

Specifications



LG314/1185/16/008

Laboratory Information Management System

Version 9 December 2015

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1 Glossary

The following table lists the common terms and acronyms used within this document and their meaning.

Term	Definition
Administration Access	The level of permission that is granted to a computer user which provides the user the ability to administer all other users access to the system.
CCR	Council Contract Representative
CMP	Contract Management Plan
CSV	Comma Separated Values
Customer	An internal or external recipient of a good or service provided by the Principal's Scientific Services Team
FR	Functional Requirements
HTTPS	Hyper-Text Transfer Protocol Secure
ICT	Information and Communication Technology
IDS	A visibility tool. Intrusion Detection Systems sit off to the side of the network, monitoring traffic at many different points, and provide visibility into the security posture of the network. The IDS looks deep into the network and sees what is happening from a security point of view.
IPS	An IPS sits in line between two networks and controls the traffic going through them. This means that the IPS is in the policy side of your security house. It's going to implement or enforce a particular policy on what traffic is not allowed through. The main reason to have an IPS is to block known attacks across a network.
LIMS	Laboratory Information Management System
Metadata	<p>Metadata (meta-content) is the data providing information about one or more aspects of the data, such as:</p> <ul style="list-style-type: none"> • Means of creation of the data. • Purpose of the data. • Time and date of creation. • Creator or author of the data. • Location on a computer network where the data were created. • Standards used.
NATA	National Association of Testing Authorities, Australia.
NFR	Non-Functional Requirements
PDA	A palmtop computer that functions as a personal digital assistant or personal organiser but also provides email and Internet access.
PDF	Portable Document Format
SaaS	Software as a Service

Term	Definition
SAML 2.0	Security Assertion Mark-up Language
System Administrator	An individual responsible for maintaining user access to a multi-user computer system.
Tenants	Other Customers of the Contractor who share common architecture
Throughput	The amount of data transferred in one direction over a link divided by the time taken to transfer it, usually expressed in bits or bytes per second.
UAT	User Acceptance Testing
W3C WCAG (Version 2)	Web Content Accessibility Guidelines 2.0
XML	Extended Mark-up Language

2 Introduction

The Principal has a Scientific Services team which is comprised of an experienced team of scientists specialising in microbiological, chemical and physical water quality testing supported by an efficient group of administration staff. The team is located in a custom-built laboratory at the Smart Water Research Centre in Southport.

Scientific Services provide a range of specialised services including:

- Collection of water and sewage samples via boat and motor vehicle.
- Provision of in situ, onsite, and laboratory testing as required.
- Provision of a wide range of chemical, microbiological and physical water quality tests.
- Consultation and advice on environmental issues related to water quality and water pollution.
- Expertise to plan and conduct investigations into environmental incidents involving the release of chemicals, fuels and other pollutants into aquatic environments.

Some of the sample sources that can be tested include, but are not limited to:

- Drinking water from potable water supplies, new mains, rainwater tanks and bores.
- Irrigation water from bores, spear pumps, Class A+ recycled water mains or desalinated water.
- Water from cooling towers.
- Recreational water from natural waterways, swimming pools and spas.
- Seepage water for source identification.
- Sewage discharge from sewage treatment plants, domestic and onsite sewerage systems, houseboats (grades A, B and C) and septic tanks.
- Sewage discharge from commercial and industrial discharge sites.

The Principal's Scientific Services team uses a wide range of specialised analytical equipment including a gas chromatography mass spectrometer, flow injection analysers, inductively coupled plasma optical emission spectrophotometer, a total carbon analyser and a mercury atomic absorption analyser to deliver their services.

3 Background

The current LIMS is used to track and manage laboratory information for use by both internal resources and external Customers of the Principal, including sample testing schedules, sample labelling, worksheets, test reports, archives and Customer billing statements. The system is owned by the Principal. The system provides for storage and retrieval of water quality testing data that is used to manage potable and recycled water quality, effluent discharge licencing, environmental waterways management, water quality incidents and any exceedances. This data is also used to meet legislative obligations, public health and safety standards, hazard management, and water quality certification.

The management and recording of laboratory information produced by the specialised analytical equipment is currently performed manually by transcribing data into the current LIMS along with a suite of Microsoft Access databases, Microsoft Excel spreadsheets and Microsoft Word and PDF reports. The Microsoft Access database applications and spreadsheets have been developed in-house to provide functionality required to manage the laboratory information, functionality that the current LIMS does not provide.

4 Scope

The Principal is seeking a suitable Cloud SaaS hosted solution to address the current requirements and challenges.

The scope of work outlined is to implement a fully managed service for:

- a) managing and tracking laboratory information by enabling the storing, monitoring and reporting of water quality testing data
- b) management and recording of laboratory information produced by the specialised analytical equipment
- c) monitoring and reporting compliance with legislative obligations, public health and safety standards, hazard management, and water quality certification.

