

Purchase Order Terms and Conditions**DEFINED TERMS**

Goods means the goods described in the Purchase Order (PO), including any part(s) of them.

Force Majeure Event means an event beyond the control of a party which causes delay in the performance of that party's obligations under the Contract and which cannot be prevented or remedied by that party's exercise of a high standard of care and diligence.

Legal Requirements means binding legal requirements such as acts, regulations, by-laws, orders, local laws, statute, and mandatory codes, decisions or directions of any competent authority, government department, regulatory body, minister agency.

Relationship Agreement means an existing standing offer, preferred supplier, sole supplier or similar agreement between the Supplier and Queensland Bulk Water Supply Authority trading as Seqwater (Seqwater).

Services means the services described in the PO, including any part(s) of them.

1 APPLICATION OF TERMS

These terms are the only terms upon which Seqwater is prepared to deal with the Supplier and together with the PO they form the Contract to the exclusion of all other terms (other than the terms of any Relationship Agreement). No terms contained in any document of the Supplier will form part of the Contract and the Supplier waives any right to rely on such terms.

2 QUALITY

The Supplier must:

- (a) perform the Services or deliver the Goods in accordance with the Contract ensuring that the Goods/Services comply with Legal Requirements and any applicable Australian Standards;
- (b) at all times exercise due skill, care and diligence in preparing and delivering the Goods or performing the Services;
- (c) supply the Goods/Services in a competent manner and in accordance with the Contract, any induction given and the directions of Seqwater's Site Manager;
- (d) not do or cause or allow to be done any thing that would materially and adversely affect Seqwater's rights concerning the site, or any property on the site.

3 DESCRIPTION

The Goods/Services must comply with the specifications and the description in the PO, and must correspond with any sample of Goods provided by the Supplier.

4 DELIVERY

The Supplier must:

- (a) deliver the Goods/Services in the area specified by Seqwater on the specified date for delivery and in accordance with the Site Manager's directions;
- (b) ensure there is no damage to the Goods, the site or any party's property on the site;
- (c) when delivering Goods, provide full documentation identifying the contents of each package delivered and comply with clause 12; and
- (d) store its property in a safe manner according to the Site Manager's directions.

5 INSPECTION

Provided Seqwater complies with all reasonable safety measures required by the Supplier, Seqwater is at all reasonable times and at its own expense entitled to:

- (a) inspect Goods before they are despatched from the Supplier's premises to a site, and before Seqwater agrees to accept delivery of them;
- (b) inspect Services (and any related work) being carried out by the Supplier at a site.

6 ACCEPTANCE

Seqwater will not be deemed to have accepted:

- (i) Goods until Seqwater has had a reasonable time to inspect them after delivery and issued a notice of acceptance; or
- (ii) Services until Seqwater has had a reasonable time to inspect and test them.
- (b) If Seqwater deems any Goods to be defective, Seqwater may reject the defective goods by returning them to the Supplier or making good the defective goods.
- (c) If Seqwater deems any Services to be defective, Seqwater may reject the defective service by giving notice to the Supplier, with a proposed rectification strategy.
- (d) At Seqwater's option and request, the Supplier agrees to:
 - (i) refund to Seqwater any payments made by Seqwater (including any freight charges) in respect of any defective goods that Seqwater rejects; or
 - (ii) make good any defective goods that Seqwater rejects; or
 - (iii) reimburse Seqwater for any expense incurred in making good defective goods.
- (e) Seqwater's inspection, testing or acceptance of Goods/Services does not affect Seqwater's rights to claim for any damage or loss suffered because of the Supplier's breach of warranty or failure to fulfil any other obligations under the Contract.
- (f) If Seqwater accepts any Goods/Services from the Supplier which do not comply with the Contract, Seqwater are not bound to accept future non-complying Goods/Services.

7 TITLE AND RISK

Title and risk in the Goods does not pass until Seqwater takes delivery of the Goods.

