national STATISTICS

The 2011 Census:
Supplier Information Meeting – 14th July 2005

Draft High Level Requirements

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1 Operational Intelligence

1.1 Introduction

Operational Intelligence is fundamental to all Census activities. It underpins the field operation, allows HQ to respond to events in the field as they happen, and provides information on progress from personalisation of forms, throughout the collection process and data processing operation to the final output of data. The 2001 Census operation was severely criticised by the Public Accounts Committee for inadequate information on Census returns.

> "The Department's field information systems proved to be inadequate and prevented it from assessing the progress of the post back in 2,017 Census districts immediately after the Census. This failure to realise savings from the post back and the decision to keep the staff in the field during May contributed to some £11.3 million being spent which could have been avoided. When managing complex field operations, Departments should ensure they receive the necessary information to adjust the project to changes in circumstances."

The proposed design focuses on tracking questionnaires in real time, and using that information to direct operations. This means that most activities need to interface in some way to the response management data which means that the response management system must be thoroughly integrated into all the other Census systems.

1.2 Key operational intelligence activities to be contracted out

Activity
Provision of data linking the unique form identity to the address (from ONS supplied list) for every questionnaire printed, from bulk printing service.
Provision of facility to enable delivery of forms to new addresses found in the field. To include capture of address details on questionnaire and a simple and accurate method of associating the address with the unique questionnaire identifier.
Receipting of paper returns at processing centre.
Authentication and Receipting of Internet Returns.
Authentication and Receipting of Telephone Returns, and possible telephone follow-up of incomplete data.
Provision of facility to enable receipting of returns received elsewhere.
Provision of Mobile Communications equipment for field staff.
Systems and secure communications to enable mobile devices to interrogate and update response management data, including capture of address data.
Provision of database to hold all information for each unique questionnaire identifier linked to Address List.
HQ System to interrogate above.
System to support field staff expenses/pay.
Response Management System to support field staff activities.

1.3 General principles

The Address Register will contain uniquely referenced addresses for each delivery point and will form the basis of the response management system. The key to the required system is that it will record the unique reference for all questionnaires and link each one to the address to which it is to be delivered. All questionnaires returned must be registered with the response management system within 10 days of Census day, and within 24 hours of receipt for questionnaires received after that. This will enable ONS to:
- maintain tight control of the despatch and return of all questionnaires;
- provide accurate up-to-date information about response rates in all areas;
- allow field resource to be targeted to areas where response is poor; and
- provide field and HQ staff with accurate real-time information about the precise addresses to target in the follow-up.

The response management system must report progress at geographic and management area level, while tracking questionnaires individually. This will be achieved via the links to the Address Register. The requirements are that:
- it must be possible to obtain up-to-date progress reports for all areas;

- reports should be available by processing stage reached, and for all processing stages;
- reports should be available that show numbers of questionnaires completing each process by date; and
- it must be possible to analyse information from the response management system alongside information from the Contact Centre and other key systems by management teams at Census HQ to enable them to direct operations.

To gain timely control of, and add rigour to, many of the activities required in the field, some kind of mobile communications technology will be required. Advice from suppliers will be sought to come up with the most appropriate solution, and the equipment and systems to support it. This must take into consideration any requirements from other aspects of field work (such as information to support enumerators, internet help, recording information for pay and expenses, and possibly capturing personal data from householders).

With the adoption of a multi-channel approach to collection of Census data, it is possible that by 2011, a significant number of respondents may prefer to complete their questionnaire via the internet. At this stage, some 6 years away from Census day, it is impossible to predict the level of take-up of the internet option. In the intervening years we will be carrying out research and keeping track of the trend in internet usage in partnership with our chosen supplier. During this time we must ensure that our design remains sufficiently agile to be able respond to a large swing towards internet, the result of which could be a reduction in the number of questionnaires to be printed and processed. This may mean that instead of sending questionnaires out to all households, we ask people to register their chosen response route late in 2010, and only print questionnaires for those people opting for a paper return. It would be necessary for the response management system to record the result of the registration exercise and enable late changes to take place.

1.4   Delivery

1.4.1   General principles

Questionnaires will be printed in bulk. Questionnaires will be personalised by printing the delivery address and associating it with the unique questionnaire identifier (this must be in both human and machine readable form) which will uniquely identify the delivery point. As the address is printed, the unique questionnaire identifier and the address of the delivery point will be linked and held within the response management system. Having ensured that these rigorous processes to uniquely identify the questionnaire and link it to the delivery point are in place, the response management system will be able to reconcile every questionnaire received at the processing centre with every questionnaire despatched.

1.4.2   Addressing questionnaires for initial delivery

Because delivery points may be identified via several channels, the printing of the address on a form will follow several different routes:

  i.   Some areas may be designated for pre-delivery checks of the Address Register. To support this, field staff will require address lists for the areas in question, and a means of confirming, or otherwise, the status of each address. They will also require a means of capturing a new address, ideally with a grid reference, and a means of adding delivery points to existing addresses. Information on type of address (for example, residential address or communal establishment) will also need to be captured. This information will be validated and merged with the address register on its return to HQ.

 ii.   Addresses on the Address Register will be pre printed on questionnaires in bulk, and distributed to, or collected by, the postal service or field staff, depending on the delivery type associated with the address. Part of this printing process will be to associate the unique questionnaire identifier with the delivery address and store it on the response management system.

iii.   In areas designated for hand delivery of questionnaires, additional delivery points not identified on the Address Register may be found. In all such instances field staff will be required to capture the address and, ideally, the grid reference. The unique questionnaire identifier and the address of the delivery point must be linked and transmitted back to the response management system, before the address is printed, attached to the questionnaire, and delivered.

iv.   The Contact Centre will receive requests for questionnaires, (replacement/new, continuation or individual). If it not present on the Address Register, the address of the delivery point will be captured. An associated fulfilment function will print the address on the required un-personalised questionnaire. The unique

questionnaire identifier will be linked to the address of the delivery point and stored on the response management system. Questionnaires are likely to be despatched via the delivery route appropriate for the area surrounding the address.

1.4.3   Addressing questionnaires for follow-up phase

There are two phases where additional questionnaires may be delivered, in both cases this will be to known addresses.

i.   During the initial non-response follow-up phase replacement questionnaires may be delivered (either by post, or by hand). The viability and cost of this option need to be investigated, given the possible volumes of addresses requiring follow-up. If viable, this operation should be carried out centrally. Addresses for follow-up will be provided by the response management system and printed on questionnaires. The unique questionnaire identifier will be linked to the address of the delivery point and stored on the response management system. .

ii. When the non-response follow-up phase moves into the field, replacement or additional questionnaires may be required when contact is made. Pre-addressed questionnaires will not be available for this, so field staff will need to be able to link addresses to the unique reference of un-personalised questionnaires and transmit this information back to the response management system. The system to support this must reduce the possibility of error or omission in field procedures.

1.5   Questionnaire Return

1.5.1   General principles

It is a requirement to provide real-time information about the number returns, the mode of collection, and the number not yet received by area. It should also be possible to show receipt patterns by area, categorised by the type of return (unprompted or as a result of follow-up). Progress of receipts will be measured against the expected number on the response management system. It is paramount that all returns are checked-in as soon as possible after they are received in order to provide real-time management information to pinpoint areas where response is slow so that additional manpower can be targeted quickly and accurately.

1.5.2   Standard return routes for Census questionnaires.

1.5.2.1   Post

Census returns will be delivered direct to the processing site. The return of each form must be registered with the response management system using a date/time stamp. Barcodes are the current established technology to enable this, but could be open to newer supply chain technologies if cost effective and acceptable to the public, and could make use of existing technology within the mail distribution system to gain an earlier indication that questionnaires are within the mail system.

Service levels required for receipting paper questionnaires and the final model chosen will depend on cost. Ideally, all questionnaires should be checked-in within 24 hours of receipt, with a possible 5 million questionnaires a day at peak. However, the costs of this should be considered alongside the non-response follow-up timetable. The minimum service level is likely to require all questionnaires received to be checked-in within 10 days of Census day, although this will be dictated by the field follow-up timetable. The chosen path for follow-up of incomplete responses may also have a bearing on the final model chosen for check-in of questionnaires, because it may dictate a fast scanning and recognition timetable, or a geographical priority order that may also meet the timetable required for non response follow-up.

1.5.2.2   Internet

The registration and authentication of questionnaires completed via the Internet should include the submission of the unique questionnaire identity and verification of the address, as these are fundamental to the success of the response management system, and will prevent fraudulent entries. The registration process should prevent other respondents from using the same authentication details, thereby preventing duplicate Internet responses. The response management system will record receipt of the Internet return, and confirm receipt to the respondent providing a printable certificate of receipt with a unique reference number, which will be recorded on the response management system. The mode of receipt will also be captured.

1.5.2.3   Telephone (via the Contact Centre)
Telephone completion will initially be limited to disadvantaged groups, but may be extended more generally during the non-response follow-up exercise. The authentication of telephone responses will include the validation of the unique questionnaire identity and verification of the address, as these are fundamental to the success of the response management system, and will prevent fraudulent responses. The authentication process should prevent other respondents from using the same details, thereby preventing duplicate telephone responses. The response management system will record receipt of telephone responses, and possibly confirm receipt to the respondent, with a unique reference number which will be recorded on the response management system. The mode of receipt will also be captured.

1.6   Non standard returns

1.6.1   Questionnaire not delivered
Some questionnaires will not be delivered because the address is unknown. Ideally we would like to know if a questionnaire has been addressed to a property that is known to be vacant, derelict or demolished (for example, by asking the delivery service to complete a tick box on the wrapper). These would be returned directly to the processing centre and the response management system would be updated to indicate that no response is expected. Where this information cannot be provided, field staff will resolve at follow-up. Vacant properties made up around 3 per cent of addresses in 2001, and could be the same level in 2011. Similarly delivery may not be possible (no access or the householder refuses delivery. This information will need to be recorded in the response management system and communicated to the field force for action.

1.6.2   Questionnaires returned to other addresses
It is inevitable that some questionnaires will be directed straight to Census HQ, one of the other ONS sites, or somewhere else other than the processing site. A small scale 'interim' receipting operation will be required at each ONS office, with a larger presence in the Census HQ. Strict procedures must be set out to ensure that questionnaires that have been receipted remotely from the processing centre do actually arrive there within an acceptable time frame. There are currently two possible return routes being considered for this:
-    questionnaires will be collected by the Warehousing Collection and Distribution contractor, and delivered to the Processing Centre; or
-    questionnaires will be transferred to the correct envelopes and posted to the Processing Centre and will go through the standard receipting route once they arrive there.

1.6.3   Late returns
Some questionnaires will be received after the postal contract is complete, or after the Processing Centre has been closed. The response management system should record their receipt, also recording an appropriate status for the questionnaire.

1.6.4   Duplicate returns for a unique questionnaire identity.
It is possible that a household could make a return via more than one route, including the same or different people. The response management system must create an additional record when the additional returns are received for a unique identity indicating the mode of return (paper, internet or telephone).

1.6.5   Multiple returns for households in Wales.
In Wales, it is likely that two questionnaires will be delivered to each household, one in Welsh, and one in English, and it is possible that we will have both of these returned. These will have different unique identities but will be linked to the same address.

1.6.6   Questionnaires for the wrong address.
We will need procedures to deal with questionnaires that have been delivered to an incorrect address. The ideal solution is to ask householders to telephone the Contact Centre if they have a questionnaire that is not correctly addressed, in which case the original questionnaire can be 'deactivated' on the response management system, and a new questionnaire can be issued. However, it is inevitable that some members of the public will not follow such a procedure, and will strike through the original address and write in a new one. We need to consider whether providing a box on each questionnaire to allow the householder to put in the correct address would make things better or worse. Questionnaires returned with a different address will have broken the link between the unique questionnaire identity and the actual address that is so crucial to the integrity of the response management system. This will not be detected until the scanning and recognition processes have been carried out, so the original address will be considered to have made a return, and the new address may not. Reallocation

of unique identities may have to be considered. The process behind this should be a manual process to ensure that the allocation is correct, but the response management system must support this reallocation.

