REQUEST FOR TENDER

SAQA 0008/16 NLRD

Namibia Qualifications Framework
System requirements for the
Namibia Qualifications Framework Information
Management System (NQFIMS)

Compulsory Information Session:
06 September 2016 at 10:00

Closing Date:
19 September 2016 at 11:00

TENDER NUMBER:	**SAQA 0008/16 NLRD**
CLOSE DATE:	**19 September 2016**
TIME:	**11h00**
DESCRIPTION:	**System requirements for the Namibia Qualifications Framework Information Management System (NQFIMS)**

See Special Conditions of Tender and Contract

Documents in tender document pack

Tenderers are to ensure that they have received all pages of this document, which consist of the following sub-documents:

1   Invitation to Tender

2   Special conditions of tender and contract

3   Evaluation criteria and process

       3.1   Evaluation Criteria
       3.2   Bid documentation

4   Period of Validity

5   Language

6   Compulsory Information Session

7   Submissions of Bids

8   Pricing

9   Additional Information

10   Opening of Bids

11   Conditions under which proposals are to be submitted

12   Organisation and Methodology

Annexure A: Terms of Reference

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1. Invitation to Tender

<u>YOU ARE HEREBY INVITED TO TENDER FOR A REQUIREMENT OF SAQA</u>

TENDER NUMBER: SAQA 0008/16 NLRD   CLOSING DATE: 19 September 2016

CLOSING TIME: 11:00

DESCRIPTION: System requirements for the Namibia Qualifications Framework Information Management System (NQFIMS)

VALIDITY: Offer to be valid for 90 days from the closing date of the tender
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The successful tenderer will be required to fill in and sign a written Contract Form

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TENDER DOCUMENTS MAY BE: DEPOSITED IN THE TENDER BOX SITUATED
AT 1067 ARCADIA STREET
HATFIELD PRETORIA, 6TH FLOOR
RECEPTION AREA

No faxed or e-mailed tenders will be accepted
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Tenderers should ensure that tenders are delivered before the closing date and time to the correct address. If the tender is late, it will not be accepted for consideration.

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Tenders can be delivered between 08:00 and 16:30, Monday to Friday prior to the closing date, and between 08:00 and 11:00 on the closing date.
All tenders must be submitted on the official forms (not to be re-typed).
This tender is subject to the General Conditions of Contract (GCC) and, if applicable, any other Special Conditions of Contract.
Tenders submitted that do not comply with the following may not be considered for evaluation:
-        A tender that is not in the format prescribed.
-        A tender without some or all of the required documents.
-        Pricing schedules not in the required format.
-        Tenders without the required number of copies.
Any queries regarding tendering procedures and technical information may be directed to:

Tender Procedures   Technical Information
Name: Lenette Venter   Yvonne Shapiro
Tel.: 012 431 5062   Tel: 012 431 5050
Fax: 012 431 5061   Fax: 012 431 5061
E-Mail: lventer@saqa.co.za   E-Mail: yshapiro@saqa.co.za

All tenderers must furnish the following particulars and include it in their submission:

(Failure to do so may result in your tender being disqualified)

Name of tenderer: õ

Entity name: õ

VAT registration number õ

Tax Clearance Certificate
submitted   YES / NO

Postal address: õ

Street address: õ

Telephone number: Code: õ õ õ õ ..   Number: õ õ õ õ õ õ õ õ õ õ õ õ

Cellular number: õ

Facsimile number: Code: õ õ õ õ ..   Number: õ õ õ õ õ õ õ õ õ õ õ õ

E-Mail: õ

Contact details of responsible person who will act on behalf of the entity/ consortium/joint venture for this tender

Name and Surname: õ

Telephone number: Code: õ õ õ õ ..   Number: õ õ õ õ õ õ õ õ õ õ õ õ

Cellular number: õ

Facsimile number: Code: õ õ õ õ ..   Number: õ õ õ õ õ õ õ õ õ õ õ õ

E-Mail: õ

Contact details of alternative responsible person who will act on behalf of the person above should he/she not be available

Name and Surname: õ

Telephone number: Code: õ õ õ õ ..   Number: õ õ õ õ õ õ õ õ õ õ õ õ

Cellular number: õ

Facsimile number: Code: õ õ õ õ ..   Number: õ õ õ õ õ õ õ õ õ õ õ õ

E-Mail: õ

Confirmation

Are you the accredited representative in South Africa for the services offered by you:
YES / NO

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2.   Special conditions of tender and contract

No.	Conditions	Confirmation			
		Yes	No	Noted	If no, indicate deviation
1. GUIDELINE ON COMPLETION					
1.1	Tenderers must indicate compliance or non-compliance on a paragraph-by-paragraph basis. Indicate compliance with the relevant tender requirements by marking the YES box and noncompliance by marking the NO box. If the contents of the paragraph only need to be noted, please mark the NOTED box. The tenderer must clearly state if a deviation from these requirements are offered and the reason therefore. If an explanatory note is provided, the paragraph reference must be attached as an appendix to the tender submission. Tenders not completed in this manner may be considered incomplete and rejected. Should tenderers fail to indicate agreement/ compliance or otherwise, SAQA will assume that the tenderer is not in compliance or agreement with the statement(s) as specified in this tender.				
1.2	Proper tenders for the services specified must be submitted.				
2. GENERAL CONDITIONS OF CONTRACT					
2.1	The General Conditions of Contract must be accepted.				
3. ADDITIONAL INFORMATION REQUIREMENTS					
3.1	During evaluation of the tenders, additional information may be requested in writing from tenderers. Replies to such request must be submitted, within 5 (five) working days or as otherwise indicated. Failure to comply, may lead to your tender being disregarded.				
4. VENDOR INFORMATION					
4.1	All tenderers will be required to complete a vendor information form detailing the organisation's complete profile.				
5. QUESTIONNAIRE: BROAD BASED BLACK ECONOMIC EMPOWERMENT					
5.1	All tenderers will be required to complete a Broad Based Black Economic Empowerment form detailing the organisation's profile.				

No.	Conditions	Confirmation			
		Yes	No	Noted	If no, indicate deviation

6. CONFIDENTIALITY

6.1	The tender and all information in connection therewith shall be held in strict confidence by tenderers and usage of such information shall be limited to the preparation of the tender.				
6.2	All tenderers are bound by a confidentiality agreement preventing the unauthorised disclosure of any information regarding SAQA or of its activities to any other organisation or individual. The tenderers may not disclose any information, documentation or products to other clients without written approval of SAQA.				

7. INTELLECTUAL PROPERTY, INVENTIONS AND COPYRIGHT

7.1	Copyright of all documentation relating to this assignment belongs to SAQA. The successful tenderer may not disclose any information, documentation or products to other clients without the written approval of SAQA.				
7.2	In the event that the Company would like to use any information or data generated in terms of the Services, the prior written permission must be obtained from SAQA.				
7.3	SAQA shall own all materials produced by the Company during the course of, or as part of the Services.				
7.4	This clause 7 shall survive termination of this Agreement.				

8. PAYMENTS

8.1	SAQA will pay the Company the Fee as set out in the final contract. No additional amounts will be payable by SAQA to the contractor.				
8.2	The contractor shall from time to time during the duration of the contract, invoice SAQA for the services rendered. No payment will be made to the contractor unless an invoice has been submitted to SAQA.				
8.3	Payment shall be made into the tenderer's bank account formally within 30 days after receipt of an acceptable, valid invoice. (Banking details must be submitted as soon as this tender is awarded).				

No.	Conditions	Confirmation			
		Yes	No	Noted	If no, indicate deviation
8.4	The contractor shall be responsible for accounting to the appropriate authorities for its Income Tax, VAT or other moneys required to be paid in terms of applicable law.				
9. NON-COMPLIANCE WITH DELIVERY TERMS					
9.1	As soon as it becomes known to the contractor that he will not be able to deliver the goods/services within the delivery period and/or against the quoted price and/or as specified, SAQA must be given immediate written notice to this effect. SAQA reserves the right to implement remedies as provided for in the GCC.				
10. WARRANTS					
10.1	The Company warrants that: It is able to conclude this Agreement to the satisfaction of SAQA.				
10.2	Although the contractor will be entitled to provide services to persons other than SAQA, the contractor shall not without the prior written consent of SAQA, be involved in any manner whatsoever, directly or indirectly, in any business or venture which competes or conflicts with the obligations of the contractor to provide the Services.				
11. PARTIES NOT AFFECTED BY WAIVER OF BREACHES					
11.1	The waiver (whether express or implied) by any Party of any breach of the terms or conditions of this Agreement by the other Party shall not prejudice any remedy of the waiving party in respect of any continuing or other breach of the terms and conditions hereof.				
11.2	No favour, delay, relaxation or indulgence on the part of any Party in exercising any power or right conferred on such Party in terms of this Agreement shall operate as a waiver of such power or right nor shall any single or partial exercise of any such power or right under this Agreement.				
12. RETENTION					
12.1	On termination of this agreement, the contractor shall on demand hand over all documentation, information, software, etc., without the right of retention, to SAQA.				
12.2	No agreement to amend or vary a contract or order or the conditions, stipulations or provisions thereof shall be valid and of any force and effect unless such agreement to amend or vary is entered into in writing and signed by the contracting parties. Any waiver of the requirement that the agreement to amend or vary shall be in writing, shall also be in writing.				

No.	Conditions	Confirmation			
		Yes	No	Noted	If no, indicate deviation
13. SUBMITTING TENDERS					
13.1	An original plus three copies of the tender, i.e. four documents in total and should be handed in/delivered to:				
13.2	Deputy Director: Supply Chain Management The South African Qualifications Authority (SAQA) 1067 Arcadia Street, Hatfield, Pretoria 0083				
	NB: Tenderers are to indicate on the cover of each document whether it is the original or a copy				
13.3	Tenders should be in a sealed envelope, marked with: Tender number (SAQA 0008/16 NLRD) Closing date and time (19 September 2016 @ 11:00) The name and address of the tenderer				
14. LATE TENDERS					
14.1	Late submissions may not be accepted. A submission will be considered late if it arrived only one second after 11:00 or any time thereafter. The tender (tender) box shall be locked at exactly 11:00 and tenders arriving late will not be accepted under any circumstances. Tenderers are therefore strongly advised to ensure that tenders be dispatched allowing enough time for any unforeseen events that may delay the delivery of the tender.				
15. BRIEFING SESSION AND CLARIFICATIONS					
15.1	**COMPULSORY INFORMATION SESSION** Date: 06 September 2016 at 10:00 Place: SAQA House Faranani, 4th Floor 1067 Arcadia Street Hatfield Pretoria 0083				
15.1.1	Any clarification required by a tenderer regarding the meaning or interpretation of the Terms of Reference, or any other aspect concerning the tender, is to be requested in writing (letter, facsimile or e-mail) from Lenette Venter. The tender number should be mentioned in all correspondence.				
16. FORMAT OF TENDERS					
16.1	Tenderers must complete all the necessary tender documents and undertakings required in this tender document. Tenderers are advised that their proposal should be concise, written in plain English and simply presented.				

