description
1. Program Management Operation (PM)	Program Controls	Program Control information including: <ul style="list-style-type: none"><li>• Budget</li><li>• Operational Plans and Schedule</li></ul>
3. Security, Privacy, and Confidentiality Operation (SPC)	Security, Privacy and Confidentiality Controls	Laws, policies, regulations, and guidelines related to physical security, IT security, data security and privacy and confidentiality impacts, analyses, and processes. These include but are not limited to Title 13, Title 26, and other laws and policies related to protection of personally identifiable information.
External	IE057: Public Law 103-430	Laws governing LUCA activities.
OMB	IE058: OMB Approval of LUCA Operation	Approval of LUCA Operation as provided by OMB.

### 2.3.2.3 LUCA Operational Outputs

Outputs are the data produced by the operation. The outputs constitute the results of operational work that has been performed. Outputs produced may be used as inputs or controls to other operations.

Table 3 lists the outputs from the LUCA Operation.

**Table 3: LUCA Operational Outputs**

Consumer	Information Exchange	Description
6. Geographic Programs Operation (GEOP)	<ul style="list-style-type: none"><li>• IE031: Address and Spatial Updates from Validated LUCA Returns</li><li>• IE032: Unmatched LUCA Addresses Needing AdCan Validation</li><li>• IE033: Address Updates from Validated LUCA Appeals</li><li>• IE040: LUCA Geographic Products Requirements</li></ul>	Geographic Data outputs including: <ul style="list-style-type: none"><li>• Updates from LUCA In-Office Validation activities</li><li>• Unvalidated Addresses for resolution during Address Canvassing</li><li>• Address updates resulting from OMB Appeal decisions regarding LUCA Appeals</li><li>• Requirements for the Geographic Products created for use during LUCA.</li></ul>
LUCA Workshop Participants	IE034: LUCA Promotions Materials	Materials to be shared with LUCA Workshop participants during the LUCA Outreach activities.

Consumer	Information Exchange	Description
LUCA Partners	<ul style="list-style-type: none"> <li>• IE035: LUCA Advance Notice Package</li> <li>• IE036: LUCA Invitation Package</li> <li>• IE037: LUCA Participant Review Materials</li> <li>• IE038: LUCA Feedback Materials</li> <li>• IE039: LUCA Title 13 Destruction/Return Letter</li> </ul>	<p>Correspondence and Data sent to LUCA Partners including:</p> <ul style="list-style-type: none"> <li>• LUCA Operational Notices</li> <li>• Addresses and Feature data for LUCA Partner review and feedback.</li> </ul>

### 2.3.2.4 LUCA Operational Mechanisms

Mechanisms are the resources (persons, places and things) that are used to perform the operational processes. They include Staff Resources, Infrastructure Sites, and Systems and other Technology Infrastructure.

#### *Staff Resources*

Table 4 identifies the Staff Resources employed for the LUCA Operation.

**Table 4: Staff Resources used within LUCA Operational Activities**

Staff Resources	Description/Role
HQ Staff	HQ Staff to manage LUCA Operation and coordinate activities with NPC and LUCA Partners. Includes participation by Geography Division (GEO) staff and DCMD staff.
NPC Staff	NPC Staff to conduct and manage LUCA In-Office Validation activities.
RO Staff	RO Staff to support interaction with LUCA Partners.

### ***Infrastructure Sites***

Table 5 identifies the Infrastructure Sites employed for the LUCA Operation.

**Table 5: Infrastructure Sites for LUCA Operational Activities**

<b>Infrastructure Site</b>	<b>Description/Role</b>
HQ	HQ Site for Office Work.
NPC	NPC Site for: <ul style="list-style-type: none"><li>• Printing, assembling, and shipping LUCA materials</li><li>• Receiving LUCA returns</li><li>• Processing LUCA feature updates</li><li>• Keying paper address lists</li><li>• Preprocessing LUCA address updates</li><li>• Answering calls via the Geographic Programs Support Desk</li><li>• In-Office Address Canvassing</li></ul>
RO/RCC	RO Site for staff supporting LUCA Partner interaction until staff is transitioned to the Regional Census Center (RCC).
LUCA Workshop and Training Locations	LUCA Workshop and Training Locations for Outreach and Training activities, which are not Census Bureau facilities.

### ***Systems and other Technology Infrastructure***

Table 6 identifies the Systems employed for the LUCA Operation.

**Table 6: Systems used within LUCA Operational Activities**

<b>System</b>	<b>Description</b>
Geographic Program Participant (GPP) Database	A Census Bureau database that records information about contact information for governmental units.

System	Description
Production Control System (PCS)	A Census Bureau system to control and monitor the workflow and progress of materials for program participants. The system will have the same look and feel for all Geographic Partnership Programs.
MAF/TIGER System	A Census Bureau system that provides address and spatial data products for participants and a mechanism for applying updates made by participants.
Geographic Update Participant System (GUPS)	<p>A Census Bureau software tool that enables the collection of geographic updates from participants.</p> <p>Geographic Update Partnership Software (GUPS) is provided to the LUCA participants and used to update the LUCA address and spatial data provided for participant review. GUPS allows participants to produce update submission files that are returned to the Census Bureau. GUPS is designed for all levels of user and has customized tools for each update program or project that uses it.</p>
Rimage Disk Publishing	Produces CD/DVD disks.
Geographic Programs Quality Control and Plotting System (GPQCPS)	System used for paper map production and quality control.
Geographic Disk Production Control System (GDSK PCS)	CD creation control system.

Other Technology Infrastructure employed for the LUCA Operation includes:

- HQ, NPC and RO/RCC Office IT Infrastructure for conducting LUCA operational work.
- Census Bureau Network connectivity for data transmission between operational systems and operational sites.



## **2.4 LUCA Data Flow and Operational Influences**

The LUCA Operation will take address and spatial data from the MAF/TIGER system and feed data into decennial operations. Figure 2 depicts the flow of information between other operations and the major activities of the LUCA Operation.

The LUCA Operation will happen early in the decennial census cycle to help define the address universe that will be used in the decennial census. The Census Bureau staff will use relevant address and spatial data from the ongoing GSS, Demographic Area Address Listing (DAAL), MAF Coverage Study, and semiannual United States Postal Service (USPS) Delivery Sequence File (DSF) to update the MAF/TIGER system. The Census Bureau staff will also use data from the MAF/TIGER system to create LUCA address and spatial products.

When LUCA participants return their submissions to the Census Bureau, Census Bureau staff will attempt to validate each address record. Some addresses will be validated during LUCA address matching and accepted directly into the 2020 Census Enumeration Universe. Similarly, some addresses will be rejected during LUCA address matching and excluded from the 2020 Census Enumeration Universe. Addresses that are neither accepted nor rejected during LUCA address matching will be validated during the In-Office Address Canvassing.

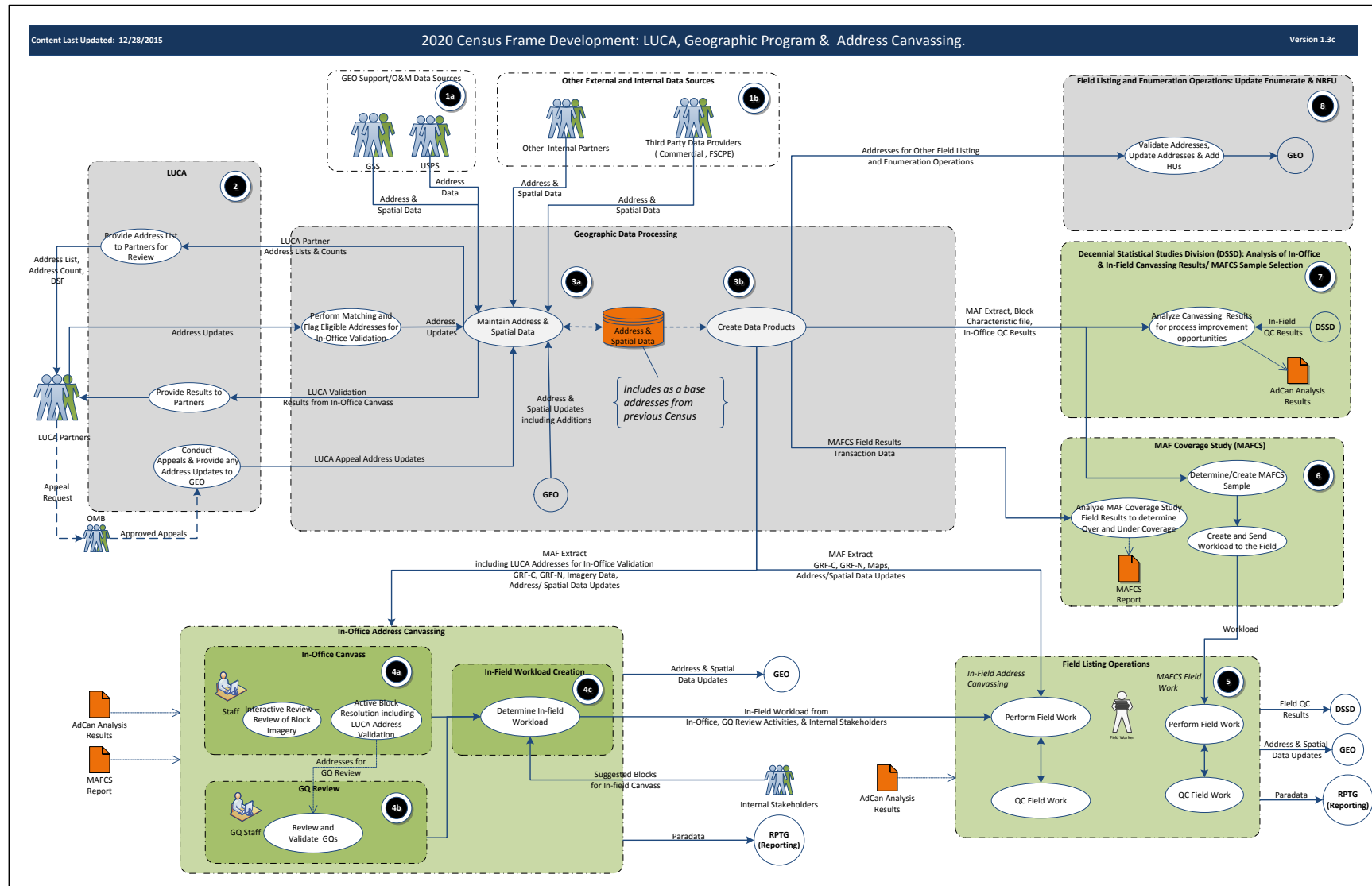


Figure 2: 2020 Census Frame Development - Integrated Operations Diagram (IOD)

## **2.5 LUCA Design Assumptions**

The design of the LUCA Operation is based on the following assumptions:

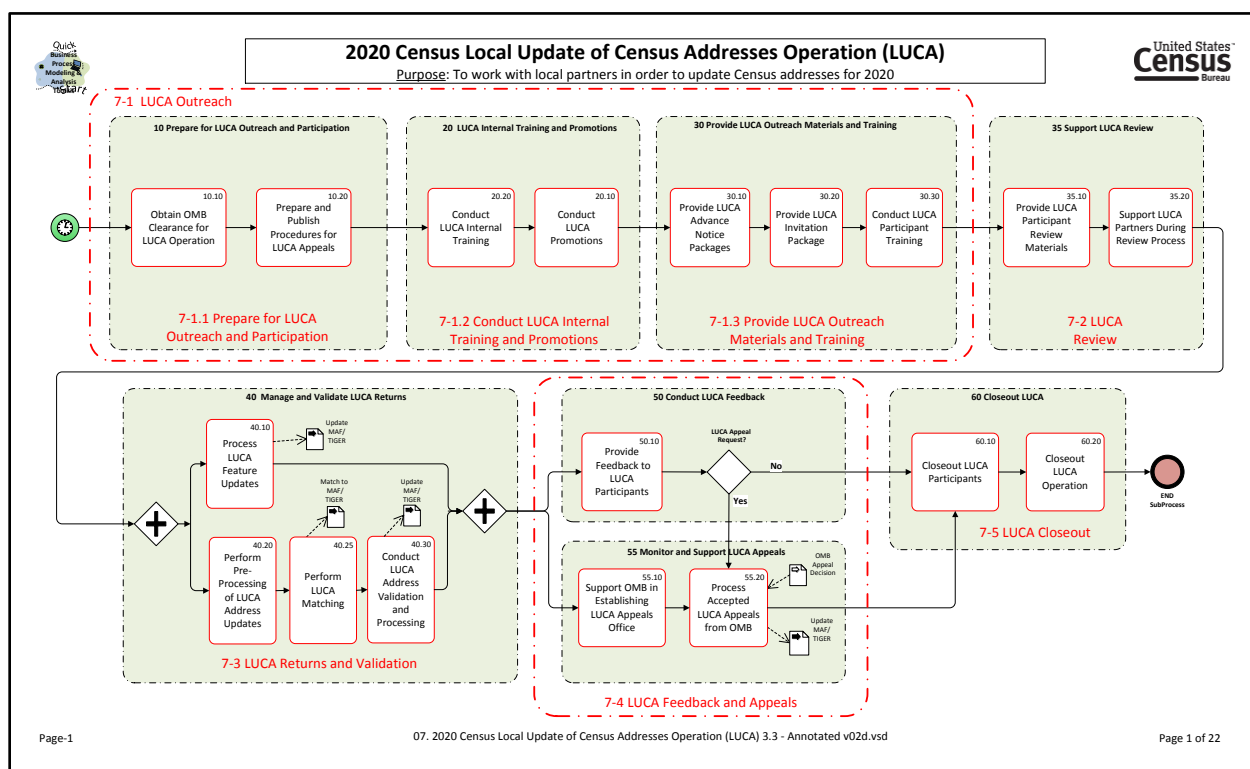
- The LUCA Integrated Project Team (IPT) will be responsible for all requirements for the LUCA Operation PCS, workflow control system, and the GPP.
- The Decennial System Engineering and Integration (SE&I) will provide capability requirements to solution providers for the LUCA Operation PCS, workflow control system, and the GPP.
- The LUCA IPT will develop requirements for the address and spatial materials for the LUCA Operation.
- The Geography Division (GEO) will develop the address and spatial materials for the LUCA Operation.
- Decennial Information Technology Division (DITD) and GEO will be responsible for all programming of the address and spatial materials for the LUCA Operation.
- The GUPS will be available for LUCA participants.
- In-Office Address Canvassing will be used to validate LUCA submitted addresses.
- All necessary and required systems will be tested and operational.
- An office-based LUCA participant submitted address validation process will be developed, tested, and fully staffed.
- A Full Address List Review will be the primary method for participation in the Title 13 LUCA Operation.
- The 2020 Census LUCA materials will include structure point coordinates, ungeocoded DSF addresses for state and county participants, and provide participants the ability to identify E-911 addresses.
- The block count address challenge will be eliminated from the LUCA Operation.
- The GSS tools and data will be utilized to validate LUCA participant submitted addresses.
- Adequate staff and resources will be available for all phases and steps of the operation for the duration of the LUCA Operation.
- The USPS will be the delivery method of all LUCA correspondence and materials to LUCA participants.

- Governments in remote Maine and remote Alaska will be eligible to participate in the LUCA Operation (they were not eligible for previous LUCA Operations).
- The Census Bureau will unduplicate records in the MAF before creating LUCA Address Products in November 2017.
- In January 2017, the Census Bureau will provide all potential LUCA Operation participants with Address Count Lists for their jurisdiction, as well as a public geocoding tool, to assess their need to participate in the LUCA Operation.

### 3. LUCA Detailed Process Description

Figure 3 is a top-level Business Process Model (BPM) showing the Level 1 activity areas within the LUCA Operation. BPMs for the 2020 Census follow industry-standard Business Process Model and Notation (BPMN). Refer to Appendix D for an explanation of how to read the BPMN notations and a copy of all of the BPMN diagrams for this operation.

This top-level BPM serves as the Context Model for the LUCA Operation. A BPMN Context Model displays the high-level activities within the operation and relationships between them, whereas the IDEF0 Context Diagram shown earlier depicts the boundaries of the operation or activity and the interfaces between the operation or activity and other operations and activities with which it is associated.



**Figure 3: LUCA Operation Context Model**

The LUCA Operation is subdivided into the following Activity Areas.