1.6.7 Other possible exceptions.
It is possible that members of the public will photocopy or scan questionnaires rather than obtain them via the prescribed route. This may be an innocent mistake, or a deliberate ploy. It is not expected that the scanning systems will be able to handle photocopies, so these would be rejected. Address details would be checked against the Address Register, verified and added if necessary. If the address information is genuine, the information on the photocopy will be transcribed to a new questionnaire (either paper or 'electronic') and linked to the new unique identity.

1.7 Non Response follow-up

1.7.1 General principles
Progress on receipt of returns by type will be recorded and used to assess when to trigger the first and second stages of follow-up operations. The trigger for follow-up may be a particular number of days after Census day, when the rate of return begins to decrease, or once a specific percentage of returns had been received for an area. Ideally both of these would be variable by area. Lists of addresses from which no return has been received will be generated from the response management system. Addressing questionnaires for each stage of follow-up is dealt with at 1.4.3 above. Once addresses move into the follow-up phase they should be assigned with an appropriate field follow-up status.

1.7.2 Field follow-up
Addresses from which there is no response to either the original questionnaire, or any replacement will require field staff to follow-up through physical visits. The information and facilities that will be required by field staff in order to accurately target non-response and record the result of follow-up are:

- a list of addresses with returns still outstanding from which to work;
- an ability to interrogate the current return status of those addresses on the response management system;
- the ability to deliver a replacement questionnaire (see 1.4.3 ii above);
- a method of recording the result of the follow-up call (for example, questionnaire delivered; questionnaire collected; address vacant; time of call; no-contact; number of times called;);
- the ability to receipt a questionnaire collected by hand (quickly and accurately registering receipt of the unique identity);
- a method of capturing, or ideally, verifying a web or telephone capture receipt number; and
- a method of transmitting this information back to HQ.

Follow-up team managers will need to have local access to the progress information being generated by their staff, by individual team member, and by follow-up team. Progress of follow-up together with numbers of returns received daily, would give HQ and local staff the ability to target additional resource in areas where non-response remained high.

1.8 Follow-up of Incomplete Returns

1.8.1 General principles
A completion check will be carried out on each Census questionnaire before or during data capture. Those questionnaires failing the completeness check will require further follow-up, and must be suspended from processing. The status of these forms must be updated appropriately. The contact centre will follow up those for whom a telephone number is available. The data and images to aid follow-up will be supplied by the Data Capture system. Further research will be required into the feasibility of this process.

1.8.2 Incomplete follow-up by telephone
If the respondents telephone number is available, the Contact Centre will attempt to call them to collect the missing information. Contact Centre operators will be required to:
- use the response management system to aid authentication of the person who answers the call to establish that they have the correct household and person; and
- update the status information held for that unique questionnaire identity on the response management system when data capture has been successfully completed.

1.9   Processing

1.9.1   Questionnaire processing

Once a questionnaire has been receipted at the processing centre, data processing systems will update the response management system for each stage a questionnaire passes through. After questionnaires are successfully checked out of the processing system, reconciliation of returns will take place. This will be the first process within the Downstream Processing systems and will use the data held within the response management system for each delivery point to merge the different questionnaires and response channels into single 'household' responses. The process will flag up real duplicate entries, which may be resolved automatically or referred for manual intervention.

1.9.2   Area processing

Once capture and coding of whole households (or questionnaires) is complete and reconciliation of returns has taken place, subsequent processing can be monitored and controlled at area level (that is, all returns within a designated area are processed as a batch together).

1.9.3   Post Census survey

It is likely that post census surveys will be carried out shortly after the Census. This is likely to involve about 1% of addresses, probably concentrated into small areas. It has not yet been determined how the surveys will be carried out, but it is possible that they will follow a similar route to Census data in terms of collection and processing. Ideally the same systems will be adopted to manage the fieldwork and capture and process the data. In response management terms, the system will need to be able to identify addresses involved in the post census surveys, and enable validation of the addresses that interviewers visit. Post field work, tracking requirements would be similar to the Census systems, and reporting would need to use post census survey area levels.

1.10   Management Information

1.10.1   General Principles

Several levels of Management Information will be required. There will be a team of staff at Census HQ who will interrogate information held on the Response Management System, alongside MIS from the Contact Centre & Processing Operations, as well as information from the Data Quality systems to identify and react to problems as they occur in each part of the operation. In addition, there will be a team directing the Field operation. This team will require Management Information at all levels of Field Management.

1.10.2   Recruitment

Information will be required on the progress of the recruitment process, which may require an interface to external companies' systems if recruitment is outsourced. This information will be required by role, both overall and geographically.

1.10.3   Training

Reports on progress with training the staff will be also be required. Again, this will be needed by role, both overall and geographically.

1.10.4   Field Management

Specific information will be required in order to manage the field operations. At a central and local level we will require a system to give information on numbers of staff available for work. Given the size of the workforce, we must anticipate a degree of staff turnover, so the system will need to be able to be constantly updated and give information on trends as well as absolute values so that areas where staffing levels are causing concern can be identified.

Individual members of the field force will be assigned to one or more specific geographical areas for each of the field exercises. These will need to be recorded in the management information system to enable all tiers of management to relate particular areas to particular members of staff. The area(s) allocated to individual members of staff will also need to be able to be changed during the course of Census activity, informed by information obtained through the RMS.

At any time we will need the ability to identify the number of staff committed to specific areas, eg, Team Manager and/ or Area Manager areas and Local Authority and other geographical areas. We will also want to assess these numbers against the estimate of staff required in each role within each area and compare these with the information coming through the RMS.

ONS will need to be able to verify payments made to field staff. The linking of staff to specific geographical areas will support this both for the base level of payments as well as for the expected T&S claims.

1.10.4.1 Pre Delivery Checks

During pre-delivery checks, we will need to understand how the activity is progressing within each of the areas assigned to an individual member of staff, as well as within the Team Manager and Area Manager areas and specific geographical areas such as Local Authorities. Assessing this against the expected number of dwellings, will enable the targeting of staff into areas experiencing the greatest difficulty.

1.10.4.2 Delivery

Progress of delivery staff will be required within each of the areas assigned to an individual member of staff, as well as within the Team Manager and Area Manager areas and specific geographical areas such as Local Authorities. Assessing this against information from the RMS will enable the targeting of staff into areas where delivery is taking longer than anticipated.

In addition to this information relating to staffing activity, information will be received from the postal service provider relating to progress of delivery and collection which will need to be integrated to response information.

1.10.4.3 Return

All field activity within this aspect of the census operation is considered under non-response follow up.

1.10.4.4 Non-Response Follow-up

The allocation of staff during this activity will be required within each of the areas assigned to an individual member of staff, as well as within the Team Manager and Area Manager areas and specific geographical areas such as Local Authorities. Assessing this against information from the RMS will enable the targeting of staff into areas of poorest response.

1.10.4.5 Follow-up of Incomplete Returns

It is currently envisaged that this operation will be undertaken using the contact centre.

1.11   Interfaces

In house/ contracted	Process/Procedure
In house	Census Address Register
Contracted	Data Capture Operations
In house	Downstream Processing Systems
In house	Field Management procedures
In house	Field staff procedures
Contracted	Contact Centre procedures
Contracted	Paper/Internet and telephone data capture receipting systems
Potential Interfaces	
Contracted	Distribution and Collection of Field Staff Supplies (receipting)
Contracted	Postal service
Contracted	Warehousing of questionnaires during processing
Contracted	Field Staff pay system

2 Recruitment of Field Staff

All the dates are based on a Test, Rehearsal and Census day at the end of April.

The 2011 Census is likely to include a requirement to outsource the recruitment of field staff, either as a stand alone contract or combined with payment and possibly training. This will also be the case for the 2007 Test and the Rehearsal in 2009.

More detail regarding payment and training aspects are contained in associated documents.

2.1 Introduction

The following field staff roles have been identified as probably being required: Regional Managers, Area Managers, Team Managers, Pre-Delivery Staff, the equivalent of Enumerators – that is, Delivery Staff, Communal Establishment staff, Follow-Up Staff, and Non-Compliance Staff.

The staff could be either ONS employees or employed by a third party. A decision will be made in the future.

2.2 Regional Managers

Regional Managers are the link between ONS and the public and are the senior field managers of the Census. Each will be responsible for managing the census in a Government Office Region and Wales.

Regional Managers are likely to be retired senior executives with experience of controlling large-scale diverse operations. The work may not require a full time commitment apart from the six months leading up to and during the Census.

The numbers required and their periods of employment are estimated in the following table:

Event	Numbers	Period of Employment
2007 Census Test	0	-
2009 Census Rehearsal	0	-
2011 Census	10	April 2009 – July 2011

Their job will be to:

- liaise with ONS on matters relating to the smooth running of the Census in their area;

- assist ONS with the Area Manager selection process;

- promote the Census and encourage response through informal and formal meetings and media initiatives;

- respond to problems and questions about the Census arising before and during the enumeration;

- ensure complete coverage by establishing new, and maintaining existing, links with local authorities and community groups;

- help identify, and liaise with, hard to enumerate groups;

- act as the local contact with any contractor(s) to ensure teams are in place and maintained;

- manage the Area Managers and Team Managers, ensuring that consistent procedures are followed and work is completed on time; and

- ensure that the confidentiality and security of census information is maintained at all times.

They will be expected to:

- be able to work on their own, remotely from the ONS;

- have wide ranging management skills, preferably with experience of recruitment and selection;

- be well organised and able to work within tight time-scales;

- be able to use their own initiative and to be flexible and adaptable to changing circumstances;

- have excellent communications skills being confident in dealing with a wide variety of people and organisations in various forum including dealing with the media, local television, radio and press;

- have the capability to write concise management reports at a senior level: and

- be computer literate and prepared to manage their own administrative tasks.

2.3 Area Managers

Area Managers are the local senior managers of the Census. Each will be responsible for a designated area of the country and, depending on the type of area (such as rural, urban or suburban) they may cover between 75,000 and 300,000 households.

Traditionally Area Managers have been retired senior executives recruited through circulars to public bodies as well as through the media and job centres. The work may not require a full time commitment apart from the six months leading up to and during the Census.

The numbers required and their periods of employment are estimated in the following table:

Event	Numbers	Period of Employment
2007 Census Test	0 – 2	August 2006 – July 2007
2009 Census Rehearsal	0 – 2	August 2008 – July 2009
2011 Census	300	August 2009 – July 2011

Their job will be to:

- ensure complete coverage by establishing new, and maintaining existing, links with community groups and local authorities;

- help identify, and liaise with, hard to enumerate groups;

- promote the Census and encourage response through informal and formal meetings and media initiatives;

- liaise with any contractor(s) to ensure teams are in place and maintained;

- manage the Team Managers and Pre-Delivery staff in their area, ensuring that consistent procedures are followed and work is completed on time; and

- ensure that the confidentiality and security of census information is maintained at all times.

They will be expected to:

- be able to work on their own, remotely from the ONS;

- be well organised and able to work to deadlines;

- be able to use their own initiative and to be flexible and adaptable to changing circumstances;

- have excellent communications skills being confident in dealing with a wide variety of people and organisations in various forum including dealing with the media, local television, radio and press (with training); and

- be computer literate and prepared to manage their own administrative tasks.