No.	Conditions	Confirmation			
		Yes	No	Noted	*If no, indicate deviation*
16.2	Tenderers are to set out their proposal in the following format:				
16.2.1	**Part 1**: Invitation to Tender				
16.2.2	**Part 2**: Compliance to Special Conditions of Tender and Noting of Evaluation Process and Criteria				
16.2.3	**Part 3.1**: CSD Registration Report and SARS Tax Clearance Certificate(s) **Part 3.2**: B-BBEE Certificate **Part 3.3:** Declaration of Interest **Part 3.4:** Declaration of tenderer's part supply chain management practices				
16.2.4	**Part 4**: Understanding of Terms of Reference				
16.2.5	**Part 5**: Technical approach (Methodology and approach)				
16.2.6	**Part 6**: Experience in this field				
16.2.7	**Part 7**: Pricing Schedule.				
17. DETAIL OF PROPOSAL DOCUMENTS					
17.1	**Part 1: Invitation to Tender** Tenderers must complete and submit the "Invitation to Tender" document.				
17.2	**Part 2: Compliance to Special Conditions of Tender and Noting of Evaluation Process and Criteria** Indicate compliance/non-compliance or noted. In case of non-compliance details and referencing to the specific paragraph is required.				
17.3	**Part 3.1: Central Supplier Database (CSD) Registration and SARS Tax Clearance Certificate** (*Please refer to www.csd.gov.za)* A CSD Registration Report must be submitted with the proposal. The CSD Registration Report must clearly indicate that the prospective service provider has a compliant SARS Tax Clearance Certificate and the BBBEE status must be indicated. In case of a consortium/joint venture, or where subcontractors are utilised, a CSD report for each consortium/ joint venture member and/or subcontractor (individual) must be submitted. **Part 3.2: B-BBEE Certificate** An accredited B-BBEE Certificate must accompany the proposal. Complete and sign SBD6.1 Form. **Part 3.3: Declaration of Interest** Tenderers must complete and submit the Declaration of Interest.				

No.	Conditions	Confirmation			
		Yes	No	Noted	If no, indicate deviation
17.3.1	Tenderers must complete and submit all required documentation; SBD4; SBD 6.1; SBD 8 and SBD 9 Forms				
17.4	**Part 4.1: Understanding of Terms of Reference** Tenderer to clearly indicate the understanding of the requirements of SAQA as per the Terms of Reference. Refer to Evaluation Criteria and submit enough information in order to score the highest possible points.				
17.5	**Part 6**: Technical approach Tenderers must, at least:				
17.6.1	Provide an overview of the methodology that is followed by them e.g. a risk based approach is required				
17.6.2	Describe, in detail, exactly how they propose to carry out the activities to achieve the outcomes identified in the terms of reference. They should identify any possible problems that might hinder delivery and indicate how they will avoid, or overcome such problems.				
17.6.3	Identify the position(s) involved in the direct delivery of the service to be provided and in the overall management of the work and name the people who will fill these positions.				
17.6.4	Describe the tasks, duties or functions to be performed by staff in these positions.				
17.7	**Part 7**: Experience in this field				
17.7.1	Tenderers should provide at least the following information: Details of contracts for similar work within the last 4 years. Contact details of a minimum of 3 organisations for which work was done.				
17.8	**Part 9: Pricing Schedule**				
17.8.1	All costs related to this assignment are to be allowed for in the pricing schedule and in the formats prescribed. The proposed totals for fees and reimbursables will be included in the contract as the maximum amount to be spent on these items.				
17.8.2	A pricing schedule with one of the specified elements (fees and reimbursable costs) omitted from the costing, may be considered non-responsive.				

No.	Conditions	Confirmation			
		Yes	No	Noted	If no, indicate deviation
17.9	**Fees**				
17.9.1	Completed Vendor Information form & required source documents. Payment details and proof of bank account (cancelled cheque) will only be required from the successful tenderer.				
18. PRESENTATIONS					
18.1	SAQA reserves the right to invite tenderers for presentations before the award of the tender.				
19. NEGOTIATIONS					
19.1	SAQA has the right to enter into negotiation with a prospective contractor regarding any terms and conditions, including price(s), of a proposed contract.				
19.2	SAQA shall not be obliged to accept the lowest of any quotation, offer or proposal.				
19.3	Despite preferential procurement regulations 3(4), 4(4), 5(4), 6(4) and 8(8) that state that only the proposal with the highest number of points may be selected, a contract may, on reasonable and justifiable grounds, be awarded to a proponent that did not score the highest number of points.				
19.4	All tenderers will be informed whether they have been successful or not. A contract will only be deemed to be concluded when reduced to writing in a contract form signed by the designated responsible person of both parties.				
19.5	Documents submitted by tenderers will not be returned.				
20. DOMICILIUM					
20.1	The parties hereto choose domicilia citandi et executandi for all purposes of and in connection with the final contract as follows:				
	The South African Qualifications Authority (SAQA) 1067 Arcadia Street Hatfield Pretoria 0083				
	The Service Provider: õ õ õ õ õ õ õ õ õ õ õ õ õ õ õ õ .				

3. Evaluation criteria and process

No.	Conditions	Confirmation			
		Yes	No	Noted	If no, indicate deviation
1. EVALUATION PROCESS					
1.1 COMPLIANCE WITH MINIMUM REQUIREMENTS					
1.1.1	All bids duly lodged will be examined to determine compliance with bidding requirements and conditions. Bids with obvious deviations from the requirements/conditions, may be eliminated from further adjudication.				
1.2 PRICE, FUNCTIONALITY AND PREFERENCE POINTS					
1.2.1	All remaining bids will be evaluated as follows:				
1.2.2	80 Marks will be awarded for price and 20 marks will be awarded for specific goals set out in the preference points claim form(s).				
1.3 DETERMINATION OF PERCENTAGE FOR FUNCTIONALITY					
1.3.1	The evaluation criteria and weights for functionality as indicated in the table in paragraph 4.1.1, will apply.				
1.3.2	The percentage scored for functionality should be calculated as follows: Each panel member shall award values for each individual criterion on a score sheet. The value scored for each criterion shall be multiplied with the specified weighting for the relevant criterion to obtain the marks scored for the various criteria. These marks should be added to obtain the total score. The following formula should then be used to convert the total score to a percentage for functionality: $$Ps = \frac{So}{Ms} \times Ap$$ Where Ps = percentage scored for functionality by bid/proposal under consideration So = total score of bid/proposal under consideration Ms = maximum possible score Ap = percentage allocated for functionality The percentages of each panel member shall be added together and divided by the number of panel members to establish the average percentage obtained by each individual bidder for functionality.				

No.	Conditions	Confirmation			
		Yes	No	Noted	If no, indicate deviation
	After calculation of the percentage for functionality, the prices of all bids that obtained the minimum score (100%) for functionality should be taken into consideration.				
1.4 ELIMINATION OF PROPOSALS ON GROUNDS OF FUNCTIONALITY					
1.4.1	Bids that score less than 80% of the marks available for functionality will be eliminated from further consideration. Points will therefore not be awarded for their cost proposals or for preference.				
1.5 DETERMINATION OF PERCENTAGE FOR PRICE					
1.5.1	The percentage scored for price shall be calculated as follows: The lowest acceptable bid/proposal (adjusted or not), will obtain the maximum percentage allocated for price. The other bids/proposals with higher prices (adjusted or not), will proportionately obtain lower percentages.				
1.6 CALCULATION OF POINTS FOR FUNCTIONALITY AND PRICE					
1.6.1	The percentage scored for price shall be calculated as follows: The lowest acceptable bid/proposal (adjusted or not), will obtain the maximum percentage allocated for price. The other bids/proposals with higher prices (adjusted or not), will proportionately obtain lower percentages.				
1.6.2	The points scored out of 80 shall be calculated according to the following formula. The 80/20 preference point system (below R1 Million) $$Ps = 80 \left(1 . \frac{Hs . Rs}{Rs}\right)$$ Where Ps = points scored for price of the bid/proposal under consideration Hs = highest percentage scored by any acceptable bidder for functionality and price Rs = percentage scored for price by				

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	bid/proposal under consideration.				

No.	Conditions	Confirmation			
		Yes	No	Noted	If no, indicate deviation
1.7 AWARDING OF POINTS FOR PREFERENCES/GOALS					
1.7.1	Points for any specific preferences will be awarded according to the formula(e) indicated in the preference points claim form(s), refer to no. 1.8, Preference Points Claim Form in Terms of the Preferential Procurement Regulations, 2001.				
1.8 COMBINING FUNCTIONALITY, PRICE AND PREFERENCE POINTS					
1.8.1	The preference points for each bid will now be added to the price mark for that bid.				
1.8.2	The Evaluation Committee may recommend that the contract be awarded to the bidder obtaining the highest aggregate mark as determined by 1.8.1 or to a lower scoring bid on justifiable grounds.				
1.9 ADJUDICATION OF BID					
1.9.1	The Evaluation Committee will evaluate and make recommendation. The Procurement Committee will consider the recommendations and make the final award. The successful bidder will usually be the service provider scoring the highest number of points or it may be a lower scoring bid on justifiable grounds or no award at all.				

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3.1 EVALUATION CRITERIA

The evaluation criteria are as follows:

CRITERION	COMPLIANCE
1. PHASE 1: FUNCTIONALITY	
The extent to which understanding of the requirements and key issues is demonstrated.	20
The feasibility and appropriateness of what is proposed, in terms of likelihood of developing and implementing of the NQFIMS for the Namibia Qualifications Authority, to the required standard (i.e. the assurance of the quality of the NQFIMS).	30
Project plan: The identification and timing of major milestones in execution of the contract, particularly the completion of all aspects of the System Requirements.	10
Appropriate skills and knowledge: relevant experience and expertise. CVs of the team, to prove expertise, must be attached. Points will be calculated using the highest number of years of experience for development and implementation of relational databases and graphical user interfaces (GUIs).	20
The extent to which the service provider has successfully completed work of the type of software development and implementation required. This will take into account information provided by referees. Proof of such documentation must be attached.	20
TOTAL SCORE FOR FUNCTIONALITY	**100**
Bidders MUST score 80% for phase 1 to qualify for further evaluation **Bidders that fail to score 80% will be disqualified for being technically non-compliant and will not be considered for Phase 2**	
2. PHASE 2: PRICE	
2.1 Relative competitiveness of proposed price	**80 Points**
TOTAL SCORE FOR PRICE	**80 Points**
3. PREFERENCE POINTS	
EQUITY (20 Points)	
Level 1	**20**
Level 2	**18**
Level 3	**16**
Level 4	**12**
Level 5	**8**
Level 6	**6**
Level 7	**4**
Level 8	**2**
Non-compliant contributor	**0**

3.2 BID DOCUMENTATION

It is very important that the standard bid documentation included in this bid document be completed and submitted as part of the proposal. Failure on the part of the bidder to complete the attached documentation may lead to disqualification.

Attached Documents	Reference
Invitation to Bid	SBD 1
Central Supplier Database Registration	www.csd.gov.za
Tax Clearance Requirements	SBD 2
Pricing Schedule . Firm Prices	SBD 3.3
Declaration of Interest	SBD 4
Preference points claim form in terms of the Preferential Procurement Regulations 2011	SBD 6.1
Declaration of Bidder's pas Supply Chain Management Practices	SBD 8
Certificate of Independent Bid Determination	SBD 9
Organisation and methodology [To be drawn up by the bidder using the format as per paragraph 13 of this bid document]	Refer to par. 13

4. PERIOD OF VALIDITY

Bidders shall be bound by their proposals for a period of **90 days** from the deadline for the submission of bids.