8 PERSONNEL

- (a) The Supplier must provide appropriate personnel with appropriate safety equipment to perform the Contract.
- (b) The Supplier and its personnel must, prior to entering a Seqwater site, successfully complete all inductions and sign all undertakings required by Seqwater.
- (c) The Supplier must ensure that its personnel adhere to the Contract, and Seqwater's rules, practices, policies, procedures and requirements.
- (d) The Site Manager may, in his/her absolute discretion, direct the Supplier to remove from the site any of the Supplier's personnel or subcontractors.

9 SUBCONTRACTING

Save for delivery of Goods, the Supplier may only engage a subcontractor to supply or hire on the Supplier's behalf any of the Goods/Services with the prior written approval of Seqwater. The Supplier will be responsible for any acts or omissions of its subcontractors under the Contract.

10 AUTHORISATIONS

The Supplier must obtain and maintain at its cost all of the authorisations (including permits, approvals, licences, certificates and standards) required to supply the Goods/Services.

11 PRICE

- (a) Seqwater agrees to pay the Supplier the price in the PO (Price) for the Goods/Services in accordance with clause 12.
- (b) Unless stated otherwise in the Contract, the Price is inclusive of all costs incurred by the Supplier in complying with its obligations under the Contract including charges for packaging, packing, insurance and delivery of the Goods and any taxes.
- (c) The Price may not be increased without Seqwater's prior written consent.

12 PAYMENT AND INVOICING**12.1 Payment**

Seqwater will pay correctly rendered invoices within 30 business days of receipt provided:

- (a) the amount complies with all Legal Requirements and reflects the amount in the PO;
- (b) in Seqwater's reasonable opinion, the Goods/Services supplied comply with all of the requirements in the Contract and;
- (i) comply with the warranties in clause 15.2;
- (ii) for the Goods, they have not been rejected by Seqwater; and
- (iii) the Supplier has not been requested to make changes to the Goods/Services to make them comply with the Contract.

12.2 Correctly Rendered Invoices

An invoice is correctly rendered if:

- (a) the invoice is in accordance with the PO in all respects;
- (b) the invoice:
 - (i) identifies the Goods/Services supplied, the Seqwater contact and PO number;
 - (ii) specifies the relevant location(s) and/or Seqwater site(s);
 - (iii) details the amount claimed and the calculation of that amount (including records of time spent by personnel verified by the Site Manager);
 - (iv) certifies that the Goods/Services comply with the Contract;
 - (v) includes any other details required by Seqwater;
 - (vi) identifies the GST exclusive amount and the GST amount separately;
 - (vii) is a tax invoice for GST purposes and allows Seqwater to make a claim for input tax credits;
 - (viii) complies with Legal Requirements.

12.3 Disputed Invoices

Where Seqwater considers an invoice is not correctly rendered, Seqwater will issue within 10 business days a notice setting out the reasons and identifying amounts in dispute. The Supplier must cancel the old invoice and issue a new invoice for the undisputed amount.

12.4 Set off

Seqwater may withhold, retain or set off from any payment due to the Supplier under the Contract amounts Seqwater deems necessary to protect it against any costs, expenses and damages for which the Supplier may be liable under or in connection with the Contract. This right does not limit Seqwater's right to recover those amounts in any other way.

13 GOODS AND SERVICES TAX**13.1 Interpretation**

Words or expressions used in this clause 13 are defined in Commonwealth legislation concerning tax and tax arrangements for the supply of the Goods/Services.

13.2 Consideration is GST inclusive

Any consideration to be paid for a supply made under or in connection with the Contract, unless described as 'GST exclusive', is deemed to include an amount of GST.

13.3 Gross up of consideration

Despite any other provision in the Contract, if a party (GST Supplier) makes a supply under or in connection with the Contract on which GST is imposed and is specifically described in the Contract as 'GST exclusive':

- (a) the consideration payable or to be provided for that supply under the Contract but for the application of this clause 13 (GST exclusive consideration) is increased by, and the recipient of the supply (recipient) must also pay to the GST Supplier, an amount equal to the GST payable by the GST Supplier on that supply; and
- (b) the amount by which the GST exclusive consideration is increased must be paid to the GST Supplier by the Recipient without set off, deduction or requirement for demand, at the same time as the GST exclusive consideration is payable.