2.4 Team Managers

Team Managers are the local managers in the field with responsibility for the delivery, communal establishment and follow-up staff. The work may be either part time or full time and will probably require working evenings and weekends, in addition to during the day. The work is expected to be very busy in the three to four months leading up to and around the time of the Census.

The numbers required and their periods of employment are estimated in the following table:

Event	Numbers	Period of Employment
2007 Census Test	40	November 2006 – July 2007
2009 Census Rehearsal	30	November 2008 – July 2009
2011 Census	2,000	September 2010 – July 2011

Their job will be to:

- manage and direct the work of Delivery, Communal Establishment and Follow-up staff;

- ensure complete coverage of their area by ensuring procedures are followed properly and work is finished on time;

- encourage participation and reassure householders who express concerns about completing their Census questionnaire;

- manage the issuing of additional or replacement questionnaires;

- carry out, or supervise, checks where the ONS has identified the possibility that blocks of addresses may have been missed from the initial postal despatch;

- be comfortable using IT equipment, probably in the form of a PC or possibly Personal Digital Assistant (PDA);

- liaise with Area Managers to ensure that Delivery, Communal Establishment and Follow-up staff, are able to carry out their tasks and that numbers are maintained; and

- ensure confidentiality and security of census information is maintained at all times.

They will be expected to:

- be able to work remotely from their Area Manager;

- be well organised and able to work to deadlines;

- be able to lead and motivate a team;

- be able to understand detailed procedures and direct team members effectively on these;

- be flexible and adaptable to changing circumstances; and

- have excellent communications skills and confidence in dealing with a wide variety of people.

2.5 Pre-Delivery Staff

The main duty of pre-delivery staff is to verify the address register at either a national level or for specified locations. The work could be either part time or full time and may require working evenings and weekends, in addition to during the day. Staff may work as part of a small team or independently, depending on the situation and location as well as the specific duties and responsibilities.

The numbers required and their periods of employment will be critically dependent upon the extent of the pre-delivery address check. Estimates are given in the following table. These assume that between 900 and 1,500 addresses can be checked per person per week, and that a full coverage check is required:

Event	Numbers	Period of Employment
2007 Census Test	130	September 2006 – October 2006
2009 Census Rehearsal	100	September 2008 – October 2008
2011 Census	5,600	August 2010 – September 2010

Their job is likely to include:

- checking addresses on the address register against 'those on the ground' within a pre-defined area;
- identifying additional properties, including those that are not yet inhabited but may be by the time of the test, rehearsal or Census;
- identifying communal establishments, such as hospitals, hotels, etc;
- identifying commercial, vacant or derelict properties, etc;
- confirming multi-occupancy where indicated on the address register;
- identifying multi-occupancy in other properties, including establishing numbers;
- providing additional intelligence information to assist with the enumeration of the area; and
- ensuring confidentiality and security of census information is maintained at all times.

They will be expected to:

- be able to follow detailed procedures and to work to deadlines;
- have good communication skills and be confident in dealing with a wide variety of people;
- be able to work within a team;
- pay attention to detail and show determination in completing tasks;
- be flexible and able to adapt to changing circumstances;
- be comfortable using IT equipment; and
- be available to work evenings and weekends.

2.6 Delivery Staff

Delivery staff's main duty is to ensure hand delivery of Census questionnaires where post out is not adopted as the enumeration procedure. The work could be either part time or full time and will probably require working evenings and weekends, in addition to during the day. Staff may work as part of a small team or independently, depending on the situation and location as well as the specific duties and responsibilities.

The numbers required and their periods of employment are estimated in the following table:

Event	Numbers	Period of Employment
2007 Census Test	450	January 2007 – May 2007
2009 Census Rehearsal	200	January 2009 – May 2009
2011 Census	25,400	January 2011 – May 2011

Their job is likely to include:

- delivering Census questionnaires to households;
- ensuring householders are aware of the Census and their need to participate, either by making direct contact or by delivering promotional material;
- carrying out face-to-face interviews in order to complete a Census questionnaire, possibly with the use of IT equipment (for example, PDA or laptop);
- providing additional intelligence information to assist with the enumeration of their areas; and
- ensuring confidentiality and security of census information is maintained at all times.

They will be expected to:

- be able to follow detailed procedures and to work to deadlines;
- have good communication skills and be confident in dealing with a wide variety of people;

- be able to work within a team;
- pay attention to detail and show determination in completing tasks;
- be flexible and able to adapt to changing circumstances;
- be comfortable using IT; and
- be available to work evenings and weekends.

2.7 Communal Establishment Staff

Communal Establishment staff's main duty is to ensure the delivery and collection of Census questionnaires to communal establishments (residential accommodation that is not occupied by private households such as hospitals, nursing homes, boarding schools, hotels etc.). The work could be either part time or full time and will probably require working evenings and weekends, in addition to during the day.

The numbers required and their periods of employment are estimated in the following table:

Event	Numbers	Period of Employment
2007 Census Test	12	January 2007 – June 2007
2009 Census Rehearsal	10	January 2009 – June 2009
2011 Census	1,500	January 2011 – June 2011

Their job is likely to include:

- delivering Census questionnaires to communal establishments such as hospitals, nursing homes, boarding schools, hotels etc.;
- ensuring managers/persons in charge are aware of the Census and their need to participate, by making direct contact;
- carrying out face-to-face interviews in order to complete a Census questionnaire, possibly with the use of IT equipment (for example, PDA or laptop);
- providing additional intelligence information to assist with the enumeration of their areas; and
- ensuring confidentiality and security of census information is maintained at all times.

They will need the same attributes as delivery staff.

2.8 Follow-up Staff

Follow-up staff's main duties are to ensure that every effort is made to collect completed Census questionnaires from households that have not returned a questionnaire through the post and to collect missing information from householders who have returned incomplete questionnaires. The work could be either part time or full time and will probably require working evenings and weekends, in addition to during the day. Staff may work as part of a small team or independently, depending on the situation and location as well as the specific duties and responsibilities.

It is anticipated that a large number of the delivery and communal establishment staff would be retained to carry out the follow up work.

The numbers required and their periods of employment are estimated in the following table:

Event	Numbers	Period of Employment
2007 Census Test	200	April 2007 – July 2007
2009 Census Rehearsal	150	April 2009 – July 2009
2011 Census	11,000	April 2011 – July 2011

Their job is likely to include:

- calling back to specific addresses, as directed by Team Managers, which have been identified by ONS as not having returned a Census questionnaire or have returned an incomplete questionnaire;

- obtaining completed questionnaires from these addresses or establishing that a questionnaire is not expected because it is non residential or no-one currently lives there or was present on Census night;

- encouraging participation and reassuring householders who express concerns about completing their Census questionnaire;

- providing assistance to complete Census questionnaires where necessary;

- delivering additional or replacement Census questionnaires to addresses;

- checking the status of addresses and reporting the outcome of follow-up visits using the appropriate media (for example, PDA or laptop); and

- ensuring confidentiality and security of census information is maintained at all times.

They will need the same attributes as delivery staff.

2.9 Non-Compliance Staff

The main duties of the non-compliance staff are to ensure compliance where follow up has failed and instigate and conclude prosecutions where appropriate. The work could be either part time or full time and will probably require working evenings and weekends, in addition to during the day. Staff will probably work as part of a small team, depending on the situation and location as well as the specific duties and responsibilities.

The numbers required and their periods of employment are estimated in the following table:

Event	Numbers	Period of Employment
2007 Census Test	0	-
2009 Census Rehearsal	0	-
2011 Census	400	April 2011 – December 2011

Their job is likely to include:

- calling back to specific addresses, which have been identified by field staff as having failed, or refused, to return a Census questionnaire;

- obtaining completed questionnaires from these addresses where possible;

- reminding householders of their legal obligation to participate where they express concerns about completing their Census questionnaire;

- providing assistance to complete Census questionnaires where necessary;

- instigating the prosecution process where a household refuses to comply with the legislation;

- conducting formal interviews under caution according to Police and Criminal Evidence Act Code of Practice, and completing required documentation;

- following through with prosecutions where appropriate, including giving evidence in court, where required;

- checking and reporting the outcome of non-compliance visits, using the appropriate media (for example, PDA or laptop); and

- ensuring confidentiality and security of census information is maintained at all times.

They will be expected to:

- be able to follow detailed procedures and to work to deadlines;

- understand the legal prosecution processes and be comfortable implementing this;

- have good communication skills and be confident in dealing with a wide variety of people;

- be able to work within a team;

- pay attention to detail and show determination in completing tasks;

- be flexible and able to adapt to changing circumstances;

- be comfortable using IT equipment, and

- be available to work evenings and weekends.

2.10 Post Census Surveys

It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement to recruit specific field staff.

2.11 Contractors Role

- Assist with identifying likely sources for Regional Manager and Area Manager recruitment, devising and assisting with a selection process, including conducting interviews possibly alongside ONS staff.

- Provide advice on the pay scale likely to attract the right type of recruits for all levels of field staff.

- Use expertise and knowledge of local and national initiatives to ensure sufficient suitable applicants to fill Team Manager, Pre-Delivery, Delivery, Communal Establishment, Follow-Up and Non-Compliance posts across England and Wales. Numbers required will vary across areas of country as advised by ONS.

- Be aware that recruitment will be more difficult in certain areas of the country and experience in the 2001 Census suggests that the problems are getting worse and therefore special measures may need to be put in place to counter these difficulties.

- Provide suitably qualified Team Managers, Pre-Delivery, Delivery, Communal Establishment, Follow-Up and Non-Compliance staff in the numbers required per area by specified dates.

- Contractor(s) may be responsible for paying and training Team Managers, Pre-Delivery, Delivery, Communal Establishment, Follow-Up and Non-Compliance staff including any expenses, in the 2007 Test and possibly 2009 Rehearsal and 2011 Census.

- Have a plan in place to respond to staff turnover, ensuring that resignations are dealt with promptly and replacements are in place within 2 days (turnover in 2001 was in the range 5 – 8%).

- Provide suitable audit trail and reporting procedures for the recruitment of the field staff. The reporting mechanisms will entail interfacing with other ONS and/or contractors systems.

- Together with the ONS, develop robust contingency procedures that can be put into practise quickly.

3 Payment of Field Staff

For the 2011 Census, the payment of field staff may be contracted out, either as a stand alone contract or combined with either or both recruitment and training. For 2007, payment will be contracted out.

More detail regarding recruitment and training aspects are contained in associated documents.

3.1 Introduction

The following field staff roles have been identified as probably being required: Regional Managers, Area Managers, Team Managers, Pre-Delivery Staff, the equivalent of Enumerators – that is, Delivery Staff, Communal Establishment staff, Follow-Up Staff, and Non-Compliance Staff. A description of the roles and responsibilities, and an estimation of the numbers for each position, is included within 'Recruitment of Field Staff'.

During the 2001 Census, problems were experienced with the payroll system, which need to be addressed. In addition to the fact that some payments were made very late, the system was perceived as overly bureaucratic and inflexible and did not sufficiently support the field operation.

The Census requires a payroll system to process and pay large numbers of temporary field staff during the 2007 Test, 2009 Rehearsal and 2011 Census. The staff will be appointed at different times and have different contract durations. There will also be different pay structures across the different roles as well as, potentially, geographical variations.

3.2 Payment Methods

3.2.1 Regional Managers

Regional Managers will be paid monthly, either directly by the ONS or as part of the contract.

3.2.2 Area Managers

Area Managers will be paid monthly, either directly by the ONS or as part of the contract.

3.2.3 Team Managers

Team Managers will be paid as part of the contract.