5. LANGUAGE

The proposals, all correspondence and documents related to the bid document exchanged by the bidder and SAQA must be written in the language of the procedure . **English**.

Supporting documents and printed literature furnished by the bidder may be in another language, provided they are accompanied by an accurate translation into the language of the procedure. For the purposes of interpretation of the bid, the language of the procedure will prevail.

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6.   COMPULSORY INFORMATION SESSION

No Information Session will be held.

7.   SUBMISSION OF BIDS

Proposals must be received before the deadline as indicated in the bid document. They must include the signed standard bid documentation and all other relevant documents required and submitted at the following address:

<u>Physical Address</u> South African Qualifications Authority SAQA House Building 1067 Arcadia Street Hatfield, Pretoria, 0083

<u>Bidders shall comply with the following conditions</u>:

All bids to be submitted in one original marked "original", and 3 (three) copies signed in the same way as the original and marked "copy".

All bids must be received before **11.00 on Friday 16 September 2016**.

All bids, including annexures and all supporting documents, to be submitted in a sealed envelope bearing only:

(a)   the above address
(b)   the reference code of this bid, **Reference: SAQA 0007/16 DFA**
(c)   the words "Not to be opened before the bid opening session" in the language of the bid document **- English**
(d)   The name of the bidder, telephone number and address

8.   PRICING

Bidders shall be deemed to have satisfied themselves, before submitting their proposal(s), as to its/their correctness and sufficiency, to have taken account of all that is required for the full and proper performance of the contract and to have included all costs in their rates and prices.

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9. ADDITIONAL INFORMATION BEFORE THE DEADLINE FOR SUBMISSION OF TENDERS

Bidders may submit questions in writing to the following address, specifying**:**

Reference number: SAQA 0007/16 DFA

The contract title: Short Term Insurance Service

Contact name: Lenette Venter
Deputy Director: Supply Chain Management

Postal address: SOUTH AFRICAN QUALIFICATIONS AUTHORITY,
Post Net Suite 248, Private Bag X06, WATERKLOOF, 0145

Physical address: SOUTH AFRICAN QUALIFICATIONS AUTHORITY,
SAQA House Building, 1067 Arcadia Street, Hatfield, Pretoria 0081

E-mail: lventer@saqa.co.za

Any prospective bidders seeking to arrange individual meetings with SAQA during the bid period may be excluded from the bid procedure.

10. OPENING OF BIDS

The opening and examination of bids shall be for the purpose of checking whether the bids are complete, whether the documents have been properly signed and whether the bid proposals are generally in order.

In the interests of transparency and equal treatment and without being able to modify their proposals, bidders may be required, at the sole written request of the evaluation committee, to provide clarifications within 48 hours. Any such request for clarification must not seek the correction of formal errors or major restrictions affecting performance of the contract or distorting competition.

Any attempt by a bidder to influence the evaluation committee in the process of examination, clarification, evaluation and comparison of bids, to obtain information on how the procedure is progressing or to influence SAQA in its decision concerning the award of the contract shall result in the immediate rejection of its bid.

All bids received after the deadline for submission specified in the procurement notice or these instructions will be kept by SAQA. No liability can be accepted for late delivery of bids. **Late bids may be rejected and not be evaluated.**

In no event shall SAQA be liable for any damages whatsoever including, without limitation, damages for loss of profits, in any way connected with the cancellation of a bid even if the Contracting Authority has been advised of the possibility of damages. The publication of a procurement notice does not commit SAQA to implement the programme or project announced.

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11. CONDITIONS UNDER WHICH PROPOSALS ARE TO BE SUBMITTED

11.1   SAQA reserves the right to reject any tender that, in its opinion, is not suitable for the purpose of this assignment.

11.2   Contractors may be penalised for not meeting performance levels. Where such shortfalls exist, notification and warning(s) will precede any such penalty to correct the situation promptly.

11.3   SAQA reserves the right to terminate this appointment or temporarily defer the work, or any part thereof, at any stage of completion should it be decided not to proceed with the project. Should either party due to reasons not attributable to the contractor terminate the agreement between SAQA and the service provider, the service provider will be remunerated for the appropriate portion of work completed.

11.4   The professional persons proposed for use on the project shall remain in use on the project unless permission is granted by SAQA to change the staffing proposal. Such permission will only be granted in exceptional cases.

11.5   No material or information derived from the provision of the services under the contract may be used for any purposes other than those of SAQA, except where authorised in writing to do so by SAQA.

11.6   The bidder will be disqualified should any attempt be made by the service provider, either directly or indirectly, to canvass SAQA, or any of its employees in respect of a bid between the date of the tender and the date of award.

11.7   The copyright of all documents and electronic aids, software etc, prepared or developed in terms of this appointment shall be vested in SAQA, which will have the right to allow any other individual, company, agency or organisation to use or modify the code for any purpose approved by SAQA including selling.

11.8   SAQA reserves the right not to accept the lowest quotation, as the quality of the bid proposal and the potential to implement will play a major role when the bid proposals are evaluated. Similarly SAQA is not bound to select any of the service providers tendering for the bid.

11.9   SAQA reserves the right to award only part of the contract, if it deems necessary.

11.10   The General Conditions of Contract will apply in this tender.

11.11   The Code of Conduct for Security Services Providers as stipulated in the Regulation Act, 2001 (Act No. 56 of 2001).

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12. ORGANISATION AND METHODOLOGY

To be completed by the Bidder and submitted with the completed tender document.

RATIONALE

- **IMPORTANT: THE SYSTEM MUST BE DEVELOPED IN MS SQL**

- Any comments on the Terms of Reference of importance for the successful execution of activities, in particular its objectives and expected results, thus demonstrating the degree of understanding of the contract. **Any comments contradicting the Terms of Reference or falling outside their scope will not form part of the final contract.**

- An opinion on the key issues related to the achievement of the contract objectives and expected results.

- An explanation of the risks and assumptions affecting the execution of the contract.

PROJECT PLAN

- The timing, sequence and duration of the proposed activities, taking into account mobilisation time

- The identification and timing of major milestones in execution of the contract, including an indication of how the achievement of these would be reflected in any reports, particularly those stipulated in the Terms of Reference.

TIMELINE

COMPLETION AND FINAL DEPLOYMENT: End March 2017

ANNEXURE A: TERMS OF REFERENCE

Namibia Qualifications Framework
System requirements for the
Namibia Qualifications Framework Information Management System (NQFIMS)

Abbreviations and acronyms

GUI   Graphical User Interface (the %front-end+put onto an information system, visible to users)
IMS   Information Management System
NQA   Namibia Qualifications Authority
NQF   National Qualifications Framework
SDLC   Systems Development Lifecycle
URL   Uniform Resource Locator, i.e. Web address

1   Introduction

This specification describes the system requirements for Namibia's National Qualifications Framework Information Management System (NQFIMS). The main objective of the NQFIMS is to gather data, process it, and produce information relevant to Namibia's National Qualifications Framework (NQF) for decision making, workflow management, and publicising the NQF.

The main objectives of this NQFIMS initiative are to:
- Support the ideals of the NQF by establishing a management information system that is a database driven system;
- Serve as a resource for relevant information related to the NQF for research and decision making purposes;
- Support the registration of qualifications and unit standards in particular;
- Establish a record of learning achievement for each learner;
- Establish records of accredited providers which offer NQF-registered qualifications and unit standards; and
- Support the implementation of the NQF in general.

As a direct result of these objectives the NQFIMS must accurately collect and manage the following kinds of data:

- Qualifications and unit standards
- Providers and their accreditation status
- Quality Assurance bodies
- Learners and learner enrolments/achievements

2   Purpose of this document

The purpose of this document is to provide a conceptual overview of the type of development that needs to be completed in order to develop the NQFIMS. This preliminary system requirement does not constitute a final design requirement; rather it serves as a guideline as to the kind of development that will be required for this product.

The development methodology for the development of the NQFIMS must therefore include extensive analysis and design phases in which the preliminary requirements described in this document are comprehensively defined in system requirement and system design documents.

This requirement furthermore does not include the provision of services for the ongoing maintenance and support of the NQFIMS. Such services will be sought once the NQFIMS has been developed and implemented according to these requirements and procedures, and after the requirements for the ongoing maintenance and support of the system have been defined.

The developer will need to show that it has successfully implemented, on another information system for another organisation, a system similar to the proposed system framework for the NQFIMS, with at least the same level of complexity. The developer must demonstrate that that system meets the objectives stated above.

3   Conceptualisation and Development Methodology

The NQFIMS must be developed in accordance with the standard/classic/waterfall Systems Development Lifecycle (SDLC). The developer's proposal must clearly define the deliverables, timing and costing related to each project phase. The proposal must also clearly describe the testing and quality assurance steps that will be utilised during the course of the project.

In consultation with the developer, the NQFIMS project team, consisting of NQA representatives and SAQA project managers would need to refine the conceptual overview which serves as a guideline to the activities that will be required for the phases of this project. The development methodology for the development of the NQFIMS should include extensive analysis and design phases, as set out below, in which the preliminary requirements described in this document are comprehensively defined in the design requirement and system design documents.

Data aspects such as qualifications, unit standards and providers will be controlled and managed within the NQFIMS. Data aspects such as learners and learner enrolments/achievements are however controlled and managed within information systems located at the providers, and will be submitted to the NQFIMS by the providers on a regular basis. As a result the NQFIMS must provide a framework that not only allows the providers to submit data securely and accurately to the NQFIMS, but also to ensure that the data received meet the overall objectives of the information system. The system requirements, below, describe the specific aspects of the design of the information system that will ensure that the objectives of the information system will be met.

The NQFIMS will be deployed within the local area network environment of the NQA only. It will contain data records that describe both stakeholders and learners covered by the Namibian NQF, and the information that describes both stakeholder entities and people must be protected to ensure that privacy laws and requirements are met. At the same time, data from the NQFIMS will be published to the NQA website in appropriate and agreed formats, for instance a web-based searchable database of qualifications and unit standards, and aggregated reports that provide the public with information with regard to learner achievements.

3.1   Design phase

The objective of this phase of the project for the NQFIMS is for the developer to produce a system design that satisfies the system requirements specified in this document. The developer must document the design requirements in a detailed system design specification, which will serve as a deliverable for the design phase of the project. The design specification must be based on the system requirements stated below; it must give all details and illustrate by means of context diagrams, data flow diagrams and screen shots, the functional and non-functional design requirements of the NQFIMS. Further, the system design specification must formally document the time estimates for the development of the NQFIMS as specified in the system design specification.

The completed system design specification must be submitted to the NQFIMS project team for review and approval, upon which the next phase of the project will be initiated.

3.2   Development phase

The objective of the system development phase is for the developer to develop a complete, functioning and documented solution that has been reviewed and approved.

This phase of the project must include the following deliverables:

1. An installation-ready version of the client software application.

2. An installation-ready version of the server software and database installation. This will include two instances of the database: the %production+instance and the %testing+instance. These will be named so that they are clearly distinguished from each other.

