Finance and Resources Committee 17th June 2010

Online renewals project lessons learnt report

Executive summary and recommendations

Introduction
The attached paper is the lessons learnt report completed by the project team following the successful completion of the online renewal project.

Decision
The Committee is requested to note the document. No decision is required.

Background information
The purpose of a lessons learned report is to bring together any lessons learned during the project that can be applied to other projects. At the close of the project it is completed and prepared for dissemination. The lessons learnt process embodies the continual improvement culture at HPC where everyone is empowered to point out improvements at all levels.

At HPC, most major projects have at least a 2 hour lessons learnt session where each project member takes a "critical eye" to how the project was conducted, with special focus on what can be done to improve the delivery of future projects.

All project team members take this process seriously and actively attempt to come up with developmental or critical feedback so that HPC can improve the way it delivers projects. It is important to read this report in this light.

Also, all projects are different and what works for one project, project lead, senior supplier or project sponsor, may not be easily transferable or necessary to another.

Finally, the process also ensures that any positive comments and feedback are captured, so that these approaches and behaviours can be nurtured and continued.

Resource implications
Outlined in attached paper.

Financial implications
Outlined in attached paper.

Appendices
None

Date of paper
17th June 2010

Date	Ver.	Dept/Cmte	Doc Type	Title	Status	Int. Aud.
2010-06-08	a	OPS	PPR	Online renewals lessons learnt	Draft	Public
					DD: None	RD: None

Lessons Learned Report				
Stage	**Tasks**	**Category (Negative, Positive)**	**Description**	**Recommendation**
Project Initiation	Creation of business case	P	Business case was detailed, considered and thorough and was to F&R	For larger scale projects that business cases of this nature should be created and, if appropriate, presented to the appropriate committee
	High level objectives	P	Highlighting of high level objectives and constant referral back, was useful in concentrating the project team on the key aims of the project. This assisted in controlling scope.	High level objectives (where appropriate) should be set.
	Scope management	P	Scope was constantly monitored and challenged	Constant reference to scope within brief should be made
	Project team formation	P	External subject matter experts were employed to mitigate risks around key areas	Assessment of risk points with regards to project team should be made and appropriate parties employed
	Project team formation	N	Formal sponsor updates were not undertaken	Formalised and documented meetings should be held with the project sponsor on a regular basis
	Project team formation	P	There was a correct level of senior management participation within the project team	Ensure that the correct personnel are on the project
	EMT buy in	P	There was a good level of buy in from EMT including the CEO	Ensure that there is a good level of communication with EMT and the CEO about the nature of the project
	Organisation wide buy in	P	There was a good level of buy in from the organisation generally	Ensure that communications e.g. through all staff, intranet updates, team briefings etc are undertaken
	Project leadership	P	Ownership from the project lead was strong which enabled the project to be delivered effectively	Project must be a priority for the project lead and an understanding of the role must be held before project initiation
	Project team attendance at meetings	N	Lack of attendance by some departments (including Finance) due to operational pressures	1) Resource analysis during project prioritisation / department work planning should be done according to the number of projects that have will require involvement 2) Project planning should include a resource analysis around pinch points within the organisation / departments affected
	Roles and responsibilities definition	N	A lack of job descriptions for team members would have been useful to define roles	If possible job descriptions should be written (if PM resources allow)
	Creation of project plan	N	Product and work breakdown structures weren't undertaken which led to tasks not being included	Product and work breakdown structures should always be undertaken
	Creation of project plan	N	Realistic task durations were not able to be included due to the project end date being set before the project had been assessed or planned	Project end dates should not be set before the project has been assessed or initiated
	Creation of project plan	N	Contract negotiation was not included in the project plan	A recognition of contract negotiation with external (existing & new) suppliers of one month should be included in all plans where applicable.