The system is to enable staff workflow efficiencies and provide opportunities to support the Principal's key business objectives:

- a) New and enhanced functionality across the system which delivers measurable efficiencies and supports service improvements.
- b) Enhanced opportunities for growth potential for the commercial services offering of the Principal.
- c) Cloud-based SaaS hosted solution providing increased performance, high availability and rapid scalability (over storage, processing, memory and network bandwidth), opportunities to share data possible interoperability with other systems.
- d) Enhanced reporting and analytics.

5 Statement of Requirements

5.1 Functional Requirements

The functional requirements outlined in this section capture the behaviour and information the solution will manage. They describe the capabilities the system will be able to perform in terms of behaviour and operation such as specific data capture, technology application action or responses.

FR #	Description
FR1	<p>The solution must have built in quality control functions which cover the following aspects:</p> <ul style="list-style-type: none"> • internal and external audits • certified reference materials • tracking of laboratory solutions • staff training details for instrument use, sample collection, testing and qualifications

	<ul style="list-style-type: none"> • supplier and product performance evaluations • instrument service and calibrations • control charts • proficiency testing including results, corrective actions, outcomes and statistics • recording of maintenance/suitability of equipment prior to use in the lab
FR2	<p>The solution must provide secure on-line self-serve access for Customers to access:</p> <ul style="list-style-type: none"> • cost of testing • test history • test results
FR3	<p>The solution must provide secure on-line self-serve access for Customers or potential Customers to:</p> <ul style="list-style-type: none"> • request a quote • accept a quote • request a sample test • download or complete a sample submission form • contact Scientific Service <p>The solution shall record any communications against the relevant Customer record.</p>
FR4	<p>The solution must provide the ability to record additional information (either manually or information held in the application) to a set of results to be included on the report. Examples of additional information include weekly flow data, chemical usage, weather, rainfall, high and low tide times and levels.</p>
FR5	<p>The solution must facilitate Customer management</p> <ul style="list-style-type: none"> • including the management of all Customer details • Customer segmentation • multiple account numbers
FR6	<p>The solution must have the ability to set (configure and change) rounding rules for each test method which can be applied to each test result. The solution shall record the results to significant decimal places defined in the applied rounding rules.</p>
FR7	<p>The solution must enable test results to be reported on multiple reports. This is in the case where different Customers require the same sample test.</p>
FR8	<p>The solution must enable flexible dashboard functionality that is easily configurable showing various types of reports.</p>
FR9	<p>The solution must enable dashboards that include tracking of:</p> <ul style="list-style-type: none"> • turnaround times • comparison of proficiency testing results • analysis of trends

	<ul style="list-style-type: none"> KPI's
FR10	<p>The solution must allow the Principals' System Administrator to change access and permissions at any time. The solution shall also provide Administration Access for the following:</p> <ul style="list-style-type: none"> configure role based access configure templates create/edit worksheets configure notifications and alerts set escalations change parameters configure formulas for calculated tests configure rounding rules configure standard comments for reports configure standard comments for quotations configure pick lists and dropdown boxes
FR11	The solution must enable bad debtor accounts to be flagged and placed on hold.
FR12	<p>The solution must have the following charging capabilities:</p> <ul style="list-style-type: none"> create a billing report include non-testing laboratory services calculate charges using a test suite calculate additional charges apply a discount apply a surcharge check charges against the quote and highlight any discrepancies administer GST
FR13	The solution must enable the association of sample container types to listed tests to enable the correct container and label preparation for sample collection.
FR14	The solution must provide flexible search functionality across the entire system.
FR15	The solution must be capable of applying a system generated digital signature to all correspondence and any reports.
FR16	The solution must provide a basic inventory functionality that provides the ability to record and track supplies and consumables used within the laboratory.
FR17	The solution must provide the ability to track samples sent to external laboratories.
FR18	The solution must provide the ability to track the laboratory solutions sent to Customers.
FR19	The solution must provide internal users automated and manually set alerts and notifications meeting escalation lines and timeframes:

	<ul style="list-style-type: none"> • notification of sample receipt • notification of scheduled sample collection • end of sample holding time near • result outside pre-defined limits • result missed • result does not meet validation rule • email notification of test completion • report not generated • no payment received for cash sale account • equipment due for service/calibration
FR20	<p>The system must perform automatic calculations from existing data held in the system, as per examples listed below:</p> <p>Calcium Hardness = calcium (mg/L) x 2.497</p> <p>Magnesium Hardness = magnesium (mg/L) x 4.118</p> <p>Total Hardness = calcium hardness + magnesium hardness</p> <p>Nitrate Nitrogen = oxidised nitrogen – nitrite nitrogen</p> <p>Nitrate as NO₃ = nitrate nitrogen x 4.43</p>
FR21	<p>The solution must track the status of all samples and subsequent test results and flag these through each of the stages for ease of reference, including:</p> <ul style="list-style-type: none"> • sample group status • sample status • test status • reset results to original state
FR22	<p>The solution must provide a robust and flexible method for tracking and checking sample test results:</p> <ul style="list-style-type: none"> • test results to be entered by one user and then transcription checked by another user • ability for results to be verified by an authorised user and flagged as complete • enter test results by the test name in a worksheet format or by the survey • enter test details and methodology from external laboratories • flag a test result as not reportable, not billable or not performed • flag a sample as not reportable/not billable/not collected/retest • add a test and/or edit the test results after billing has been initiated • suspend a survey from billing and record an appropriate reason for the suspension • record control data • sample not reportable/not billable/not collected/retest required
FR23	<p>The solution must manage the quotation process including:</p>