3. The development environment and source code for the solution.

4. A comprehensive system documentation set which must include:

   a. A full description of the application structure and detailed layout control flow and the relationship between code modules and files and tables;
   b. Screen shots of all screen and dialogue boxes and an explanation of interdependencies;
   c. A full listing of products used and for which parts of the application;
   d. Fully commented programming code;
   e. Documentation of the content and structure of the database tables, fields in each table, and the database;
   f. Documentation of the installation of the system.

All of the above-mentioned documentation must be provided as a camera-ready printed copy and in an electronic format (such as Microsoft Word).

All of the project phase deliverables must be submitted to the NQFIMS project team for review and approval, upon which the next phase of the project will be initiated.

3.3 Implementation phase

The objective of the implementation phase is for the developer to deliver a complete, functioning and documented solution that has been reviewed and approved by the NQFIMS.

This phase of the project must include the following envisaged specific activities:

1. Installation of the solution;
2. Final testing and correction of any aspects that are highlighted by the final testing; and
3. Client sign-off of acceptance.

3.4 Intellectual Property Rights

The developer must note that all copyrights and intellectual property rights in respect of the outputs of the project will remain with the NQA, which will have the right to allow any other individual, company, agency or organisation to use or modify the outputs for any purpose approved by the NQA, including selling.

4 Database Design

The developer should note that the design has been structured in order to ensure that the data that is stored in the NQFIMS will conform to the data submission requirements that the NQA will place on all of its data suppliers.

The database design only presents the **data** tables for the NQFIMS. The developer of the NQFIMS will need, further, to design the following types of tables:

4.1   Audit tables

Each table (data, lookup, history and system tables) must have a corresponding audit table (for example the table Qualification must have an audit table, AudQualification). The audit table must have exactly the same characteristics as the data table with the following differences:

Each audit table:
1. must not have a primary key constraint;
2. must not have any foreign key constraints;
3. must have a data element that records the user that implemented the change;
4. must have a data element that records the type of change that was made where %U+ represents an update; and
5. must have data elements that record the date and time on which the change was made.

The audit tables must be populated by means of table-based triggers. This requirement ensures that changes made from (a) the graphical user interface (GUI), (b) the batch loading of data, and (c) back-end data manipulations are properly recorded in the database.

4.2   Reporting framework tables

The database model must have tables that support the reporting framework environment as described in Section 5.5.

4.3   Batch loading tables

The database model must have tables that support the batch data loading processes described in Section 7.

5   Graphical user interface (GUI)

The following section describes the GUI required for the NQFIMS.

5.1   Overview

The GUI must be developed in a user-friendly manner that will facilitate the user in completing the processes and procedures required for the normal operation of the NQFIMS.

The general system architecture and design of the GUI must be developed utilising a modular design methodology, thereby facilitating future maintenance and enhancement tasks. Additionally, the modular design methodology must ensure that the resultant programming code is able to meet requirements related to coding isolation levels. Coding for edit validations and reports must be in stand-alone coding segments, and all programming code must contain commenting. Progress indicators, warning dialogues and event handlers must be implemented as required throughout the system.

The GUI must be developed as a locally installed application that functions on PCs that have the minimum specifications indicated by the NQFIMS project team.

The general look and feel of the GUI must be uncluttered and must emulate the Microsoft type interface. The GUI must be developed using a suitable programming language, such as Microsoft VB.Net. Any additional components required by the solution must, where applicable, be licensed to the NQA.

5.2   System framework environment

In order to ensure the overall maintainability and scalability of the NQFIMS the developer must implement a system framework to meet the following objectives:

1. Minimisation of the amount of hard-coded logic in the GUI: The envisaged implementation of the system framework should reduce the amount of hard-coded logic that refers to data tables to less than 5%. (This allows for maximum control by the NQA's NQFIMS unit rather than dependence on the developer to make changes once the system has been implemented.)

2. Maximisation of the maintainability of the information system: The implementation of the system framework must allow a "super administrative" user at the NQA's NQFIMS unit to maintain captions and messages displayed by the GUI. Further, the implementation of the framework must allow the majority of future maintenance tasks to be completed without the need to update the GUI itself.

3. Integration and control of the security aspects of the GUI: The security level of the GUI user, when compared with the security requirements of a system framework aspect, must control which parts or actions of the information system the user may access or execute.

The details of these tables are given in Appendix D . System Table Framework.

5.3   Security requirement

The NQFIMS must contain an integrated security framework that includes the following levels of system security:

1. Each user of the GUI must be authenticated against the database.

2. None of the database users will be allowed any direct access to the database objects. Rather, the security framework must include a database application role that has complete access to the database objects. The login and password for the application role must remain hidden from the user and must be attributed to the user after the user has been successfully authenticated to the database through the GUI.

3. Access to specific aspects of the GUI must be controlled by a security token framework. Each object in the GUI must be assigned a security token. Each user will be assigned to specific groups which have security tokens. Access to a specific aspect of the GUI must only be permitted when the user security token is the same as or greater than the security token of the GUI aspect.

It should be noted that each of the data-capturing functionalities described in the following sections will require at least two security groups; a "read" group and a "write" group. Further, the developer should note that certain status changes may require specific security tokens, for example only certain users may change Registration Status from "Draft" to "Registered".

The developer must set up the user administration and security token functionality. One or more "database owner" users at the NQA will be responsible for the user administration itself (see 5.4.8.2).

5.4   Data capturing screens

The following section describes the types of data capturing screens required for the NQFIMS[1].

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[1] These are only examples. The full specification will be determined by the NQFIMS project team and developer.

5.4.1   Qualification

This functionality must allow the user to insert, update and delete records that describe qualifications.

1. Qualifications will be saved in the table Qualification.
2. The field QualificationID must be an auto-generated primary key for the data record.
3. The screen functionality must provide drop-down lists for all lookup codes (QualificationType, NQFLevel, etc.), which display the description of the lookup code.
4. The screen functionality must provide search functionalities that allow the user to search for other objects such as education and training institutions (providers). These search functionalities must allow the user to see and search on the descriptive values of the parent records (rather than having to remember IDs or codes).
5. The screen functionality must provide a logical approach to the data fields QSBatch[2], StatusID[3], RegisStartDate and RegisEndDate.
6. The difference between the start and end dates may never be greater than <u>five</u> years. The end date may also never be less than the start date. The user should be allowed to edit both start and end dates, within these constraints.
7. The fields LastUpdateUser and LastUpdateDate must always be displayed, but may never be amended by the user. These fields must be populated by means of table-based triggers.
8. The screen functionality must provide an editable default TransitionFactor and editable default TrainOutFactor. (The formulas to arrive at the default values will be supplied to the developer.)

By means of table-based triggers a complete history of each qualification's statuses, with their start and end dates for the specific qualification, must be saved to the QualificationHistory table. This table must track the statuses through which the qualification has passed (including how many times it has had each status, e.g. "second re-registration". this must be two fields), and the start and end dates of each. The history of the qualification is particularly important for functionalities like accreditation and learner enrolments/ achievements. The contents of the history table must be available for viewing by users who have access to the qualification functionality. Update functionality for the qualification history table must be made available for a "database owner" user.

5.4.2   Qualification-unit standard relationship

This functionality must allow the user to insert and update records that describe the relationship between a qualification and unit standards. An example of a qualification-unit standard relationship is the relationship that specifically describes the relevant aspects of a unit standard that belongs to a qualification. The functionality to capture this relationship must be accessed via the Qualification screen (see ***Qualification***).

1. All qualification-unit standard relationships will be saved in the table USQual.
2. The field USQualID must be an auto-generated primary key for the data record.
3. The combination of QualificationID and UnitStandardID must be unique in the table.
4. The relationship screen's functionality must provide drop-down lists for all lookup codes (LinkStatusID[4] etc.) which display the description of the lookup code.
5. The screen functionality must provide search functionalities that allow the user to search for other objects like unit standards. These search functionalities must allow the user to see and search on the descriptive values of the parent records.
6. The fields LastUpdateUser and LastUpdateDate must always be displayed, but may never be amended by the user. These fields must be populated by means of table-based triggers.

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[2] Qualifications and unit standards are submitted to the NQA in clusters, which are "submission batches", to be known as "QS batches" in the NQFIMS. These batches must continue to be clustered together. Each qualification and unit standard must have a QSBatchID field (which can be null).
[3] The main status (but not the only status) for qualifications is "Registered". They become registered after approval.
[4] Link Status is used to describe when the links between items are Active or Inactive, the latter useful for records that are no longer valid (instead of deleting them). Other link statuses, such as Replaced, may also be required.

5.4.3 Providers

This functionality allows the user to insert and update records that describe providers.

1. Providers will be saved in the table Provider.
2. The field ProviderID must be an auto-generated primary key for the data record.
3. The field ProviderCode must be a "user friendly" value that is used by the NQFIMS to identify the provider.
4. The screen functionality must provide drop-down lists for all lookup codes (ProviderType, etc.), which display the description of the lookup code.
5. The screen functionality must provide a logical approach to the data fields ProviderID, ProvRegisStartDate and ProvRegisEndDate.
6. The difference between the registration start and end dates may never be greater than five years. The end date may also never be less than the start date.
7. The fields LastUpdateUser and LastUpdateDate must always be displayed, but may never be amended by the user. These fields must be populated by means of table-based triggers.

By means of table-based triggers a complete history of provider statuses, with their start and end dates for the specific providers, must be saved to the ProviderHistory table. The contents of the history table must be available for viewing by users that have access to the provider functionality. Update functionality for the provider history table must be made available for a "database owner" user.

The provider registration record that is described in this table governs the associated qualification and unit standard accreditation records for the provider. For example:
1. If a provider has a status of registered and has associated qualification and unit standard accreditation records, and it is then *de*-registered, the associated qualification and unit standard accreditation records that are still active must also be changed to a state of inactive. However, associated accreditation records must not automatically be set to active when the provider record moves from a de-registered status to a registered status.
2. The screen functionality must provide a logical approach to the relationship between a provider record, its associated qualification and unit standard accreditation records and the registration status of the provider.

5.4.4 Providers' Accreditation to offer Qualifications and Unit Standards

This functionality allows the user to insert and update records that describe a providers' accreditation[5] to offer a qualification and unit standards.

1. Provider accreditations will be saved in the table ProviderAccreditation.
2. The screen functionality must provide a logical approach to the data fields LinkStatusID, ProviderStartDate and ProviderEndDate.
3. The screen functionality must provide drop-down lists for all lookup codes (LinkStatus, etc.), which display the description of the lookup code.
4. The difference between the accreditation start and end dates may never be greater than five years. The end date may also never be less than the start date. Provisional accreditation also may never exceed five years.
5. The fields LastUpdateUser and LastUpdateDate must always be displayed, but may never be amended by the user. These fields must be populated by means of table-based triggers.

By means of table-based triggers a complete history of accreditation statuses, with their start and end dates for the specific qualification / unit standard accreditation, must be saved to the ProvAccredHistory table. The contents of the history table must be available for viewing by users who have access to the accreditation functionality. Update functionality for the accreditation history table must be made available for a "database owner" user.

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[5]Providers are accredited when they meet the accreditation standards: the decision is made by the NQA.

The accreditation functionality must ensure that the following business rules are adhered to:

1. The accreditation start/end date may not be less than the provider's first registration start date.
2. The accreditation start/end date may not be greater than the provider's first registration end date.
3. The accreditation start date may not be less than the qualification or unit standard's first registration date.
4. The accreditation end date may not be greater than the train-out date[6] for the qualification or unit standard.
   - Note: For miscellaneous ("stand-alone") unit standards, the accreditation end date may not be greater than the train-out date for the unit standard, whereas those being taken towards a qualification must adhere to the qualification's dates.