During the 2001 Census, staff in the equivalent role were paid in five stages. The payment structure for this Census has not yet been finalised. However, payments may be pre-set, monthly or weekly. The final payment may also include a 'terminal bonus' payment, which would be payable to those who had successfully completed the job and returned specified equipment.

Expenses should be reimbursed with each payment and could include items such as travel costs, telephone expenses, subsistence and other miscellaneous costs.

Claims for payment would be forwarded by Team Managers to their Area Manager for checking and authorisation. Area Managers would forward authorised claims for payment.

3.2.4 Pre-Delivery Staff

Payment for pre-delivery staff would either be upon completion of the task or at specific stages during the task, which may be pre-set, monthly or weekly. Payments may comprise one or both of hourly and/or piece-rate elements, the latter based, for example, on the number of addresses identified. The final payment may also include a 'terminal bonus' payment, which would be payable to those who had successfully completed the job and returned specified equipment.

Expenses would also be payable although these are likely to be limited to travel expenses with only a very limited number of staff incurring any other allowable expenditure.

Claims for payment would be forwarded by pre-delivery staff to their Area Manager for checking and authorisation. Area Managers would forward authorised claims for payment.

3.2.5 Delivery Staff

Payment for delivery staff would either be upon completion of the task or at specific stages during the task, which may be pre-set, monthly or weekly. Payments may comprise one or both of hourly and/or piece-rate elements, the latter based, for example, on the number of households visited or number of questionnaires delivered. The final payment may also include a 'terminal bonus' payment, which would be payable to those who had successfully completed the job and returned specified equipment.

Expenses would also be payable although these are likely to be limited to travel expenses with only a very limited number of staff incurring any other allowable expenditure.

Claims for payment would be forwarded by delivery staff to their Team Manager for checking and authorisation. Team Managers would forward authorised claims for payment.

3.2.6 Communal Establishment Staff

Payment for communal establishment staff would either be upon completion of the task or at specific stages during the task, which may be pre-set, monthly or weekly. Payments may comprise one or both of hourly and/or piece-rate elements, the latter based, for example, on the number of establishments visited or number of questionnaires delivered. The final payment may also include a 'terminal bonus' payment, which would be payable to those who had successfully completed the job and returned specified equipment.

Expenses would also be payable although these are likely to be limited to travel expenses with only a very limited number of staff incurring any other allowable expenditure.

Claims for payment would be forwarded by Communal Establishment Staff to their Team Manager for checking and authorisation. Team Managers would forward authorised claims for payment.

3.2.7 Follow-Up Staff

Payment for follow-up staff will probably be at specific stages during the task, which may be pre-set, monthly or weekly. Payments may comprise one or both of hourly and/or piece-rate elements, the latter based, for example, on the number of households visited or questionnaires collected. The final payment may also include a 'terminal bonus' payment, which would be payable to those who had successfully completed the job and returned specified equipment.

If delivery and communal establishment staff remained in post to take on follow-up work, then the pay appropriate for the new role would need to be implemented.

Expenses would also be payable although these are likely to be limited to travel expenses with only a very limited number of staff incurring any other allowable expenditure.

Claims for payment would be forwarded by follow-up staff to their Team Manager for checking and authorisation. Team Managers would forward authorised claims for payment.

3.2.8 Non-Compliance Staff

Non-compliance staff may be paid, either directly by the ONS or as part of the contract.

Payment for non-compliance staff will probably be at specific stages during the task, which may be pre-set, monthly or weekly. Payments may comprise one or both of hourly and/or piece-rate elements, the latter based, for example, on the number of households visited or questionnaires collected. The final payment may also include a 'terminal bonus' payment, which would be payable to those who had successfully completed the job and returned specified equipment.

Expenses should be reimbursed with each payment and could include items such as travel costs, telephone expenses, subsistence and other miscellaneous costs.

Non-compliance staff would complete the necessary claims, which would be forwarded to ONS for checking and authorisation before being sent for payment.

3.2.9 Post Census Surveys

It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement to pay survey field staff.

3.3 Contractors Role

Provide a robust but flexible payroll system capable of coping with the requirements of a Census.

Have a system in place to cope with staff turnover ensuring that resigning staff are paid within a reasonable period of time and that replacements are entered onto the system promptly (turnover in 2001 was in the range 5 - 8%).

Provide suitable audit trail and reporting procedures that will allow ONS to monitor progress and be confident that National Audit Office requirements are being met. The reporting mechanisms will entail interfacing with other ONS and/or contractors systems.

Together with the ONS, develop robust contingency procedures to cope with unforeseen events, such as happened in the 2001 Census with the foot and mouth outbreak and postal delays, which can be put into practise quickly.

4. Training of Field Staff

4.1 Introduction

The 2011 Census is likely to procure services to support the development and delivery of the training of field staff, either as a stand alone contract or combined with recruitment and pay. This will also be the case for the 2007 Test and the Rehearsal in 2009. More detail regarding recruitment and payment aspects are contained in previous sections 2 and 3.

A number of levels of field staff will be used: Regional Managers, Area Managers, Team Managers, Pre-Delivery Staff, the equivalent of Enumerators – that is, Delivery Staff, Communal Establishment Staff and Follow-Up Staff, and Non-Compliance Staff. Regional and Area Managers will probably be trained directly by ONS with specialist input for certain topics such as media liaison.

A very large temporary field force always imposes special challenges, and the key is to ensure that consistent and accurate learning is conveyed to every employee. In 2001, the field staff training was conducted on a cascade basis:

- Area Managers attended two residential courses, each lasting one week and conducted by ONS staff with some sessions supported by outside experts;
- Area Managers trained their Team Managers in three sessions taking around 9hrs in total; and
- Team Managers trained their Enumerators over three sessions taking around 4hrs in total. Enumerator training was preceded by self-study and completion of tests to ensure the work had been carried out and understood. The classroom training was based around a video and included practical exercises, such as role-playing.

This method helped to present key learning points in a timely and consistent manner whilst providing an opportunity to assess and resolve local issues. However, it provided little control in terms of consistency and was dependent on the training skills of the field managers. It was also difficult to adapt to the high levels of staff turnover experienced in 2001.

The roles and employment periods for each of the field staff levels planned to be used in 2011 are described in the accompanying Recruitment of Field Staff document. Training will relate to the tasks carried out by each field staff level and the tools and materials they will use to carry these out.

It is intended that PCs will be used by all field staff. This will present a challenge in ensuring people of varying abilities or experience are not daunted by the idea of using IT tools and are properly trained to use the equipment.

4.2 Training needs to:

- employ a variety of means and media appropriate to the numbers and levels of field staff employed, such as distance learning, video learning, role playing, e-learning, peer group discussion;
- address the fact that the field force are temporary employees, recruited for a short period of time, many of whom will have a full-time job or commitment outside of their involvement in the Census and may have limited time to spend on learning;
- address the fact that field managers will have different levels of training experience and skills;
- be conducted in a timely manner to reflect when tasks will be carried out;
- inform each level of field staff of their duties and how and when to use the various materials and tools they are provided with;
- ensure that the key procedures and learning points are conveyed in a consistent and clear manner;
- provide field staff with an opportunity to ask questions, seek clarification and understand issues specific to their local areas;
- address issues with the wider introduction of IT equipment in the field in terms of ensuring people with varying abilities are properly trained in their use and the physical challenges in terms of suitability of accommodation and facilities;
- enable field staff to review their understanding of a learning point at any time, including during the enumeration process;

- ensure that, where there are resignations, replacement field staff receive comprehensive training in the tasks they have to complete, at whatever point in the enumeration they are appointed, without putting undue burden on those required to give the training;
- include methods to test levels of understanding;
- link to the management information system to record that training has been carried out/attended which may inform payroll;
- complement field staff instructions and ensure that messages are consistent; and
- be as effective, focused and enjoyable as possible.

4.3 Post Census Surveys

It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement to train survey field staff.

5. Translation and Interpretation Services

5.1 Translation Services

To meet the requirements of the Welsh Language Act 1993, field staff in 2001 offered a choice of English or Welsh language versions of the appropriate census questionnaires to householders living in Wales. Bilingual versions of publicity and information material as well as recruitment documentation were also produced. This will also be the case in 2011.

In addition, to assist those people whose first language was not English, translation leaflets were produced in 26 languages. These provided the text covered in the Information leaflet, which accompanied the Census questionnaire, plus a translation of the questions on the questionnaire itself. The translation leaflets were an aid to the completion of the Census questionnaire, was required to be completed in English (or alternatively in Welsh in Wales). The table below shows the quantity of the translation leaflets provided to the field staff by language. There is no information, however, on how many were issued to households.

Language	Numbers provided to the field staff
Albanian/Kosovan	12,380
Arabic	9,410
Bengali	23,290
Chinese	15,610
Croatian	6,410
Farsi	8,300
French	3,880
German	2,590
Greek	4,450
Gujarati	28,590
Hindi	20,880
Italian	4,800
Japanese	3,180
Korean	860
Polish	5,660
Portuguese	4,770
Punjabi	30730
Russian	4,250
Serbian	6,110
Somali	10,230
Spanish	3,860
Swahili	3840
Tamil	830
Turkish	9,030
Urdu	42,410
Vietnamese	5,140
Total	**271,490**

In addition, small volumes of translation leaflets were produced in Irish and Ulster Scots for use in Northern Ireland.

The languages to be used for any translation leaflets required for 2011 may well be different from, or more extensive than, those used in 2001. Once the required languages have been identified, translation services will be required for production of translation leaflets and other materials. The provision of a self-help web site for 2011 will enable members of the public to access and download copies of translation materials themselves. It will also enable more languages to be provided via this medium.

5.2 Interpreter Services

The Census Helpline in 2001 provided an Interactive Voice Recognition (IVR) dialogue and operators fluent in 12 languages: Arabic, Bengali, Chinese, Greek, Gujarati, Hindi, Italian, Punjabi, Somali, Turkish, Urdu and Vietnamese. 3,075 calls successfully accessed this IVR facility.

The provision of translation leaflets via the self-help website will enable the public to access many more language versions. This may reduce some of the demand on the Contact Centre, however, it is still expected that there will be a need to provide interpreter services for members of the public calling the helpline for assistance. We will need to consider the best methods for meeting this requirement, bearing in mind the potential range of languages which may be required.

In 2001, there were circumstances where interpreters were employed to accompany Enumerators to addresses where a language issue had been identified. They were used to provide assistance because either no translation material was available for the relevant language or what was provided was not useful. The reasons for this varied from the respondents' inability to read the spoken language, to material not being available in particular dialects of the language. The table below shows the number of households where official interpreter assistance was required, by language.

Language	No. of households requiring Interpreter services
Albanian/Kosovan	4
Arabic	98
Armenian	200
Bengali	477
Chinese	317
Czech	7
Farsi	12
Gujarati	89
Hebrew	1
Japanese	57
Kurdish	6
Polish	1
Portuguese	2
Punjabi	127
Romanian	122
Slovakian	4
Somali	2
Sri Lankan	87
Turkish	202
Urdu	1
Vietnamese	107
Total	**1,923**

The recruitment strategy in 2011 will include employing field staff who are fluent in the languages spoken within the area and they should also be able to assist in neighbouring areas. However, it is still anticipated that there will be a requirement for interpreters to assist some householders. This requirement may be identified by the field staff, during one of the enumeration rounds, or as a request from the public via the Contact Centre or self-help website.

5.3 Post Census Surveys
It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement for translation and interpretation services.

5.4 Interfaces will include:
Recruitment
Contact Centre
Self-help Website
Enumeration Strategies

Working instructions and training material
Logistics

6 Warehousing, Distribution and Collection

6.1 Introduction

As well as the Census questionnaires themselves there are a large number of other documents and materials which are required to support the Census enumeration. There were approximately 960 items, in addition to the Census questionnaires, produced in 2001. It is intended that there will be a radical review of the purpose of these and that changes to procedures and strategies will reduce this number.

