

Project Identification No: OGC 502

TITLE OF PROJECT

**NHS National Care Records Service: Local Services Provider
Wave 2 Cluster: North West and West Midlands Cluster**

OGC Gateway review: Gateway 3b Implementation preparedness

Status of report: Final Report

Senior Responsible Owner: <Text Redacted>

Review Date: 26 – 30 April 2004

Review team:

<Text Redacted>



Office of Government Commerce

1 Background

- 1.1 The aims of the NHS Care Records Service (NCRS) Programme are to give:
- patients a modern IT-enabled NHS, which will directly impact on the care they receive;
 - frontline NHS staff access to safe, fast modern IT to support them in their work; and
 - managers, researchers and other professionals not involved in direct patient care access to high quality, anonymous, confidential information.
- 1.2 Delivery will take place in three phases, by the end of 2004, 2006 and 2010 respectively.
- 1.3 Phase One will allow doctors to book outpatient appointments on line, send emails and browse the internet and view information relating to their patients. The latter will include laboratory and radiology results and some clinical correspondence, for instance GP referral letters. Phase One will offer simple functionality and make best use of existing and interim systems.
- 1.4 Phase Two will give doctors and health professionals access to a more detailed patient record, which will include specialist results, the GP prescribing record, and hospital discharge summaries. These services will be supported by telemedicine and digital imaging. Phase Two will also computerise all referral, requests and orders and all hospitals will have Picture Archiving and Communication Systems (PACS) support in place.
- 1.5 Phase Three will incorporate the advanced features necessary to fully integrate care across both health and social services. This will include decision support software, screening, community wide prescribing and clinical documentation, to include assessment and care planning
- 1.6 The NCRS programme together with the infrastructure programme, e-Bookings and the Electronic Transfer of Prescriptions comprise the National Programme for IT (NPfIT). The driving force for the programme is the policy paper "Delivering 21st Century IT Support for the NHS", which focuses on a patient centric approach. Ultimately, NCRS will replace the myriad of computer systems currently in use in the NHS with national applications supported by robust standards and implementation will be conducted through six projects. The first will provide a national infrastructure and the others will deliver application services in five regional Clusters of Strategic Health Authorities (SHA's).

This is a Gateway 3B review carried out in respect of the prospective implementation of the North West and West Midlands Cluster within Wave 2. The SRO for all elements of the implementation programme is <Text Redacted>. Given that the current SRO is <Text Redacted>

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2 Purpose and conduct

- 2.1 The purpose of this review is described in Appendix A.
- 2.2 The review was carried out from 26 – 30 April 2004 in Redditch and Oxford, as part of a combined review with the East/East Midlands and South Clusters, within Wave 2 of the NCRS LSP projects. We have taken into account the conclusions reached in the Gateway 3A reviews and the recommendations made in so far as completion of the related actions has a bearing on the readiness for the next phase for the Wave 2 Local Service Provider Projects.
- 2.3 Those interviewed are listed in Appendix B at the back of the report. The review team would like to thank everyone involved for their support and openness, which contributed

to the Review Team's understanding of the project and the outcome of this review. We are particularly grateful for the help and support of <Text Redacted> for organising a demanding interview and visit schedule and for their rapid responses to our various requests

3 Common features across the Clusters

- 3.1 While the conclusions in Section 4 are complete for this Cluster a number of them require national rather than Cluster actions whether entirely or in part. These specific issues will be drawn together, along with those of a similar nature raised in the other four recently completed Cluster Gateway reviews, in a single document to the national SRO's representative

4 Conclusions

- 4.1 The NWWM Cluster has achieved an immense amount in the period since contract award. The LSP and their consortium has mobilised well and has gained a good reputation across the Cluster. The governance structure is working well. Issues arising post contract, though some are major (e.g. GP systems being in or out), are being actively worked.

- 4.1.2 There are, nevertheless, significant areas which the review team believe can be improved, in order to achieve a better outcome.

- 4.1.3 The programme comes over to most as still an IT driven programme: the priority for the implementation plan is urgent system replacement; Modernisation Directors are only now coming on board; little work is yet going on around developing business processes that make best use of the coming technology. This can readily be addressed, with an appropriate shift in focus across the programme, but groundwork needs to be laid.