- LUCA Outreach [LUCA 7-1]
- LUCA Review [LUCA 7-2]
- LUCA Returns and Validation [LUCA 7-3]
- LUCA Feedback and Appeals [LUCA 7-4]

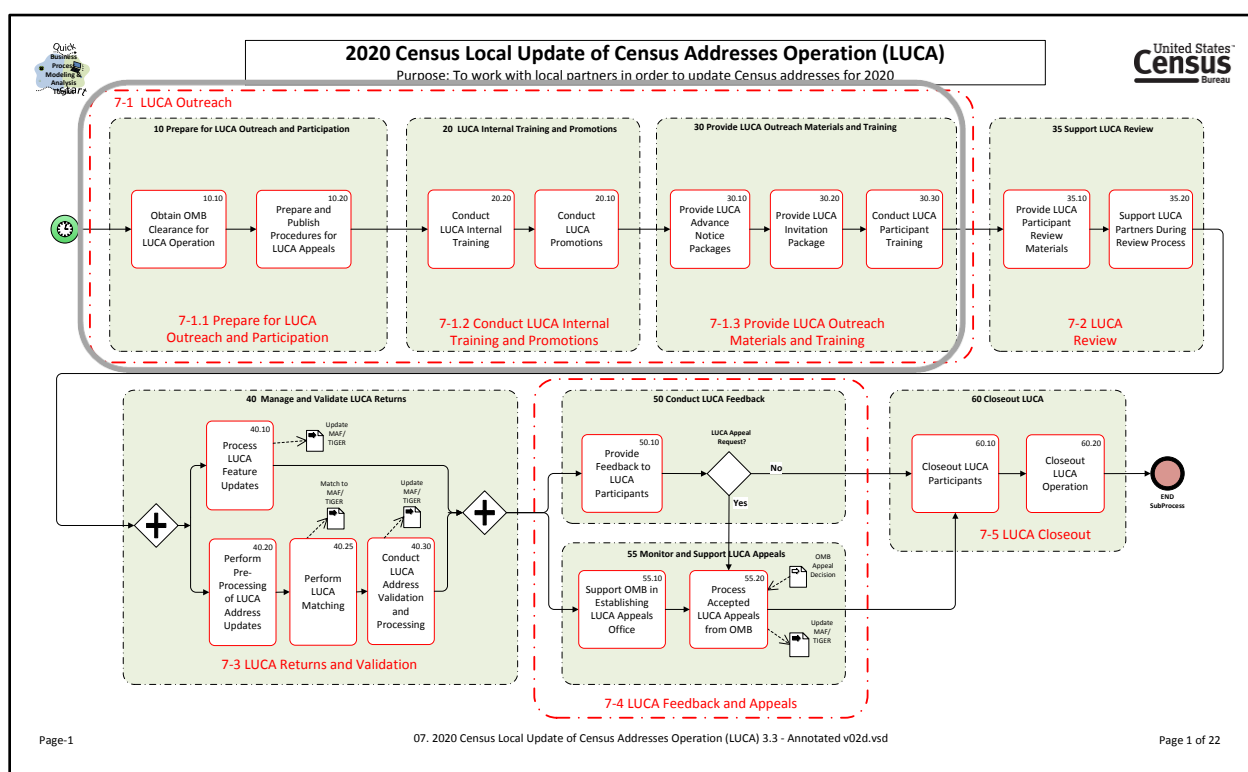
- LUCA Closeout [LUCA 7-5]

The business processes for each of these Level 1 activities are discussed along with their inputs and outputs in the following subsections.

### 3.1 LUCA Outreach [LUCA 7-1]

The first LUCA activity is LUCA Outreach. Broadly, LUCA Outreach includes having Census Bureau staff prepare for LUCA outreach and participation, and then conducting LUCA outreach.

Figure 4 shows the BPM for the LUCA Outreach [LUCA 7-1] activity (area within the shaded Gray Rounded Rectangle) and its activities within the overall context of the LUCA Operation.



**Figure 4: LUCA Outreach [LUCA 7-1] Activities**

The LUCA Outreach operational activity is subdivided into the following Activity Areas.

- LUCA Outreach [LUCA 7-1]
  - Prepare for LUCA Outreach and Participation [LUCA 7-1.1]
  - Conduct LUCA Internal Training and Promotions [LUCA 7-1.2]
  - Provide LUCA Outreach Materials and Training [LUCA 7-1.3]

Preparing for LUCA Outreach and Participation includes completing the OMB clearance process, as well as creating forms, letters, promotional materials, and procedural documents. Census Bureau staff will conduct LUCA promotions and internal training sessions for staff who will field questions from LUCA participants and who will help to process LUCA returns. Once these steps are completed, the Census Bureau will ship materials to potential LUCA participants and will provide training sessions for registered LUCA participants.

Subsequent sections describe the LUCA Outreach operational sub-activities in detail.

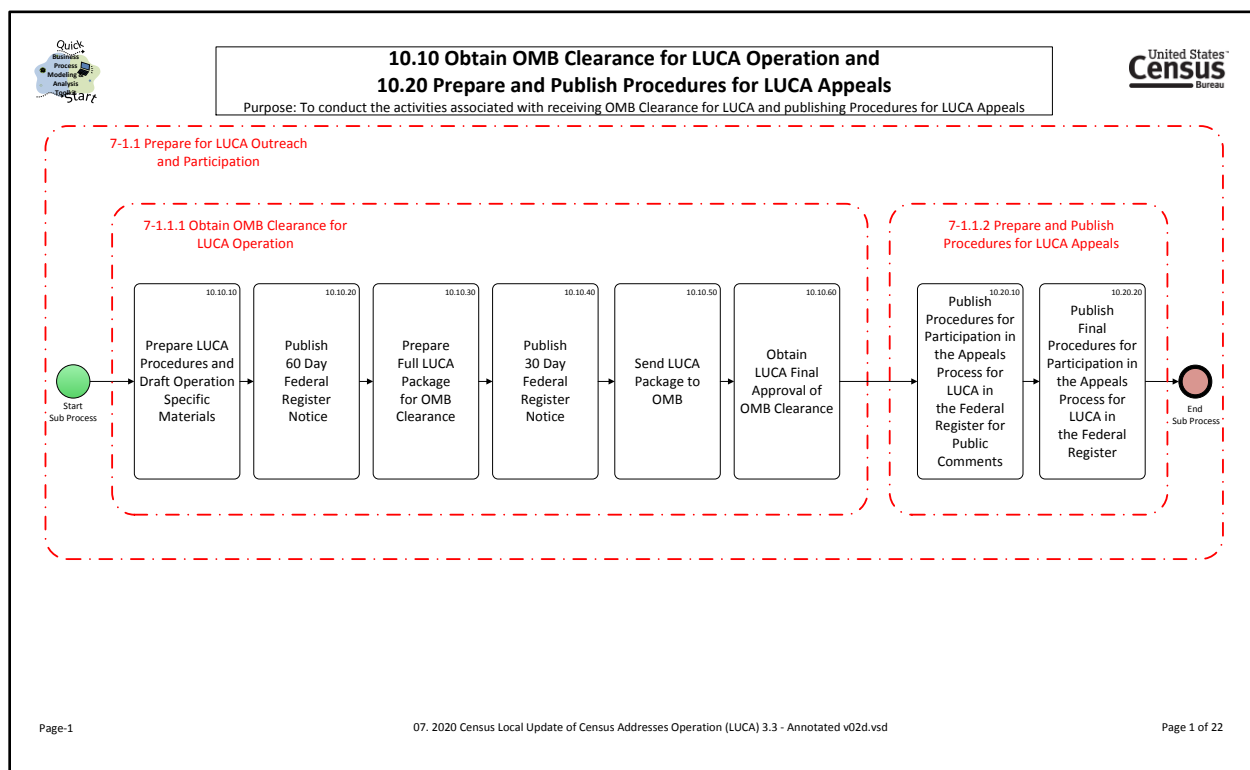
### **3.1.1 Prepare for LUCA Outreach and Participation [LUCA 7-1.1]**

The information to be collected in the LUCA Operation is essential to the mission of the Census Bureau and will directly contribute to the successful outcome of the 2020 Census. In order to ensure that the LUCA Operation is a success, the Census Bureau will prepare for LUCA outreach and participation by ensuring the many components of the LUCA Operation meet specifications and adhere to the scheduled time frame.

The “Prepare for LUCA Outreach and Participation” operational sub-activity is subdivided into the following Activity Areas.

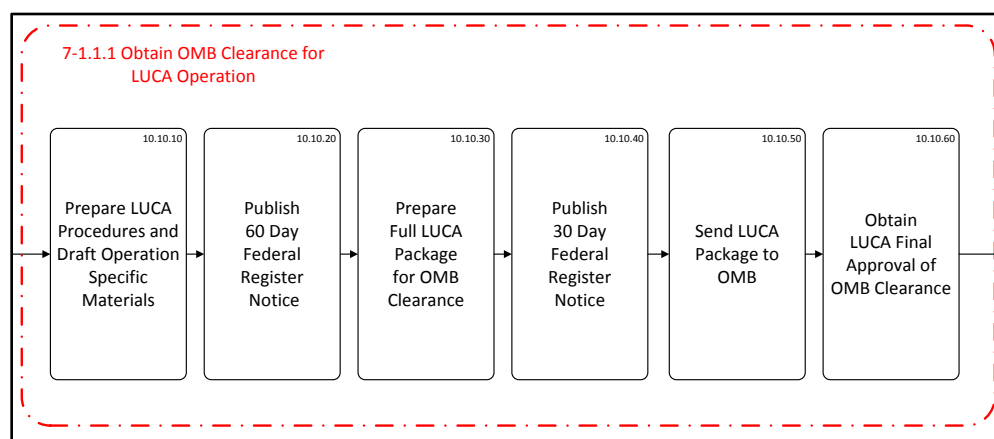
- Prepare for LUCA Outreach and Participation [LUCA 7-1.1]
  - Obtain OMB Clearance for LUCA Operation [LUCA 7-1.1.1]
  - Prepare and Publish Procedures for LUCA [LUCA 7-1.1.2]

A detailed view of the activities that make up the “Prepare for LUCA Outreach and Participation” operational sub-activity is given in Figure 5, Figure 6, and Figure 7 below.



**Figure 5: Prepare for LUCA Outreach and Participation**

### 3.1.1.1 Obtain OMB Clearance for LUCA Operation [LUCA 7-1.1.1]



**Figure 6: Obtain OMB Clearance for LUCA Operation**

In late 2015, the Census Bureau initiated the process to acquire OMB approval for the 2020 LUCA Operation. The Census staff began developing the LUCA procedures and the program specific materials for the LUCA Operation. The LUCA Operation consists of three user guides:



- A user guide with instructions for updating the LUCA digital or paper address lists and digital or paper maps;
- The GUPS user guide for those participants who choose to update their LUCA addresses and shapefiles using the Census Bureau's self-contained GIS update and processing package; and
- A Spanish version of the user guide for governments in Puerto Rico.

In addition, the program specific materials will be developed for the Advanced Notice Materials and for the Invitation Materials as described below:

- **Advance Notice Materials**

The Census Bureau staff will write the LUCA Advance Notice Letter outlining the importance of the LUCA Operation; the LUCA information booklet that provides an overview of the LUCA Operation; and the contact information update form that shows the contact information the Census Bureau currently has on file for the highest elected officials (HEOs) and other government staff. If there are updates to the form, the HEOs and other government contacts are instructed to update the form and return it to the Census Bureau. Accurate contact names and addresses are essential in order for the Census Bureau to convey timely information to the governments regarding Census Bureau programs.

Once the advance notice materials are approved, the Census Bureau staff will contact the Administrative and Customer Services Division (ACSD) for the formatting and printing of the materials. During this same time frame, the Census Bureau staff must write the promotional participant workbooks and instructor guides. The Census Bureau staff will ensure that the participant workbooks are not excessively detailed. After the promotional materials are printed, NPC will mail the materials to the ROs for promotional workshops.

In addition to the Advance Notice Letter, the LUCA information booklet, promotional participant workbooks and instructor guides, the Census Bureau will provide tools for potential LUCA partners at the Advance Notice stage. These tools will include an Address Count List for each GU, as well as a public geocoding tool. Potential LUCA partners can load their own residential address list into the Census Bureau's geocoding tool to generate a count of residential addresses by block and compare it to the Census Bureau's count of residential addresses by block. This will allow potential LUCA partners to see where the Census Bureau's residential address count differs from their own and to assess their need to participate in the LUCA Operation.

- **Invitation Materials**

The Census Bureau will finalize the invitation letter and registration materials that will be sent to the HEOs of eligible governments, formally inviting them to participate in the LUCA Operation. In addition to the invitation letter and the various registration forms, the invitation package includes a computer-based training CD/DVD, and a sample GUPS CD/DVD (the Census Bureau's Geographic Update Partnership Software), to familiarize the governments with the LUCA Operation, the operation materials, and how to make address and feature updates. The eligible governments will be instructed to return the registration materials, indicating whether or not they are participating in the LUCA Operation.

Once the invitation materials are approved, the Census Bureau staff will contact the ACSD for the formatting and printing of the materials. During this same period, the Census Bureau staff must write, and contract for printing, the technical training participant workbook and instructor's guide. Census Bureau staff will ensure that the training materials workbooks are not excessively detailed, and equally cover both the paper and digital formats. After the materials have been printed, the contracted printer will mail the materials to the ROs so they have them available for the training workshops.

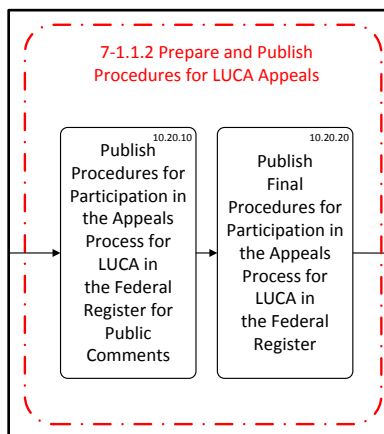
The Census Bureau must provide an abstract of the LUCA Operation to the OMB for publication in the Federal Register Notice. The Federal Register Notice will provide an overview of the LUCA Operation and offers the public an opportunity to comment. The LUCA Federal Register Notice will be posted to solicit public comment for 60 days. After the 60-day comment period has ended, the Census Bureau will consider the public comments that have been submitted and make any revisions the Census Bureau believes are necessary or desirable.

The OMB full Clearance Package is prepared by the Census Bureau staff. The OMB Clearance Package is the set of LUCA forms and other required documents sent to OMB for approval.

Another Federal Register Notice will offer an additional 30-day comment period.

When all final changes and corrections to the LUCA OMB package are completed, the LUCA OMB package is sent for final approval to OMB. Finally, the Census Bureau will receive final approval of OMB Clearance.

### 3.1.1.2 Prepare and Publish Procedures for LUCA Appeals [LUCA 7-1.1.2]



**Figure 7: Prepare and Publish Procedures for LUCA Appeals**

By August 2019, the LUCA OMB Appeals Office will prepare and publish the appeal procedures for the LUCA Operation. A separate Spanish version of the appeal procedures will be provided for participants in Puerto Rico.