13.4 Reimbursements

If a payment to a party under or in connection with the Contract is a reimbursement or indemnification, calculated by reference to a loss, cost or expense incurred by that party, then the payment will be reduced by the amount of any input tax credit to which that party is entitled for that loss, cost or expense.

13.5 Adjustment Events

If, at any time, an Adjustment Event arises for any supply made by a party under the Contract, a corresponding adjustment must be made between the parties for any amount paid under paragraph 13.2. Payments to give effect to the adjustment must be made between the parties and the GST Supplier must issue a valid Adjustment Note in relation to the Adjustment Event.

14 WITHHOLDING TAX

If a law requires Seqwater to deduct an amount in respect of taxes from a payment under the Contract, then Seqwater agrees to deduct the amount for the taxes and pay an amount equal to that amount to the relevant authority as required by applicable law. Any amount withheld is deemed to have been paid to the Supplier on the date on which the remainder of the payment is paid to the Supplier. The Supplier has no claim against Seqwater for any amounts withheld and paid to the Commissioner of Taxation under this clause.

15 INSURANCE

(a) The Supplier must effect and maintain any insurance required by Legal Requirements in connection with the supply of Goods/Services or the Seqwater under any Relationship Agreement.

(b) Before the Supplier commences the supply of Goods/Services and whenever requested by Seqwater, the Supplier must produce evidence to Seqwater's satisfaction that the insurances required have been effected and maintained.

(c) If the Supplier fails to produce evidence of insurance, Seqwater may effect and maintain one or more insurance policies, and the costs of such insurance will be a debt due and payable from the Supplier to Seqwater. Seqwater may withhold payment to the Supplier and/or suspend the supply of Goods/Services until evidence of compliance with insurance obligations is produced or Seqwater is reimbursed for debt.

16 WARRANTIES & INDEMNITY**16.1 Supplier Warranties**

The Supplier warrants that the Supplier:

- (a) has met the insurance and compliance requirements in the Contract;
- (b) will exercise due skill, care and diligence in preparing and delivering the Goods or carrying out the Services;
- (c) will comply with any material conditions imposed by an authorisation.

16.2 Supplier warranties about the Goods or Services

(a) The Supplier warrants that all Goods/Services supplied will be of merchantable quality and fit for the purpose for which Seqwater intends to use them.

(b) The Supplier warrants that Goods will be free of encumbrances at the time of delivery, and remain so until Seqwater accepts ownership of them under clause 7.

16.3 Continuing Representation

The representations and warranties set out in clauses 16.1 and 16.2 survive the termination of the Contract.

16.4 Indemnity

The Supplier indemnifies Seqwater for any loss whatsoever (including, but not limited to, consequential loss and damage, and fines, penalties or charges) arising directly or indirectly out of:

- (a) the performance or breach of the Contract;
- (b) claims by a third party arising out of the Supplier's acts or omissions under the Contract;
- (c) personal injury or death of any person (including the Supplier and its personnel);
- (d) loss of, damage to or loss of use of any property;
- (e) the breach of any Legal Requirements; and
- (f) any act, default or omission of any person, except to the extent that the loss is caused by Seqwater's own negligence or breach, or that of its servants, employees or agents or is not otherwise recoverable by law.

17 INTELLECTUAL PROPERTY**17.1 Intellectual Property Rights in works**

The Supplier assigns to Seqwater all intellectual property rights in any material created in the course of performing its obligations under this Contract, except to the extent material is pre-existing material of the Supplier at the date of the Contract. The Supplier grants Seqwater a perpetual, non-exclusive, non-transferable, irrevocable, royalty-free licence to use such material in any manner for the purpose of Seqwater carrying on its business.

17.2 Intellectual Property warranty

The Supplier warrants that it will not infringe the intellectual property rights of any person in providing the Goods/Services.

17.3 Indemnity

The Supplier must (either directly itself or by procuring sub-contractors to do so):

- (a) at Seqwater's request and sole option, defend at its cost all Infringement Claims and provide assistance reasonably required by Seqwater relating to Infringement Claims;
- (b) indemnify Seqwater against all costs, losses, damages and expenses that Seqwater may sustain or incur as a result of an Infringement Claim; and
- (c) satisfy any settlement or judgment given in an Infringement Claim.