- 4.1.4 Clinical involvement could beneficially be much stronger. This needs careful timetabling to make best use of clinical resource, but clinicians should be the source of input on new best practice, the ratification group for common processes and champions in their communities of the forthcoming capabilities. Structured involvement of clinicians is proving beneficial in other Clusters. The clinical structures like the Clinical Advisory Groups do not appear to have a major role, there are no clinical leads across the Cluster, and the GP involvement appears to be low.

- 4.1.5 Related, there is confusion as to whether there are intentions in the Cluster to develop process redesign and process standardisation. The Cluster intent is not to, but there is clinical and CIO desire to do so, and the CSC contract is firmly structured around single Cluster wide processes.

- 4.1.6 Achieving the planned benefits, both clinical and business, requires benefits realisation to be embedded in the whole programme. This is not yet the case. Professor Halligan's appointment is essential for this, as is the development of aligned structures and processes in the Cluster

- 4.1.7 Finally, the review team believes that the team at Cluster level is too small to fulfil all their leadership and task roles. We appreciate that there is no desire to run the programme centrally from the Cluster level, but at the same time this is an enormous programme where the Cluster team needs to fulfil numerous roles: e.g. overall directional leadership and management of key trade-offs, provision of generic tools to SHA's (such as benefits methodology), a resource to sort out Cluster wide problems, and straightforward coordination and administration of the numerous strands to this programme. A team of 10-12, however competent, cannot do this.

- 4.1.8 The status of the Programme is Amber.**

5 Summary of recommendations

The review team recommends that the following be implemented over the course of the next few months:

- 5.1 This review should be shown to the incoming SRO, <Text Redacted>.
- 5.2 The Cluster assess the range of upcoming issues and main deliverables requiring decision; sets down the prime responsibilities for them, agrees this with the Programme Board, then communicates them as widely as necessary, including the LSP.
- 5.3 The Cluster should consider guiding SHA's to appoint full time Implementation Directors to their leadership teams, or release Modernisation directors for this role by backfilling
- 5.4 Steps are taken to extend clinical involvement throughout the Cluster, with resources at either Cluster level or SHA level being appointed as clinical leads with a brief to develop clinical involvement in a defined range of key activities.
- 5.5 The appointment in the Cluster team of one person to facilitate the development of a Clinical/ operational structure in the SHA's and across the Cluster.
- 5.6 Consideration be given to the HID continuing in her role, at least until a successor to the RID has been in place for some months.
- 5.7 The three isoft Cluster RID's involved meet to discuss what cross Cluster supervision of isoft developments and business process related issues is required, and to implement the outcome.
- 5.8 An additional Cluster resource be considered to address the legacy issues across the Cluster in cooperation with the national resource.
- 5.9 The next issue of the plan be explicit in using a benefits methodology to arrive at a phasing that will maximise benefits to patients
- 5.10 The Cluster team put together an overview of process redesign and standardisation policy and plans, agree it with the LSP and Programme Board, and communicate it widely.
- 5.11 In relation to business process redesign and standardisation, the Cluster consider full time leads for PAS and clinical systems, to co-ordinate developments in these areas.
- 5.12 The SRO reviews the totality of implementation resource required at Cluster level, and the organisational structure best suited to provide that, including reviewing the RID and HID roles. Recommendations are made elsewhere in this report on specific roles.
- 5.13 The appointment of a full time Personnel person in the Cluster team, to cover secondment of staff to the LSP, extracting resource from the MA and IA, assisting with LSP personnel issues as they affect NHS staff, etc.

- 5.14 A capability and skills group be formed from a representative across each SHA to specifically address what skills area available and needed. This team could also work with the LSP training team to develop the training requirement
- 5.15 The Cluster and CSC agree a course of action to identify and resolve outstanding uncertainties associated with the contract
- 5.16 The Cluster consider how best to align with of the Workforce Development programme and use the training and educational facilities available
- 5.17 The additional risks identified in this review are discussed at the next Cluster programme Board, reflected in the risk register and the register risk ranking updated.
- 5.18 Guidance be issued from the Cluster on the generic benefits realisation structures and processes and structures to be put in place in each SHA, once clarity is received from Professor Halligan.
- 5.19 The joint Communication plan, once developed, be reviewed by both Cluster/SHA programme Boards and by clinicians/operational staff, so that it becomes the core communications plan for both programme management and clinical/operational staff communities.