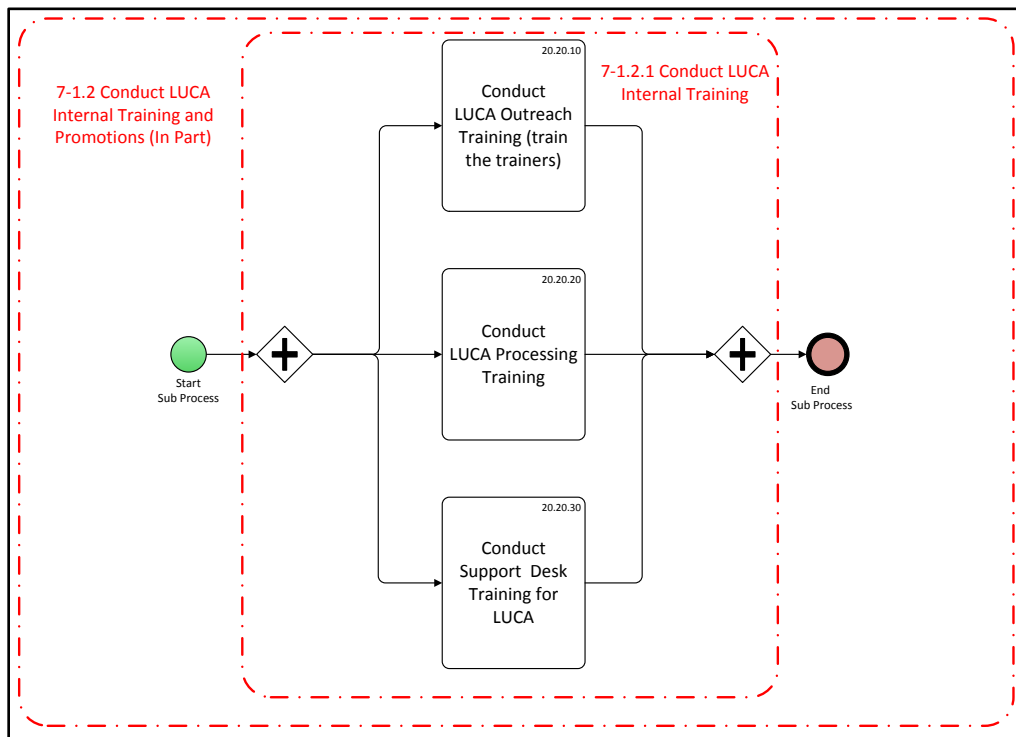
### 3.1.2 Conduct LUCA Internal Training and Promotions [LUCA 7-1.2]

The “Conduct LUCA Internal Training and Promotions” operational subactivity is subdivided into the following activity areas.

- Conduct LUCA Internal Training and Promotions [LUCA 7-1.2]
  - Conduct LUCA Internal Training [LUCA 7-1.2.1]
  - Conduct LUCA Promotions [LUCA 7-1.2.2]

A detailed view of the activities that make up the “Conduct LUCA Internal Training and Promotions” operational sub-activity is given in [Figure 8](#) and [Figure 9](#) below.

### 3.1.2.1 Conduct LUCA Internal Training [LUCA 7-1.2.1]



**Figure 8: Conduct LUCA Internal Training**

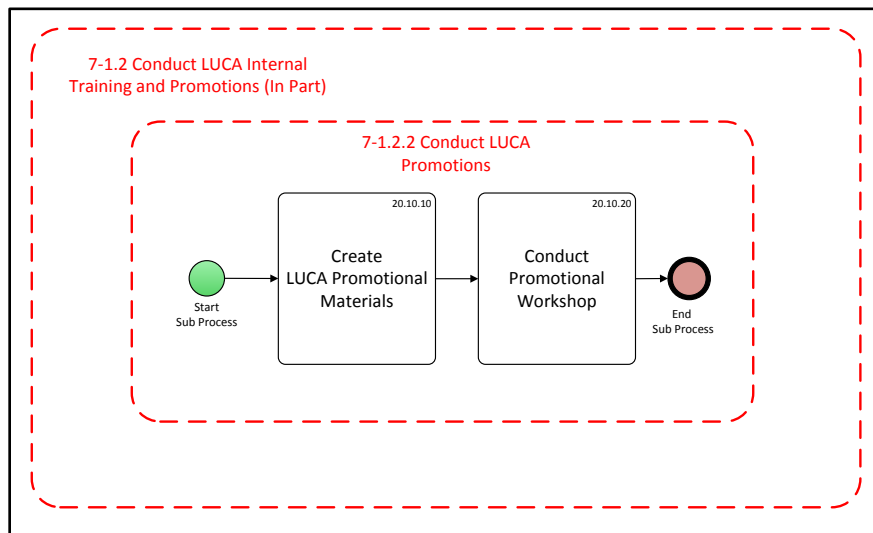
#### **Advance Notice Promotional Training for the ROs**

Before the RO workshops, the Census Bureau staff will conduct “train the trainer” sessions with the RO staff in order to review the instructor and participant workbooks and discuss any questions the ROs may have concerning the workbooks and promotional training. The Census Bureau staff may conduct the RO “train the trainer” sessions in person, by videoconferencing, or through WebEx.

#### **Invitation/Registration Technical Training for the ROs**

Before the technical training workshop sessions, the Census Bureau staff will conduct “train the trainer” sessions with the RO staff in order to review the instructor and participant workbooks and discuss any questions the ROs may have concerning the workbooks and the technical training. The Census Bureau staff may conduct the RO “train the trainer” sessions in person, or by videoconferencing, or WebEx.

### 3.1.2.2 Conduct LUCA Promotions [LUCA 7-1.2.2]



**Figure 9: Conduct LUCA Promotions**

#### **Advance Notification Promotional Workshop**

After the LUCA Advance Notification packages are mailed, the Census Bureau will offer promotional workshop sessions to governments interested in participating in the LUCA Operation. The promotional workshops may be held at a meeting site convenient for the eligible participants, by videoconferencing, or by a webinar on the Internet. The workshops cover the LUCA review schedule and explain the purpose and importance of the LUCA Operation. The information provided by the promotional workshops may help a government decide whether they have the time and resources to participate in the operation. If a government determines they do not have the time or resources, the Census Bureau will inform the governments that some state data centers and regional planning commissions may be interested in conducting their LUCA review on their behalf.

#### **Invitation/Registration Training**

Following the Census Bureau's receipt of the registration materials and update of the GPP and PCS, the Census Bureau will offer LUCA technical training workshops to governments interested in participating in the LUCA Operation. The technical training workshops may be held at a meeting site convenient for the registered participants, by videoconferencing, or by a webinar on the Internet. The training workshops will provide the participants with detailed instructions and examples on how to review/update, and return their LUCA submissions to the Census Bureau.

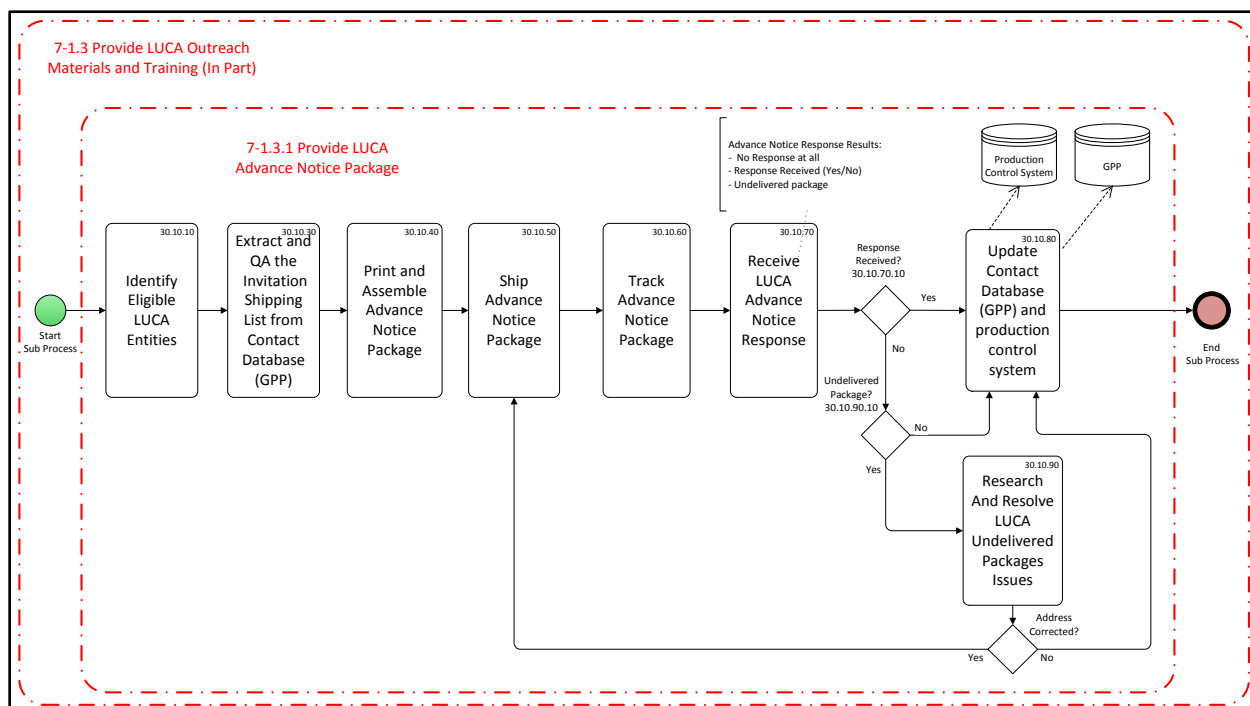
### 3.1.3 Provide LUCA Outreach Materials and Training [LUCA 7-1.3]

The “Provide LUCA Outreach Materials and Training” operational subactivity is subdivided into the following Activity Areas.

- Provide LUCA Outreach Materials and Training [LUCA 7-1.3]
  - Provide LUCA Advance Notice Package [LUCA 7-1.3.1]
  - Provide LUCA Invitation Package [LUCA 7-1.3.2]
  - Conduct LUCA Participant Training [LUCA 7-1.3.3]

A detailed view of the activities that make up the “Provide LUCA Outreach Materials and Training” operational subactivity is given in [Figure 10](#), [Figure 11](#), and [Figure 12](#) below.

#### 3.1.3.1 Provide LUCA Advance Notice Package [LUCA 7-1.3.1]



**Figure 10: Provide LUCA Advance Notice Package**

In early 2017, the Census Bureau staff will coordinate with the NPC to send an Advance Notice package to approximately 39,000 state, local, and tribal governments. This package will inform the HEO and selected GU officials of the upcoming LUCA Operation. These GU officials will include the Boundary and Annexation Survey (BAS) and/or previous LUCA contacts in the LUCA Operation universe. The Advance Notice package will also explain the LUCA Operation

to those officials and provide them an opportunity to inform the Census Bureau of HEO changes and other contact information updates.

The Advance Notice Mailing operation consists of two waves. There will be an initial mailing to all 39,000 active GUs and later a supplemental mailing to all GUs that did not respond to the initial mailing. The initial mailing package consists of:

(The following materials are in English except for Puerto Rico GUs, which are in Spanish)

- One of these letters announcing the LUCA Operation
  - Letter to State HEOs
  - Letter to tribal and local GU HEOs and CCs
  - Letter to Regional Planning Agencies, Councils of Governments (COG), and similar interested parties
- An HEO Information Update Form allowing the GU to provide contact information
- A Contact Information Update Form allowing the GU to provide contact information
- A flyer explaining the LUCA Operation
- An Address Count List showing the number of housing units and group quarters in every Census block in the GU
- A postage paid return envelope

All letters, the Address Count List, and Contact Information Update Forms will have individualized information printed on them. The two information sheets will be generic pieces printed by NPC, which is responsible for storing the flyers until the assembly of the Advance Notice Mailing packages. Several months later, the NPC will reship the Advance Mailing package to any GUs that have not yet responded.

To facilitate the creation and shipment of both packages, the Census Bureau staff will generate production files for all printed materials and extracts for each mailing. The extracts will contain entity names and codes, HEO and contact names and mailing information, and codes denoting which letter and Contact Information Update Form to print for each GU. The Census Bureau staff will place the extract files and the files for the printed materials on a server accessible to the NPC. The Census Bureau staff will notify the NPC of the server name, the location of the materials, the directory structure, and the naming conventions. In addition, the Census Bureau staff will provide specific instructions to the NPC regarding any overprinting.

The NPC will use these files to determine which materials each GU will receive, print the materials, assemble them into a complete package, and ship the package. The NPC will conduct

a Quality Control process at each step of the operation. After shipment, the NPC will enter the appropriate information into the PCS.

### ***Printing Materials***

Before both printing dates, the Census Bureau staff will provide the NPC with product dimensions and paper/envelope needs for the shipments. The printing information will be provided in time to allow the NPC to acquire the needed supplies. The NPC will be responsible for acquiring these supplies.

Two weeks before the initial print date, the Census Bureau staff will provide the NPC with a test address file and sample Contact Information Update Form to test the printing. The NPC will print the test files and provide the results to the Census Bureau staff. Upon approval of the test run, the Census Bureau staff will deliver the actual production version of the address file and the LUCA Advance Notice letters, Address Count List, and Contact Information Update Form files.

Approximately two months after the initial mailing, the Census Bureau staff will provide the NPC with a test address file and sample materials to test the printing of a follow-up shipment. The NPC will print the test files and provide the results to the Census Bureau staff. Upon approval of the test run, the Census Bureau staff will deliver to the NPC a second extract file that contains the names and addresses for the HEOs and LUCA contacts that have not returned a Contact Information Update Form. This extract will include codes for each record in the file to indicate the appropriate Advance Notice Mailing materials.

Once the Census Bureau staff approves the test materials, the NPC will print all the materials in such a way as to print as many of a GU's materials together and save assembly time. In addition, during printing the NPC will use the forms and procedures supplied by the Census Bureau staff to check the printed materials to ensure that the print quality is consistently good and that all information is on each page. After finishing printing, the NPC will assemble the materials into the finished package.

### ***Assembling Materials***

For both mailings, the NPC will move the collated printed materials—the letter, the Address Count List and the Contact Information Update Forms—to the assembly area. The NPC will use the procedures and forms sent by the Census Bureau staff to determine the appropriate flyer (English or Spanish), and insert that and the postage paid return envelope along with the collated materials into the outgoing envelope.

Prior to sealing and shipping, the NPC must inspect a sample of the outgoing LUCA Operation advance notice mailing packages to ensure that the packages contain the appropriate materials.

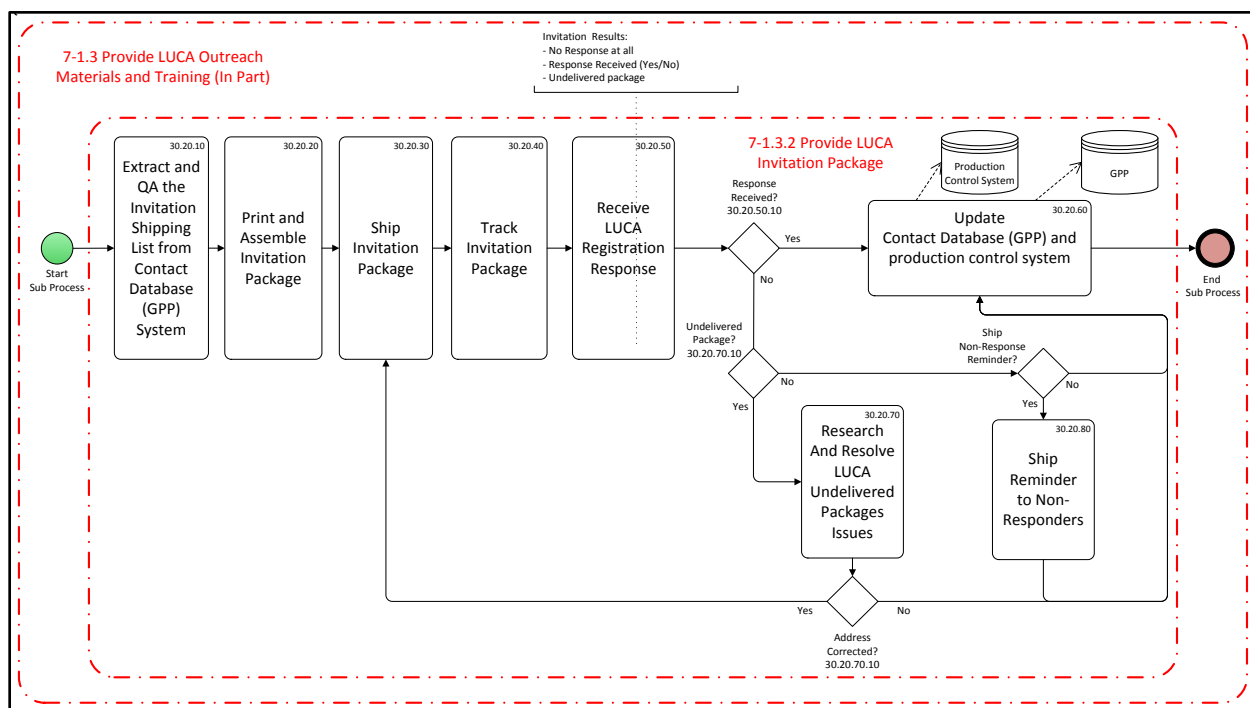


## Shipping Materials

At shipping, the NPC will use an extract provided by the Census Bureau staff to generate mailing labels. The NPC will attach the labels to the appropriate package. The NPC will inspect a sample of the outgoing LUCA Operation Advance Notice Mailing packages to ensure that the LUCA recipient receives the appropriate notification letter, Address Count List, Contact Information Update Forms, and return envelope.