Implementation	Issue management		No contingency was built into the plan to allow for basic functionality testing of the application prior to load testing. I.e. the load testing environment preparation always backed straight into load testing deployment. Given that there was no absolute guarantees (although it should have been safe to assume) that the application would work on the load testing environment rather than the UAT environment, the load testing environment should have been prepared well in advance of load testing commencing. In the particular case of this project, that would not have been possible since DSL did not have enough resources during UAT to do this preparation work.	That no assumptions are made that a system will work in a new and non-tested environment. This does not mean that we cannot assume that Net Regulate will not work in the production environment after a version change since the production environment is well understood and well tested. However on new environments / architecture basic functionality testing should be performed on the new environment at least 20 working days prior to the environment being needed.
				That a tighter understanding of resourcing within the supplier organisation is understood and that there is a single understanding of the project plan e.g. with a partner organisation such as DSL that plans are drawn up together. Additionally that resource absences are fully communicated to HPC.
	Documenting of decisions with external suppliers	N	Only one external supplier meeting was formally minuted.	Formal recording of decisions made in meetings with external suppliers, where key decision are agreed.
	Usability expertise	P	The professionalism of the usability experts greatly contributed to the successful design of the system. Credible suppliers gave the product credibility	That projects creating multiple html user-based pages should employ usability experts
	Usability prototyping	N	A review of the design of the system was difficult to undertake because a paper-based prototype was created rather than a full prototype	Budget for a full prototype should be included in a project of this nature, this would also create a training system
	Usability testing	P	Testing that HPC staff observed was useful to fully understand the issues faced by users. Gave credibility to the suppliers findings.	That usability testing is carried out on projects creating multiple html user-based pages should be usability tested and if two rounds can be budgeted for this should be undertaken
	Parallel running of tasks	P	Using the usability experts to create the html meant that DSL were able to concentrate on the build of the application	
	Screen shots	P	Having a pack of screen shots was extremely useful during testing to validate results	
	Supplier engagement	P	Having a three party tender process for the usability and hosting ensured the engagement of high-level suppliers	On projects which require third parties and where the associated risks are relevant three party tender processes should always be undertaken.
	Change control during UAT	N	UAT began with CRs already outstanding reducing testing timelines further, non-essential CRs were signed off and implemented during UAT which further exacerbated this problem	Outstanding CRs should be an entry criteria for UAT and CRs should be appropriately prioritised according to the time frame allowed for UAT
	Communications plan	N	Only a high level comms strategy was drawn up a detailed communications plan to accompany implementation was missing	A full analysis of communications requirements should be written assessing both internal and external stakeholders
	Communications plan	N	The delays in go-live meant that communications were not sufficient. This may have been covered by a more detailed communications analysis / plan which should have been discussed during 'general' project meetings which were neglected towards the end of the project	Around go-live 'general' project meetings should still be held to ensure that go-live is covered not just from a technology perspective
	Roll out communications		The communications around roll out have been confused	Position statements should be written for all projects

	Communications department role	N	Communications department role was not clearly stipulated	Clear definition of Comms roles on technology projects should be undertaken, plus departmental head involvement should be mandatory
	Existing services communication	N	Consideration of information available to registrants on website was undertaken too late	Impact of technology changes on existing services should be undertaken at the time of requirements gathering
	Training	P	Training manual was comprehensive	
	Training	N	Training schedule allowed for one iteration	Given the complexity of the changes made that more than one iteration of training should be allowed for
	Operational planning around system launch	N	Operational planning for systems launch was not considered early enough	Consideration around operational roll out should be done during requirements gathering
	Telephone queuing system	P	Telephone queuing was considered at an early point during the project	
	Handover to support	N	Admin guide produced was not fit for purpose which caused difficulties in UAT	If possible support document should be demonstrated by providing suppliers
	Definition of handover to support	N	Handover to support was not clearly defined	A clear list of handover items should be created between supplier and HPC
	Transfer to Rackspace of website	N	Reading Room documentation outlining the transfer of the website from Star to Rackspace was flawed	If possible support document should be demonstrated by providing suppliers
	Support around website transfer	P	It was useful to have a Reading Room employee attend on site	If possible plan for support to be onsite for implementations of this nature (configuration tasks, complex tasks)
	Parallel environments	P	Running parallel environments was extremely beneficial for testing in this project as it ensured that testing could be done on the actual live server	Consideration as to whether this is appropriate in future projects of an infrastructure change nature should be made
	Transfer of data from website versions	N	Delays in go-live meant that content freeze went on for longer than planned	Consideration around delaying content freeze on website should be made in projects of this nature to ensure enough time is allocated for website issues
	Conflicts caused by different projects	N	Segmentation project negatively impacted online renewals i.e. reduced website testing times	When projects are delayed impact from ongoing work should be assessed.
	DNS propagation	P	DNS transfer to go-live with the website went very smoothly which meant that users could always see the correct content on the website	Propagation should be planned for at least two days prior to the website transferring and dual running should be undertaken when transferring websites
	Website source control	N	Poor source control in updating of website for go-live for online renewals application - whole structure needed to be overwritten rather than just uploading a single page	Suppliers should be challenged when over-complicating tasks
	Risk management	P	Leased line provision was highlighted early-on as a high risk	Ensure that communications tasks within technology projects are highlighted as a risk due to their nature
		N	Leased line provision although highlighted as a risk was not sufficiently prioritised however this was due to contract negotiation issues encountered on the project at the same time	That telecommunications tasks are given the highest priority possible to allow for long lead times
	Supplier management	P	Engagement with third parties during the early stages of the project was very beneficial however role specification was not clearly defined e.g. cost estimation	Role specification for third party suppliers should be clearly defined
	Supplier management	N	Cost estimation was not included as a specific task for the suppliers which led to significant disparity between expected and quoted costs	If the project has a long definition process, cost estimation milestones should be included in the project planning
	Supplier selection	P	Insistence on detailed technical specification during selection was extremely beneficial	Ensure that where possible the subject matter expert involved in technology design should be included in supplier selection where possible