	<ul style="list-style-type: none"> • provision of quote templates for one-off or recurring projects • ability to link quotes to survey groups • ability to include pre-defined test suites • ability to provide discounts for single and combination services • ability to include outsourced tests and non-analytical services • ability to include pre-defined and ad hoc comments • record and retain all versions of quotes provided, whether accepted or not
FR24	The solution must provide the ability to add standard comments from a pre-defined list as well as ad hoc comments to a report.
FR25	The solution must automatically add NATA logos to test reports when required, subject to NATA rules.
FR26	<p>The solution must provide the ability to create reports in the following formats:</p> <ul style="list-style-type: none"> • MS Word • CSV Files • PDF • MS Excel
FR27	<p>The solution must provide the ability to run pre-defined real time reports from all areas of the system including:</p> <ul style="list-style-type: none"> • survey data reports (for the full lifecycle) including historical data • Customer data reports • regulatory reporting • KPI reporting • Control charts <p>Required reports include:</p> <ul style="list-style-type: none"> • Test Reports: Selected Samples, Customer Specific, Survey Specific, Results by Property Number, Results by Sample Description • Billing Reports: Individual Surveys, Monthly Revenue, Monthly Billing (Internal, External, Cash, Unpaid), Year to Date (Customer, Customer Type, Sample Type) • Other Reports: Training Reports, Statistics, KPI, other adhoc reports
FR28	The solution must provide the ability to select and schedule pre-defined related tests (as an example: if test 'a' is selected the system prompts for pre-defined related tests 'b', 'd', 'm' to be scheduled).
FR29	<p>The solution must provide the ability to manage recurring and adhoc survey schedules at various pre-determined intervals including:</p> <ul style="list-style-type: none"> • scheduling sample collection • scheduling testing • reminders

	<ul style="list-style-type: none">• daily schedule list• manually edit schedules
FR30	The solution must provide the ability to copy the details of a previous survey into a new survey or template.
FR31	The solution must provide the ability to copy the details of all associated tests within a group to a new survey template
FR32	The solution must enable the sending of emails or faxes of data directly from the system.
FR33	The solution must provide the ability to print sample labels with the functionality to configure data fields for each sample and container type.
FR34	The solution must enable the saving of partially entered data for update/completion at a later time.
FR35	The solution must provide pick-lists and drop down boxes.

5.2 Non-functional requirements

These requirements capture conditions that do not directly relate to the behaviour or function of the solution, but rather describe the environmental conditions under which the solution must remain effective and the qualities the system must have.

NFR #	Description
NFR1	<p>The proposed solution must meet the following guidelines:</p> <p>The solution must comply to W3C WCAG (Version 2) and must optimise accessibility and equity across a range of operating systems, and devices (including touch screen models, tablets and smartphones), and across slower bandwidths. It must support reasonable use by hearing, visual, mobility and cognitively impaired users as well as multilingual options. If there are limitations in the way the solution can be accessed these must be clearly stated along with any plans to improve accessibility.</p>
NFR2	<p>A browser based application GUI with HTML5 support for accessibility must be the main user interface required to operate the solution. Ideally, any HTML5 compliant browser could be utilised. The browser function is to operate with browser security set to medium and must support Internet Explorer 11.</p>
NFR3	<p>The solution must be compatible with a wide range of desktop clients and mobile devices. Describe what devices, versions and operating systems the solution can efficiently run on. Provide a compatibility statement each noting any limitations or exceptions regarding devices or operating systems or combinations of same, including:</p> <ul style="list-style-type: none"> • Desktops, laptops, notebooks • iPads, tablets • PDA's, mobile phone, smartphone (iOS & Android) • Scanner.
NFR4	<p>The solution must be interoperate with a security network which may include:</p> <ul style="list-style-type: none"> • Firewalls / Intrusion Defence System / Intrusion Prevention System (port / port range requirements to be provided) • Contents filters • F5 / Active Directory / SAML 2.0 (load balance / authentication) • Antivirus software • Existing software browsers <p>Include information regarding the regularity of firewall rule reviews, anti-virus signature updates, vulnerability/integrity scans of core software, network security reviews, network security penetration testing and security controls.</p>
NFR5	<p>The solution must provide integration services required to transfer interfacing data between the solution and Council's systems via a secure File Transfer Protocol session, using CSV, XML file format or Web Application Programming Interface. This is especially important for the tracking of the Principal's' staff qualifications and training requirements.</p>