The types of supplies and materials may include:
- Census questionnaires
- Communal Establishment questionnaires
- Continuation questionnaires
- information leaflets
- envelopes
- translation leaflets
- publicity material
- IT equipment: Personal Digital Assistants, PCs, printers, mobile phones, fax machines
- forms for recruitment and pay
- instruction and training material
- bags/satchels
- authority/identity cards
- non compliance forms
- reminder leaflets
- personal alarms
- follow-up letters
- storage materials such as boxes and tape
- general stationery materials such as pens, paperclips etc.

These items will need to be sorted into supplies by type and volume and despatched to some 2,000 - 5,000 Team Managers and 150 – 400 Area Managers. Some supplies, such as Census continuation, communal establishment and individual questionnaires, will contain information (either addresses or geographic identifiers) which will require that they be delivered to specific areas and field managers. Other supplies will be generic.

After the main despatches of supplies there will be a requirement to provide additional or extra supplies to meet ad hoc requests from the field managers. A stock of supplies will need to be stored securely in anticipation of this and a stock control system implemented.

There will be a need for a robust and effective system to identify total volumes required (including HQ, training and archive copies), timescales for when they are required, numbers required for each field staff level and a stock control system to monitor volumes and despatches.

Delays to supplies to the field can have a major impact on the enumeration process, reducing the timescales to carry out tasks and the subsequent quality of the work done.

Requests for Census questionnaires or other material will be received through the public help facilities (i.e. Contact Centre and self-help web site) and from the field. These requests will be notified to the distribution area[1] for prompt fulfilment, ideally within 24hrs of request.

The process of warehousing, distribution and collection of supplies will include:
- receiving pre-addressed and unaddressed Census questionnaires with delivery and post-back envelopes;
- collecting or receiving supplies and materials from suppliers;
- storing supplies and materials securely until agreed despatch dates;
- picking and packing of batches of supplies for field staff, based on quantity information provided by ONS, and preparing for delivery in appropriate containers (NB as mentioned above some supplies will contain information which require them to be delivered to specific areas and field managers);

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[1] This service may be provided by the contact centre supplier. The final decision has yet to be made.

- contacting Area and Team Managers to arrange convenient delivery time, date and arrangements within timescales set by ONS;
- delivering to addresses designated by Area and Team Managers in timescales and manner agreed;
- delivering HQ supplies as required;
- providing a stock control system to record and control goods received and delivered;
- storing emergency stocks of supplies and delivering on an ad hoc basis to meet field manager demands;
- advising ONS when stock levels drop below agreed thresholds so that decisions can be made on re-printing;
- responding to fulfilment requests for Census questionnaires and other material reported via the public help facilities to requirements, standards and timescales set by ONS (for example,. ensuring Census questionnaires are properly addressed and linked to unique identifier before posting to householder with accompanying documentation as required);
- storing of census questionnaires securely and to meet processing contractor's requirements in terms of humidity levels etc;
- after the enumeration, contacting Area and Team Managers to arrange convenient time, date and arrangements, within timescales set by ONS, to collect material and supplies;
- collecting census material and supplies (other than completed census questionnaires) from addresses designated by Area and Team Manager and either delivering to ONS, destroying or recycling as instructed by ONS;
- transporting materials securely with detailed records and signatory confirmation of transfer of responsibility at each stage; and
- applying Census Office confidentiality requirements at all times.

6.2 2001 Census Facts and 2011 Assumptions

Over 4,500 tonnes of field material were distributed in 2001. Examples of forms and other materials supplied to field staff in England and Wales in 2001 are:

Document Category	Document Variations	Volumes produced (millions)
Recruitment	100	4.6
Geography	16	0.2
Census and public forms	51	66.8
Enumeration	34	35.7
Pay	75	1.6
Intructions and Training	39	0.4
Publicity	167	1.9
Other materials (incl stationary)	64	36.2

As stated previously a review of strategies and procedures will aim to reduce the variations required under these categories. The wider provision of IT equipment to field staff will also allow a reduction in the need for paper versions of all documents to be provided

In 2001, supplies were delivered to the field managers in five batches over a 6-month period. The despatch of supplies was dependent on their purpose and the timetable for various tasks to be completed. This ensured field managers had the supplies that they needed to complete their tasks without requiring them to store large volumes of supplies for too long a period. We would similarly expect supply despatches in 2011 to match the employment period and tasks identified in the Recruitment of Field Staff document.

In 2001, requests for ad hoc supplies peaked at 200 requests per day. In 2011, we would expect that some ad hoc be resolved by providing field managers with electronic file versions of some documents. However, requests for Census questionnaires via the field and fulfilment requests from the public help facilities will still need to be dealt with. Ad hoc requests for supplies from field staff and fulfilment requests via the public help facilities are likely to be concentrated around the delivery and follow-up periods and may cover a period of three weeks prior to Census day and up to six weeks after Census day.

In 2001, collection of surplus material began six weeks after Census day and was completed over a 6-week period. There will still be a need for this process in 2011 but it may be possible to reduce the period over which this collection is conducted.

6.3 Post Census Surveys

It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement for warehousing, distribution and collections services.

6.4 Interfaces will include:

- printing contractors;
- suppliers of other materials e.g. IT;
- recruitment contractor;
- training contractor;
- postal service provider;
- Contact Centre;
- field staff managers;
- ONS.

7 Public Help Facilities

7.1 Introduction

The proposed design for the 2011 Census will mean that for the majority of households there will be little or no contact with field staff so the role provided by the public help facilities will be much more critical to the success of the Census.

Traditionally we have provided assistance and answers to questions from the public via a national helpline facility. In 2011 we would expect assistance to the public to be provided via a self-help web facility as well as through Contact Centre services. The self-help web site address should be promoted ahead of the helpline number and should be seen as the first port-of-call for assistance. The Contact Centre helpline number should primarily be used by those without Internet access, those who prefer to use the Contact Centre, or those who have been unable to resolve their query through the self-help web site.

A publicity campaign will inform the public about the Census and will instruct householders to use the self-help web site or telephone the Contact Centre if they have not received a Census questionnaire by a specified date. It is essential to Census coverage that householders experience no difficulties or delay in doing this and in subsequently obtaining a questionnaire.

7.2 Contact Centre

For the 2011 Census, we would require Contact Centre site(s) to be set up and staffed with suitably trained advisors and support staff. Contact Centre operations will also be required to support Tests planned for 2007 and 2009. Although the scale of these tests (approximately 100,000 households for each Test) may not necessarily require sites to be set up, we will still need to test the functions of the Contact Centre, systems and interfaces with other systems.

7.2.1 Timetable

Assuming that Census day falls around the end of April in 2011, the main Contact Centre helpline number will be available from the beginning of April until the end of June 2011.

Similar timetables will be used in 2007 and 2009.

7.2.2 Functions

The Contact Centre(s) should provide the public with the means to:

Request a Census questionnaire to be either posted or delivered to an address:
- where none has been delivered;
- where the one delivered has been lost or damaged;
- where the household contains more people than can be covered on a single Census questionnaire;
- where a person within a household would prefer to complete an Individual questionnaire;
- where a Welsh version of the Census questionnaire is preferred; and
- where questionnaires are required for use in a Communal Establishment;

Obtain assistance to complete the Census questionnaire by:
- providing answers to questions received by telephone or email;
- providing answers to questions on: the census in general; whom to include on the questionnaire; how to answer specific questions on the questionnaire; and confidentiality issues;
- providing advisors fluent in a range of languages;
- providing a text phone facility for the deaf;
- arranging for translation material to be despatched;
- arranging for a member of the field force to visit, with an interpreter if required;
- arranging for material to be despatched for people with additional needs, for example material produced as part of Community Liaison initiatives such as: braille forms/leaflets; large print forms; and audio tapes etc;
- providing the self-help web site address; and

- providing technical help on the internet form completion where the on-line help has proved insufficient;

Enable a response by:
- providing a post-back envelope (or freepost address) to return a completed questionnaire where the envelope has been lost or was never received;
- enabling questionnaire completion over the telephone for specific groups;
- providing the web site address containing the Internet form completion option;
- arranging for a member of the field force to visit to collect the questionnaire, for example, from an elderly or disabled caller who has difficulty posting the questionnaire.

The Contact Centre functions will also include:

- recording and prioritising fulfilment requests and forwarding to the appropriate area for action[2], these will include requests for:
- Census questionnaires and other supplies so that these can be despatched/delivered promptly;
- members of the field force to visit householders;
- providing MIS type information about the enumeration processes to highlight issues, trends and problems enabling decisions to be taken on any action required, including enabling areas missed at post-out to be identified;
- providing MIS type information about the operation of the Contact Centre to enable it to be managed more effectively and efficiently;
- updating the response management system about requests for census questionnaires; and
- carrying out telephone follow-up for information missing from returned Census questionnaires where a telephone number has been provided.

There may be a requirement for the Contact Centre to support other functions relating to the Census for which other contact numbers will be published, these could include:

- recruitment of Census field staff (likely to relate primarily to Delivery and Follow-up staff, recruitment timescales covered in associated document): in 2001, this was solely an IVR system, which took details from 322k callers;
- recruitment for post-Census Survey staff: in 2001, this was solely an IVR system, which took details from 52k callers;
- public helpline from householders involved in the post-Census Survey: this facility was advisor based and took just over 2k calls; and.
- helpline facility for field staff.

The need for these will be dependent on requirements from other Census projects currently under development.

7.2.3 2001 Census facts and figures

Unlike other Contact Centres there is no long-term historical data on which to base volumes and peaks, therefore assumptions for 2011 will need to be based on 2001 Census experience:

- the Census helpline function of the Contact Centre was operational for 3 months going live approximately one month before Census day;
- it was open between 8.00am – 8.00pm;
- call volumes per day and per week followed the usual industry findings i.e. more calls at the beginning of the week/day dropping off as the week/day progresses;
- 2.6 million calls were received;
- 29,000 calls were received on average per day;
- calls peaked at 245,000 on one day;
- the average call duration was 155 seconds;
- the IVR: advisor ratio was 3:1;
- IVR was operational 24 hours a day;

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[2] For more information see section 6 Warehousing, Distribution and Collection

- performance target was 90% calls answered in 15 seconds; and
- 16,000 emails were received.

The top 20 query types were:

- Reminder letter received when a questionnaire had already been returned
- Unoccupied property query
- Clarification of the information required for specific questions on the questionnaire
- Advice on whether to include persons
- Address/name wrong on front of questionnaire
- Caller away on holiday
- Complaint about the Census or field staff
- Concern about not completed questionnaire properly
- Caller is moving
- Second home
- Physical disability prevents filling out questionnaire
- Caller received duplicate questionnaires
- Member of household passed away
- Request for assistance from blind
- Requests for leaflets and other information
- Employment enquiry
- Caller received reminder and will send back questionnaire
- Complaint about lack of Welsh questionnaires
- Request for Gaelic questionnaire
- Foreign language enquiry

7.2.4 2011 volume assumptions

The introduction of an electronic self-help facility via a web site, should give us the ability to reduce the number of calls to the Contact Centre. The self-help web site address will be promoted ahead of the Contact Centre helpline as the first port-of-call for any queries. Other enumeration initiatives should help address some of the issues which resulted in calls to the helpline in 2001. However, it is still anticipated that the Contact Centre will be well used. Some assumptions based on current known information have been made on some types of queries:

Reason for call	Estimate of likely number of calls
General queries	70,000
Requests for Census questionnaire	864,000
Requests for Continuation questionnaire	36,000
Requests for individual questionnaire	60,000
Requests for envelope	86,000
Request for translation material	174,000
Request for material to assist disabled	311,000
Requests for enumerator visit	10,000

However, the number and types of queries will be affected by the success of the community liaison and enumeration strategies, effectiveness of the publicity and self-help web facility as well as external factors which are unknown and can not be anticipated.