	Supplier management	N	Delays were incurred during systems design due to reliance on one subject matter expert's availability	Ensure that availability of supplier is understood so that expectations are managed and planning can be controlled as much as possible
	Supplier selection	P	Analysis of existing suppliers was undertaken to ensure that subject matter experts appropriate to the project were employed	Ensure that analysis of existing suppliers is undertaken rather than skills presumed
	Supplier selection	N	Initial legal negotiations with preferred leased line suppliers were protracted and eventually unsuccessful. A call to parallel run negotiations with a rival supplier could have been made earlier.	If possible a parallel process to negotiate T&Cs with rival companies should be undertaken fairly quickly to ensure that time is not lost unnecessarily.
	Supplier selection	P	A thorough T&Cs process was undertaken (including legal negotiations) with all third party suppliers to ensure that the conditions were of the quality that we expect	A thorough T&C process should always be undertaken with full legal participation
	Supplier management	N	The leased line installation took nine months to be installed which far exceeded expectations and estimations. This delayed the project unnecessarily. Although this process was protracted it was handled escalating up as far as possible within the supplier organisation/s.	Escalation should be undertaken as soon as possible when similar issues occur
Technology implementation (if applicable)	Functional requirements gathering	N	Logging and playback of decisions was not captured therefore decisions were discussed multiple times	A log of decisions should be made and played back
	Functional requirements gathering	P	The appropriate amount of discussions were held to enable a full set of requirements to be gathered. This led to the requirements task being longer than generally anticipated, however this has proven invaluable for the usability / functionality of the system	Ensure that the amount of time allocated to requirements gathering is appropriate to the complexity of the project.
	Functional requirements gathering	P	Requirements were gathered in a workshop which assisted with generating the correct level of discussion which generated requirements rather than solutions	Workshop approaches to requirements gathering continue to work well therefore should continue to be applied
	Functional requirements gathering	N	Requirements were not always primarily defined by the process owner. This led to requirements taking longer than required.	Project team to ensure that the process owners lead the requirements gathering process
	Functional requirements gathering	N	Requirements were gathered by the project manager rather than a specific business analyst which meant that project management resourcing was distracted	Consideration should be given to whether a distinct business analyst should be utilised to gather requirements especially on projects of this size
	Functional requirements gathering	N	Sometimes the project team tried to create a solution rather than requirements at times. This was overridden by the usability experts which meant that this was a wasted resource	Focus on developing requirements rather than defining solutions. Leave the solution development to the external subject matter experts
	Functional requirements gathering	P	Requirements from similar organisations were gathered which proved a useful benchmark	Benchmarking against other systems is very useful and should be considered for projects of this nature
	Non functional requirements gathering	P	External business analyst was used to gather non-functional requirements. Good quality of requirements was produced and this was to some extent reliant on subject matter expertise	External business analysts for non functional requirements would be beneficial for projects of this size and would mitigate risk
	Non functional requirements gathering	P	Non functional requirements were given sufficient importance in the course of this project	Projects of this size and nature should always have non-functional requirements defined
	Non functional requirements gathering	P	Non functional requirements were gathered relatively quickly	