NFR6	<p>The solution must provide:</p> <ul style="list-style-type: none"> different security access levels or user roles during moves, adds, and changes i.e. role changes from general to privileges during a secondment the ability for Principal's staff to administer user access rights based on the user's role, this complies with the Principal's policy to restrict information on a 'need to know' basis (Restriction of Use)
NFR7	<p>The solution must have the ability to:</p> <ul style="list-style-type: none"> retain audit logs for seven years maintain a log of all auditable events including, but not limited to: <ul style="list-style-type: none"> log events for administrators: log in, log out, record access, failed attempts, read, modify and deletion of records log events for users: log in, log out, failed attempts, read, modify and deletion of records
NFR8	<p>The solution must support SAML 2.0 for authentication and single sign on purposes or an acceptable alternative for authentication and password management.</p>
NFR9	<p>Password complexity must require all passwords to meet the following criteria:</p> <ul style="list-style-type: none"> not contain the user's account name or parts of the user's full name that exceed two consecutive characters be at least eight characters in length contain characters from at least three of the following four categories: <ul style="list-style-type: none"> English uppercase characters (A through Z) English lowercase characters (a through z) base 10 digits (0 through 9) non-alphabetic characters (for example,!, \$, #, %) lockout after unsuccessful 10 attempts
NFR10	<p>The proposed solution must provide 98.99% or better per month availability against core business hours.</p>
NFR11	<p>Must ensure the agreed service hours are Monday to Friday as the core Business hours of 5 days per week, (excluding Schedule Outages), 12 hours per day from 7am to 7pm AEST.</p> <p>The Contractor is to provide separate costing for:</p> <ul style="list-style-type: none"> 24x7 with 98.99% availability
NFR12	<p>The solution's functionality must enable the back-up and recovery of data and configuration settings, including:</p> <ul style="list-style-type: none"> normal operational recovery recovery during disaster recovery or business continuity planning scenarios agreed backup frequency testing of backup data for validity

	<ul style="list-style-type: none"> • storage and security of backup data • ensure that the maximum possible data loss is 24 hours or less.
NFR13	<p>Establish Business Continuity Plan to enable restoration or recovery of the solution in the event of a disaster or security failure.</p> <p>Business Continuity Plans must include provision for notifying Principal of any service interruptions to allow the Principal's business continuity arrangements to be implemented.</p> <p>Must make changes to business continuity plans reasonably requested by the Principal.</p>
NFR14	<p>Capacity management processes are to include:</p> <ul style="list-style-type: none"> • monitoring the performance and throughput or load on a server, server farm, or property • performance analysis of measurement data, including analysis of the impact of new releases on capacity • performance tuning of activities to ensure the most efficient use of existing infrastructure • understanding the demands on the service and future plans for workload growth (or shrinkage) • influences on demand for computing resources • capacity planning – developing a plan for the service
NFR15	<p>The solution must ensure data segregation between multiple Tenants within the data centre to ensure that other Tenants cannot access the Principal's data.</p>
NFR16	<p>The solution must provide the ability to export data in standard formats including:</p> <ul style="list-style-type: none"> • CSV • Excel • PDF • Word
NFR17	<p>The proposed solution must allow data migration by the way of an import and export service. Current analytical data will not be migrated from the current LIMS environment, only identifying data (e.g. Customers, names, addresses etc.)</p>
NFR18	<p>The solution must encrypt sensitive data in both transit and at rest. This must include details about encryption schemes/methodologies.</p> <ul style="list-style-type: none"> • Detail the process for data encryption when being sent between government or private entities. • The proposed solution securely transmits data via technology such as IPsec, Secure Socket Layer (SLS)/HTTPS, etc.
NFR19	<p>Describe what type of files the proposed solution is capable of creating and declare any dependencies on third party products/ versions (such as Microsoft Office).</p>
NFR20	<p>Describe your different 'usage' environments and the strategy for managing these, including:</p> <ul style="list-style-type: none"> • Production • User acceptance

	<p>As part of the strategy, please provide the following:</p> <ul style="list-style-type: none"> • a description of how clear delineation between environments is maintained • data copy and refresh methods between the environments (UAT environment refresh)
NFR21	<p>The solution must in the event of a system error/fault, notify a user (web interface or mobile application user) with an appropriate error message.</p>
NFR22	<p>The solution must provide connection/integration services required to automatically record data output from laboratory instruments including:</p> <ul style="list-style-type: none"> • gas chromatography mass spectrometer • flow injection analysers • inductively coupled plasma optical emission spectrophotometer • total carbon analyser • mercury atomic absorption analyser • data loggers • UV-VIS Spectrophotometer <p>The proposed solution must monitor system/laboratory instrument interfaces ensuring that required data transfers are taking place correctly.</p> <p>Hardware inventory is defined in Appendix A.</p>
NFR23	<ul style="list-style-type: none"> • Describe the licensing model available within the proposed solution • Detail any additional services, security settings, components and hardware that need to be installed on the client side in order to use the solution • Detail any limitations or restrictions of the solution licencing model such as: <ul style="list-style-type: none"> ○ Number of records per year ○ Number of users ○ Data storage ○ Bandwidth usage ○ Upload / Download file format or size <p>Include details of the licensing for any third party software components required to provide the solution including:</p> <ul style="list-style-type: none"> • Operating systems • Database management systems • Contractor development and system management tools • Gateways / interfaces
NFR24	<p>The solution must provide the functionality to print from all components of the solution without causing system response delays / issues.</p>
NFR25	<p>The solution must be capable of delivering the following screen response times:</p> <ul style="list-style-type: none"> • Query 1 second