The NPC will then seal and ship the packages. The NPC must ship all packages within 24 hours of packaging. Staff at the NPC will enter the date shipped into the PCS. The NPC will maintain a report/spreadsheet of all undeliverable packages and provide the report to the GEO Address Data Collection and Products Branch (ADCPB) weekly. For each undeliverable mailing piece in the report, the NPC will include the GU name, variable 12 digit GU code, date returned, reason for the return, and a tally of the total number of undeliverable packages.

### 3.1.3.2 Provide LUCA Invitation Package [LUCA 7-1.3.2]



**Figure 11: Provide LUCA Invitation Package**

In the summer of 2017, the Census Bureau staff will coordinate with the NPC to send a LUCA Operation Invitation package to approximately 39,000 state, local, and tribal governments. This package will explain the LUCA Operation to the GU and inform the HEO and selected interested parties of the beginning of the LUCA Operation registration period. It will also invite the GU to

participate in the LUCA Operation and allow the HEO to fill out the registration forms for the LUCA Operation.

The operation consists of four waves:

- The initial invitation shipment to all active GUs
- A reminder letter
- A reminder postcard
- A closeout letter

In the summer of 2017, the initial shipment will go to the HEO and selected interested parties of all 39,000 active GUs. The content of the invitation packages will vary depending on the title of the person receiving it (only the HEO will receive the registration form and other registration materials). Puerto Rico GUs will receive Spanish letters and forms. All other GUs will receive English letters and forms. However, each individual will get the same package for both shipments. The package consists of some combination of the following:

- One of these letters inviting GUs to participate in the LUCA Operation
  - Invitation letter to local and tribal HEOs and Courtesy Copy (CCs)
  - Invitation letter to state governors and CCs
  - Invitation announcement to planning agencies, Council of Governments (COG), State Data Centers (SDC), Federal-State Cooperative Program for Population Estimates (FSCPE) etc. that their member governments have been invited to participate in the LUCA Operation.
- Registration form for HEOs only (This will be in either English, for most GUs, or in Spanish, for Puerto Rico GUs.)
- Product Preference Form for local and tribal HEOs. This allows local and tribal HEOs to select the media for their materials (either the GUPS, digital or paper maps, digital or paper (if the GU has 6,000 or fewer addresses) address lists). State HEOs get a separate form
- GIS Preference/County Selection Form to State HEOs only. This allows state HEOs to select either GUPS or digital and address lists
- Confidentiality and Security Guidelines to HEOs only
- Confidentiality Agreement Form to HEOs only
- Self-Assessment Security Checklist to HEOs only

- Flyer with a brief overview of the LUCA Operation
- LUCA Operation computer based training CD/DVD (These will be created by a contractor and shipped to the NPC.)
- “Reason Why Not Participating” checklist
- Prepaid Return Shipping container

All letters and forms will have individualized information printed on them. The Confidentiality and Security Guidelines are generic. The booklet and the training CD/DVD will be generic pieces printed by and shipped by NPC, which is responsible for storing them until the assembly of the LUCA Invitation Mailing packages.

In September 2017, the NPC will ship a first reminder letter to the HEO and selected CCs of all GUs that did not respond to the initial mailing. The second reminder letter will be sent from NPC to all GUs that have not yet responded in November 2017.

The fourth shipment will be a closeout letter sent to HEOs and CCs of all non-responding GUs, notifying them that they have little time left to register for the LUCA Operation. If they do not respond by the registration cutoff date, the Census Bureau will consider them closed out of the LUCA Operation and will not create LUCA address or spatial data for their GU.

To facilitate the creation and shipment of all packages, the Census Bureau staff will generate production files for all printed materials and extracts for each mailing. The extracts will contain GU names and codes, HEO and contact names and shipment information, and codes denoting which letter and other materials to print for each GU.

The Census Bureau staff will place the extract files and the files for the printed materials on a server accessible to the NPC. The Census Bureau staff will notify the NPC of the server name, the location of the materials, the directory structure, and the naming conventions. In addition, the Census Bureau staff will provide specific instructions to the NPC regarding any overprinting. The NPC will use these files to determine which materials each GU will receive, print the materials, assemble them into a complete package and ship the package. The NPC will conduct a Quality Assurance process at each step of the operation. After shipment, the NPC will enter the appropriate information into the PCS.

### ***Printing Materials***

Before all printing dates, the Census Bureau staff will provide the NPC with product dimensions and paper, envelope and other needs for shipment. The Census Bureau staff will provide this

information in time to allow the NPC to acquire the needed supplies. The NPC will be responsible for acquiring these supplies.

The Census Bureau staff will provide to the NPC a test address file, a written sample, and digital materials to test the printing. After the NPC conducts the test and Census Bureau staff approves, the Census Bureau staff will deliver the actual production version of the address file and the LUCA Operation Invitation printed materials. The NPC will print all the materials in such a way as to print as many of a GU's materials together and so save assembly time. The Census Bureau staff and NPC will follow this procedure for all mailings.

In addition, during printing the NPC will use the forms and procedures supplied by the Census Bureau staff to check a specified percentage of the printed materials to ensure that print quality is consistently good and that all required information is on each page. After finishing printing, the NPC will assemble the materials into the finished package.

### ***Assembling Materials***

For all shipments, the NPC will move the collated printed materials and the stored CD/DVDs to the assembly area. The NPC will use the procedures and forms sent by the Census Bureau staff to determine the appropriate materials (English or Spanish and HEO and contacts) and insert them and the postage paid return envelope along with the collated materials into the outgoing package.

Prior to sending the packages to shipping, the NPC must inspect a sample of the outgoing packages to ensure that the packages contain the appropriate invitation materials.

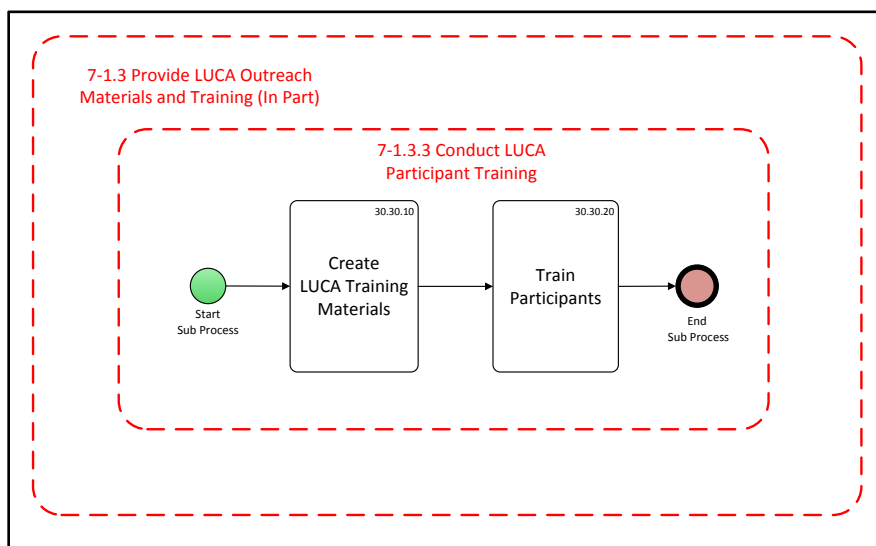
### ***Shipping Materials***

At shipping, the NPC will use an extract provided by the Census Bureau staff to generate shipment labels. The NPC will attach the labels to the appropriate package.

The NPC will inspect a sample of the outgoing LUCA Operation Invitation packages to ensure that the LUCA recipient receives the appropriate invitation letter, other forms, the training CD/DVD, and the return envelope. In addition, NPC will ensure that the label matches the materials inside.

The NPC will ship within 24 hours of packaging, using a shipping company that has a tracking system capable of locating the package and notifying the NPC of the delivery date and the signature of the person accepting delivery. Staff at the NPC will enter the date shipped and the date received into the PCS.

### 3.1.3.3 Conduct LUCA Participant Training [LUCA 7-1.3.3]



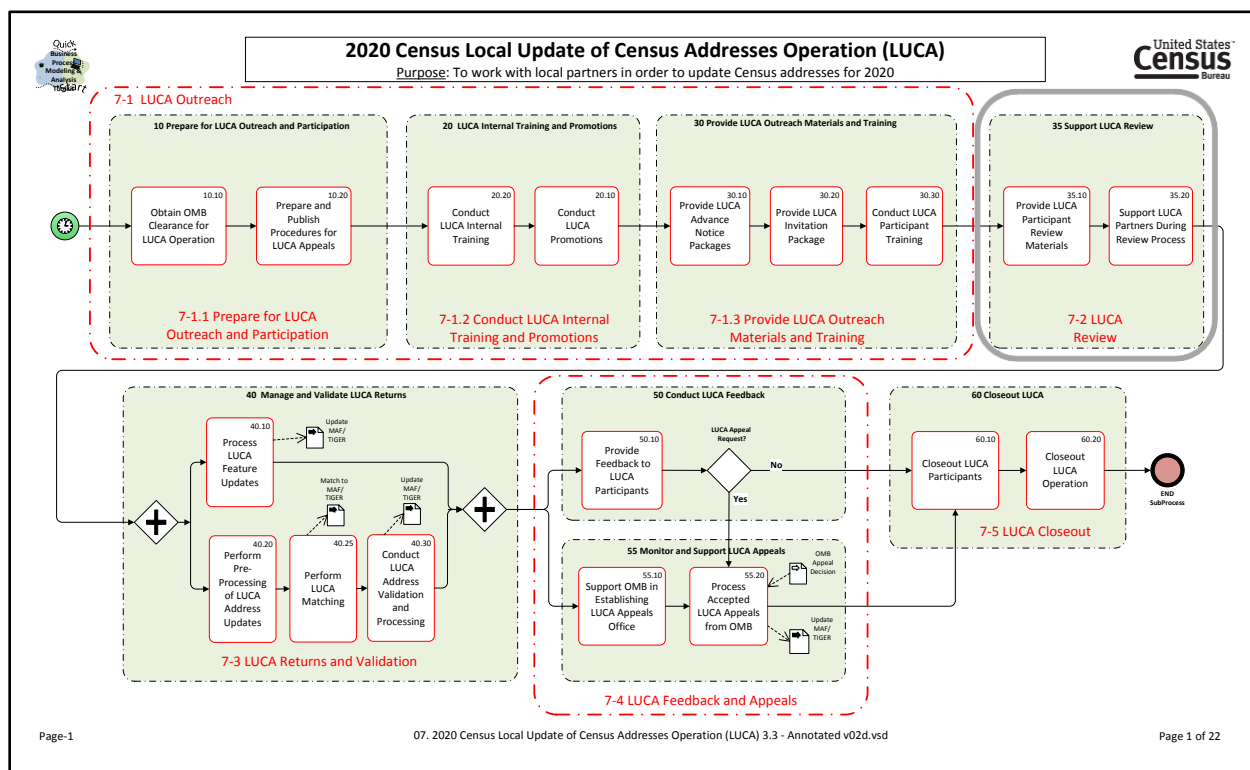
**Figure 12: Conduct LUCA Participant Training**

In order to conduct LUCA participant training sessions, Census Bureau staff first creates training materials. Then, Census Bureau staff hold internal “train-the-trainer” sessions to instruct RO staff on how to conduct training the LUCA participants. The Census Bureau staff may conduct the participant training in person, by videoconferencing, or through WebEx. In addition, Census Bureau staff will conduct LUCA participant training sessions close to when GUs will receive their LUCA review materials.

## 3.2 LUCA Review [LUCA 7-2]

During LUCA Review, tribal, state, and local participants will have 120 calendar days to review the Census Bureau’s address list and maps for their GU and provide corrections to the address list and maps on paper or digital files.

Figure 13 shows the BPM for the LUCA Review [LUCA 7-2] activity (area within the shaded gray rounded rectangle) and its activities within the overall context of the LUCA Operation.



**Figure 13: LUCA Review Activity [LUCA 7-2]**

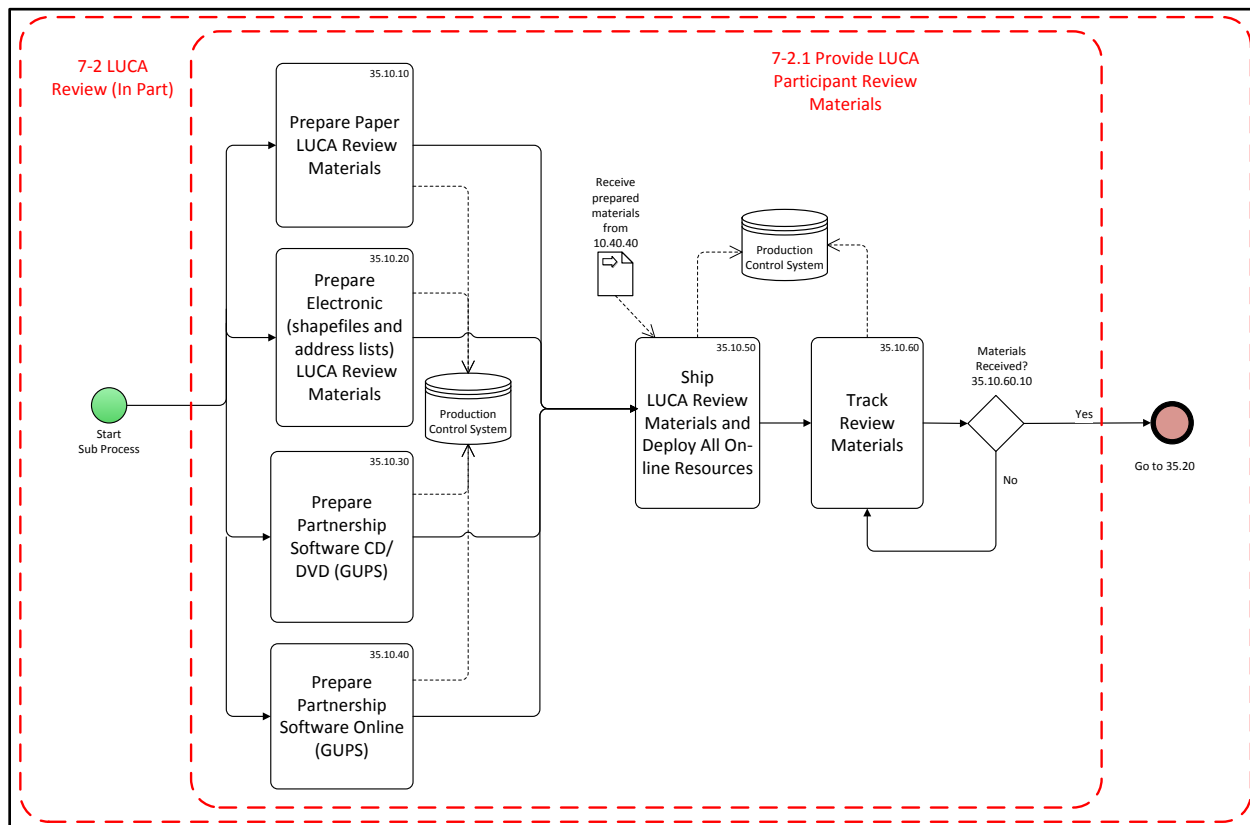
The LUCA Review operational activity area is subdivided into the following activities.

- LUCA Review [LUCA 7-2]
  - Provide LUCA Participant Review Materials [LUCA 7-2.1]
  - Support LUCA Partners during Review Process [LUCA 7-2.2]

A detailed view of the activities that make up the LUCA Review operational activity is given in Figure 14 and Figure 15 below.

Subsequent sections describe the LUCA Review operational subactivities in detail.

### 3.2.1 Provide LUCA Participant Review Materials [LUCA 7-2.1]



**Figure 14: Provide LUCA Participant Review Materials**

In early 2018, the Census Bureau staff will coordinate with the NPC to ship a Review Materials package to the state, local, and tribal governments that registered for the LUCA Operation. This package will include the address and mapping materials needed to complete the LUCA Operation, the associated materials explaining how to use these materials, and it may include software the participant can use to conduct their LUCA review.