18 CONFIDENTIALITY

(a) Each party undertakes that it will not (except as necessary to comply with its obligations under the Contract) disclose to any person any information of or relating to the other party including the terms of the Contract.

(b) Nothing in the Contract prohibits disclosure of information which:

- (i) is in the public domain otherwise than as a result of a breach of this clause 18;
- (ii) is received from a third party provided that it was not acquired directly or indirectly by that third party as a result of a breach of this clause 18; or
- (iii) is required to be disclosed by law or government having authority over a party.

(c) The obligations under this clause 18 survive termination of the Contract.

19 DISPUTES

(a) A party must comply with this clause 19 before commencing dispute resolution.

(b) Where a party considers that a dispute exists, that party must give the other party a written Notice of Dispute within 10 business days, detailing the nature of the dispute.

(c) Within 10 business days after the service of a Notice of Dispute the CEO of Seqwater, or their delegate and the Supplier's business owner, must confer at least once to attempt to resolve the dispute and, failing resolution, to attempt to agree on an alternative method of resolving the dispute.

20 TERMINATION**20.1 For breach**

Seqwater may terminate the Contract with immediate effect, by giving written notice to the Supplier if the Supplier breaches a provision of the Contract and:

- (a) if the breach is capable of remedy, fails to remedy the breach within a reasonable time (not exceeding 20 Business Days) after receiving notice of the breach; or
- (b) the breach cannot be remedied.

20.2 For convenience

(a) Seqwater may, at any time without cause terminate the Contract by written notice.

(b) If Seqwater terminates the Contract under this clause, Seqwater must, subject to paragraph 20.2(c), pay to the Supplier:

- (i) any amounts payable to the Supplier for the performance of the work under the Contract in accordance with the Contract;
- (ii) an amount to compensate the Supplier for those costs reasonably and necessarily incurred by the Supplier in consequence of the termination of the Contract.

(c) Seqwater will not be liable to make any payment to the Supplier:

- (i) for the loss of prospective profit or consequential costs, loss or damage; or
- (ii) in excess of the amount that would have been paid had the work under the Contract been completed however, the Supplier must do its best to minimise those costs to Seqwater.

21 MISCELLANEOUS PROVISIONS**21.1 Governing law**

The Contract is governed by the laws of Queensland and each party irrevocably and unconditionally submits to the jurisdiction of the courts of Queensland.

21.2 Notices and other communications

A notice, demand, consent or communication under the Contract (Notice) must be in writing, in English and signed by a person duly authorised by the sender and hand delivered or sent by prepaid post or facsimile to the recipient's contact address specified in the PO, as varied by any notice given by the recipient to the sender.

21.3 Force Majeure

(a) If a Force Majeure Event occurs, and it affects either party (Affected Party), the Affected Party may give the other party a written notice of the Force Majeure Event and notifying that the obligations of the Affected Party are suspended to the extent that they are affected by the event, from the date of the written notice until cessation of the Force Majeure Event.

(b) On cessation of the Force Majeure Event, the Affected Party must within a reasonable time give written notice to the other party of the cessation of the event; and resume performance of the obligations suspended as a result of the event.

21.4 Assignment

(a) Seqwater may assign any of its rights under the Contract, or may novate its rights and obligations under this agreement without the consent of the Supplier. The Supplier must execute all documents necessary to give effect to any novation or assignment permitted under this clause 21.4(a).

(b) The Supplier must not assign, sub-lease or novate the Contract or any right under the Contract unless it has Seqwater's written consent.

21.5 Successors and permitted assigns

The Contract is binding upon and takes effect for the benefit of the parties, and their respective successors and permitted assigns.

21.6 Relationship

The Supplier is an independent supplier for the purposes of the Contract and nothing in the Contract creates a relationship of partnership, joint venture or employer and employee.

TAX INVOICE / STATEMENT

Department of Education, Training and the Arts ABN 54 456 676 679

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SEQWATER
Attn: Jim Pruss
PO Box 16146
CITY EAST QLD 4002

Client Reference Number: 3111731405

Invoice Reference Number : 3436572

Invoice date: 16/09/2009

Contact Details: Please see over page.