5.4.5 Person

This functionality must allow the user to insert and update records that describe a person.

1. Biographical data about the people (learners, subject matter experts i.e. SMEs, trainers, assessors, etc.) in the NQFIMS must be saved in the table Person.
2. This table will primarily be populated by means of batch data loads received from the providers.
3. The field PersonID must be an auto-generated primary key for the data record.
4. The screen functionality must provide drop-down lists for all lookup codes (Gender, Nationality, etc.), which display the description of the lookup code (see Appendix B . Sample Lookup Table data).
5. The specific business rules described in the file specifications (see Appendix C) must be implemented for this functionality to ensure that data captured from the GUI is consistent with data that is loaded into the database by batch loading.
6. The fields LastUpdateUser and LastUpdateDate must always be displayed, but may never be amended by the user. These fields must be populated by means of table-based triggers.

Each person must be identified by all of unique identity values that are allocated to him/her, the most common of which is the National ID number that is unique to each person. Each learner in the database will usually have at least one student number (one from each provider attended). People may also have other values such as passport numbers etc. These values must be saved in the table PersonIdentity (see 5.4.6).

5.4.6 Person Identity

This functionality must allow the user to insert and update records that describe the identifiers and identity types of a person.

1. The identifier/s (National ID, passport number, student number, etc.) for each Person must be saved in the table PersonIdentity.
2. This table will primarily be populated by means of batch data loads received from the providers.
3. The field PersonIdentityID must be an auto-generated primary key for the data record.
4. The screen functionality must provide a drop-down list for the lookup codes for Identity Type, which display the description of the lookup code (see Appendix B . Sample Lookup Table data).
5. The specific business rules described in the file specifications (see Appendix C) must be implemented for this functionality to ensure that data captured from the GUI is consistent with data that is loaded into the database by batch loading.

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[6] This will usually be displayed in reports as "Last Date for Achievement". The formula for calculating the train-out date (which will utilise both the TransitionFactor and the TrainOutFactor, as well as the registration end date) will be supplied to the developer.

5.4.7 Learner Enrolment and/or Achievement

This functionality must allow the user to <u>view</u> records that describe an enrolment or achievement of a qualification or unit standard (including unit standards being taken towards qualifications <u>or</u> miscellaneous unit standards, i.e. those being taken on their own and not towards qualifications). **The method for how these records arrive in the database must be <u>batch-loading only</u>. (There must be <u>no</u> facility in the GUI for capturing these records.)**

1. Learner enrolments and/or achievements of qualifications and unit standards must be saved in the table LearnerAchievement.
2. This table must <u>only be populated by means of batch data loads</u> received from the providers.
3. The fields LastUpdateUser and LastUpdateDate must always be displayed, but may never be amended by the user. These fields must be populated by means of table-based triggers.
4. The screen functionality for searches must provide drop-down lists for all lookup codes (AchievementStatus, etc.) which display the description of the lookup code.

The learner qualification enrolment and/or achievement functionality (which will be batch loads only) must ensure that the following business rules are adhered to:

1. Where unit standards are being taken towards a qualification, the batch-load procedures must provide a logical approach to the relationships between the qualification and the unit standards.
2. The provider must be accredited for the specific qualification or unit standard at the time of enrolment.
3. The enrolment or achievement must not occur before the first registration date of the qualification or unit standard.
4. The enrolment on a qualification or unit standard must not occur after the end of the transition period of the qualification[7] or unit standard.
5. The achievement of the qualification or unit standard must not occur after the train-out date for the qualification or unit standard.

5.4.8 Administration

This aspect of the GUI must allow the database owner to administer lookup tables and user profiles.

5.4.8.1 Lookup table administration

These functionalities must allow the user to insert, update and delete[8] records in the lookup tables for the system. These tables will initially be populated with data as per the sample shown in Appendix B . Sample Lookup Table data.

5.4.8.2 User administration

This aspect of the GUI must allow the database owner to:

1. Create and delete users;
2. Create and delete security groups; and
3. Assign users to specific groups.

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[7] Must be calculated from the qualification's registration end date and the TransitionFactor.
[8] The 'delete' functionality is applicable only to lookup tables, as these do not make use of statuses. The system should nevertheless not allow the deletion of a record if it is in use elsewhere in the database.

5.4.9 Other

In the same vein as above, there must also be capturing and/or viewing screens for Submission Batches, Assessment Centres, Awarding Bodies, etc.

5.5 Reporting framework, report types and specific reports

The reporting functionality for the NQFIMS must be developed within a framework that allows for predefined reporting, with functionality that allows the user to define specific aspects of the resultant report. Further, the user must be able to save and retrieve previously configured reports.

The reporting program code must be dependent on supporting structures that allow for the dynamic creation of reports. Supporting structure content must be able to be modified by an advanced application administrator via the database of the information system. Any changes required must be able to be implemented by a combination of a service provider (a developer) and an advanced application administrator.

5.5.1 Security considerations

The reporting framework and reporting GUI screens must support the following security related constraints:

1. Access to specific reports must be restricted to specific database user roles.
2. Further access to specific content within a report must be restricted to specific database user roles.

5.5.2 GUI reporting functionality

The development of the GUI screens for the reporting functionality must entail the following types of screen functionality:

1. The solution must present a listing of the defined reports, in accordance with the security aspects discussed in Section 5.3 (i.e. users must only be able to see, on the selection screen, the reports to which they have access), for selection by the user.
2. The solution must show which fields are compulsory to that report (e.g. QualificationTitle will always appear in a report on qualification details), and present a listing of non-compulsory fields that the user may opt to add to the fields that will appear in the report results.
3. The solution must present to the user, in accordance with the security aspects discussed in Section 5.3, the option of deactivating predefined optional filters for the report. For example, the default may be to exclude records with %inactive+status from the report, but the user can click on the option that elects to include them.
4. The solution must allow the user to filter the results required in the report. The filtering functionality must provide the following:
    a. Conditions: >, <, >=, <=, =, NOT =, LIKE, NOT LIKE, NULL and NOT NULL. These conditions must be appropriately applied to numeric, date and text string filters.
    b. Short list selections (used for lookup tables) which allow the user to select/deselect individual values, select all values, or deselect all values.
    c. Long list selections (used for parent tables) which allow the user to specify one value or more values in a free text format.
    d. Multiple field conditions of AND or OR.
    Filtering must be able to be completed on any field that exists in the report definition, which has been defined as a filtering field, regardless of whether the field has been selected for the report (Section 5.5.2 Item 2).
5. If a statistical report is being generated then the solution must allow the user to group fields and calculate statistics. The statistical functionality must allow the user to generate COUNT results for the fields selected.

6. The solution must present a listing of the selected fields (compulsory and non-compulsory) so that the user can define the order in which the fields must be displayed in the report.
7. The solution must present a listing of the selected fields (compulsory and non-compulsory) so that the user can define the order in which the contents of the fields in the report must be sorted.
8. The solution must allow the user the option to save the selections made, as a user defined report, which can be retrieved at a later stage by the specific user.

5.5.3 Report types

The development of the solution must include the development of a framework and supporting structures that can initially accommodate the following different types of reports:

5.5.3.1 Simple list report

Simple list reports are results, in table format, that are derived from a predefined query. The results must contain any record that is found in the database that conforms to the requirements of the user, as specified by means of the user's filter settings. The records must be displayed in the field and content order defined by the user. The results must be mapped to a MS Excel spreadsheet. The resultant report must have the following characteristics:

1. The Main data sheet must contain the results of the query.
    a. The report heading must be derived from the report framework.
    b. The column headings must be derived from the report detail framework, and must be visible on all of the pages of the report.
    c. The column widths must be derived from the report detail framework. Data must be mapped to each individual cell with the wrap contents option. Any content that exceeds the predefined width of the cell must be wrapped.
    d. The report must be one page wide[9], whether or not the user subsequently edits column widths.

2. An Information data sheet must be created which contains the following descriptive data:
    a. Date and time at which the report was created
    b. Name of the report
    c. Fields selected in order of selection
    d. Sort order
    e. User defined filter settings
    f. Predefined filter settings (Section 5.5.2 Item 3)

5.5.3.2 Statistical summary list report

Statistical summary list reports are statistical results, in table format, that are derived from a predefined query. The results must contain any record that is found in the database that conforms to the requirements of the user, as specified by means of the user's filter settings. The records must be displayed in the field and content order defined by the user with a statistical result as per the users requirements. The results must be mapped to a MS Excel spreadsheet. The resultant report must have the following characteristics:

1. The Main data sheet must contain the results of the query.
    a. The report heading must be derived from the report framework.
    b. The column headings must be derived from the report detail framework, and must be visible on all of the pages of the report.
    c. The column widths must be derived from the report detail framework. Data must be mapped to each individual cell with the wrap contents option. Any content that exceeds the predefined width of the cell must be wrapped.

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[9] Any exceptions to this, for specific reports, will be specified.

> d. The report must be one page wide[10], whether or not the user subsequently edits column widths

2. An Information data sheet must be created which contains the following descriptive data:
   a. Date and time at which the report was created
   b. Name of the report
   c. Fields selected in order of selection
   d. Sort order
   e. User defined filter settings
   f. Predefined filter settings (Section 5.5.2 Item 3)

5.5.3.3   MS Word report

MS Word reports are reports that utilise MS Word, displaying the results in text format, which includes tables where relevant, and derived from a predefined query.

The report request must allow for specific values (one or more) for QualificationID, UnitStandardID, PersonID, etc, and . if more than one . for defining the sort order in which the %sub-reports+ appear by one or more of the values.

Page numbers must start at 1 for each %sub-report+.

> Example: MS Word report on the content of five qualifications: five %sub-reports+ in order of ascending NQF Level and Qualification ID; each %sub-report+ with a different number of pages from the other (but each starting at its own page number 1).

5.5.4   Specific reports

The development of the NQFIMS must include the development of at least the following reports. The NQFIMS project team will further define the specific requirements of each report during the design phase of the development of the NQFIMS. Other reports, as identified by the NQFIMS project team, may be added to this list.

5.5.4.1   Simple list reports

1. Qualifications on the NQFIMS . this report must allow the user to generate a listing of the qualifications on the NQFIMS in accordance with his/her requirements[11].
2. Unit standards on the NQFIMS . this report must allow the user to generate a listing of the unit standards on the NQFIMS in accordance with his/her requirements.
3. Provider details . this report must allow the user to generate a listing of the providers on the NQFIMS in accordance with his/her requirements.
4. Provider accreditations . this report must allow the user to generate a listing of the provider accreditations on the NQFIMS in accordance with his/her requirements.
5. Provider accreditations for qualifications and unit standards . these reports must allow the user to generate a listing of the providers on the NQFIMS and their accreditations for qualifications and unit standards in accordance with his/her requirements. This report must present data from the Provider and ProviderAccreditation tables.

> Additional simple list reports may include the following:

1. Qualifications based on unit standards, by unit standard . this report must allow the user to generate a listing of the qualifications on the NQFIMS that use specified unit standards.