The reputation of the Census will be damaged, and population coverage will be affected, if members of the public are not able to access the Contact Centre and obtain the services it provides. The resilience and scalability of the Contact Centre operations is therefore key. We need to have a strategy to enable careful resourcing of advisors during the life of the Contact Centre to ensure that calls are answered within agreed performance standards at peak times and the Contact Centre is not over-staffed at quieter periods.

One function of the Contact Centre may be to telephone householders whose questionnaires have been returned incomplete. This could potentially involve calls to 2.5 million households. The number of attempts to be made to obtain the missing information from householders has yet to be decided but is likely to be more than one attempt.

7.2.5 Interfaces

To carry out these functions the Contact Centre will need to interface with:
- the response management system;
- self-help web site;
- supplies/despatch database;
- intelligence databases – source of FAQ information;
- data processing form capture system;
- MIS;
- geography address database;
- recruitment databases;
- back office fulfilment.

In addition the following strategies may have an impact on the functions of the Contact Centre:
- Publicity;
- Self-help web site design;
- Enumeration;
- Post-Census Survey(s);
- Recruitment;
- Internet form completion system;
- Community Liaison.

7.3 Web Self-help Facility

To meet the Cabinet Office (formerly Office of the e-Envoy) directive "*that all government services are available electronically by 2005 with key services achieving high levels of use,*" a self-help web site facility will be provided for 2011. This facility will include a link to enable respondents to complete their Census questionnaire via the Internet (the Internet form completion function is covered in the Data Capture document).

The web site should provide a self-help facility for the public to access instead of using the Contact Centre helpline. The self-help web site address should be promoted ahead of the helpline number and should be seen as the first port-of-call for assistance. The Contact Centre helpline number would then primarily be used by those without access to the Internet, those who prefer to use the Contact Centre or who have been unable to resolve their query through the self-help web site.

The self-help web site should use the same source of information as that used by the Contact Centre to ensure consistency of answers.

7.3.1 Timetable

The key purpose of the web site, to provide a self-help facility, means that it will be primarily used during the same period as the Contact Centre (April – end June 2011 assuming an end of April Census day). However, the self-help web site will also be used to raise awareness of the Census and promote participation and possibly to advertise field staff posts so may be live for some months prior to this with a different content focus.

7.3.2 Functions

The web self help site should provide the same basic functions as the Contact Centre:

- a professional, informative and user friendly site for the public to access and obtain information easily;
- details of the enumeration process such as when the questionnaires will be posted out/delivered, when they need to be completed and returned;
- information on what to do if a questionnaire has not been received or if an additional or replacement questionnaire is required;
- answers to frequently asked questions about the Census, the completion of the questionnaire and who to include;

- access to translation leaflets enabling these to be downloaded and printed off if required;
- a structured email facility direct to the Contact Centre which will be answered by the advisors;
- a facility to request materials or questionnaires or visits from field staff which will be directed to the Contact Centre and treated in the same way as fulfilment requests received by telephone;
- a link to the form completion facility to enable the public to complete and return their form via the Internet and vice versa, that is there should be a link from the form completion area to the self-help web site; and
- details of the helpline numbers available.

The self-help web site functions will also include:
- providing MIS type information about the enumeration processes to highlight issues, trends and problems enabling decisions to be taken on any action required, including enabling areas missed at post-out to be identified; and
- providing MIS type information about the operation of the self-help web site to enable it to be managed more effectively and efficiently.

The self-help web site needs to support the Community Liaison Programme. In particular it could be seen as a method by which those with sensory impairment could be better informed and provide them with the means to make an independent response. The self-help web site should:

- ensure that information is in an accessible format (in general and specifically for the visually impaired);
- provide reassurance and encourage participation;
- provide information about different Community Liaison initiatives and support material which can be requested, for example, braille forms, large print forms, audio tapes, language leaflets etc;
- give advice on what to do if problems are experienced in completing the questionnaire;
- provide links to other organisations which may be providing support to the 2011 Census, for example, RNIB, Help the Aged, Silver Surfers etc. and vice versa;
- provide links to Local Authority sites where initiatives have been set up to support the Census or provide information about what different LAs are doing.

The self-help web site also needs to support publicity and as such needs to be dynamic and both educational and informative. Material about and in support of the Publicity Campaign needs to be included on the self-help web site to encourage participation in the Census. The type of information which might be available could include updates on response rates by Local Authority area.

7.3.4 Interfaces

To carry out these functions the self-help web site will need to interface with:

- Contact Centre for emails and fulfilment requests;
- Questionnaire tracking system
- Geography address database;
- Supplies/dispatch database;
- MIS;
- Intelligence database – source of FAQ information
- Data processing questionnaire capture system; and
- Internet form completion facility.

In addition the following strategies will have an impact on the functions of the self-help web site:

- Publicity
- Enumeration
- Post-Census Survey(s)
- Recruitment

7.3.5 Key Issues

The information provided by the self-help web site should use the same source as that used by the Contact Centre advisors to ensure consistency of information and to simplify the update and change process.

The following issues will need to be addressed in developing the self-help web site:

- assessing the likely number of hits, particularly around Census day, and ensuring that the system can cope with these;
- ensuring that the effect of large numbers of hits to the self-help web site by the public does not impact on the system accessed by Contact Centre advisors;
- ensuring that large numbers of respondents accessing the Internet form completion facility does not impact on the availability of self-help functions of the web site;
- ensuring that it is accessible to everyone, and particularly those who are visually and socially disadvantaged;
- ensuring that it is accessible to those who are visually and socially disadvantaged;
- ensuring there is suitable back-up provision should the main server crash;
- ensuring that it has suitable anti-virus and firewall software/hardware;
- ensuring that the information it contains is accurate and current;
- ensuring that the site is easily identified and accessed, is informative and interesting;
- ensuring that as many functions as possible can be accessed through Digital TV;
- ensuring that best practice guidelines are followed in terms of design, navigation, scrolling etc;
- ensuring that information sent via the email facility is secure;
- ensuring that it is thoroughly tested before going live and continually tested and monitored throughout the life of the self-help web site.

Census coverage could be at risk if the self-help web site failed or was compromised in anyway. It is essential that householders experience no difficulties in accessing the self-help web site to obtain help or to link to the Internet form completion facility.

7.3.6 2011 Volume Assumptions

Provision of a self-help web site is a new requirement which has not been tried in previous Censuses in England and Wales so there is no information on which to gauge the likely number of hits. Volumes to the Contact Centre in 2001 may give some guidance and we would expect that the number of hits would peak around Census day. We would need guidance on how to anticipate the likely number of hits and how to size the self-help web site appropriately.

The numbers will be influenced by the level and success of the publicity campaign and by the extent to which the use of the Internet form completion facility is promoted.

8 Printing

8.1 Census Questionnaire Printing

8.1.1 Overview

The move to a post-out methodology for 2011 is reliant on addresses being associated with unique questionnaire identities, and both being printed on questionnaires before delivery. The link between the address and the unique identity is crucial to the management of the data collection and data processing operations and will also provide the authentication code for completion of the questionnaire over the Internet.

Questionnaire printing and preparation for delivery to households and field staff are critical to the collection and processing of census data. Any major failure in these activities would seriously compromise the census and create a high profile embarrassment for the Office. The data capture process will rely on questionnaires that can be scanned, and on automatic mark and character recognition. The main processing contractor may want to have overall responsibility for printing to minimise the risk of questionnaires being incompatible with their systems for receipting and scanning them.

In 2001 there were four questionnaire types for Census: household, continuation, communal establishment and individual with different versions for use in Wales, where there were also Welsh language versions of the questionnaires available. There were three further questionnaires for the Census Coverage Survey (CCS). The total number of questionnaires printed for England and Wales in 2001 was 32,072,000 – 27 million of which were the 20-page Household questionnaires.

The move to a post-out methodology has extended the scope of the printing contract to include printing addresses and barcodes on questionnaires and preparing a package of items for delivery. The printing contract will include collating each package, and enclosing it either in an envelope or using some other method that will both maintain the confidentiality of its contents and meet the needs of the postal service. Details of questionnaire type, and delivery mode will be provided on the address files provided by ONS. The printer will also be required to sort packages by delivery mode. Each package will include a questionnaire, information leaflets or other information media, and an envelope for return of the completed questionnaire.

With the adoption of a multi-channel approach to collection of Census data, it is possible that by 2011, the bulk of respondents may prefer to complete their questionnaire via the internet. At this stage, some 6 years away from Census day, it is impossible to predict the level of take-up of the internet option. In the intervening years we will be carrying out research and keeping track of the trend in internet usage in partnership with our chosen supplier. During this time we must ensure that our design remains sufficiently agile to be able respond to a large swing towards internet, the result of which could be a reduction in the number of questionnaires to be printed and processed.

8.1.2 Scope

The scope of the contract for questionnaire printing for the 2007 test, 2009 rehearsal and 2011 Census will be to:
- Print questionnaires for England and Wales to accord with the chosen design. In 2001, 32 million questionnaires were printed, but the total volume for 2011 in a scenario where we send out questionnaires to all addresses is likely to be slightly higher to cater for the increase in population and households.
- In 2001, the bulk print was 27 million, 20-page booklets for households, and of these, 1.5 million were printed in Welsh. The remainder of the print volume comprised smaller quantities of questionnaires to cover communal establishments, individuals in communal establishments, and continuation questionnaires for large households. All these other questionnaire types were also printed in Welsh.
- The print runs for all questionnaire types for 2007 Test and 2009 Rehearsal will be much smaller (around 200,000 in total).
- Questionnaires that are to be delivered directly to addresses will be printed with:
  - An address.
  - A unique identity, as a barcode, an eye readable number, and as a bold print Internet authentication number.
  - A form integrity barcode on one side of each page. Each barcode will have an eye readable number.

     o   A barcode and eye readable number to identify each form face.
- Print further runs of questionnaires for addresses that have been identified after the start of the main print run.
- Print questionnaires with unique identities but with no addresses.
- Print questionnaires for testing and training.
- Print additional questionnaires on an ad-hoc basis.
- Depending on the channel strategy adopted, there may be a requirement to print response route registration forms, overprinted with the addresses.
- There may also be a requirement to print reminder cards for those people who have selected the internet response route. These will also need to be overprinted with the addresses, the unique identity, as a barcode, an eye readable number, and as a bold print Internet authentication number.
- Create a file listing the unique identity numbers, and their associated addresses or blanks. ONS will use this file to populate response management system.
- Add other questionnaire tracking, or receipting, requirements specified by ONS or main data capture contractor.
- Print information leaflets for enclosure with the questionnaires.
- Supply envelopes with return address printed, and designed to meet the needs of the postal service and receipting system.
- Collate each census questionnaire with an information leaflet (and/or other information media) and return envelope and enclose these in one package for delivery. Enclosing method to meet the needs of postal service, and ONS security and confidentiality requirements.
- Supply boxes for storage of blank questionnaires and information leaflets.
- Sort packs for delivery by post. This may also include the order of collection by the mail service provider. There is likely to be more than one collection to cover the 15-20 million questionnaires to be delivered by post.
- Pack and sort, by area, addressed questionnaire packs for delivery by field staff. Store these for collection.
- Pack and store blank questionnaires and information leaflets for collection.
- Provide information to the questionnaire tracking system at specified stages.