6. Detailed findings – North West and West Midlands Cluster

6.1 Governance and Management controls

Cluster programme governance. The Programme Board appears to function well and has been very active in the programme; for example in convening a special extra meeting to review the delayed Implementation plan. The SRO has provided strong leadership and is actively engaged in directing the programme. Programme Boards are also set up at SHA and Health Economy level. The Health Economy Boards are chaired by PCT CEOs, which the review team regards as a positive feature.

6.1.2 Decision making in the Cluster. The Cluster ethos is that decision-making is made, as far as is practicable, at SHA or Health Economy level, and not at Cluster level. The Cluster leadership team are diligent in seeking to act in line with this ethos: using SHA staff as leads on many workstreams, not pushing a Cluster wide agenda, and keeping to a very small central team. An advantage of this approach is that it clearly signals that this is not a centrist strategy. However, there are some practical disadvantages which concern the review team:

- There is confusion in the minds of interviewees, both across the Cluster and in the LSP, as to which sort of decision is taken at which level. This could be made much more clear. There is also concern that decision-making will be too slow as the rollout gathers pace.
- The Cluster team is very small, so much so that it can act as a bottleneck on decisions and actions. This is a serious risk and needs to be addressed by an increase in Cluster staff and additional support to backfill SHA or Health Economy staff who are assigned to some of the workstreams.
- On issues such as generating the standard configuration as the base for local implementation, there does need to be Cluster wide sign off, yet it is not clear how such a decision will be made.
- There is also a lack of clarity on what decisions have to be made at National programme level as opposed to what has been delegated to Cluster level.

We recommend that the Cluster team assesses the range of upcoming issues and main deliverables requiring decision; sets down the prime responsibilities for them, agrees this with the Programme Board, then communicates then as widely as necessary, including the LSP.

Another expression of this lack of clarity and insufficiency of resource is the need for more clarity and leadership from the Cluster team. This may also be being hindered by the dual RID/HID structure. See Recommendation in 6.4.1.

SHA commitment and resources. There is strong commitment at SHA leadership level. The SHA Programme Implementation teams appear to be adequately resourced for the current phase. However, we are concerned that the demands of the implementation will overstretch the availability of Modernisation Directors and CIOs to lead the business and IT side of the implementation. **We recommend that the Cluster consider guiding SHA's to appoint full time Implementation Directors to their leadership teams, or release Modernisation directors for this role by backfilling.**

Clinical involvement. There are different views in the Cluster on clinical. and concern that 'engagement' not be taken simply to mean receiving material about the programme. Nevertheless, all are agreed that it is insufficient.

- At the most elevated level, Professor Aidan Halligan's appointment has been welcomed as a public signal that clinicians and patient benefits are central to the success of the programme. It is a significant step to counter a common view that this is essentially just another IT project'. It is important that the Cluster communicate rapidly across the Cluster what this will mean in practice as soon as the direction and detail of Professor Halligan's approach become clear.
- At the most detailed level, involvement of clinicians in the implementation of systems in their trusts has to be extensive. This area is well understood by all involved, with extensive implementation experience in most Trusts.
- In between is where there is least clarity. First, in developing the basic configuration of the system. There is currently a very short timetable for P1R1, built around a sequence of three weeks of workshops and five process areas, which, it is hoped, will serve to define the basic configuration of the main PAS systems. Whether this has adequate clinical involvement is unclear, but the impression is that it is not. It is also unclear how this will be decided upon, and what form if any detailed further work will take. Second, in building up clinical groups who can guide the business processes that surround the IT. Some such groups do exist in ad-hoc form, but not in a structured way.
- This work will also probably overlap with work being done on business process change in the transformation agenda. It is not clear how the two will interact, or compete for resources.
- Modernisation directors play a key role here, both as conduits to the clinical community and in aligning the Cluster programme into the wider service transformation agenda. We have found mixed views of their involvement, generally that it is insufficient and at a very early stage.

Other Clusters are clearly benefiting from a higher level of clinical engagement at this stage of the programme: in inputting to the software design, in developing business process maps for their SHA or their Cluster, and in acting as knowledgeable champions in their own clinical communities. The review team finds that there is a need for developing the clinical involvement more actively and in appointing one or more clinicians as leads in the SHA's and the Cluster to act as foci for developing this further. **We recommend that steps be taken to extend clinical involvement throughout the Cluster, with resources at either Cluster level or SHA level being appointed as clinical leads with a brief to develop clinical involvement in a defined range of key activities.**

We also recommend the appointment in the Cluster team of one person to facilitate the development of a Clinical/ operational structure in the SHA's and across the Cluster.