Participants will review the materials and provide the Census Bureau with any updates. Should the participants have additional questions, they can refer to the LUCA Operation Online Frequently Asked Questions (FAQ) or personally contact the Geographic Programs Support Desk at NPC.

The LUCA Operation Review Materials production and shipping operation consists of three activities:

- The initial materials shipment,
- The password letter shipment, and
- The reminder letter shipment.

The initial shipment to the LUCA Operation Liaisons for all participating GUs can include both printed materials and digital materials created using the Rimage system. Participants can select a combination of paper and digital materials.

The complete initial package consists of the following materials (in English except for Puerto Rico GUs, which are in Spanish):

- Inventory Checklist
- Destruction or Return of Title 13 Materials Form
- 2020 LUCA User Guide –
  - For paper Address List materials
  - For digital Address List materials
  - For GUPS users
- Pre-paid shipping envelope
- Set of Address/Map Materials—Either:
  - GUPS—The GUPS is a set of two CD/DVDs, one containing a Census Bureau GIS software program and the other containing the Address List, Address Count List and shapefiles for the GU.
- Or, a choice of:
  - Address List Materials, either
    - Paper Address List, Address Count List and Add Page
    - Digital Address List
  - Maps, either
    - Shapefiles
    - Set of Paper Maps and Map Sheet to Block Number Relationship List

Some materials will have individualized information printed on them; others, like the user guide, will be generic. The booklet and the GUPS program CD/DVD will be generic pieces created by a contractor and shipped to NPC, which is responsible for storing them until the assembly of the LUCA Review Materials Mailing packages.

To facilitate the creation and shipment of all packages, the Census Bureau staff will generate production files for all printed and electronic materials. The mailing extracts for the shipments will contain entity names and codes, HEO and contact names and shipment information, and codes denoting which materials to print for each GU. The Census Bureau staff will place the



extract files and the files for the printed materials on a server accessible to the NPC. The Census Bureau staff will notify the NPC of the server name, the location of the materials, the directory structure, and the naming conventions. In addition, the Census Bureau staff will provide specific instructions to the NPC regarding any overprinting.

The NPC will use these files to determine which materials each GU will receive, print the paper materials, create and label the digital materials, assemble all necessary materials into a complete package, and ship the package. The NPC will conduct a Quality Assurance process at each step of the operation. After shipment, the NPC will enter the appropriate information into the PCS.

During this initial mailing, the NPC will also ship a separate letter to participants receiving digital address lists or the GUPS informing them of the username and password needed to access their materials. The Census Bureau staff will provide NPC with the production file of the letter on an accessible server. The NPC will use this information to print the letters and address labels, insert the materials into envelopes, label the envelopes, conduct a quality assurance process, and seal and mail the envelopes.

Approximately 45 days after the start of the initial shipment, the third shipment will go out. This will be a reminder sent to all participating GUs that the deadline for returning the updated LUCA materials is approaching. It consists of a letter either in English, for most GUs, or in Spanish, for Puerto Rico GUs.

The Census Bureau staff will provide an extract containing address information and shipping codes to NPC. The NPC will use this to print and ship the letters.

### ***Printing Materials***

Before all printing dates, the Census Bureau staff will provide the NPC with product dimensions along with paper, envelope, CD/DVD, and other needs for shipment. The Census Bureau staff will provide this information in time to allow the NPC to acquire the needed supplies. The NPC will be responsible for acquiring these supplies.

The Census Bureau staff will provide to the NPC a test address file and sample materials to test the printing. The NPC will conduct a test run and submit the results to the Census Bureau staff. Once the Census Bureau staff has approved the test materials, the Census Bureau staff will deliver the actual production version of the address file and the LUCA Operation printed and digital materials. The NPC will print all the materials in such a way as to print as many of a GU's materials together and so save assembly time.

In addition, during printing the NPC will use the forms and procedures supplied by the Census Bureau staff to check a specified percentage of the Address List and Address Count Lists to ensure that print quality is consistently good and that all required data are on each page (e.g., to check for pages with missing columns or rows of data).

After finishing printing, the NPC will assemble the materials into the finished package.

### ***Assembling Materials***

For all shipments, the NPC move the collated printed materials and digital materials to the assembly area. The NPC will use the procedures and forms sent by the Census Bureau staff to determine the appropriate materials (English or Spanish, etc.) and insert them and the postage paid return shipping materials along with the collated materials into the outgoing package.

There may be more than one package per shipment, however all packages in a GU's shipment must be sent at the same time.

Before sealing and shipment the packages, the NPC must inspect a sample of the outgoing packages to ensure that the recipient receives the appropriate materials. The NPC will then move the unsealed packages to shipping.

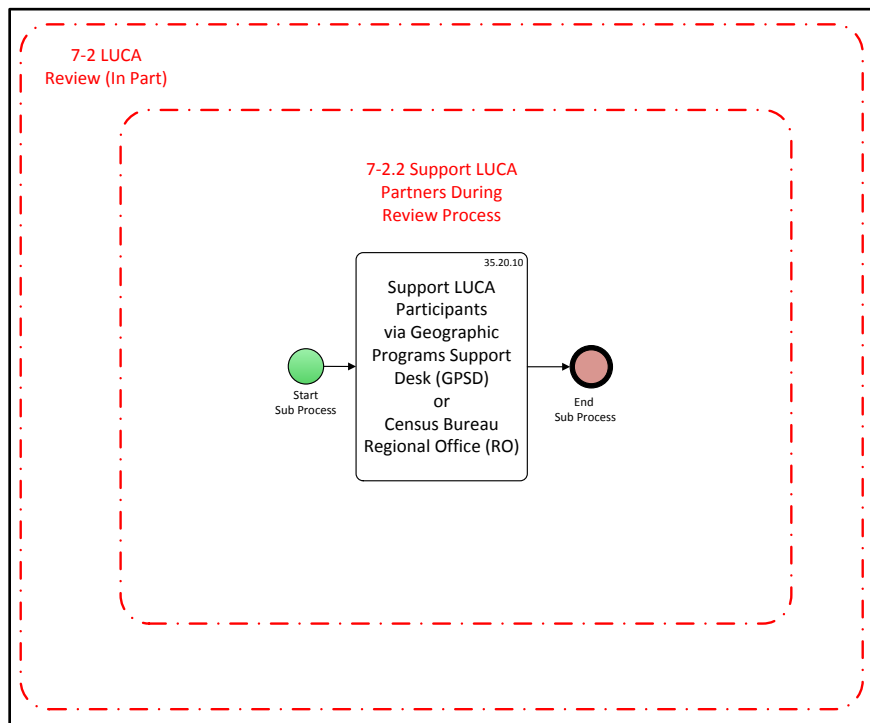
### ***Shipping Materials***

At shipping, the NPC will use an extract provided by the Census Bureau staff to generate shipment labels. The NPC will attach the labels to the appropriate package.

The NPC will inspect a sample of the outgoing LUCA Operation Review Materials packages to ensure that the participant receives the appropriate materials. In addition, NPC will inspect 100 percent of the packages to ensure that the label matches the Title 13 materials inside.

The NPC will then seal and ship the packages. The NPC will ship within 24 hours of packaging, using a shipping company that has a tracking system capable of locating the package and notifying the NPC of the delivery date and the signature of the person accepting delivery. Staff at the NPC will enter the date shipped and the date received into the PCS.

### 3.2.2 Support LUCA Partners during Review Process [LUCA 7-2.2]



**Figure 15: Support LUCA Partners during Review Process**

Should participants reviewing the LUCA Operation review materials have additional questions, they can refer to the LUCA Operation User Guide included in the materials, view LUCA Operation training videos, access the LUCA Operation online FAQ, or personally contact the Geographic Programs Support Desk at NPC.

#### ***Geographic Programs Support Desk (GPSD)***

The GPSD is responsible for answering questions from participants regarding their LUCA Operation materials. The Census Bureau staff will provide training and documentation for the GPSD staff. The GPSD will maintain a call log identifying who took the call; the date and time of the call; the entity ID, regional office, entity name, entity state; first and last name and phone number of the participant making the call; a description of the problem; whether the problem is closed, and if closed, the date closed, and if not closed, the status of the problem.

The LUCA support desk is comprised of three tiers:

- Tier 1 is located at the NPC and is staffed by the NPC clerks. The tier 1 support desk is primarily responsible for handling questions from smaller governments, and non-technical questions such as supplying lost passwords, updating contact information, or other calls following scripts.

- Tier 2 is also located at the NPC and is staffed by the geographic specialists. The tier 2 support desk is responsible for trouble-shooting technical questions that are more complex.
- Tier 3 comprises the RO geographers and Census Bureau staff. When the tier 1 and tier 2 NPC support staff cannot answer a participant's inquiry, they will transfer the participant to staff either at the RO or at GEO. Tier 3 staff is also responsible for responding to calls and entering information from the larger governments, such as states, larger cities, and from tribal governments and Puerto Rico.

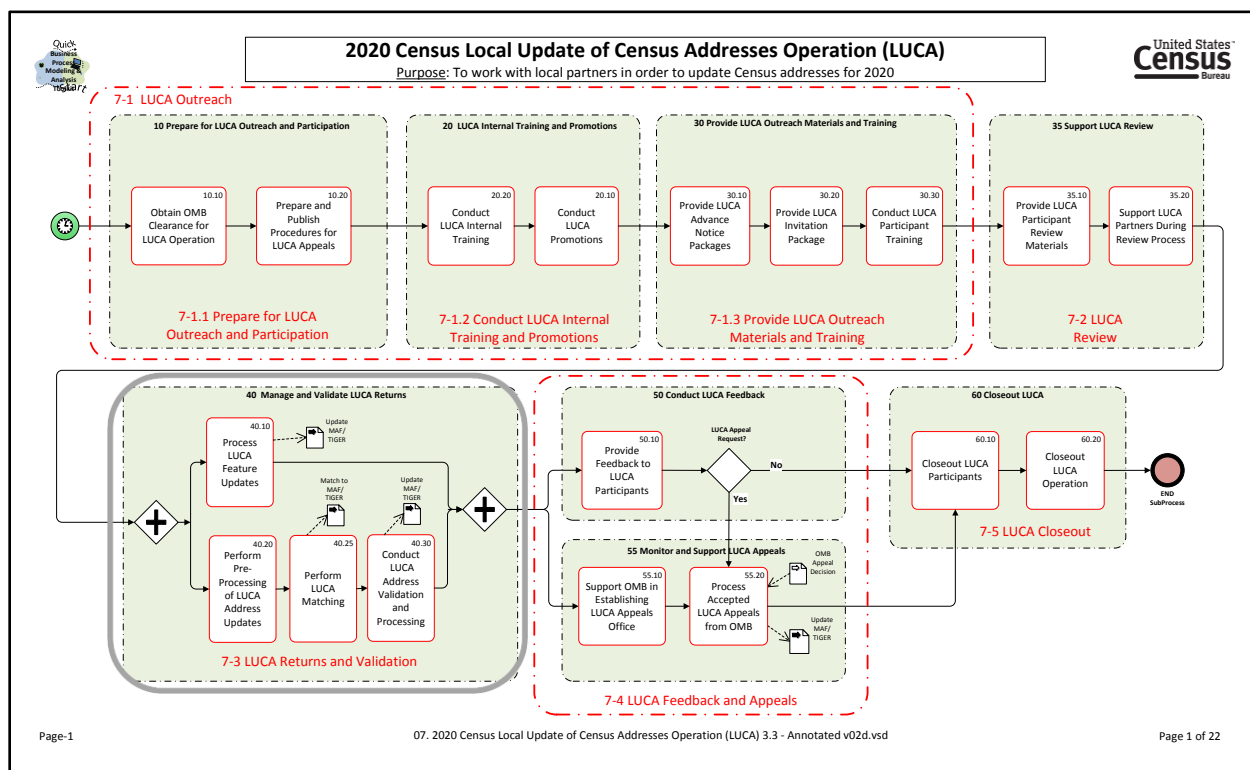
### **3.3 LUCA Returns and Validation [LUCA 7-3]**

Once the LUCA Operation participants review and update the Census Bureau address lists and maps, they will return them to the NPC. The NPC staff will then prepare each submission for validation and processing.

The LUCA Returns and Validation operational activity is subdivided into the following Activity Areas.

- LUCA Returns and Validation [LUCA 7-3]
  - Process LUCA Feature Updates [LUCA 7-3.1]
  - Perform Pre-Processing of LUCA Address Updates [LUCA 7-3.2]
  - Perform Matching [LUCA 7-3.3]
  - Conduct LUCA Address Validation and Processing [LUCA 7-3.4]

Figure 16 shows the BPM for the LUCA Returns and Validation [LUCA 7-3] activity (area within the shaded gray rounded rectangle) and its activities within the overall context of the LUCA Operation.



**Figure 16: LUCA Returns and Validation [LUCA 7-3] Activities**

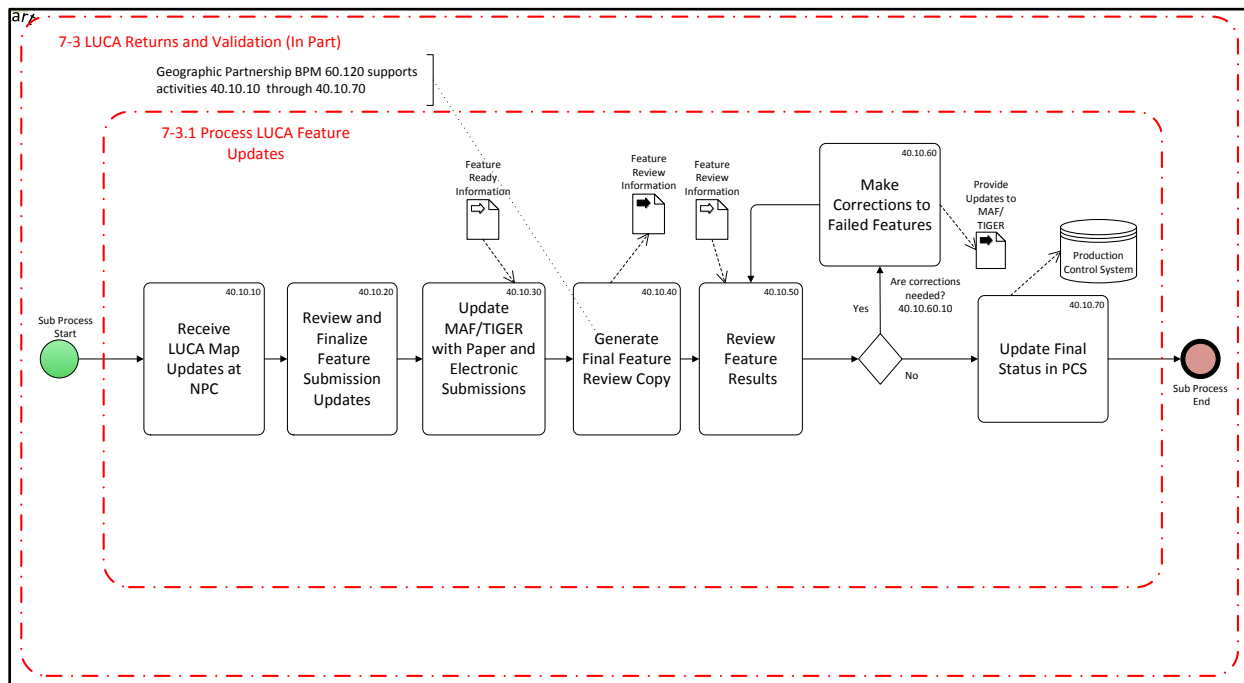
The NPC staff will receive LUCA Operation participant submissions and will review each submission for completeness. Once NPC has accepted a complete LUCA Operation submission, they will process feature updates and preprocess address updates before updating the PCS to notify Census Bureau staff at HQ that a submission is ready for address matching.

During address matching, some LUCA Operation addresses will be validated. Those 2020 Census LUCA addresses that are not validated during address matching will be validated in the Address Canvassing Operation. After all LUCA Operation addresses have been validated, HQ staff updates the MAF/TIGER system.

A detailed view of the activities that make up the LUCA Returns and Validation operational activity is given in Figure 17, Figure 18, Figure 19, and Figure 20 below.

Subsequent sections describe the LUCA Returns and Validation operational subactivities in detail.