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[10] Any exceptions to this, for specific reports, will be specified.
[11]   For this report and the rest, the requirements include items (relevant to the particular list) such as NQF organising fields, dates, levels and qualification types.

2. Qualifications based on unit standards, by qualification id . this report must allow the user to generate a listing of all of the unit standards used by specified qualifications (one or more) on the NQFIMS.
3. Qualification replacements . this report must allow the user to generate a listing of which qualifications on the NQFIMS have replaced/will replace other qualifications, in accordance with his/her requirements.
4. Unit standard replacements . these reports must allow the user to generate a listing of which unit standards on the NQFIMS have replaced/will replace other unit standards, in accordance with his/her requirements.
5. NQF Organising Field and Subfield . these reports must allow the user to generate a listing of the Fields and Subfields on the NQFIMS in accordance with his/her requirements.
6. Submission Batches . these reports must allow the user to generate a listing of the submission batches on the NQFIMS in accordance with his/her requirements.

5.5.4.2   Statistical summary list reports

1. Qualification summary . this report must allow the user to generate aggregate results of the qualifications on the NQFIMS in accordance with his/her requirements.   (Example: Count qualifications by Field and NQF Level.)
2. Unit standard summary . this report must allow the user to generate aggregate results of the unit standards on the NQFIMS in accordance with his/her requirements. This report must present data from both the UnitStandard and Qualification tables.
3. Learner enrolment/achievement details . this report must allow the user to aggregate results of the learner enrolments/achievements on the NQFIMS in accordance with his/her requirements. This report must present data from the Provider, Qualification, Person, PersonIdentity and LearnerAchievement tables.
4. Learner achievement of unit standards within qualifications . these reports must allow the user to compare the unit standards obtained by a person towards a specific qualification with what is required, in terms of modules and courses, for the achievement of that qualification. This report must present data from the Qualification, Unit Standard, USQual, Person, PersonIdentity and LearnerAchievement tables.

5.5.4.3   MS Word reports

1. Qualification detail . this report must allow the user to generate a detailed report, which will display using both text and tables, of one or more specific qualifications on the NQFIMS. This report presents data from both the Qualification and UnitStandard tables (i.e. the unit standards used by the specific qualification).
2. Unit standard detail . this report must allow the user to generate a detailed report, which will display using both text and tables, of one or more specific unit standards on the NQFIMS. This report presents data from both the UnitStandard and Qualification tables (i.e. qualifications using these unit standards).
3. Notification of Registration - this report must allow the user to generate a detailed report, which will display using both text and tables, of one or more qualifications and/or unit standards registered on the NQFIMS. This report presents data from the QSBatch, UnitStandard, Qualification and Provider tables.
4. Gazette Notice - this report must allow the user to generate a detailed report (for publishing in the Government Gazette), which will display using both text and tables, of one or more qualifications and/or unit standards registered on the NQFIMS. This report presents data from the QSBatch, UnitStandard and Qualification tables.

Further reports may be requested by the NQFIMS project team during later phases of the development of the NQFIMS.

6   Automation

Automation of repetitive processes must be done as far as possible to reduce the amount of human intervention required. The NQFIMS project team and developer will consider all the various options for automation.

Automation should include, amongst others, the generation of notifications (such as e-mail and SMS) for the following:

1. User Administration:
   - Notification of the creation of new user profiles
   - Notification of the resetting of passwords

2. Registration of qualifications and unit standards:
   - Provider notifications
   - Gazette notices

3. Accreditation:
   - Notifications, to the applicants, of successful accreditation

4. Workflow management:
   - Reminders on flagged dates, to the users, of next steps in the workflow process

7   Batch data loading

The table Person, PersonIdentity and LearnerAchievement in the NQFIMS must be populated by batch files submitted to the NQFIMS by providers. The batch data loading process is described as four discrete processes:

7.1   Extracting, testing and submission of data from the Provider

The following section describes in summary the processes to be completed by the data suppliers when submitting data to the NQFIMS. **Please note - the development of the NQFIMS does not include the development of any of the software for data suppliers, as described in this section.**

Figure 7.1.1
(Items displayed here as "1.1" etc are referred to in the text as "7.1.1" etc.)
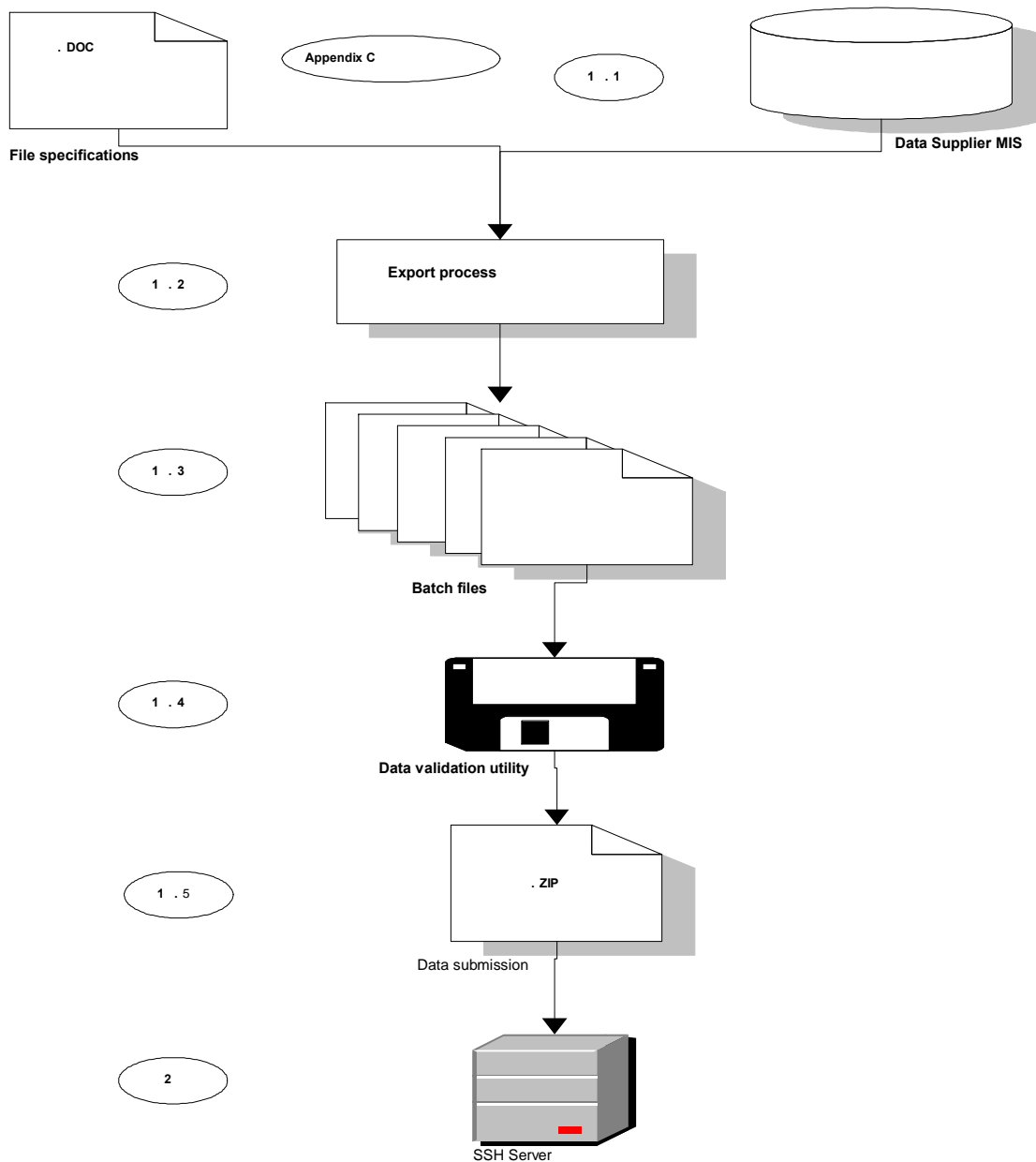
1. The data supplier (which would be a provider, in most cases) must have an information system that allows the data supplier to capture and store information relating to its learners and their enrolments and achievements on NQFIMS-registered qualifications. The data supplier may opt to purchase a commercial management information system (MIS) or to develop its own MIS. The type/nature of the MIS at the data supplier is of no concern to the NQFIMS. The data supplier must however ensure that its MIS is able to extract the relevant data in the required format as specified in the load-file specifications (see Appendix C . Load specifications).

2. The data supplier's MIS must have an export functionality which exports the data required by the NQFIMS in the format described in the file specification (see Appendix C).

3. The data supplier's MIS export functionality must create the required files, with the required naming convention (as per Appendix C), for the data supplier.

4. The user at the data supplier must validate the data submission using a data validation utility (pre-load testing utility).
5. If the data submission completely conforms to the required layout, content and business rules of the file specifications the data validation utility must complete the following steps:
   a. Create an aggregated and detailed report which describes the results of the data validation processes.
   b. Create a version file which describes the version of the data validation software used.
   c. Create a contact file which describes the user and the e-mail address at which the user can be contacted.
   d. Create a file containing a summary of the number of records submitted.
   e. Create a compressed copy of the data submission files, the data validation reports, the version file and the contact file. The compressed data submission file is encrypted with a password that is not known by the user of the data validation software.
   f. Indicate to the data supplier that the submission is ready for transfer to the NQFIMS SSH (or similar) Server. If the data supplier indicates that the submission may be copied to the NQFIMS Server then the data validation software will copy the submission using the scp program. The data validation software will connect to the server using a login and password. The IP address, login and password of the NQFIMS SSH Server are unknown to the data validation utility user.

7.2   Server

The setup and configuration of the server for the NQFIMS is recommended for the development project for the NQFIMS.

Figure 7.2.1
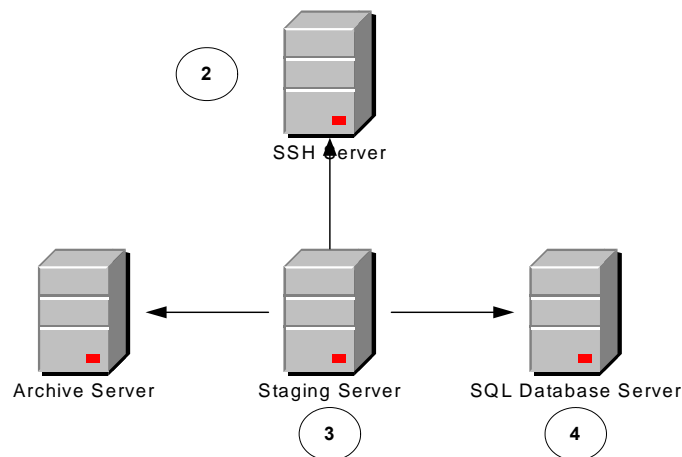
A staging server will need to be implemented to allow data supplier to submit their data submissions to. The submission of a data submission must require the user to use a login and password.

The server must be a server that is situated in the NQFIMS local area network (LAN). The server must be used only as a temporary storage area for data submissions that are transmitted via the data validation utility to the server. The server must be configured to accept transfers of data submissions from a single user account which is password protected. The login and password used to transmit data submissions must be known only to the administrator of the NQFIMS LAN. The server must be accessible from a Staging Server within the NQFIMS LAN; however the NQFIMS LAN must not be accessible from the server.