There is a need for wider information dissemination to clinicians/ operational staff, to keep them informed of what is going on and as a forum for answering questions. Some meetings of this type have been held, but there is a large community to inform and the present sequence of meetings are more limited in ambition.

Clinical engagement in its most direct sense also means giving tools to clinicians at an early stage of the project that they can use, and which give a practical sense of some of the benefits to come for both clinicians and patients. Examples of such 'early wins' are PACS systems in acutes, local electronic patient records across Health Economies, and perhaps EPR for ambulance services. The present implementation plan is geared to urgent system requirements: i.e. operational continuity rather than early benefits.

Senior staff continuity. There is about to be a significant break in continuity of key staff. The SRO is changing, following the secondment of the current SRO. The RID and the HID are potentially also both about to leave. We view this with concern, as being too much change at the top too quickly, particularly the planned move of the Health Implementation director, given the modest level of clinical involvement so far. **We recommend that consideration be given to the HID continuing in her role, at least until a successor to the RID has been in place for some months (See also 6.4.3)**

National Supplier Board. This cross Cluster Board and the weekly co-ordination meeting beneath it, have the potential to be more useful than it has been to date as a communicator of common issues and good practice across the Clusters.

6.2 Continuing support

6.2.1 All those interviewed expressed very strong support for the project. Issues were all around the 'how', not at all around the 'what' or the 'why'.

6.2.2 **Contractor competence.** The LSP is generally well regarded across the Cluster. CSC staff are viewed as being competent professionally: their known lack of domain knowledge of the NHS is being supplemented by new hiring of ex NHS staff. Hedra, the change management contractor, are well regarded. With isoft, though strong on the software, their implementation track record is shaky and they have not started well with the disputes over upgrading of legacy GP systems. CSC are stressing the need for Cluster wide applicability – and are driving the agenda in this area: they have also been good at stressing the need for cooperative working and getting out and about to many trusts and all the SHA's. CSC have put staff into the SHA's, though it is not clear how much of this is co-located and how much is on a 'regular visit from Solihull' basis.

There is an issue for CSC in that isoft has a crucial role in the Cluster yet is also crucial in other Clusters. There will be a need soon for cross Cluster governance of this link. **We recommend that the three Cluster RID's involved meet to discuss what cross Cluster supervision of isoft developments is required, and to implement the outcome.**

6.2.3 **Independent local solutions.** There is one local health economy that is not aligned to the Cluster plans and considering following a separate path. The programme leadership is confident that this is an issue which will be satisfactorily resolved.

6.3 Development and Implementation plans

6.3.1 **Implementation plan approval and timing.** The Implementation plan was conditionally approved on April 27, one month late. The main reason was the lack of settlement of key contractual matters such as whether the GP systems were going to be upgraded within the contract or not, and similarly whether other legacy systems were to be upgraded. We

are aware that both issues are being actively worked at present, and that the GP systems issue may be resolved shortly. However, the review team sees legacy issues continuing to be significant. **We recommend that an additional Cluster resource be considered to address the legacy issues across the Cluster in cooperation with the national resource.**