### 3.3.1 Process LUCA Feature Updates [LUCA 7-3.1]



**Figure 17: Process LUCA Feature Updates**

#### ***Paper Maps***

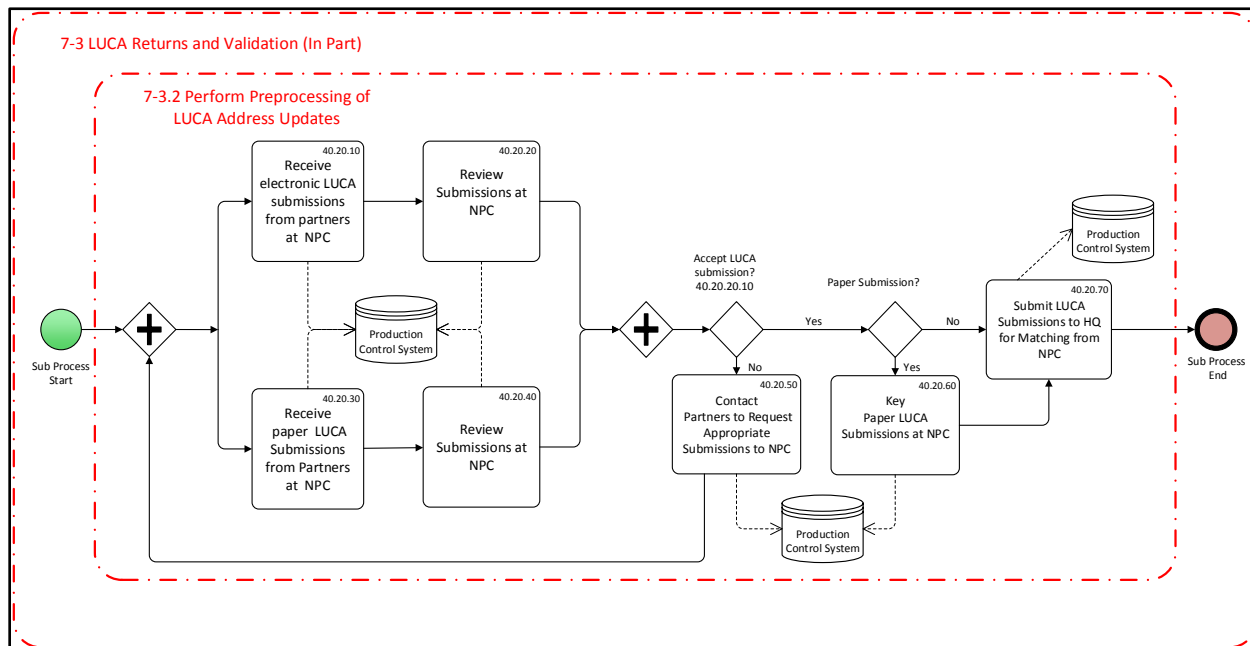
When NPC receives paper map submissions from LUCA Operation participants, NPC staff will update the PCS. Next, NPC staff will examine all map sheets to determine if the participant followed the procedures outlined in the *Local Update of Census Addresses (LUCA) Operation User Guide*. The NPC reviewer will check whether the participant added any new road features or structure coordinates (map spots), contact the participant for clarification of any ambiguous, illegible, or unclear annotations on the map, and update the PCS. If the reviewer has no questions, they will digitize any new or updated road features into the MAF/TIGER system. Any new map spots will be used to verify the location of the addresses on the LUCA address list.

#### ***Digital Shapefiles***

The NPC may receive digital shapefile submissions on a CD/DVD or by the Internet through the Secure Web Incoming Module (SWIM) system. When NPC receives digital shapefile submissions from LUCA Operation participants, NPC staff will update the PCS. Next, the NPC staff will check the participant CD/DVD submissions for viruses. If a virus is found, they will destroy the infected file and contact the LUCA liaison to ask for a new submission. If no virus is found, the NPC reviewer will create a digital folder in the appropriate directory, name the folder with the entity code, and copy all of the files into the folder. The reviewer will then open the files using the GUPS.

Once the reviewer opens the shapefiles in the GUPS, they will check to make sure that the file is a valid LUCA submission and will check for data validity. If the data are valid, the reviewer will check whether the participant added any new road features or structure coordinates (map spots). New road features will be batch uploaded into the MAF/TIGER System.

### 3.3.2 Perform Preprocessing of LUCA Address Updates [LUCA 7-3.2]



**Figure 18: Perform Preprocessing of LUCA Address Updates**

#### *Paper Address Lists*

Only GUs with fewer than 6,000 housing units (HUs) will be eligible to receive a paper address list. Participants who choose to receive paper address lists will also receive a blank Address List Add Page to record new addresses.

Upon receipt of a paper LUCA address submission, NPC staff will examine all paper Address List materials (Address List and Address List Add Page) to ensure that the participant followed the review/update procedures outlined in the *LUCA Operation User Guide – Paper Format*. The reviewer will pull out pages that do not contain annotations to ensure that all paper lists are legible. The NPC staff will contact the participant for clarification of any ambiguous, illegible, invalid, or unclear notations. If the participant added addresses, the reviewer will ensure that each address contains state, county, census tract, census block number, house number, street name, and Zone Improvement Plan (ZIP) code.

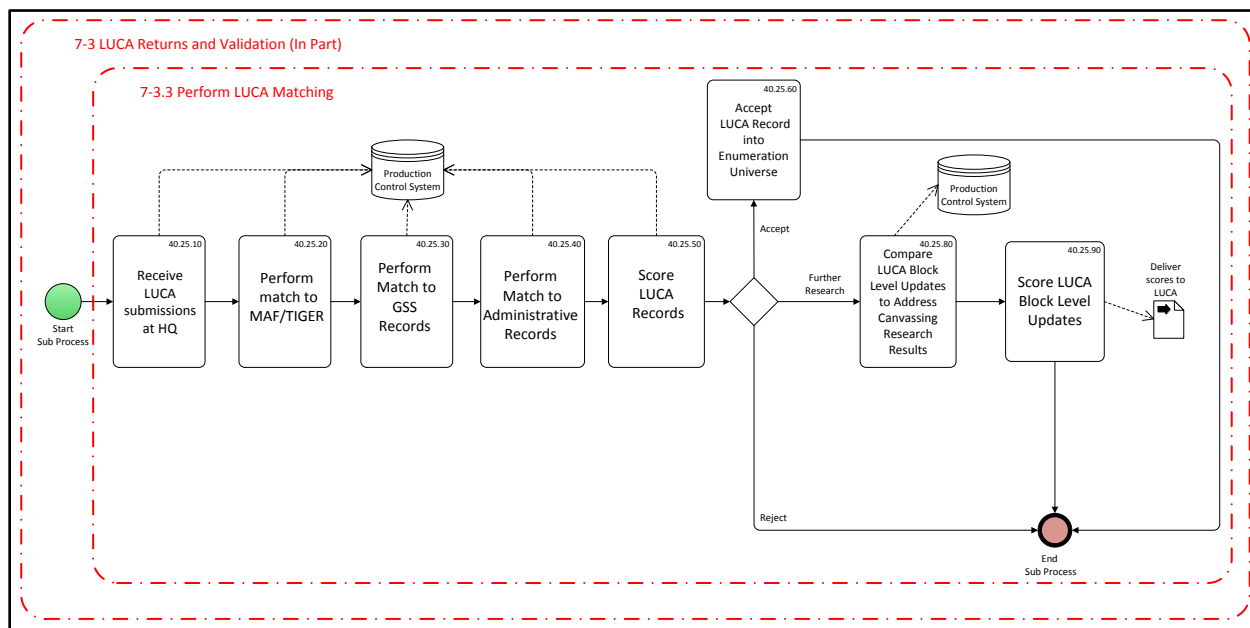
Once NPC staff deems a paper LUCA address submission complete, the keying staff at NPC will use the GUPS to open an unedited digital address list and key in any address updates. After keying address updates in the GUPS, a separate review staff at NPC will conduct a Quality Control to make sure that the address list is a valid LUCA submission and will check for data validity. All new addresses needing further research after the address matching process will be sent to the IOAC team for validation and subsequent processing.

### ***Digital Address Lists***

The NPC may receive digital address list submissions on a CD/DVD or by the Internet through the SWIM system. When NPC receives digital address list submissions from LUCA participants, NPC staff will update the PCS. Next, the NPC staff will check the submissions for viruses. If a virus is found, they will destroy the infected file and contact the liaison to ask for a new submission. If no virus is found, the NPC reviewer will create a digital folder in the appropriate directory, name the folder with the entity code, and copy all of the files into the folder.

The reviewer will then decrypt and open the files using the GUPS. The review staff at NPC will check to make sure that the address list is a valid LUCA submission and will check for data validity. All new addresses needing further research after the address matching process will be sent to the Address Canvassing Operation for validation and subsequent processing.

### **3.3.3 Perform LUCA Matching [LUCA 7-3.3]**



**Figure 19: Perform LUCA Matching**

After reviewing, keying, digitizing, and correcting potential errors in the LUCA submissions, the NPC staff will update the PCS to notify the Census Bureau staff at HQ that the LUCA



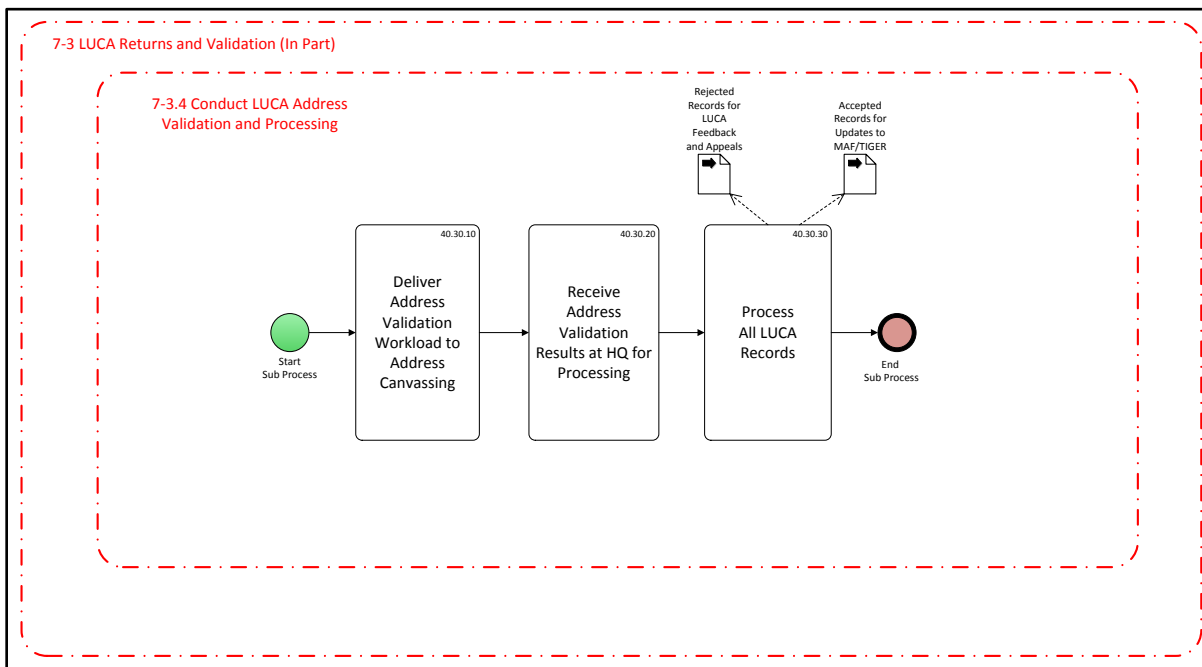
submissions are ready for address matching. The LUCA submissions will be stored in a single file directory, which will be accessible to NPC, RO, and GEO HQ staff.

Each submission will be matched to existing data from the MAF/TIGER system, GSS records, administrative records, and commercial records. Address matching may indicate whether the LUCA submissions contain addresses that the Census Bureau already has, reveal potential new addresses that we should add to our records, or indicate address records that need to be deleted or changed to a non-residential address status.

During LUCA address matching, any LUCA submission address records that match to existing residential address records in the MAF/TIGER system will be included in the 2020 Census Enumeration Universe. Similarly, any LUCA submission address records that match to existing nonresidential address records in the MAF/TIGER system will be excluded from the 2020 Census Enumeration Universe.

Address records from the LUCA submissions that do not match with existing MAF/TIGER system address records will be considered and marked as potential “new addresses” and will be sent to the Address Canvassing Operation for validation. Additionally, other addresses that would be sent to the Address Canvassing Operation for validation include LUCA addresses that match to existing MAF/TIGER system address records in different geographic areas. These address records will go to the Address Canvassing Operation to validate the address geocode. Before sending LUCA address records to the Address Canvassing Operation, a review of block level data from other geographic operations will be included.

### 3.3.4 Conduct LUCA Address Validation and Processing [LUCA 7-3.4]



**Figure 20: Conduct LUCA Address Validation and Processing**

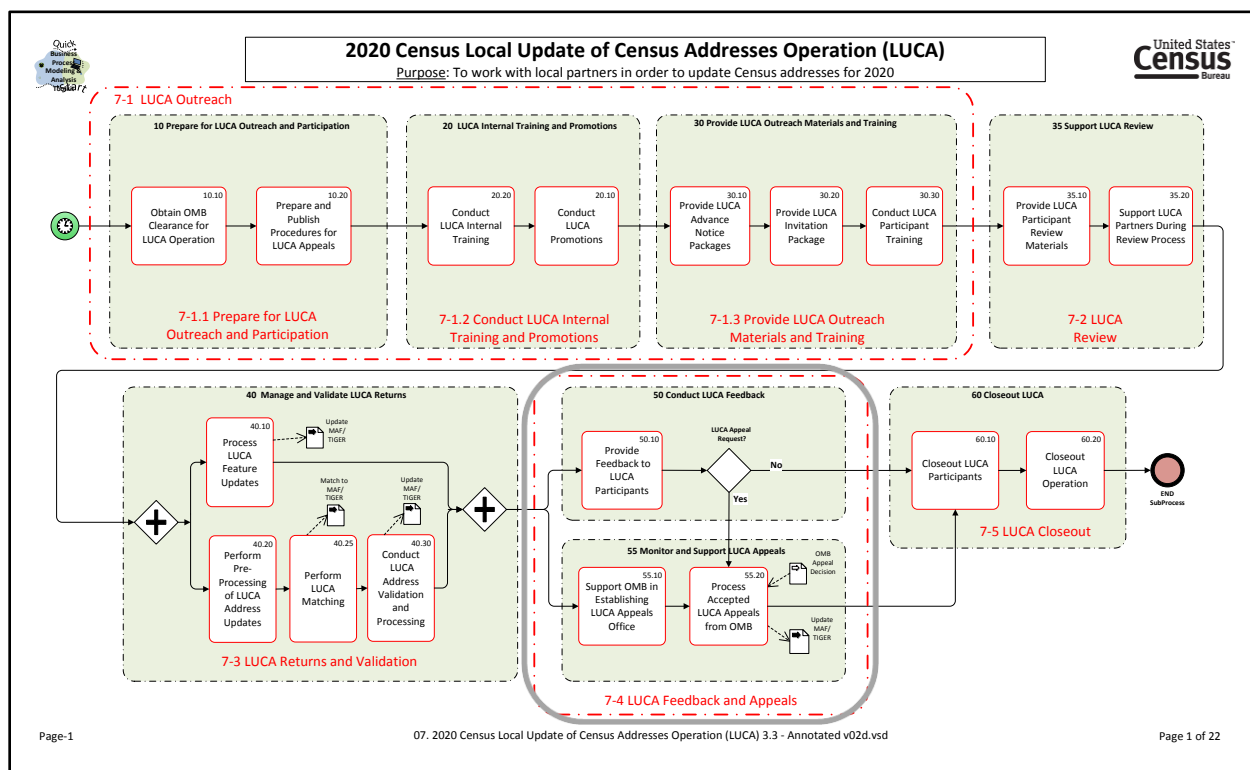
The LUCA submission address records will be validated either by matching to existing MAF/TIGER System address records, or by the Address Canvassing Operation.

Once address validation is complete for all LUCA address records, all LUCA address records will be updated in the MAF/TIGER System based on the results of LUCA matching and/or the Address Canvassing Operation, as appropriate.

### 3.4 LUCA Feedback and Appeals [LUCA 7-4]

The Census Bureau will provide LUCA feedback materials to participating GUs on a flow basis in the fall of 2019. Participants will receive their feedback materials in the same media format that they requested for the initial LUCA review materials.