8.1.3 Timetable

The following table gives an indication of the printing schedule, and assumes that dates for the 2007 Test, 2009 Rehearsal, and the 2011 Census will be in late April. The dates assume the start of the month, and are given in month/year format:

8.1.4 Post Census Surveys

It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement to print post census survey questionnaires.

Census Stage	Forms designed	Address Lists Available for				Forms ready for Collection		Max Volume Estimate
		Testing/Training		Live Process		Test & Train	Live	
		Main	Supp	Main	Supp			
2007	08/06	09/06	10/06	01/07	02/07	11/06	03/07	200,000
2009	08/08	09/08	10/08	01/09	02/09	11/08	03/09	200,000
2011	08/10	07/10	08/10	11/10	03/11	09/10	01/11*	32,000,000

*This is likely to be a phased process running from early January to early April 2011.

8.1.5 Interfaces

There are a number of ONS activities, contracts and contractors that will interface with the print contract. Direct communication and cooperation between all of these and the print contract will be essential to ensure a successful census in 2011

Process	Interfaces
Questionnaire Design	ONS will design the questionnaire in house and will interface with the main processing contractor, the postal service provider, the printer, and the data collection and operational intelligence work packages
Process	Interface
Questionnaire Tracking	The printer must meet tracking requirements. This may mean that the printer has to provide information about individual questionnaires at various stages in the printing processes. They will also have direct interface with the main processing contractor for design and agreement of barcode style and position.
Delivery	The printer will interface with: ○ ONS for the address lists – format, structure, content and delivery schedule. ○ The response management system for structure and schedule for return file of addresses and unique identities printed on the questionnaires. ○ The mail service provider for their packing requirements and the order in which they will collect questionnaires from the printer. ○ The contractor for their requirements on identification of the boxes of questionnaires and information leaflets that they will collect.
Questionnaire Receipting	The main processing contractor may have additional requirements for questionnaire printing to meet their receipting targets.

8.2 Other Printed Material

The other types of printed material may include:
- publicity material
- information leaflets
- envelopes
- translation leaflets
- forms for recruitment and pay
- instruction and training material
- authority/identity cards
- non compliance forms
- reminder leaflets
- follow-up letters

It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement to print other material for them.

Examples of forms and other material supplied to field staff in 2001 are:
Key:
CAM – Census Area Manager
CDM – Census District Manager
CTL – Census Team Leader
ERB – Enumerator Record Book

Document Category	Document Variations	Volumes produced
CAM materials eg address labels, paper & videos, CDM Recruitment forms, Pay forms & Publicity fact sheets (UK)	68	672,000
CAM materials & CDM personnel records (NI)	33	18,150
Geography maps & forms, ERBs, CDM instructions, CDM	60	454,979

Pay materials, videos (UK)		
Pay Materials (NI)	14	5,931
Enumerator and CTL Recruitment, pay and training (Scotland)	73	736,900
Enumerator and CTL Recruitment forms (including envelopes), pay and training materials (E&W)	85	8,118,854
CDM, CTL and Enumerator pay materials (NI)	34	90,365
Public forms (E&W): Household, Individual, Continuation, Communal establishment, Translations, Postback envelopes & contact leaflets, EN carrying bags, alarms, Publicity campaign forms, EN workbooks & training videos	99	128,141,725
Public Forms (Scotland)	33	12,988,850
Public Forms, Envelopes, ERBs, Advance Leaflet (NI)	34	4,288,700
Maps and ERBs (Scotland)	3	21,700
Forms Boxes, labels, tape & tape gun (E&W)	11	820,060
Forms Boxes, labels, tape & tape gun (Scotland)	11	98,550
Forms Boxes, labels, tape and tape gun (NI)	13	43,890
All Census Coverage Survey materials (Scotland)	33	1,214,390
All Census Coverage Survey materials (E&W)	62	1,827,000
All Census Coverage Survey materials (NI)	33	87,213

A strategy will be developed which identifies the best methods and formats for designing, producing and providing the supplies and materials for the field staff. This will include:
- designed and printed in-house;
- designed in-house and printed externally;
- designed and printed externally;
- designed in-house or externally and provided in electronic format.

The decision on what is produced in-house or externally will depend on the volumes and complexity of the materials required.

The use of print on demand facilities will be investigated to cater for additional requirements so that initial supplies to field staff and spare stocks can be kept to a minimal level whilst still enabling fast response to requests for additional supplies. Delays to supplies to the field can have a major impact on the enumeration process, reducing the timescales to carry out tasks and the subsequent quality of the work done.

9 Transportation of Census Questionnaires

9.1 Introduction

Depending on the channel strategy adopted, there will be some 32 million Census questionnaires or reminder cards (for England and Wales), plus smaller volumes for communal establishments, individual, and continuation questionnaires, printed and prepared for delivery either through a Mail Service Provider or by field staff (details covered in the associated Printing document). Secure transportation services will be required to move these documents from the printers to designated Mail Service Provider sites and to a nominated supplies distribution contractor (who will then deliver them to the field managers together with other materials). Similar requirements will be needed for 2007 Test and 2009 Rehearsal but involving fewer documents (see associated Printing document).

At the end of the enumeration, secure transportation will be required to collect returned questionnaires from Mail Service Provider sites and field managers and deliver to a processing centre.

The secure transportation services will include:

- collect packages of documents prepared for posting out, from printers and deliver to Mail Service Provider site(s) (alternatively this could be undertaken by the Mail Service Provider);
- to stagger the mail out, this process may be repeated over a number of days and delivery may be to different Mail Service Provider sites across the country;
- collect census questionnaires, with delivery and post-back envelopes, from printers and deliver to nominated supplies distributor;
- collect returned envelopes containing completed census questionnaires from Mail Service Provider sites on a daily basis and deliver to processing site (alternatively this could be undertaken by the Mail Service Provider);
- contact Team Managers (around 2,000 - 5,000) to arrange a time and date to collect completed questionnaires within a timescale identified by ONS;
- collect sealed boxes containing completed questionnaires from the addresses designated by the Team Managers to a specified timetable and deliver to processing centre;
- meet processing contractor's requirements in terms of humidity levels etc, if boxes of questionnaires are to be stored prior to delivery to processing centre; and
- transport and store the boxes of completed questionnaires securely with detailed records and signatory confirmation of transfer of responsibility at each stage (Note: in 2001 security arrangements for this process were more restrictive in Northern Ireland which limited the ability to sub-contract this work within NI);

Census Office confidentiality requirements must be understood and applied at all times to ensure public confidence in how the Census is conducted and how personal information is safe guarded.

9.2 Timescales and volume assumptions

Of the 27 million England and Wales Census documents, it is anticipated that the greatest volume (possible 80%) will be posted to householders and will therefore need to be delivered to the Mail Service Provider sites. The smaller volume will need to be delivered to the supplies distribution contractor who will deliver them to the field staff managers together with other supply materials.

Collection from the Census printers and delivery to Mail Service Provider sites will happen on more than one occasion to avoid over-burdening the mail system. Similarly, to spread the load, delivery may be to a number of different Mail Service Provider sites across England and Wales.

Timing of the delivery to the Mail Service Provider is dependent on policy decisions but may be staggered over a 1 - 3 week period prior to Census.

Delivery to the supplies distributor will need to reflect the enumeration timetable and will require collection of questionnaires from the printer and delivery to the distributor approximately 6 – 8 weeks prior to Census day.

Collection of returned questionnaires from Mail Service Provider sites may need to be carried out on a daily basis after Census day, depending on the Mail Service Provider's constraints with storage. This could continue

for six weeks after Census day. Thereafter, assuming postal returns will have reduced to very small numbers, mail will be re-directed to a designated address.

Collection of boxes of completed questionnaires from some 2,000 - 5,000 Team Managers will begin some 6 weeks after Census day. In 2001, collection took six weeks to complete but a central post-back enumeration strategy will mean that there will be fewer questionnaires to be picked up from field managers and so we would want this to be completed in a quicker timeframe in 2011.

9.3 Post Census Surveys

It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement to transport survey questionnaires.

9.4 Interfaces will include:

- Census questionnaire printer
- Supplies distributor
- Mail Service Provider
- Field Staff Managers
- Processing site contractor

10 Data Capture Operations

With the adoption of a multi-channel approach to collection of Census data, it is possible that by 2011, the bulk of respondents may prefer to complete their questionnaire via the internet. At this stage, some 6 years away from Census day, it is impossible to predict the level of take-up of the internet option. In the intervening years we will be carrying out research and keeping track of the trend in internet usage in partnership with our chosen supplier. During this time we must ensure that our design remains sufficiently agile to be able respond to a large swing towards internet, the result of which could be a reduction in the number of questionnaires to be printed and processed.

Each household will be given the option of making a return either on a paper questionnaire or using the Internet. In a very small number of cases returns will be made by phone through a contact centre.

The Data Capture Operation systems will capture data from each return stream, carry out validation and edit checks, and supply codes for text responses. The full scope of these processes is:

10.1 Design, build and test systems to capture, code and deliver data from paper , Internet and telephone questionnaires, in the required format and to the agreed standard. The design, build and test phases would cover the 2007 Test, the 2009 Rehearsal, and the 2011 Census. The services will include:
- provision of equipped warehousing and processing site(s);
- physical and electronic security for operations and buildings;
- recruitment, training and payroll of warehouse and processing staff;
- storage and retrieval management;
- capturing data from paper, internet and telephone;
- creating images from returns made via the internet or contact centre;
- checking and reporting level of questionnaire completion;
- coding text responses;
- delivering data and images and an audit trail;
- creating an electronic archive of census images;
- secure destruction of paper questionnaires; and
- decommissioning site(s).

10.2 Warehouse – provide, equip and staff a warehouse for receipt and storage of completed questionnaires. The warehouse would need to be close to the processing site with a capacity to receive, check in, sort and store a maximum of around 27 million questionnaires. There will be stringent security requirements, and the need to provide additional office and working space for ONS staff. The warehouse must be located with the processing site or within a 10-minute drive of the processing site. The processes involved in the warehouse would be to:
- receive paper questionnaires;
- check them in within agreed target (see below);
- provide real-time receipt information to the response management system;
- allocate a warehouse location;
- provide a storage and retrieval system that will allow access to the physical questionnaires at any time; and
- track questionnaire movements to and from the warehouse.

The receipting system must be sized to check in all the expected paper returns, within a set time period following census day, the expected quantity to be determined by joint research with the chosen supplier. The number of questionnaires to be checked in will be less than the number printed

Service levels required for receipting paper questionnaires and the final model chosen will depend on cost. Ideally, all questionnaires should be checked-in within 24 hours of receipt, with a possible 5 million questionnaires a day at peak. However, the costs of this should be considered alongside the non-response follow-up timetable. The target for speedy check in is critical to achieving full coverage for the Census. The check-in process will update the response management system, which, in turn, will instigate the non-response follow up process.

10.3 **Set up processing site** – provide, equip and staff one or more sites to carry out the processes listed below. Ideally we would prefer one site, although alternative proposals could be considered. The accommodation must meet the security standards set out by ONS, be equipped to prepare questionnaires for scanning, data capture and coding, and provide fully equipped accommodation for workflow, system administration, and ONS staff.

10.3.1 ***Set up web service to capture data supplied from the Internet***. This service will meet security and design standards set out by ONS, as well as the International standards to make the site and web service accessible to people with disabilities. There may also be a requirement to provide translations of the questions, although, currently, the only languages in which we will receive responses are English and Welsh. The challenge here is to size the system to meet peak loads, without slowing the respondent, and within sensible service availability levels. Research will be carried out jointly between the Authority & their chosen supplier to assess the trend in internet usage, which will enable some prediction of likely take-up. The 2011 Census design must remain agile enough to allow financial savings to be gained through exploitation of the internet response channel if it is feasible. Respondents will be prompted to enter the unique identity supplied, and, probably, asked to enter their house number/name and postcode. This will be used to authenticate their right to use the Internet service. The web capture system must update the response management system when a respondent starts completion of a return, and when the return has been submitted. The system will acknowledge receipt of a submission to the respondent. Edits and validations will be carried out on-line, and data will be submitted to the main processing system for further edits and coding. Volumes are likely to peak on Census Day, in the evening. Access to the web capture service will be available via search engines, the ONS website, and the Census web site. On-line help, link to the self-help website and the phone number for the contact centre will be provided.