	<ul style="list-style-type: none"> • Submit 1 second • Dropdown lists 1 second • Customer record modification 2 seconds • 'Google' like search 1 second <p>Note: The response times refer to the time taken to complete a transaction, process a record modification so that the operator can continue working and having the first information display on the screen for the results of a search.</p>
NFR26	<p>The Principal requires detail on the scalability of the proposed solution including:</p> <ul style="list-style-type: none"> • maximum number of records/transactions supported by the proposed solution before performance degradation • expected page load times with both standard and peak workloads being experienced and what volumes of workload or number of users would cause noticeable performance degradation • how the solution can scale must there be unexpected demand on the Principal's service • how the solution is monitored in real time to ensure workload levels are being met • how the solution monitors in real time the bandwidth/network utilisation, page load times, system latency etc.
NFR27	<p>The solution must ensure that each electronic record will be uniquely identifiable. Describe how all electronic records created or received by the solution will be captured and stored along with the associated metadata.</p>
NFR28	<p>The solution must ensure the integrity of a record. The data contained in the solution is protected against loss and against unauthorised access, use, modification or disclosure and against other misuse.</p>
NFR29	<p>The solution must ensure that record keeping can be monitored and audited for compliance.</p>
NFR30	<p>The solution must ensure that each transaction is time and date stamped.</p>
NFR31	<p>The solution must not limit the number of records that can be captured and retained by the system.</p> <p>If this is not achievable the Contractor must provide a detailed plan of archiving and deletion of records and how a copy of the data, metadata and recordkeeping metadata will be generated and sent to the Principal for archiving.</p>
NFR32	<p>The Principal requires evidence and/or reference of successful deployments with other organisations of a similar size.</p>
NFR33	<p>The solution must be a Cloud Based Software as a Service (SaaS) externally hosted system that can be accessed from anywhere via standard web browsers, and also be compliant with Principal's standard client platform.</p>
NFR34	<p>Provide a design document with software application and infrastructure topology diagram that identifies individual nodes and their role in the proposed solution and shows the relationship of all software and hardware components, flows and protocols.</p>

NFR35	<p>The solution must be able to operate on the Principal's standard client platform;</p> <ul style="list-style-type: none"> • Intel i5 based PCs, • 4GB RAM, • 250GB hard drives, • Running Windows 7 32 bit and MS Office 2010, • Internet Explorer Version 11 or above, • Checkpoint antivirus software.
NFR36	<p>If required, the solution must utilise the Principal's standard automated deployment systems (i.e. Microsoft SCCM 2012) for client software deployment.</p>
NFR37	<p>The system configuration is integral to the operation of the solution. The following requirements must be addressed:</p> <ul style="list-style-type: none"> • Any local services that are required for the client software to run within the Principal's standard client platforms, • Any 3rd party plugins, Java runtime version etc. which are required by the client / server solution, • Any other components in addition to the Principal standard client platform that must be available on the client device to access the service.
NFR38	<p>If alternative hardware is required by the solution describe your process for providing support and maintenance for:</p> <ul style="list-style-type: none"> • any hardware and software implemented • system interruptions • remedial action • reporting support and maintenance activities
NFR39	<p>The solution must provide the following:</p> <ul style="list-style-type: none"> • context sensitive help, available throughout the system that is customisable • support screen magnification interfaces for the vision impaired. • support for "one click" download of documents/course information and other digitised media • support to launch the appropriate helper application to view/play a digital asset contained in the system • support to initiate a search triggered by clicking on a hyperlinked related subject • support to access all related data and to ascertain the status of the item e.g. requests from the staff / client record
NFR40	<p>The solution must provide the functionality to enable test results to be viewed by multiple Customers. Read only access requirements will need to be set at:</p> <ul style="list-style-type: none"> • test level • survey level