Figure 21 shows the BPM for the LUCA Feedback and Appeals [LUCA 7-4] activity (area within the shaded gray rounded rectangle) and its activities within the overall context of the LUCA Operation.



**Figure 21: LUCA Feedback and Appeals [LUCA 7-4] Activities**

The LUCA Feedback and Appeals operational activity is subdivided into the following Activity Areas.

- LUCA Feedback and Appeals [LUCA 7-4]
  - Support OMB in Establishing LUCA Appeals Office [LUCA 7-4.1]
  - Provide Feedback to LUCA Participants [LUCA 7-4.2]
  - Process Accepted LUCA Appeals from OMB [LUCA 7-4.3]

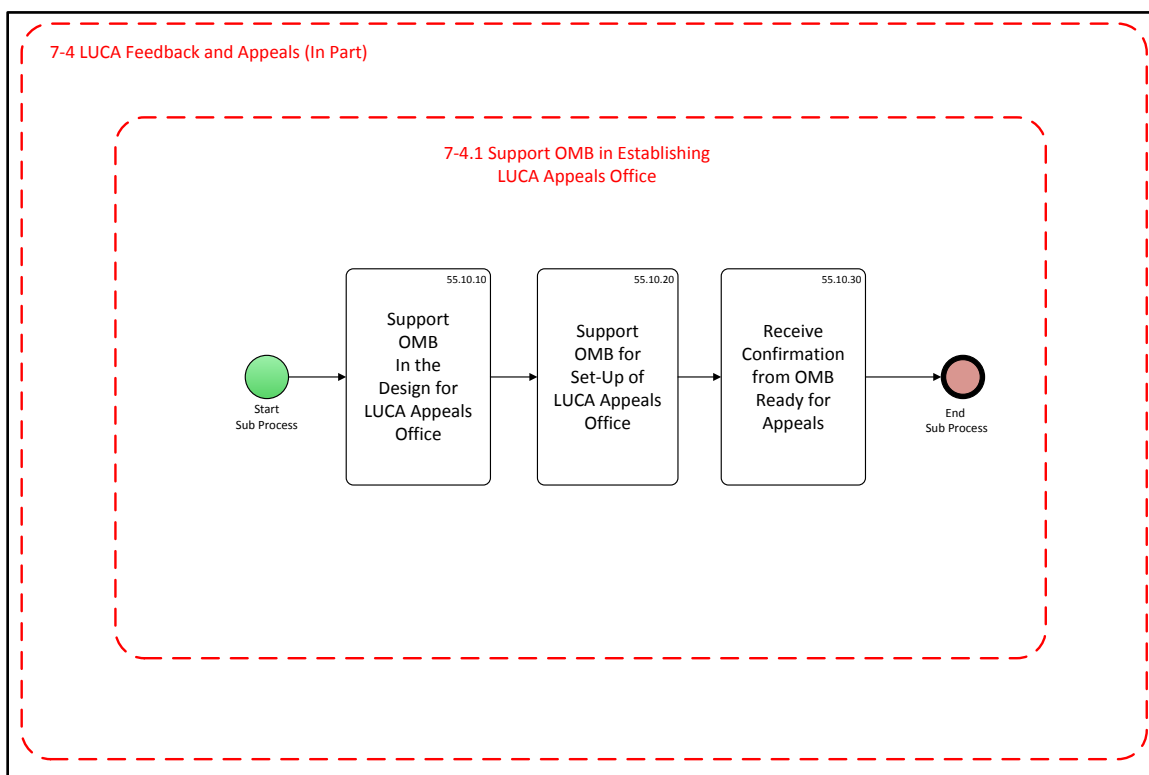
Before the Census Bureau can provide feedback to LUCA Participants, Census Bureau staff will support OMB to establish the LUCA Appeals Office. The LUCA Appeals Office will be operational no later than August 2019.

In August of 2019, the Census Bureau will provide feedback to LUCA Participants. Once LUCA participants receive their feedback materials, they have 30 calendar days to file an appeal with the LUCA Appeals Office. Upon receipt of a LUCA appeal, the LUCA Appeals Office will use the supporting documentation sent by the participant to decide whether to accept or reject an appeal. When OMB has made a determination on a LUCA appeal, they will notify the participant of their determination. The LUCA Appeals Office will deliver accepted LUCA appeals to the Census Bureau, which will then process the appealed addresses.

A detailed view of the activities that make up the LUCA Feedback and Appeals operational activity is given in Figure 22, Figure 23 and Figure 24 below.

Subsequent sections describe the LUCA Feedback and Appeals operational subactivities in detail.

### 3.4.1 Support OMB in Establishing LUCA Appeals Office [LUCA 7-4.1]



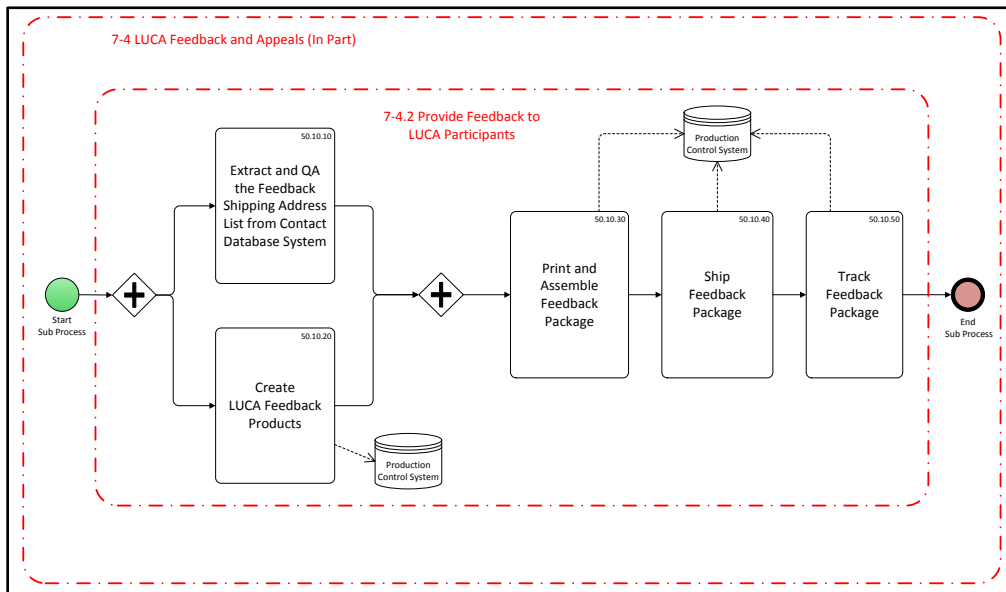
**Figure 22: Support OMB in Establishing LUCA Appeals Office**

To ensure that tribal, state, and local governments participating in the LUCA Operation have a means to appeal the Census Bureau's determinations, the Census Address List Improvement Act of 1994 requires that the Administrator of OMB's Office of Information and Regulatory Affairs, acting through the Chief Statistician and in consultation with the Census Bureau, develop an Appeals Process to resolve any disagreements that may remain after participating governments receive the Census Bureau's LUCA Feedback.

The Census Bureau will work closely with OMB and will provide OMB with a MAF extract, so they can see the final LUCA and Address Canvassing Operation determinations for each address and which they can use as a point of comparison for appealed addresses. GUs that participated in the LUCA Operation and completed a review of LUCA Operation materials may file an appeal. Participants may file an appeal with the LUCA Appeals Staff, a temporary federal entity set up

to administer the Appeals Process. LUCA Operation participants will have 30 days from receipt of feedback materials to file an appeal with the Appeals Office.

### 3.4.2 Provide Feedback to LUCA Participants [LUCA 7-4.2]

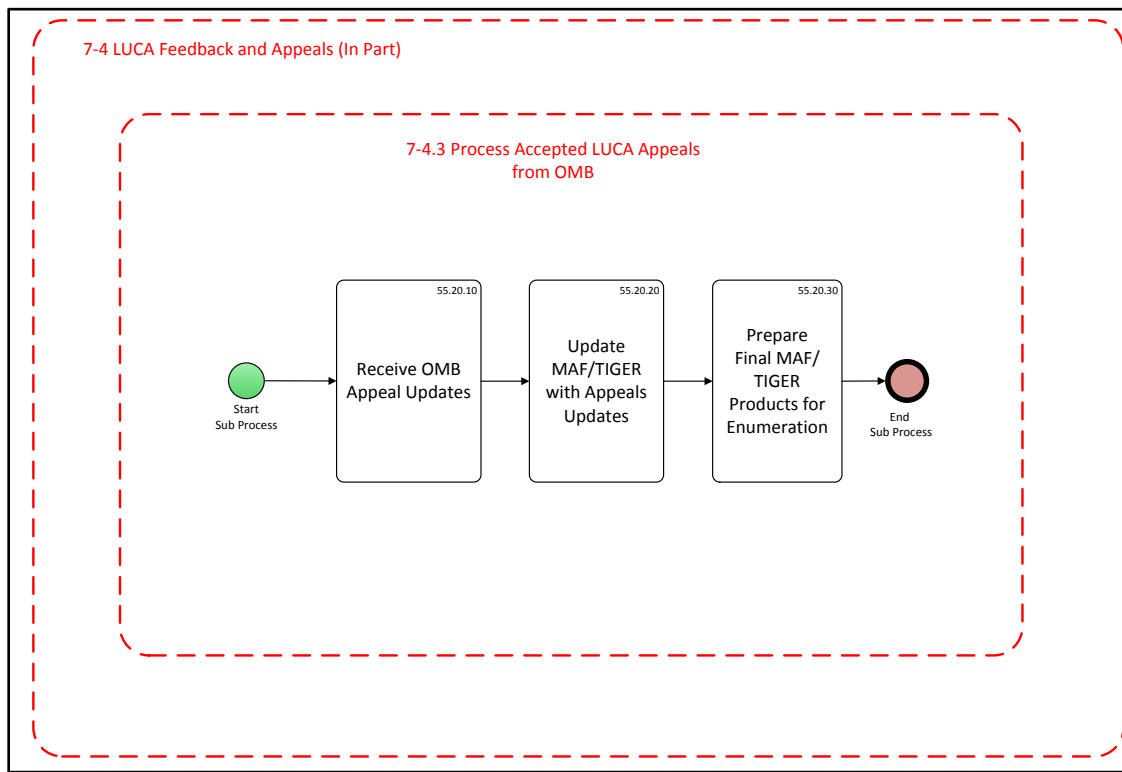


**Figure 23: Provide Feedback to LUCA Participants**

The Census Bureau will provide the LUCA Feedback materials after completing the following steps:

- (1) For GUs that submitted address updates, the Census Bureau will review and apply each correctly submitted participant address update to its address list, adding any new addresses not already on its list.
- (2) The Census Bureau will conduct the Address Canvassing Operation and in the course of doing so will verify the participant suggested address updates (additions, corrections, deletions, etc.). The Address Canvassing Operation will ensure that all address updates and additions exist and that they are in the correct census block. Participants will receive a Detailed Feedback Address List that shows each address record submitted by the participant and a processing code that identifies a specific action taken by the Census Bureau on that address record. The Detailed Feedback Address List will also identify addresses deleted in the Address Canvassing Operation.

### 3.4.3 Process Accepted LUCA Appeals from OMB [LUCA 7-4.3]



**Figure 24: Process Accepted LUCA Appeals from OMB**

For each appeal, an Appeals Officer will review the Census Bureau’s feedback materials, the written documentation, and supporting evidence submitted by the eligible GU, and will consider the quality of the address reference source as the basis for determining the validity of an address (or group of addresses) and (their) location(s). At the conclusion of the review of an appealed address (or group of addresses), the Appeals Officer will prepare a draft written determination. A higher-level official on the Appeals Staff will review the draft written determination. The Director of the Appeals Staff (or his or her designee) will then issue a final written determination to both the eligible government and the Census Bureau.

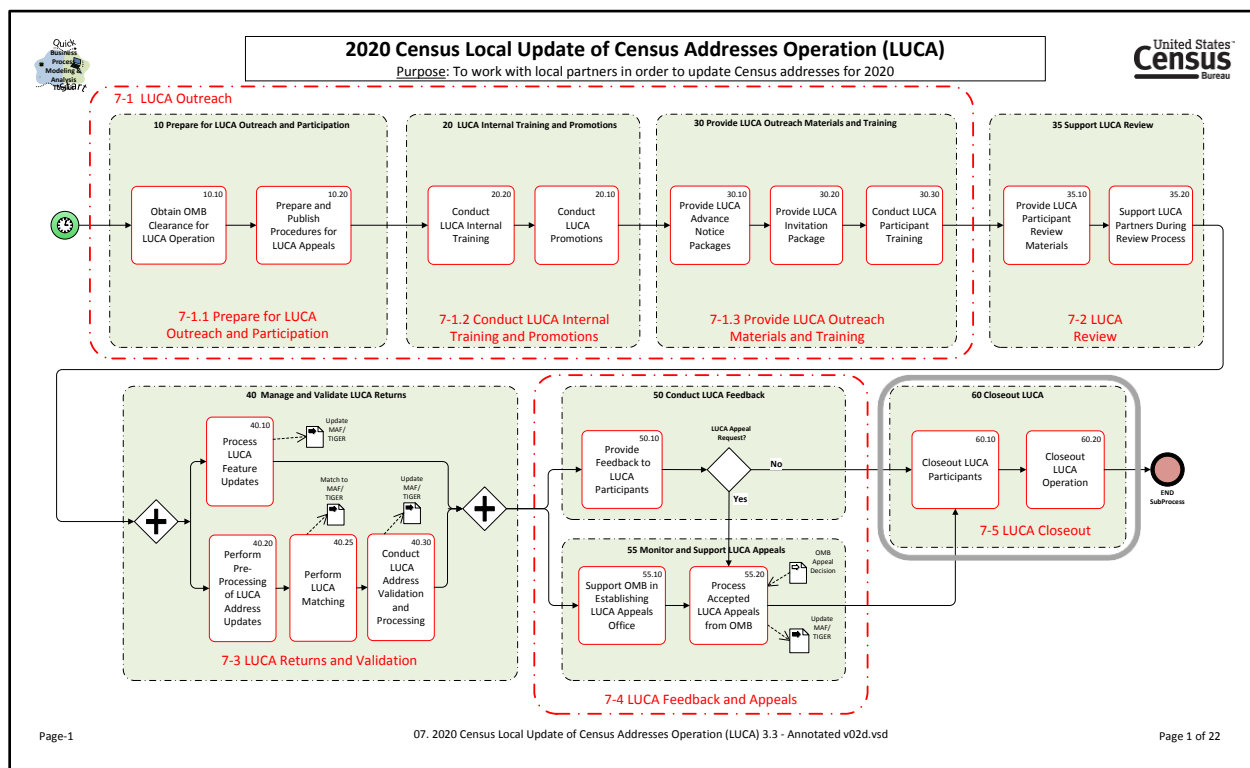
The final written determination will include a brief explanation of the Appeals Staff’s decision and will specify how the appealed address(es) or its (their) location(s) should appear on the 2020 Census Address List. Each final written determination shall become part of the administrative record of the Appeals Process.

The Appeals Staff’s decision is final. The Census Bureau will include all addresses added or corrected as a result of the Appeals Process on the 2020 Census Address List and attempt to enumerate them. Inclusion of an address on the list does not mean that a living quarter with that address exists or that the address will be included in the final 2020 Census Enumeration Universe.

### 3.5 LUCA Closeout [LUCA 7-5]

After participating in the LUCA Operation, the Census Bureau will close each GU out of the operation by collecting their signed “Destruction or Return of Title 13 Materials” form. Once all participants are closed out of the LUCA Operation, the Census Bureau will close out the LUCA Operation as a whole.

Figure 25 shows the BPM for the LUCA Closeout [LUCA 7-5] activity (area within the shaded Gray Rounded Rectangle) and its activities within the overall context of the LUCA Operation.