ACCOUNT ACTIVITY

Previous Account Balance:	- 698.76
New Charges:	6600.00
Payments and Credits:	(0.00)
Current Account Balance:	5901.24
Amount Due:	\$5901.24
Payment Due By:	16/10/2009

File copy

If you have already made the required payment, thank you. Adjustments will appear on your next Tax Invoice/Statement.
If balances remain unpaid further recovery action will be taken.

Charges due outside this billing period will be displayed on upcoming invoice/statements.

All Amounts include GST if applicable, refer to Tax Invoice/Statement detail where GST has been applied.

Note: Unless otherwise advised, all payments will be allocated to the oldest debt.

PAYMENT METHODS

By BPAY



BILLER CODE: 999870
REF: 1117 3140 53

Contact your financial institution to make the payment from your account. You will need to enter the biller code and REF number shown above. More information: www.bpay.com.au

By Mail

Post the payment slip below with your cheque made payable to: Department of Education, Training and the Arts OR supply your credit card details including signature on the payment form below.

Payments can be posted to your Institute, refer overleaf for postal address details.

By Phone

Call your TAFE Queensland Institute to make a payment. Payment can be made by credit card. (Note: American Express is only accepted at some Institutes). Refer overleaf for contact details.

Paying in Person

Present the Remittance Advice below, with your payment, at any TAFE Queensland Institute. Please contact your Institute for information on accepted payment methods.

REMITTANCE ADVICE: Please detach and submit this portion with your payment

☐ Cheque (please attach) ☐ Credit Card (please complete details below)

Credit Card payment details:

☐ Visa ☐ Mastercard ☐ Bankcard ☐ Amex (only accepted at some Institutes)

Card Number:

Expiry Date: / Cardholder's name: _____

Amount: \$ _____ Cardholder's signature: _____



3111731405 00590124

Date printed: 16/09/2009	Client Reference Number: 3111731405	Amount Due: \$5901.24
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**Queensland
Government**

Department of
Education, Training
and the Arts

TAX INVOICE / STATEMENT

Department of Education, Training and the Arts ABN 54 456 676 679

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INSTITUTE CONTACT INFORMATION:

If you require further information in regards to this Tax Invoice/Statement, please contact the relevant institute below:

INSTITUTE POSTAL ADDRESS DETAILS	CONTACT PHONE NUMBER	CRICOS REF NUMBER (International Student Use Only)
Wide Bay Institute (WBI) LMB 279 Maryborough Qld 4650	07 4120 2525	02013A



**Queensland
Government**

Department of
Education, Training
and the Arts

TAX INVOICE / STATEMENT

Department of Education, Training and the Arts ABN 54 456 676 679

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DESCRIPTION		GST EXCLUSIVE PRICE	GST AMOUNT	TOTAL AMOUNT
Previous Balance (Inv Ref #3391030)				- 698.76
REFRESHR FLUORIDE CODE OF PRAC				
Topic 1 - Development		6000.00	600.00	6600.00
Sub Total For REFRESHR FLUORIDE CODE OF PRAC		6000.00	600.00	6600.00

TOTAL GST	CURRENT ACCOUNT
	BALANCE
\$600.00	\$5901.24

Form of Agreement

The organisation agrees to accept the terms and conditions as detailed below.



TAFE Queensland
Queensland Government

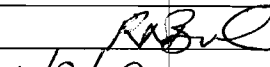
Department of
Education, Training and the Arts

Quote Date: 24/08/09 **Quote expiry date:** 28/08/09

Client Trading Name: SEQ Water

CEO/Manager/Owner Name: Ralph Burch

Position title: Project Manager

Signature: 

Date: 1/9/09

Agreement start date: **Agreement end date:** 30/10/09

Details of Resource Development

Topic Details	Duration
Topic 2: Water Supply Safety and Reliability Act	Development to be completed 10 working days after receipt by the Institute of updated information from SEQ Water on the fluoridation resources.