	<ul style="list-style-type: none"> Customer level.
NFR41	The solution must have the ability to implement a security model that enables role based functionality.
NFR42	The solution must have the ability to automatically detect and alert / notify Principal resources when exceptions or anomalies occur during the data transfer process.
NFR43	<p>Relevant documentation is to be supplied as part of the Contract, including:</p> <ul style="list-style-type: none"> user guides administration guides to support the system administration functions a final 'as built' of the Principal's specific design to be available prior to 'go live'
NFR44	<p>An implementation plan is required detailing the anticipated project outcomes, delivery approach, high-level milestones, deliverables, interdependencies, outcomes and estimated workload and activities required by both the Contractor and the Principal.</p> <p>The implementation plan will logically divide activities into sequential major blocks of work to be accomplished during a same time period.</p> <p>At a minimum the plan will include the following:</p> <ul style="list-style-type: none"> How and when the project's objectives will be achieved, by showing the major deliverables, outcomes, activities and resources required for the implementation. For each milestone, the details of the deliverables and outcomes including Contractor responsibilities, the Principal's responsibilities, risks, assumptions, timelines, work effort, costs and benefits measurement and tracking approach. For each phase indicate the approximate duration in weeks. Line item any configuration items or "add-ons" that are not standard "out of the box" for the solution provided.
NFR45	Personal data must be randomised for testing.
NFR46	Training is to be provided to the Principal's end users of the solution at the time of implementation and when significant releases and/or upgrades are made to the solution.
NFR47	The solution complies with the retention of records is in accordance with relevant legislation, such as, but not limited to, <i>Public Records Act 2002</i> (refer section 7) and <i>Information Privacy Act 2009</i> (refer section 7).
NFR48	Personal information used in the system can only be sent out of Australia in the circumstances set out in Section 33 of the <i>Information Privacy Act 2009</i> .
NFR49	During implementation and any subsequent system upgrades, ensure no data is lost, damaged or corrupted.
NFR50	<ul style="list-style-type: none"> guarantee that it will immediately notify the Principal if it becomes aware that a disclosure of data contained in the solution is, or may be, required or authorised by law agree that at the end of the Contract, to support the migration of the solution by providing the data and electronic media contained within the solution to the Principal in a suitable format, and undertake the destruction of all of the Principal's data and electronic media provide a list of all countries that will host the Principal's data

	<ul style="list-style-type: none"> • agree that all data contained in the solution will be, and remain the sole and exclusive property of the Principal under Section 8 of the <i>Public Records Act 2002</i> or equivalent (please provide information for the basis for equivalence) • agree that the disposal of the Principal data will only occur once it is duly authorised by the Principal's representatives (Data Custodian and CEO or CEO delegate) • agree that under no circumstances will it release the Principal information without the Principal's approval • ensure that the data contained in the solution will only be used for the purposes that it was originally collected
NFR51	<p>The Principal is to be notified in writing when new releases and/or upgrades are available.</p> <p>During outages, must provide a "maintenance page" informing external users (if applicable) that the system is under maintenance, with the time frame of the outage displayed.</p>
NFR52	<p>Must meet with the Principal's nominated representatives at least every six months to highlight opportunities for Principal to improve utilisation of the features contained within the solution or planned to be released within the solution.</p> <p>Down time attributable to upgrades, scheduled maintenance and/or planned outages are to occur within the Principal's preferred schedule 07.00pm – 07.00am AEST.</p>
NFR53	<p>Must provide the methodology for change, patch, release management and preventative maintenance, including but not limited to:</p> <ul style="list-style-type: none"> • practice regarding preventive/regular maintenance tasks • notification methodology/process • testing process and frequency of patches and releases • timeline of support for releases of the product • the process/ability for the Principal to perform User Acceptance Testing • the process for training of the Principal's staff as to the usage of any new releases (e.g. tested and certified in the Contractor's lab environment) <p>Must provide the methodology for changes/patches/releases managed through the Test, UAT and Production environments, including but not limited to:</p> <ul style="list-style-type: none"> • ensuring that no data is lost, damaged or corrupted during a change • evidence of the current change management process • scheduled maintenance/support windows • testing of printing functions including response times, detailed report output
NFR54	<p>The Principal requires that the solution provides management tools including:</p> <ul style="list-style-type: none"> • System performance monitoring tools • Administrative tools for enabling moves, adds and changes • Administrative tools for designing workflows • System performance diagnostics and troubleshooting tools • Tools for monitoring and filtering of alarms, faults and associated logs • Tools for providing real-time statistics regarding system performance, including checking