10.3.2 ***Set up a service to capture data from the contact centre*** The contact centre will operate systems that will capture data over the phone. The requirements for the Contact Centre are described in the Public Help Facilities document. The data capture operation will receive the data from the contact centre for responses received by telephone. This process will be subject to online validation as specified by ONS, and the data transmitted to the main processing database for further processing.

10.3.3 ***Prepare questionnaires*** - Remove questionnaires from envelopes, guillotine and scan questionnaires.

10.3.4 ***Delete blank pages***. This process could save a considerable amount of storage. Based on the 2001 questionnaire size, and the responses received, 80% of households contain only 1,2 or 3 people. With a full question set on a 5-person questionnaire there could be 176 million blank pages.

10.3.5 ***Create electronic images*** from returns made via the Internet or contact centre. This electronic record will be needed when following up incomplete returns, and for the archival record.

10.3.6 ***Check questionnaire completion***. This process will identify questionnaires that have not been fully completed, and for which respondents must be contacted. This process may mean transmitting images and data to a contact centre so that contact with the respondent can be resumed, and the information collected. These checks must also be carried out on returns made via the Internet or contact centre as part of the submission acceptance process. Based on information from 2001 there were around 1.3 million records for which basic demographic data was missing.

10.3.7 ***Capture data***. All data from all response routes must be captured and amalgamated into one data stream.

10.3.8 ***Validate captured data*** – ONS will provide validation and edit rules that will be applied for all fields captured. These will be carried out during the data capture process, and before text responses are passed to the coding system. It is unlikely that there will be a requirement for consistency checks between questions or between people in the same household, or between questionnaires for a household (when there is more than one).

10.3.9 Quality Assurance. The data capture system will also include a QA process for data captured automatically or by keyers. The process would be integrated within the capture system, be invisible to operators, and report accuracy by character type, field, and operator.

10.3.10 Code text responses. In 2001 there were a number of questions to which text responses could be provided. These were coded by a combination of automatic and computer assisted manual coding. The volumes coded in 2001 are shown below. These totals are for UK, and are therefore greater than if England and Wales were being processed independently.

Question	Volume Coded	% Coded Automatically	% Coded Manually
Country of Birth	3,780,151	81.6	18.4
Religion	1,045,874	74.4	25.6
Ethnic Group	3,866,964	75.7	24.3
Address 1 year ago	4,720,878	83.6	16.4
Workplace address	22,056,446	71.8	28.2
Industry	27,970,005	66.8	33.2
Occupation	29,611,276	72.2	27.8

The automatic coding system relied on classifications, indexes and tuning data (real responses and correct codes) provided by ONS, with an interactive coding system for operators to access this information and other reference material. There were around 26.36 million responses that were coded by operators, the bulk of which were Industry, Occupation and Workplace address. It would take approximately 400 staff to code this data over a period of 26 weeks. The coding system will also include a QA process for responses coded automatically or by operators. The process would be integrated within the coding system, be invisible to operators, and report accuracy by code, field, and operator. It is likely that changes to the type of information required in 2011 will increase the number of questions that require an address to be coded.

10.3.11 Record progress at questionnaire level and report throughput against targets – an essential part in operational management, and necessary for ONS to assess progress against delivery schedule, and keep management information flowing.

10.3.12 Deliver data, images and audit trail. An audit trail of all actions taken on a questionnaire must be maintained from time of check in to final delivery, including all actions taken at each stage of the operation. The format for delivery of data, audit trail and images will be specified by ONS. Delivery is likely to be free flow, although there may still be a requirement to prioritise capture by geographical area.

10.3.13 Produce electronic archive for the National Archive. In 2001 this archive was a microfilm record of every image for each questionnaire, together with an electronic index.

10.3.14 Destroy questionnaires. When all the data and images have been received, and the electronic archive has been created, paper questionnaires can be destroyed in such a way that maintains the security of census information, and meets recycling policies. In 2001 a contractor specialising in recycling confidential waste set up an operation at the warehouse. This avoided the need for transporting completed census questionnaires.

10.3.15 Decommission site – all systems and storage media to be degaussed in accordance with ONS IM security standards.

To minimise the risks involved in multiple interfaces, all of the above activities must be operated by the same contract. This will also ensure that physical security, movement and tracking questionnaires in transit, in processing and in storage have one responsible owner.

10.4 Post Census Surveys

It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement to process survey questionnaires.

10.5 Interfaces

Data Capture Operations is a complex set of processes that must interface with each other and with external systems and processes. This table provides an example of the many interfaces that must be actively managed to ensure that all the connections between operations are recognised, and that each process is aware of its responsibilities to others. This list is not exhaustive, and will be subject to change as development progresses:

Process	Interfaces/Dependencies
Set up site(s)	Mail provider, printer, census questionnaire transportation contractor, ONS security requirements, ONS project and contract management, ONS operational staff, archival, decommissioning.
Phone Capture and follow up	The main processing system, questionnaire completion check, response management, electronic image, capture, coding, archival, decommissioning, contact centre, Security, questionnaire design, ONS methodology, ONS specifications, validation.
Web Capture	Government gateway? Main processing system, contact centre help line, self-help website, census web site, response management, questionnaire completion check, electronic image, capture, coding, archival, decommissioning, ONS security requirements, questionnaire design, ONS methodology.
Warehouse	Mail delivery service, census questionnaire transportation contractor, main processing system, response management, questionnaire design, envelope design and size.
Paper Capture	Warehouse, questionnaire design, questionnaire completion check, response management, QA, coding, archival, decommissioning, ONS validation checks.
Completion check	Web, Paper and Phone capture, response management, contact centre, field systems, workflow and system management.
Coding	Capture, QA system , response management.
Data, Audit and Image Delivery	ONS data and image interface and secure transfer requirements, response management
Archival Record	Progress monitoring, warehouse, image management, response management.
Destruction of questionnaires	Archival, warehouse, progress monitoring, response management.
Decommission Site(s)	ONS site and IM security, warehouse, ONS project and contract management.
Progress and other Management Reporting	All processes – workflow management, systems administration, ONS project and contract management.

11 Publicity

In any census there are the majority of people who will willingly comply with the legal obligation to supply information but some who will not. Among those who are willing to respond there will be some who find no difficulty in complying and others who are disadvantaged by social, physical or cultural circumstances. We need to develop a communications strategy which reaches all these types of people.

It needs to:
- educate people about the Census in general, about how they will receive their Census questionnaires and how they should respond;
- encourage participation from those who are disinterested or apathetic; and
- reach the disadvantaged and those who have difficulty responding independently and give them options on how to participate.

Although there will be areas where questionnaires are delivered to households, much of the country will receive their Census questionnaire through the post so much will depend on the design and effectiveness of what is essentially a direct mail approach. It is important that householders who do not receive a questionnaire by a specified date know how to obtain one via the self-help web site or through the Contact Centre. It is essential to Census coverage that householders are aware of these routes.

For the first time, respondents will be able to complete their questionnaires via the Internet. On-line form completion has the potential to provide better quality data and savings in the processing stages in terms of time and costs. Research will be carried out jointly between the Authority & their chosen supplier to assess the trend in internet usage, which will enable some prediction of likely take-up. The 2011 Census design must remain agile enough to allow financial savings to be gained through exploitation of the internet response channel if it is feasible, so the ability to successfully promote this route ~~will~~ may be a key aspect of the publicity strategy.

Since the proposed enumeration design excludes personal contact with the majority of householders, it is essential that publicity is clear, instructive and time-related. Publicity should be dynamic and responsive to events, for example:
- publicity prior to delivery must focus on raising awareness and explaining the benefits;
- during delivery publicity will be more specific, telling householders how their questionnaires will be delivered and by when;
- later publicity will tell those who have not received a questionnaire how to obtain one.

The Publicity Programme should continue throughout the post-back and follow-up periods and should take several forms as the operation progresses:
- initially to encourage response, emphasising the importance of taking part;
- then to focus on informing householders of what will happen if a response is not received by a certain date;
- finally it should emphasise the legal requirement to respond.

We need to have the ability to change or introduce additional publicity to address unexpected events for example the foot and mouth outbreak experienced in 2001, postal delays or strikes nationally or within specific regions.

In difficult enumeration areas, field staff will try to make contact during the pre-delivery and delivery stages to establish the number of households within an address. This will provide an opportunity to raise awareness of the Census and encourage participation. Even if no contact is made, there is an opportunity for field staff to drop-off publicity material at these addresses.

A key challenge for 2011 will be to maximise the response from both hard to count, hard to persuade and special needs groups (e.g. blind and elderly) as well as from difficult to enumerate areas. The 2011 Programme will identify the characteristics of these groups and develop suitable enumeration strategies which the publicity strategy must support. The publicity strategy must ensure that we have routes for reaching these groups to promote the Census and encourage response. This strategy must not only include identifying routes to reach specific groups and areas but also the types of messages which will be most effective in encouraging response

from them. To support these approaches it is likely that some form of direct action or help through intermediaries and stakeholders may also need to be considered.

Publicity needs to be both educational (e.g. why we need a Census and why it is important to take part) and informative (e.g. questionnaires are currently being posted, if you haven't got a questionnaire by x ring this number) and we need to ensure that these messages reach everyone. In the national Census this will mean making full use of a variety of media, including television, radio, press adverts and articles, mail shots of promotional material, high profile branding, posters, links to popular TV and radio programmes and promotional events. The Community Liaison Programme will support these aspects and Local Authorities will be encouraged to assist with publicity in their areas. Partnerships on a wider scale may also need to be considered such as businesses (e.g. supermarkets and transport organisations) and other Government Departments.

The key purpose of the Web site, to provide a self-help facility, will mean that it will be primarily used during the same period that the Contact Centre is operational (April – end June 2011 assuming an end of April Census day). However, the self-help web site will also play a role in the publicity campaign in raising awareness of the Census and promoting participation, so may be live for some months prior to this but with a different content focus. Similarly the web site may be kept operational in the interim periods between the Test, Rehearsal and Census as a awareness raising tool. Material about and in support of the Publicity Campaign needs to be included on the self-help web site to inform the public and encourage participation in the Census.

Tests will be carried out in 2007 and 2009 involving around 200,000 households each. Due to the selection of the Test areas, it is not possible to introduce national initiatives, however, it is an opportunity to test the effectiveness of some of the strategies, bearing in mind participation in Tests is voluntary.

The publicity strategy must identify:
- the best methods for getting the Census messages across at a national and local level;
- strategies for reaching a variety of hard to count, hard to persuade and special needs groups to maximise response from these;
- strategies for promoting internet form completion;
- publicity options and costs; and
- strategies to be tested in 2007 and 2009.

12.1 Post Census Surveys

It is likely that post census surveys will be carried out shortly after the Census and involve about 1% of addresses, probably concentrated into small areas. We have not yet determined how these surveys will be carried out but it is possible there will be a requirement for publicity.

12.2 Interfaces

The communications strategy has a relevance to most of the operational aspects of the Census and is influenced by and impacts on a number of areas:

- Enumeration;
- Community Liaison and stakeholder engagement;
- Self-help web site;
- Contact Centre;
- Recruitment.
- Internet Data Capture.