	Systems design	P	Co-ownership of systems design specification documentation meant that all parties involved had buy-in and ownership of the eventual product design. This led to collective delivery of the product	Ensure that co-ownership of technology design is implemented where possible
	Systems design	P	Subject matter expert was employed to design technology infrastructure	
	Systems design	P	Technical collaboration between third party suppliers was good which led to a stable and efficient technology environment	Ensure that joint meetings are held between suppliers, collaborative working expected and joint ownership is required
	Systems design	N	Oracle design given was incorrect on two occasions. This led to unnecessary costs and time delays	Ensure that sufficient non-functional testing is undertaken to validate technical solution
	Systems deployment	N	Problems with firewall / load balancers were only discovered after UAT since the application was not deployed to the new infrastructure directly after build. This was due to a lack of resources within DSL	That infrastructure changes are prioritised correctly i.e. that they are likely to cause significant issues to the project, therefore should be given a high priority
	UAT deployment	N	UAT was entered into even though CRs were still outstanding. Given the nature of the project and the amount of development it required, the number of bugs anticipated was too low which meant that both UAT and the bug fixes could not be supported	That in a project of this nature that UAT is pushed back until all CRs are closed out
	Load testing	P	Co-ordination of load testing was managed well - experts were of the correct level and all assembled in a single room which facilitated issue solving	That in a project of this nature that load testing is conducted in a single environment at HPC agreed premises and that this should be adequately budgeted
	Load testing	P	Identification of expertise / experience was quickly identified and appropriate alternate suppliers were quickly and efficiently deployed	To ensure that action is taken quickly once delivery is not developing as anticipated
	Deployment	N	Delays were incurred during go-live due to issues with re-do logs. This could have been much more quickly resolved if onsite support had been provided by DSL	Insist upon onsite support
	Deployment	N	Admin and DR guides were delivered extremely late	Ensure that payment and acceptance of product are not given until all work packages are delivered
	Go live	P	Go-no go meetings were utilised with the appropriate staff members involved	Ensure that go-no go meetings are standard within a technology release of this size
	Go live	P	Testing on production was conducted before a full go live was undertaken	A period of production testing should always be incorporated into a technology release
	Go live	P	Testing was conducted on a production registrant which should always be done on projects with a self service model	
	Go live	N	There was no stop point at the end of each day after go-live to ensure that issues were being appropriately handled	A formal meeting with project team members should be held to enable them to step back from the issues to determine appropriate solutions to issues on projects of this size
	User Acceptance Testing period	N	Testing period allowed was not sufficient, this was partially due to the pressures of time put on the project	A minimum of eight weeks should always be allowed on all technology changes and a assessment of the time required for a particular project should be undertaken. (Taking into account Net Regulate's specific requirements around clocking forward)
	User Acceptance Testing environment	N	Test environment processing was a lot slower than production causing delays in testing	Performance issues should be investigated and remedied if possible
	User Acceptance Testing scripts	P	Scripts sufficiently covered the functionality of the system	

	User Acceptance Testing scripts	N	Scripts were not sufficiently owned by / scripted by the business	The possibility of resourcing the project with sufficient testing personnel to write the scripts should be assessed at the beginning of the project
	User Acceptance testers	P	The skills sets of the UAT testers was appropriate to the project as they were able to show the initiative to undertake thorough testing	That appropriate personnel are assigned to testing
	User Acceptance management	P	Salesforce was used to manage the UAT period, this was a step in the right direction away from spreadsheets but did not fully meet requirements	That investigation into an alternate management product should be done
	User Acceptance location	N	Testers were required to remain in the BAU environment	If possible testers should be located in a specific are away from BAU
	User Acceptance Testing scripts	N	Scripts were not written at the time of requirements definition which meant that script writing was pressured and therefore less likely to be accurately	Resourcing should be considered to allow for scripts to be written at the time of requirements gathering
Budget management	Cost estimation	N	Contract negotiation costs were not explicitly included	Ensure that contract negotiations are adequately estimated and explicitly included
	Budget management - including overspend	P	No budget overspend was incurred	Close management allowed project board to push back on unnecessary expenditure
	Monitoring of spend	P	The use of a committed spend report was extremely useful in managing the budget and forecasting exceptions	Committed spend reports should be used on all major projects
Quality management	Quality review(s)	N	No formalised sign off of work packages were undertaken, which could have led to risk within the project. Despite the informality however, a quality product was produced	Formalised rather informal monitoring should be undertaken. Sign off according to pre established acceptance criteria should be done but must be weighed up against the impact on the project timeline
Time management	Plan execution	P	Exceptions to timings were reported and managed appropriately	Common sense approach to reporting should always be undertaken unless formal tolerances are established
Issues management	Issues management	P	Issues were managed well, logged, tracked and resolved in an appropriate timeframe	Issues management is correctly prioritised within the project by the PM in order that project management role can be given adequate importance
Issues management	Issues management	P	Good working relationship between the project board and project management enabled issues to be resolved efficiently. This was due to the correct level of escalation of issues without formal tolerances being set	Ensure that discussions between the project board and project manager to ensure that the appropriate level of issue escalation is established. This will allow the PM autonomy within the project to resolve issues and the PB to have enough information to make the correct decisions when issues are escalated
Project team management	Project team management	P	Communication between the project team and the project manager fostered a good working relationship	The project manager should ensure that regular communications between the team are maintained
Stakeholder management	Stakeholder identification	P	Committee expectations were managed correctly which allowed them to understand the priority of quality over time	
Handover and closure	Handover of deliverables to production / business as usual	P	Regular project management / IT / DSL meetings have enabled the project to close down well	Ensure that project meetings are continued following go-live to enable effective project closure and to close out issues