	server and process status
NFR55	<p>Must provide a service desk / support function to which authorised Principal users can:</p> <ul style="list-style-type: none"> • Report support incidents / issues • Submit service requests • Submit request for change • Track the status, progress of services, incidents and requests
NFR56	<p>The deadline policy for solution testing and accepting upgrades must be clear, stable and reasonable. An appropriate test environment and data must be available on notification of each test phase (alpha, beta, production). Upgrade plans, testing scope and requirements must be communicated early in the planning process.</p>
NFR57	<p>Must provide a transition out strategy and plan as part of the offer in the event the Principal wishes to terminate the contract including the transfer of the Principal's data back to the Principal or a nominated third party.</p>
<p>Note: Contractor Pricing is to be submitted in the Pricing Schedule only. No dollar values are to be included within the Non-Price Response Forms</p>	
NFR58	<ul style="list-style-type: none"> • provide the proposed Pricing methodology: <ul style="list-style-type: none"> ○ i.e. per agent, per port, per month, named or concurrent usage, data storage, bandwidth usage, licensing limits etc. ○ Training services - Pre and post implementation ○ Implementation services ○ Integration services • outline the proposed licensing model used by the solution. (This licensing model and the corresponding costs must support the following requirements as a minimum): <ul style="list-style-type: none"> ○ concurrent users – (staff and public) ○ unlimited licences ○ Network related Pricing ○ Other professional services e.g. hourly / day rates for project management, solution design, external carrier, consultant, data cleansing etc. • all implementation costs of the service from the Contractor must be provided including additional costs associated with Configuration or additions
NFR59	<ul style="list-style-type: none"> • any costs incurred by parties other than the Principal for using the solution in carrying out activities associated with the Principals processes • any additional support costs and support services outside of the licensing must be provided • any future costs for upgrades to the system must also be given along with any known dates for end of life, known version releases • any activities required to be completed by the Principal to support upgrades must also be estimated in terms of workload and skill set / experience required (e.g. Regression & User Acceptance Testing of custom reports)

	<ul style="list-style-type: none"> • detail on any costs incurred by the Transporter or Generator • any additional support costs and support services outside of the licensing • any future costs for upgrades to the system along with any known dates for end of life, known version releases • any activities required to be completed by the Principal to support upgrades in terms of estimation of workload and skill set / experience required (e.g. Regression and UAT of custom reports)
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6 Quality Assurance (QA)

Subscribe to quality management procedures that meet the general services outlined in the specification and provide documentation that demonstrates quality assurance procedures.

Such procedures would address:

- Product Development Methodology
- Customer focus
- Process approach
- System approach to management
- Continual improvement

The CCR and the Principal's nominated representatives will be responsible for ensuring compliance with regard to quality assurance.

7 Other documents

The following information is publicly available and must be considered within this specification.

- [Australian Drinking Water Guidelines](#)
 - Part 1: Management of Drinking Water Quality
 - Chapter 3: Framework for Drinking Water Quality
 - Section 3.2: Assessment of the drinking water supply system
 - Part 3: Monitoring
 - Chapter 10: Monitoring for specific characteristics in drinking water
 - Section 10.2: Assessing safety
 - Section 10.3: Assessing performance
- [Information Privacy Act 2009](#)
 - [Section 33: Transfer of personal information outside of Australia](#)
- [Public Records Act 2002](#)
 - [Section 8: Custody and preservation of public records](#)
- [W3C WCAG \(Version 2\)](#)

8 Meetings

Meetings will be held between the CCR, Principal's nominated representatives and the Contractor, and at minimum will include:

- Initial Contract start-up
- Transition-in

- Quarterly review dealing with the day to day operation of the Contract
- Major yearly review assessing overall Contract performance, including achievement of Key Performance Indicators (KPI) and any emerging issues
- Transition-out

The Principal will be responsible for recording meeting minutes and arranging distribution to the Contractor for review, input and agreement to progress items. It is the responsibility of the Contractor to review all documentation in a timely manner and action as required.

The Principal will provide two weeks notification in writing to the Contractor to attend all nominated meetings at the agreed date and time. Meeting locations will be within the City of Gold Coast local government area.

9 Reporting

Be responsible for the assemblage, maintenance and entry of data for the following quarterly reports:

- Statistic reports detailing system down-time
- Incidences (including incidence description)
- Incidence resolution time
- Operational system improvements

Reporting data will be used to quantify performance objectives and regular monitoring of Contractor performance, and will include at minimum the following:

- Providing accurate information in a timely manner that is accessible on upon request.
- Reporting data provided in a standardised and easily interpreted electronic format, i.e. Excel.

10 Transition

10.1 Transition-in

Following award of the Contract an initiation meeting will be held between the CCR and the Principal's nominated representatives and the Contractor to:

- ensure mutual understanding of Contract obligations and management of the Contract
- confirm Party, roles and responsibilities
- agree on the process and timelines that will be followed, including reporting obligations and meetings
- facilitate communication between stakeholders and users of the Contract
- discuss performance targets and key performance indicators
- discuss transitional arrangements (if necessary) arising from the previous Contract

Must provide all necessary assistance required by the Principal for a smooth implementation and transition to the solution including assisting the Principal with installation, Configuration and integration and migration of data to the solution.

10.2 Transition-out

Must provide all necessary assistance required by the Principal for a smooth transition out of the solution, including assisting the Principal with the following:

- documenting transition arrangements from the outgoing to the successive Contractor

- communicating with key stakeholders to manage associated changes
- documenting roles and responsibilities
- discussing ongoing Contract requirements to cover the transitional period
- ensure effective planning for Contract expiry

11 Management of the Contract

The Principal adopts a proactive approach towards the management of its Contracts to ensure both Parties meet their respective obligations as efficiently and effectively as possible.