**Figure 25: LUCA Closeout [LUCA 7-5] Activities**

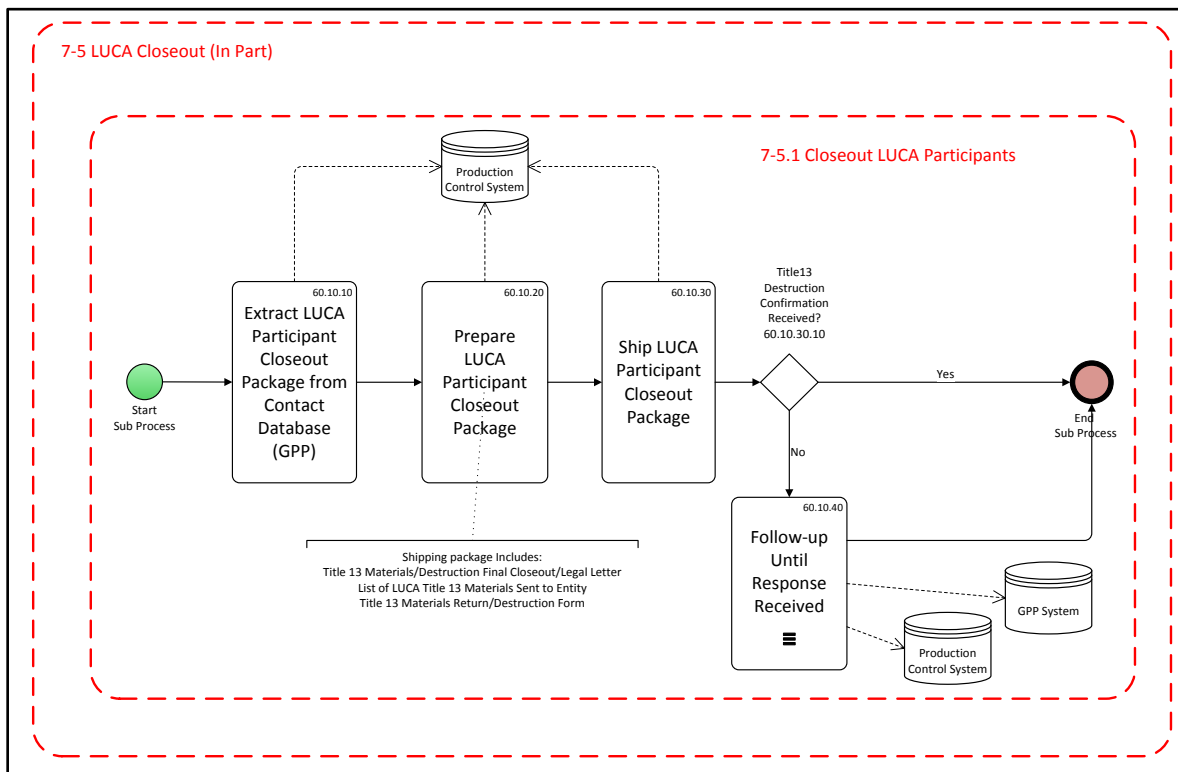
The LUCA Closeout operational activity is subdivided into the following Activity Areas.

- LUCA Closeout [LUCA 7-5]
  - Closeout LUCA Participants [LUCA 7-5.1]
  - Closeout LUCA Operation [LUCA 7-5.2]

In order to close out the LUCA Operation, the LUCA Team will need to complete two activities. All LUCA participants who received materials will be closed out of the operation. The final activity will involve completing the LUCA Assessment and closing the LUCA Operation.

A detailed view of the activities that make up the LUCA Closeout operational activity is given in Figure 26 and Figure 27 below.

### 3.5.1 Closeout LUCA Participants [LUCA 7-5.1]



**Figure 26: Closeout LUCA Participants**

Upon closeout of the LUCA Operation, LUCA liaisons and the HEO will receive a closeout package from the NPC. The closeout package will include a closeout letter to the LUCA Operation liaisons and a “Destruction/Return of Title 13 Materials” form. The NPC will send the closeout packages by trackable postal carrier and will update the PCS with relevant shipping information.

The closeout letter will inform the liaison that they are entitled to receive LUCA feedback materials, provided they check the box on this letter and return the letter to the NPC. If the liaison does not want to receive the LUCA Feedback materials, they must sign and return the “Destruction/Return of Title 13 Materials” form to the NPC. Upon receipt of either the “Destruction/Return of Title 13 Materials” form or the completed closeout letter, NPC staff will update the PCS. Census Bureau staff will follow up with the participant until the NPC has received either a response about feedback materials or a signed “Destruction/Return of Title 13 Materials” form from them. Once the NPC receives the signed “Destruction/Return of Title 13 Materials” form, the Census Bureau will consider the participant closed out of the LUCA Operation.

If any signatures are missing from the “Destruction/Return of Title 13 Materials” form, Census Bureau staff must contact the liaison to either obtain the missing signature or, if the person is not

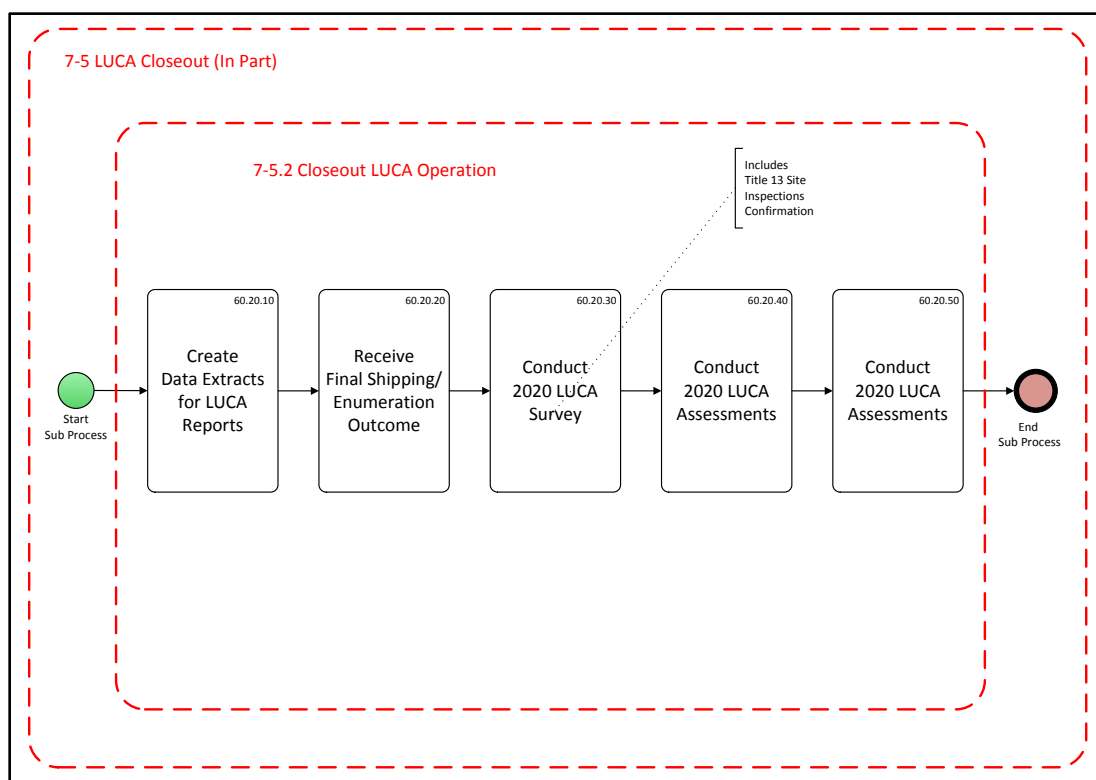


available, the liaison must sign out next to that individual's name attesting that the individual does not have Title 13 LUCA Operation materials.

If the liaison cannot be found or no longer works for the GU, the HEO must appoint another liaison by completing the registration form naming the liaison, the LUCA Title 13 Confidentiality Agreement, and the LUCA Self-Assessment Checklist. The GU cannot continue in the operation or legally sign out of the operation without a liaison to attest to the security or destruction of the Title 13 materials.

If the liaison reports that they have lost their LUCA materials and, consequently, cannot complete the "Destruction /Return of Title 13 Materials" form, Census Bureau staff must report this security breach to the BOC Computer Incident Response Team, and then close the GU out of the LUCA Operation.

### 3.5.2 Closeout LUCA Operation [LUCA 7-5.2]



**Figure 27: Closeout LUCA Operation**

As shown in the BPM, there are five activities involved in the Closeout LUCA Operation:

- The Create Data Extracts for LUCA Reports activity provides data for the 2020 LUCA Final Assessment.

- The Receive Final Shipping/Enumeration Outcome activity provides shipping and enumeration data for the 2020 LUCA Final Assessment.
- The Conduct 2020 LUCA Survey activity provides data from participants for the 2020 LUCA Final Assessment.
- The Conduct 2020 LUCA Assessments activity uses data from the extracts for LUCA reports, final shipping/enumeration outcomes, and from the 2020 LUCA Survey. The Final LUCA Assessment will include the final operational information, cost data, data analysis, and lessons learned for a source of knowledge for future LUCA Operations, and will include input from Decennial Census Management Division (DCMD), GEO, NPC, and Field Division (FLD) staff that worked the LUCA Operation.
- The Conduct 2020 LUCA Lessons Learned activity uses lessons learned captured during the LUCA Operation by the LUCA IPT Team. Additionally, the LUCA Team members involved in the lessons learned will take part in assembling the final assessment. The final LUCA Assessment will include the final operational information, cost data, data analysis, and lessons learned for a source of knowledge for future LUCA operations.

## 4. Cost Factors

We do not anticipate the LUCA Operation being a significant cost driver for the 2020 Census. The Census Bureau will collect comprehensive cost information and program data so that the 2030 LUCA Operation can make more informed cost-benefit decisions.

While the LUCA Operation is not a major cost driver for the 2020 Census, the following mechanisms from the IDEF0 Context Diagram represent the resources used to support this operation and comprise the 2020 Census cost elements:

### Staff

- HQ Staff
- NPC Staff
- RO Staff

### Sites

- HQ
- NPC
- RO/RCC
- LUCA Workshop and Training Locations

### Systems

- GPP
- PCS
- MAF/TIGER
- GUPS
- Rimage Disk Publishing
- GPQCPS
- GDSK PCS

### Other

- HQ, NPC, RO/RCC Office IT Infrastructure
- Census Networks

## 5. Measures of Success

For the 2020 Census operations, the corresponding Measures of Success will be documented in the operational assessment study plans and final reports. The operational assessment study plan documents the criteria that will be used to define successful completion of the operation. The operational assessment report will provide results on whether the criteria were met.

In general, operational assessments report on planned to actual variances in budget, schedules, and production and training workloads. The corresponding Measures of Success (as documented in the operational assessment study plan) include variances that exceed established thresholds. See *Content Guidelines for the 2020 Census Operational Assessments* for the potential scope of assessment.

Types of success measures include:

- **Process Measures** that indicate how well the process works, typically including measures related to completion dates, rates, and productivity rates
- **Cost Measures** that drive the cost of the operation and comparisons of actual costs to planned budgets. Costs can include workload as well as different types of resource costs
- **Measures of the Quality** of the results of the operation, typically including things such as rework rates, error rates, and coverage rates

See the corresponding operational assessment and report for the 2020 Census Local Update of Census Addresses Operation (LUCA) for details on the measures of success.

## Appendix A – Terminology and Acronyms

The full list of 2020 Census acronyms and abbreviations are found in the List of Business Terms found in the 2020 Census Operational Plan.

Table 7 lists the specific acronyms and abbreviations used within this Detailed Operational Plan.

**Table 7: Acronyms and Abbreviations List**

Acronym	Meaning
ACSD	Administrative and Customer Services Division
ASE	Address Source Evaluation
BAS	Boundary and Annexation Survey
BPM	Business Process Model
CAUS	Community Address Updating System
CC	Courtesy Copy
CIRT	Computer Incident Response Team
COG	Council of Governments
DAAL	Demographic Area Address Listing
DCMD	Decennial Census Management Division
DITD	Decennial Information Technology Division
DSF	Delivery Sequence File
DSSD	Decennial Statistical Studies Division
FAQ	Frequently Asked Questions
FLD	Field Division
GEO	Geography Division
GIS	Geographic Information System

<b>Acronym</b>	<b>Meaning</b>
GPP	Geographic Program Participants database
GPSD	Geographic Programs Support Desk
GSS	Geographic Support Systems
GU	Governmental Unit
GUPS	Geographic Update Partnership Software
HEO	Highest Elected Official
HQ	Headquarters
HU	Housing Unit
IOAC	In-Office Address Canvassing
IPT	Integrated Project Team
LUCA	Local Update of Census Addresses
MAF	Master Address File
MTPS	MAF/TIGER Partnership Software
NPC	National Processing Center
NRFU	Nonresponse Followup
OMB	United States Office of Management and Budget
PCS	Production Control System
PDF	Printable Document Format
PL	Public Law
PRA	Paperwork Reduction Act
RO	Regional Office
SE&I	Systems Engineering and Integration

<b>Acronym</b>	<b>Meaning</b>
SWIM	Secure Web Incoming Module
TIGER	Topologically Integrated Geographic Encoding and Referencing system
USC	United States Code
USPS	United States Postal Service
ZIP	Zone Improvement Plan

## **Appendix B – References**

Appendix B lists the documents or other resources referenced within this Detailed Operational Plan document.

U.S. Census Bureau (2003), “Evaluation of the Local Update of Census Addresses 98 (LUCA 98) Final Report.” Version 1.0, April 16, 2003.

U.S. Census Bureau (2012), “2010 Local Update of Census Addresses Assessment,” Version 1.0, March 7, 2012.

U.S. Census Bureau (2015), “2020 Census Operational Plan,” Version 1.1, November 1, 2015.

U.S. Census Bureau (2015), “2020 Census Local Update of Census Addresses Program Improvement Project Recommendations,” Version 1.0, April 13, 2015.

U.S. Census Bureau (2016), “Operational Assessment Content Guidelines for the 2018 End-to-End Census Test and the 2020 Census,” Draft, May 10, 2016.



## **Appendix C – Activity Tree for Local Update of Census Addresses Operation (LUCA)**

This appendix presents the Activity Tree for the LUCA Operation. An Activity Tree uses an outline structure to reflect the decomposition of the major operational activities in the operation. Each activity is numbered according to its position in the outline. For example, for the current operation numbered “7,” the first activity would be numbered 7-1. Subactivities under this activity would be numbered sequentially, starting again with the number one. For example, the first subactivity under the first activity would be numbered 7-1.1 the second sub-activity as 7-1.2. The second activity would be numbered 7-2, and so on.

### **LUCA Activity Tree:**

- 7-1 LUCA Outreach
  - 7-1.1 Prepare for LUCA Outreach and Participation
    - 7-1.1.1 Obtain OMB Clearance for LUCA Operation
    - 7-1.1.2 Prepare and Publish Procedures for LUCA Appeals
  - 7-1.2 Conduct LUCA Internal Training and Promotions
    - 7-1.2.1 Conduct LUCA Internal Training
    - 7-1.2.2 Conduct LUCA Promotions
  - 7-1.3 Provide LUCA Outreach Materials and Training
    - 7-1.3.1 Provide LUCA Advance Notice Package
    - 7-1.3.2 Provide LUCA Invitation Package
    - 7-1.3.3 Conduct LUCA Participant Training
- 7-2 LUCA Review
  - 7-2.1 Provide LUCA Participant Review Materials
  - 7-2.2 Support LUCA Partners During Review Process
- 7-3 LUCA Returns and Validation
  - 7-3.1 Process LUCA Feature Updates
  - 7-3.2 Perform Pre-Processing of LUCA Address Updates
  - 7-3.3 Perform LUCA Matching
  - 7-3.4 Conduct LUCA Address Validation and Processing
- 7-4 LUCA Feedback and Appeals
  - 7-4.1 Support OMB in Establishing LUCA Appeals Office
  - 7-4.2 Provide Feedback to LUCA Participants
  - 7-4.3 Process Accepted LUCA Appeals from OMB
- 7-5 LUCA Closeout
  - 7-5.1 Closeout LUCA Participants
  - 7-5.2 Closeout LUCA Operation

## Appendix D – Business Process Models

This appendix includes all of the Annotated 2020 Census LUCA Business Process Models (BPMs) for the LUCA Operation. The first sheet describes how to read the notation. Please refer to the documents for additional information on the LUCA operational process flows.

### LUCA Annotated BPM Diagram Set

*PDF Attachment: 07. 2020 Census Local Update of Census Addresses Operation (LUCA) 3.3 - Annotated v04.pdf*



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