7.3   Automated data submission checking procedure

An automated component will need to be implemented to check the staging server at regular intervals for new data submissions. It is envisaged that data submissions will be submitted for automatic data loading in a compressed and encrypted format. The automated data submission checking procedure will as a result be required to check the encryption credentials of any data submission that has been submitted and uncompress the data submission file onto the NQFIMS server once the authenticity of the file has been verified.

7.4   Automated data loading procedure

An automated data loading component will need to be implemented to load the data submissions. The data loading procedure is expected to:

1. Load data records and documents into a temporary area for validation.
2. Complete validations on the system in accordance with the specifications for the specific data type.
3. Clearly present the user with the results of the data load.
   - If the data submission validation was successful then the loading results must as a minimum indicate . per file . the name of the file, the number of records processed, the number of records inserted and the number of records updated.
   - If the data submission validation was unsuccessful then the loading results must indicate the problems in the data submission, per file, per record and per field. The results must indicate the value of the data field that failed validation and a clear description of the validation rule that was broken. The loading results must also indicate the name of the file, the number of records processed, the number of records inserted, the number of records updated and the number of records rejected.
4. All records or data that are successfully imported into the %testing+ version of the system must be allocated a system status of %draft+, before being submitted to the %live+ system

7.5   Automated data submission archiving procedure

An automated data submission archiving procedure will need to be implemented to archive data submissions that have been processed by the system.

Appendix A – Database Model
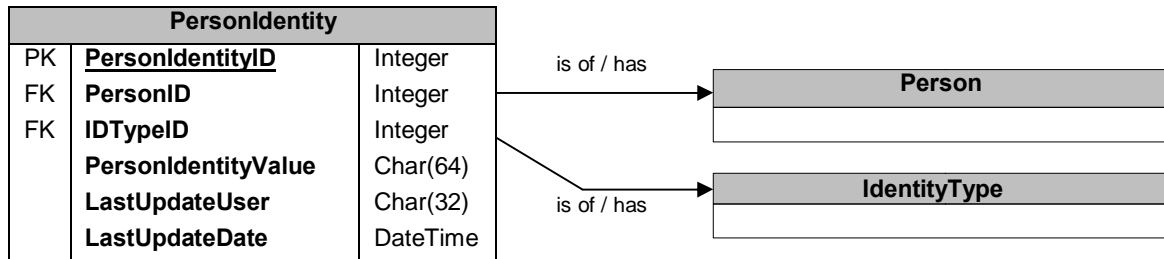
Sample Lookup Code tables

Gender		
PK	**GenderID**	Integer
	GenderDescription	Char(128)
	GenderCode	Char(16)
	LastUpdateUser	Char(32)
	LastUpdateDate	DateTime

AccreditationStatus		
PK	**AccreditationStatusID**	Integer
	AccredStatusDescription	Char(128)
	AccredStatusCode	Char(16)
	LastUpdateUser	Char(32)
	LastUpdateDate	DateTime

NQFLevel		
PK	**NQFLevelID**	Integer
	NQFLevelDescription	Char(128)
	NQFLevelCode	Char(16)
	LastUpdateUser	Char(32)
	LastUpdateDate	DateTime

RegistrationStatus		
PK	**RegistrationStatusID**	Integer
	RegisStatusDescription	Char(128)
	RegisStatusCode	Char(16)
	LastUpdateUser	Char(32)
	LastUpdateDate	DateTime

Sample table: PersonIdentity

PersonIdentity		
PK	**PersonIdentityID**	Integer
FK	**PersonID**	Integer
FK	**IDTypeID**	Integer
	PersonIdentityValue	Char(64)
	LastUpdateUser	Char(32)
	LastUpdateDate	DateTime

is of / has → **Person**

is of / has → **IdentityType**

Sample of tables and fields[12]

TABLE_NAME	FIELD_NAME	DATA_TYPE
Qualification	QualificationID	Number
Qualification	QualificationTitle	Varchar2
Qualification	ProviderID	Number
Qualification	FieldID	Number
Qualification	SubfieldID	Number
Qualification	DomainID	Number
Qualification	QualificationTypeID	Number
Qualification	QualificationClassID	Number
Qualification	NQFLevelID	Number
Qualification	AccredBodyID	Number
Qualification	QualificationNQFCredits	Number

---

[12] Full list to be determined by the NQFIMS project team and developer.

TABLE_NAME	FIELD_NAME	DATA_TYPE
Qualification	QualificationPurpose	CLOB[13]
Qualification	QualificationRPL	CLOB
Qualification	QualEntryRequirement	CLOB
Qualification	QualCreditRecognition	CLOB
Qualification	QualificationNotes	CLOB
Qualification	QualificationOutcomes	CLOB
Qualification	QualPerformanceCriteria	CLOB
Qualification	RegisStatusID	Number
Qualification	StatusStartDate	Date
Qualification	StatusEndDate	Date
Qualification	FirstRegisDate	Date
Qualification	Comments	Varchar2
Qualification	TransitionFactor	Number
Qualification	TrainOutFactor	Number
Qualification	DateStamp	Date
Qualification	LastUpdateDate	Date
Qualification	LastUpdateUser	Varchar2
QualificationClass	QualificationClassID	Number
QualificationClass	QualificationClassDesc	Varchar2
QualificationClass	LastUpdateDate	Date
QualificationClass	LastUpdateUser	Varchar2
QualificationType	QualificationTypeID	Number
QualificationType	QualificationTypeDesc	Varchar2
QualificationType	QualificationMinCreditsReqd	Number
QualificationType	LastUpdateDate	Date
QualificationType	LastUpdateUser	Varchar2
QualificationType	DefaultTrainOutFactor	Number
QualificationType	DefaultTransitionFactor	Number
QualificationReplacement	QualificationReplacementID	Number
QualificationReplacement	OldQualID	Number
QualificationReplacement	NewQualID	Number
QualificationReplacement	QualReplacementDate	Date
QualificationReplacement	LastUpdateDate	Date
QualificationReplacement	LastUpdateUser	Varchar2
QualificationReplacement	LinkStatusCode	Varchar2
IdentityType	IdentityTypeID	Number
IdentityType	IdentityTypeDesc	Varchar2
IdentityType	DataSupplierYN	Char
IdentityType	LastUpdateDate	Date
IdentityType	LastUpdateUser	Varchar2
Country	CountryCode	Varchar2
Country	CountryName	Varchar2
Country	LastUpdateDate	Date
Country	LastUpdateUser	Varchar2
Provider	ProviderID	Number
Provider	ProviderCode	Varchar2

---

[13] Character Large Objects or similar . varchar(max) should be used in SQL.

TABLE_NAME	FIELD_NAME	DATA_TYPE
Provider	ProviderName	Varchar2
Provider	ProviderTypeID	Number
Provider	ProviderAddress1	Varchar2
Provider	ProviderAddress2	Varchar2
Provider	ProviderAddress3	Varchar2
Provider	ProviderPostalCode	Varchar2
Provider	ProviderPhoneNumber	Varchar2
Provider	ProviderFaxNumber	Varchar2
Provider	ProviderEmailAddress	Varchar2
Provider	GPSLatitudeDegree	Number
Provider	GPSLatitudeMinutes	Number
Provider	GPSLatitudeSeconds	Number
Provider	GPSLongitudeDegree	Number
Provider	GPSLongitudeMinutes	Number
Provider	GPSLongitudeSeconds	Number
Provider	ProviderWebsite	Varchar2
Provider	ProviderRegistrationNum	Varchar2
Provider	ProviderStartDate	Date
Provider	ProviderEndDate	Date
Provider	ProviderClassID	Number
Provider	ProviderNotes	CLOB
Provider	Comments	Varchar2
Provider	RecordLock	Char
Provider	DateStamp	Date
Provider	LastUpdateDate	Date
Provider	LastUpdateUser	Varchar2
ResolutionNumber	ResolutionNumberID	Number
ResolutionNumber	ResolutionNumDesc	Varchar2
ResolutionNumber	ResolutionNumDate	Date
ResolutionNumber	LastUpdateUser	Varchar2
ResolutionNumber	LastUpdateDate	Date
Report	ReportID	Number
Report	ReportName	Varchar2
Report	ReportType	Number
Report	ReportTitle	Varchar2
Report	ReportTemplate	Varchar2
Report	ReportSecurityToken	Varchar2
Report	LastUpdateDate	Date
Report	LastUpdateUser	Varchar2
ReportToSource	ReportToSourceID	Number
ReportToSource	ReportID	Number
ReportToSource	SourceID	Number
ReportToSource	LastUpdateDate	Date
ReportToSource	LastUpdateUser	Varchar2
OrgGroup	OrgGroupID	Number
OrgGroup	OrgGroupName	Varchar2
OrgGroup	OrgGroupCode	Char
OrgGroup	OrgGroupPrivilegeLevel	Number

TABLE_NAME	FIELD_NAME	DATA_TYPE
OrgGroup	OrgGroupSecurityToken	Varchar2
OrgGroup	LastUpdateDate	Date
OrgGroup	LastUpdateUser	Varchar2
OrgGroup	OverallOrgGroupID	Number
SystemUser	UserID	Number
SystemUser	UserName	Varchar2
SystemUser	UserFullName	Varchar2
SystemUser	UserChangePwInd	Number
SystemUser	LastUpdateDate	Date
SystemUser	LastUpdateUser	Varchar2
LinkStatus	LinkStatusID	Number
LinkStatus	LinkStatusCode	Varchar2
LinkStatus	LinkStatusDesc	Varchar2
LinkStatus	ProvAccreditationInd	Char
LinkStatus	UsQualificationInd	Char
LinkStatus	QualReplacementInd	Char
LinkStatus	UsReplacementInd	Char
LinkStatus	LastUpdateDate	Date
LinkStatus	LastUpdateUser	Varchar2

Appendix B – Sample Lookup Table data[14]

LearnerAchievementStatus

LearnerAchievementStatusID	Description
1	Not Achieved
2	Achieved
3	Enrolled
4	De-Enrolled

LearnerAchievementMode

LearnerAchievementModeID	Description
1	Contact Mode
2	Distance Learning
3	RPL for Access to Qualification
4	RPL for Credits or Advanced Standing
5	RPL for Complete Qualification
6	RPL for Designation

IdentityType

IdentityTypeID	Description
1	IDNumber
2	Passport Number
3	Temporary ID number
4	Student Number
5	Work Permit Number
6	Birth Certificate Number

LinkStatus

LinkStatusID	Description
1	Active
2	Inactive
3	Application
5	Handed over to other link
6	Provisional
7	Replaced

QualificationType

QualificationTypeID	Description
1	Unknown
2	Certificate
3	Diploma
4	Bachelors Degree
5	Professional Bachelor Degree
6	Bachelor Honours Degree
7	Masters Degree
8	Doctoral Degree

---

[14] Full set of lookup tables to be determined by the NQFIMS project team and developer.

Appendix C – Load specifications

The following describes the recommended load specifications for data submissions that will be submitted to the NQFIMS by data suppliers. The final version of this must be produced when the system has been commissioned, and must be consistent with the final form of the system.

Title Page

Include relevant contact details at the end of the page.

Overview

Describe the purpose and structure of the Load Specifications document.

General Specification

Describe the following:

- File Format and Naming Convention:

    Include that they must be .dat files, named *XXXX**NN**YYMMDD.dat* where XXXX is each unique data supplier's mnemonic and the two digit NN is a unique identifier associated with each file format.