- 6.3.2 **Level of detail in the plan.** The plan is billed as a detailed implementation plan, but the review team understands that in fact there is only a modest level of detail: insufficient for example, to estimate training needs.
- 6.3.3 **Implementation PID's.** No PID's have yet been developed for the early implementers. There is optimism that these will be produced quickly now that the plan has been signed off. It is nevertheless slower than in some other Clusters.
- 6.3.4 **Prioritisation of Implementation plan.** The plan appears to have been driven by the need to replace old systems and to install in green field sites; GP systems come later. The opportunity to address *benefit* priorities in the plan itself, i.e. to favour those developments that will bring most benefits to patients earlier, is not a driver of the current plan. **We recognise that urgent system replacement is an important priority at this stage, but recommend that the next issue of the plan be explicit in using a benefits methodology to arrive at a phasing that will maximise benefits to patients.**
- 6.3.5 **Business process redesign and standardisation.** We found considerable confusion and lack of clarity in this area. On the one hand there are some strong drivers for standardisation: 1) CSC have priced their proposal on the basis of standard solutions, and 2) There is a lot of interest - from CIO's and clinicians/operational staff - in standardising processes which do not need to be different across the Cluster. However, how this will be achieved is not written down and is not clear to most interviewees nor to us. There are various good initiatives underway: a series of three week long workshops, tiger teams, plans for business transformation process workshops, work on the standard configuration for isoft, the development of 'starter packs' for trusts. What is missing is the overview, and the communication of that overview widely across the Cluster. **We recommend that the Cluster team put together an overview of process redesign and standardisation policy and plans, agree it with the LSP and Programme Board, and communicate it widely.**
- 6.3.6 **Decision-making on standardisation.** Similarly, there is not clarity on what decisions will be required to be taken on standardisation, who will be the appropriate group to validate the proposed decisions, nor to take the decisions. This is important, as it risks slowing down the speed of decision making: this will be a critical success factor for the LSP as it moves into mainstream implementation.
- 6.3.7 **Resources for standardisation.** We have the impression that the lead resources for driving each area for standardisation are not clearly identified or recognised as such, and that they have insufficient time to take the lead in the way necessary. It also appears that the resources are IT resources rather than clinical resource. For example, there is a lead on PAS systems, who is heavily stretched. There appears to be no lead on clinical systems. **We recommend that the Cluster team clarify exactly how business process redesign and business process standardisation should take place in the Cluster, and consider full time leads for PAS and clinical systems, to co-ordinate developments in these areas.**
- 6.3.8 **Data migration and quality.** These are likely to be important issues, but have not yet hit the 'critical' list. Again there appears to be insufficient resource being devoted to this issue, which is a common concern across the Cluster (and maybe nationally).
- 6.3.9 **Contract management.** The national approach to contract management, of putting contract managers in place in each of the Clusters, reporting to Leeds yet being part of the Cluster team, appears to be working well in the Cluster. The Cluster resource in

place is well regarded and considers himself adequately involved in all relevant contract matters. He is not, however, much involved in legacy system discussions.

6.4 Business Preparedness

- 6.4.1 **Cluster team size.** The Review Team believes that the small Cluster team of 10-12 staff is insufficient to deal with the current workload effectively, with the result that bottlenecks are occurring. We understand that some individuals in SHA's are taking the lead in a number of working groups: we welcome these moves to spread the load, and the potential for them to draw resource from a larger pool than the Cluster. Nevertheless, a significant, demanding Cluster workload remains. **We recommend that the SRO reviews the totality of implementation resource required at Cluster level, and the organisational structure best suited to provide that, including reviewing the RID and HID roles. Recommendations are made elsewhere in this report on specific roles.**
- 6.4.2 A good example is the requirement in the contract for 50 people to be seconded from the NHS to CSC. It is unclear how this is happening, and who, in the Cluster is going to manage it. One solution would be for an extra person in the Cluster team to organise this. An additional, and related pressure is the welcome policy of CSC to refer to the Cluster, on HR issues as they recruit for their team, and receive applications from NHS staff: this needs HR policy input, which at present cannot be provided.
- 6.4.3 Availability of skilled business change resource on the NHS side and seconded to the LSP will be essential to engage in the implementation work, and ensure that this project is implemented in consistency with the wider systems reform agenda. It was acknowledged that the changes at the Modernisation Agency is likely to result in suitably skilled staff becoming available, and that there is a good opportunity for the Cluster to secure some of these people. **We recommend the appointment of a resource person in the Cluster (see 6.4.1 above) and that one task of this person be to extract resource from the MA, and other locations like the IA, for deployment across the Cluster.**
- 6.4.4 The Review Team found that there was uncertainty as to the level and quality of resource available to the Project at Trust level. At least one Trust had taken steps to recruit qualified staff to lead process redesign work and to plan and lead implementation of project deliverables. CSC and other interviewees were concerned as to whether sufficient Trust resource would be made available; further, it is probable that some re-skilling of available resource will be necessary in process review, change management, and implementation disciplines, working in joint teams with the LSP. **We recommend that a capability and skills group be formed from a representative across each SHA to specifically address what skills area available and needed. This team could also work with the LSP training team to develop the training requirement.**
- 6.4.5 The review team understand that there is a significant lack of clarity in the contract with respect to GP Systems and legacy upgrades. This is resulting in uncertainties over the financial implications. Additionally, there is some uncertainty over the contract scope: CSC feel that they are being asked to deliver more, than required in the initial two "core bundles" and a richer functionality, they are responding accordingly. CSC felt that they would need to "over-deliver functionally to get SHA engagement". But other interviewees felt that 'de-scoping' by CSC was one of the main risks. **We recommend that the Cluster and CSC agree a course of action to identify and resolve outstanding uncertainties associated with the contract.**
- 6.4.6 There are a number of outstanding matters relating to the existing isoft contracts, which remain in place across the Cluster. CSC has a contractual responsibility to ensure that isoft, a member of its Alliance, engages with the Authority to resolve compliance issues associated with these Legacy contracts. We understand that Trusts are dealing directly with isoft, with support from the National contracts team.