Successful Contract management is defined as existing when:

- Arrangements for service delivery continue to be satisfactory to both Customer and Contractor
- Expected benefits and value for money are being delivered and realised
- The Contractor is co-operative and responsive
- All parties comprehend and exercise their obligations under the Contract
- Disputes are rare
- The Contract is fully compliant and satisfies both legislative and audit requirements

The CCR will exercise the functions of the Principal relating to Contract management functions, and is responsible for monitoring the operational and performance outputs of the Contract.

A CMP will be developed by the Principal in consultation with the Contractor following Contract mobilisation. It will define and document clear deliverables, outputs and roles and responsibilities required to be carried out by both parties, respectively.

The following elements will be considered as part of Contract management activities:

- Contract mobilisation
- Contract management roles and responsibilities
- Contract administration and record keeping
- Payment obligations
- Managing relationships
- Performance management
- Risk management
- Ethical business conduct
- Contract completion.

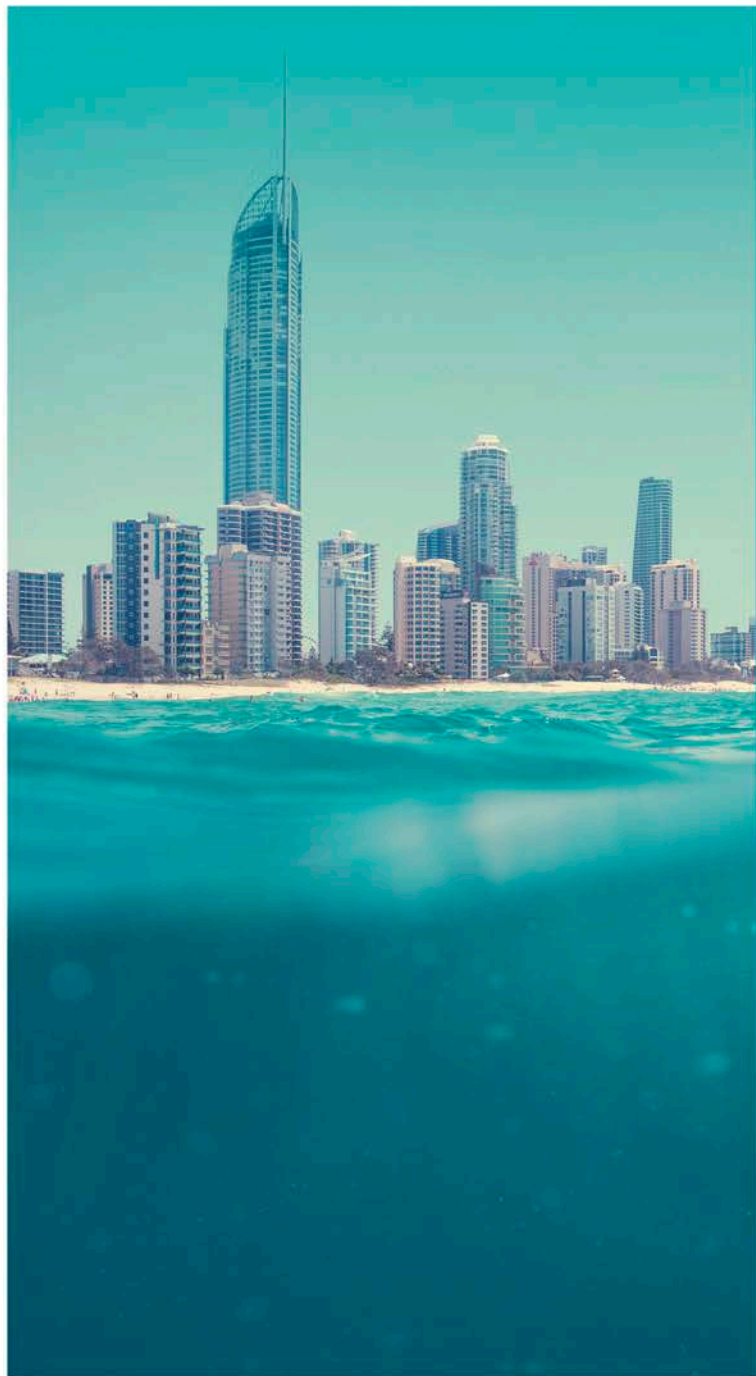
12 Appendix A

The following are details of the laboratory instruments being utilised by the Principal.

Instrument	Make	Model
Gas Chromatography Mass Spectrometer	Agilent Technologies	6890N
Flow Injection Analysers	Lachat	QC8000

Specifications

Instrument	Make	Model
Flow Injection Analysers	Lachat	QC8500 Series II
Inductively Coupled Plasma Optical Emission Spectrophotometer	Perkin Elmer	Optiva 2100DV
Total Carbon Analyser	General Electric	InnovLab
Mercury Atomic Absorption Analyser	PS Analytical	Millennium Merlin
Data Loggers	YSI	ProDSS
Data Loggers	YSI	650MDS
UV-VIS Spectrophotometer	Agilent Technologies	UV-VIS Cary 60



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