- Header Information (for the first row within each file)

- Standard Date Formats to use

- Data Transmission Options

Detail Specifications

File Layouts – include the following:

"Each file layout provides the format for a fixed length record, delimited by size (position), for loading into the NQFIMS. Each file format must have a two-digit format identifier that must also be included in the standard file name as described above."

Key to Abbreviations (within the file layouts)

To include the following:

Values in the 'Required' column (below):

    Y   Required
    N   Not Required
    C   Conditional upon whether or not another value has been input

Values in the 'Source' column:

    L   Lookup table already provided by NQFIMS; thus always possible to supply the value
    T   Another Table

Note on Unique Identifiers:

Codes are meaningful alphanumeric values generated by people or by the system (example: Qualification Code), whereas **IDs** are sequential numbers with no intrinsic meaning, generated by the NQFIMS (example: Qualification ID).

Files to extract and load:

(see below for an illustrative example)

- Qualification/Degree (Legacy)

- Person Information

- Person Designation

- Qualification Enrolment/Achievement

- Unit Standard Enrolment/Achievement

Appendices

Appendix A: Data Definitions and Acceptable Values

Part 1: Lookup Tables with their Custodians

Part 2: All Other Variables

Appendix B: Unique Identifiers for Data Suppliers

Appendix C: List of Fields

Appendix D: Allowed Characters

Appendix E: Best practice for validating and extracting data

Appendix F: NQFIMS Minimum Standard for Data Loads

Appendix G: Document History (i.e. record of edits of the load specifications document)

Illustrative Example: Qualification Enrolment/Achievement

This format is designed to load achievements that have been assessed against NQF-compliant qualifications. Both enrolments and achievements are tracked. For a record to be loaded a registered qualification must first be present on the NQFIMS.

File Layout:

Note	Field Name	Type	Size	Position	Require	Source
1 2	PersonIdentityID	NUMBER	15	1	C	
1 2	PersonAlternateID	TEXT	20	16	C	
1 2	AlternativeIDType	NUMBER	3	36	C	L
2	QualificationID	NUMBER	10	39	Y	T
	LearnerAchievementStatusID	NUMBER	2	49	Y	L
	LearnerAchievementTypeID	NUMBER	2	51	N	L
3	LearnerAchievementDate	DATE	8	53	C	
	LearnerEnrolledDate	DATE	8	61	N	
	ProviderCode	TEXT	20	69	Y	
4	DateStamp	DATE	8	89	Y	

1. The unique identifier used here must be the same as that used for the person information record to ensure that the two structures can be properly linked together when the data is loaded. In other words, the combination PersonIdentityID, PersonAlternateID and AlternativeIDType must exist in the person information file.
   See the notes about these identifiers for Person Information.

2. The combination PersonIdentityID, PersonAlternateID, AlternativeIDType and QualificationID must be unique.

3. LearnerAchievementDate is only required if LearnerAchievementStatusID = 2 (i.e. Achieved). It is not allowed if LearnerAchievementStatusId = 3 (i.e. Enrolled). If the exact achievement date is not known, 1 December of the particular year is acceptable. Minimum: 19000101. Maximum: Now.

4. The Date Stamp should be the date on which the record was last **updated**, not the date on which it was extracted. If, however, this date is not recorded in the source data, please make the Date Stamp equal to the Learner Achievement Date. (This will assist in not overwriting more recent biographical learner data if the legacy achievements are received in non-chronological order).

Appendix D – System Table Framework

The following system table framework must be implemented as part of the development of the NQFIMS. The overall objectives of this framework are to:

- Minimise the amount of hard-coded logic in the GUI. The envisaged implementation of the system framework should reduce the amount of hard coded logic that refers to %data+ tables (rather than system tables described in this section) to less than 5%.

- Maximise the maintainability of the information system. The implementation of the tables will allow a %super administrative+ user at the NQFIMS to maintain captions and messages displayed by the information system. Further the implementation of the framework will allow the majority future maintenance tasks to be completed without the release of an updated GUI.

- Integrate and control the security aspects of the GUI of the information system. The security level of the GUI user, when compared with the security requirements of a system framework aspect, controls which parts or actions of the information system the user may access or execute.

The following sections provide a brief overview, and . where applicable . examples, of the utilisation of the system framework.

1 SystemDictionary

The SystemDictionary table stores information regarding objects that are displayed on the GUI. These objects can be controls or messages. The contents of the SystemDictionary table are loaded into the application dictionary when the application is executed. Entries in this dictionary can then be accessed from code using SystemParentName, SystemObjectName and SystemIndex as keys.

The SystemDictionary table is implemented in order to improve the overall maintainability of the system. For example any changes to message captions or labels can be changed in the database without having to change the GUI code.

Description of fields
1. SystemDictionaryID . Unique identifier for the record.
2. SystemParentName . The form name in which the object appears. If the object can be used anywhere in the system, the SystemParentName is set to £ystemq
3. SystemObjectName . The name of the object . controls such as labels, text boxes, grids etc or messages.
4. SystemIndex . A control or a message may have multiple states depending on a particular condition. For example once the edit button is clicked, the caption of the button changes to £aveq These two captions are uniquely identified by using different indexes. For messages, the caption of the message box is stored with an index of 1, while the message text is stored with an index of 0.
5. SystemObjectType . Control or Message
6. SystemHintText . This field stores the hint text that is displayed when the user moves the mouse over the control.
7. SystemCaption . The text displayed on the GUI.
8. SystemSecurityToken . This field controls access to controls.
9. SystemFieldLength . This field stores the maximum length of the control if there are any such restrictions.
10. SystemValidationToken . This field specifies which validation rules to apply to the data in the control. For example NN . Not Null.
11. LastUpdateDate . Last date on which the record was updated.
12. LastUpdateUser . Last user that updated the record.
13. CreateDate . Date on which the record was created.
14. CreateUser . User that created the record.

Example

System Parent Name	System Obj Name	System Index	System Object Type	System Hint Text	System Caption	System Security Token	System Field Length	System Validation Token
frmA	txtlA	0	Control	User Name		0103	10	NN

The above SystemDictionary entry would display a text box (txtA) on screen A (frmA) with hint text ±User Name: q Only users belonging to the group 01 with access rights 03 (write access) would be able to edit this text box. The maximum number of characters that can be typed in this text box is 10. The validation token NN (Not Null) indicates that this field cannot be left blank.

2 SystemQueryDef

The SystemQueryDef table stores any SQL queries that are not saved as stored procedures. As a result the GUI code does not contain any hard coded logic that refers to data tables within the information system.

Description of fields
1. SystemQueryDefID . Unique identifier for the query.
2. SystemQueryDefName . This field uniquely identifies the query.
3. SystemQueryDefSQLText . This field stores the actual query definition.
4. LastUpdateDate . Last date on which the record was updated.
5. LastUpdateUser . Last user that updated the record.

3 SystemSetting

This table describes system variables that are used by the application. Some of the system variables may include the Application version, log severity types (low, high, medium) etc.

Description of fields
1. SystemSettingID . Unique identifier of system variables.
2. SystemSettingKeyName . System settings can be accessed from the code using these identifiers.
3. SystemSettingCharValue . This field stores system variables that are of a character type.
4. SystemSettingLongValue . This field stores system variables that are of a numeric type.
5. LastUpdateDate . Last date on which the record was updated.
6. LastUpdateUser . Last user that updated the record.

4 OrgGroup

This table stores information regarding security groups within the application. Each security group is described by four components . Group Name, Group Code, Group Privilege Level and Group Security Token. These fields are described in detail below. Users can be added to or removed from these groups using the User Administration menu item.

Description of fields
1. OrgGroupID . Unique identifier of the group.
2. OrgGroupName . This field identifies a security privilege level within a security group.
3. OrgGroupCode . Each security group is uniquely identified by a two digit code. Security group codes range from 00 to 99 with the administrator code being 99.
4. OrgGroupPrivilegeLevel . Each security group is associated with a privilege level. The privilege level is usually a two digit number. Users are given access to screens or controls only if they belong to the required security group and have a privilege level greater than or equal to the level required by the screen. For instance, read access to a screen often requires a lower privilege level than write access. Higher privilege levels denote higher security access to a screen or control.
5. OrgGroupSecurityToken . The group security token is a combination of Security Group Code (Org Group Code) and Security Privilege Level. For instance, 0103 indicates group 03 with a privilege level of 03.

6. LastUpdateDate . Last date on which the record was updated.
7. LastUpdateUser .   Last user that updated the record.

Example

Screen A

In this case, the SystemDictionary table would indicate that the Edit, New and Delete buttons require a system security token 0603. This security token indicates the Group Code 06 (the Codes Administration group) with a privilege level 03 (Write Access). Users belonging to the Codes Administration group with write access will be able to edit, add and delete registration status codes. (See Screen A.) However, users with read access will only be able to view registration status codes. (See Screen B.)

Screen B

Screen B (populated)

Registration Status Administration

ID	NQFIMS Code	Description
1	01	Registered
2	02	Re-registered
3	03	Rolled Over
4	04	Archived

Registration Status Codes Detail

ID:	2	**NQFIMS Code:**	02
Description:	Re-Registered		
Last Update Date	23-Apr-2016 09:53		
Last Update User	HBeukes		

Edit   New   Delete   Close

5 SystemUser

This table describes user profile information. When the user is successfully authenticated at login, his/her profile information is loaded into the application from this table. The information in this table is further used to identify the security groups the user belongs to.

Description of fields
1. UserID . Unique identifier of the user.
2. UserName . The user name identifies the user.
3. UserFullName . The full name of the user. This field is populated using the User Administration menu item.
4. UserChangePWInd . indicates whether or not the user is required to change her/his password at next logon.
5. LastUpdateDate . Last date on which the record was updated.
6. LastUpdateUser . Last user that updated the record.

6 UserToOrgGroup

This table associates a user to the groups s/he has access to.

Description of fields
1. UserToOrgGroupID . Unique identifier of the user-group association.
2. UserID . The ID of the user. This field references the primary key SystemUserID of the table SystemUser.
3. OrgGroupID . The group id of the group the user is associated with. This field references the primary key OrgGroupId of the table OrgGroup.
4. LastUpdateDate . Last date on which the record was updated.
5. LastUpdateUser . Last user that updated the record.

7 SystemUserSetting

This table stores any user specific settings.

Description of fields
1. UserSettingID . Unique identifier of the system setting.
2. UserID . The Id of the user associated with the settings.
3. SettingKeyName - System settings can be accessed from the code using this identifier.
4. SettingCharValue . This field stores user setting variables that are of a character type.
5. SettingLongValue . This field stores user setting variables that are of a character type.
6. LastUpdateDate . Last date on which the record was updated.
7. LastUpdateUser . Last user that updated the record.

8 SystemNote

This table describes notes and comment information. Each note is associated with the parent screen on which it is displayed.

Description of fields
1. SystemNoteID . Unique identifier of the system note.
2. ParentName . The name of the form on which the system note or comment is displayed.
3. NoteName . The name of the note uniquely identifies system notes associated with a particular screen.
4. SystemNote . The actual content of the system note or comment field.
5. LastUpdateDate . Last date on which the record was updated.
6. LastUpdateUser . Last user that updated the record.