6.4.7 Substantial NHS funds are understood to be deployed on the Workforce Development programme, integrated within each SHA, and deployed on training and education. It was suggested to the Review Team that this programme should be aligned to the NCRS and other modernisation programmes, to help the NHS develop the business transformation and other skills necessary to meet the objectives of those programmes over the next 5-7 years. **We recommend that the Cluster consider how best to align with of the Workforce Development programme and use the training and educational facilities available**

6.5 Risk and issue management

6.5.1 The risk register is up to date and reflects most of the risks expressed to the review team. However, it does not reflect the risks arising from bottlenecks due to the Cluster team size, nor around business process redesign and standardisation unclarities, nor around insufficient clinical involvement. **We recommend that these additional risks are discussed at the next Cluster programme Board, reflected in the risk register and the register risk ranking updated.**

6.5.2 There is a major issue – across the country – of public concerns about the way that patient records are accessed and presented. This came up in some interviews, but is not reflected in the risk register.

6.6 Benefits Realisation Management

6.6.1 There was good development of benefits to be achieved in the ATP2 document. It is hugely important for the Cluster that these benefits, both business and clinical, be achieved.

6.6.2 However, structures are not yet in place: benefits realisation methodologies are under discussion, but not yet in place. The approach to be used will now need to be changed to align with the direction to be given from Professor Halligan.

6.6.3 Individual Trusts are beginning process redesign work, which integrates benefits realization planning.

6.6.4 Hedra, a member of the CSC Alliance, has initiated a programme of workshops with stakeholders, utilising its proven approach to facilitating business change and benefits management. Hedra are concerned that the NHS should make available sufficient people to participate in these workshops, and to take forward their outcomes. **We recommend that, once clarity is received from Professor Halligan, guidance be issued from the Cluster on the generic benefits realisation structures and processes and structures to be put in place in each SHA.**

6.8 Communications

6.8.1 There was widespread positive recognition of the Cluster newsletter. Despite this, the majority feedback has been that this is a technically driven project.

6.8.2 Interviewees recognise that a wide range of communication mechanisms are needed, and also that this is a project on a huge scale, so a lot of communication is needed before 'critical mass' is achieved.

6.8.3 The Review Team felt that the Cluster Communication team's approach had a welcome "business", rather than pure "communications" focus. This was beneficial in their efforts to convince key SHA and Trust staff that they should regard this as a business, rather

than an IT project, even if this was not reflected in current feedback. The team was sensibly seeking to develop a joint communication plan with CSC.

6.8.4 The National Programme was seen as still highly restrictive in its control of publicly available material. **We recommend that the joint Communication plan, once developed, be reviewed by both Cluster/SHA programme Boards and by clinicians/operational staff, so that it becomes the core communications plan for both programme management and clinical/operational staff communities.**

6.9 Next Gateway review.

The next review will be a Gateway 4. We recommend that this take place around May or June 2005.

APPENDIX A

Purpose of Gateway 3B: Implementation (a subset of the Gateway 3 list)

- Ensure that management controls are in place to manage the project through to completion.
- Ensure there is continuing support for the project.
- Confirm that the development and implementation plans of both the client and the supplier or partner are sound and achievable.
- Check that the business has prepared for the development (where there are new processes), implementation, transition and operation of new services/facilities.
- Confirm that there are plans for risk management issue management and change management (technical and business) and that these plans are shared with suppliers.
- Confirm that the technical implications, such as 'buildability' for construction projects and (for IT-related projects) impact of e-government frameworks such as e-GIF, e-business and external infrastructure have been addressed.

APPENDIX B

List of Interviewees for the North West and West Midlands Cluster

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