Total cost
\$5,250.00

Payment schedule

\$5,250.00 due on receipt of Tax Invoice

Billing details

Contact name: Ralph Burch

Purchase order no (if applicable): PO 002703

Billing address: 240 MARGARET ST

Town/State/Postcode: BRISBANE QLD 4000

ABN: 75 450 239 876

Phone: (07) 3035 5500

Mobile: 0423028194

Fax: (07) 3229 7926

Email: rburch@seqwater.com.au

On completion, please return this form by fax to (07) 4120 2466 or mail to:

Executive Support Officer
Training Solutions
Wide Bay Institute of TAFE
LMB 279
MARYBOROUGH QLD 4650

Form of Agreement

The organisation agrees to accept the terms and conditions as detailed below.



TAFE Queensland
Queensland Government

Department of
Education, Training and the Arts

Quote Date: 24/08/09

Quote expiry date: 28/08/09

Client Trading Name: SEQ Water

CEO/Manager/Owner Name: Ralph Burch

Position title: Project Manager

Signature:

Date:

Agreement start date:

Agreement end date:

30/10/09

Details of Resource Development

Topic Details

Duration

Topic 1: Refresher of Fluoride Code of Practice and Regulations with emphasis on reporting

Development to be completed 10 working days after receipt by the Institute of updated information from SEQ Water on the fluoridation resources

Total cost

\$6,000.00

Payment schedule

\$6,000.00 due on receipt of Tax Invoice

Billing details

Contact name: Ralph Burch

Purchase order no (if applicable): PO 002703

Billing address: 240 MARGARET ST

Town/State/Postcode: BRISBANE QLD 4000

ABN: 75 450 239 876

Phone: (07) 3035 5500

Mobile: 0423028194

Fax: (07) 3229 7926

Email: rburch@seqwater.com.au

On completion, please return this form by fax to (07) 4120 2466 or mail to:

Executive Support Officer
Training Solutions
Wide Bay Institute of TAFE
LMB 279
MARYBOROUGH QLD 4650

25 August 2009

Mr Ralph Burch
Project Manager
SEQ Water
BRISBANE Q 4000



Dear Ralph

Wide Bay Institute of TAFE on behalf of TAFE Queensland thanks you for the opportunity to submit this revised quote for resource development in the topics listed below for your organisation.

As discussed with Kate Niblett, I have prepared a proposal designed to meet your needs in terms of desired services and value.

Staff

TAFE Queensland is able to draw upon the vast experience and resources of Queensland's largest training provider. Our highly qualified and experienced staff provide the skills and knowledge that will ensure the development of a industry relevant, quality product.

Details of Resource Development

Topic Details	Duration	Fee
Topic 1: Refresher of Fluoride Code of Practice and Regulations with emphasis on reporting	Development to be completed 10 working days after receipt by the Institute of updated information from SEQ Water on the fluoridation resources	\$6,000.00

Topic Details	Duration	Fee
Topic 2: Water Supply Safety and Reliability Act	Development to be completed 10 working days after receipt by the Institute of updated information from SEQ Water on the fluoridation resources	\$5,250.00

Timeframe

Development to be completed 10 working days after receipt by the Institute of updated information from SEQ Water on the fluoridation resources.

Quotation validity

This quotation will remain valid until Friday, 28th August 2009.

All Mail

Locked Mail Bag 279
Maryborough Qld 4650
Australia

Web

widebay.tafe.qld.gov.au

Phone

1300 656 188

Bundaberg

Walker Street
Bundaberg Qld 4670
Fax 07 4150 5891

Gympie

71 Cartwright Road
Gympie Qld 4570
Fax 07 5480 3650

Hervey Bay

Urraween Road
Pialba Qld 4655
Fax 07 4120 6423

Maryborough

Nagel Street
Maryborough Qld 4650
Fax 07 4123 4184



TAFE Queensland
Queensland Government

Department of
Education, Training and the Arts

Quality assurance

Wide Bay Institute of TAFE is currently operating a third party certified Quality Assurance System. This certification complies with the requirements of AS/NZS ISO 9001:2000 and is effective from 4 December 2007. The certification number is 7298.

Goods and services tax

Where a goods and services tax (GST) is imposed in Australia and has application to any supply of a product or services in this contract, pay to Wide Bay Institute of TAFE (the Institute), subject to the Institute issuing a valid tax invoice, such amounts as the Institute shall, by law, be required to collect GST.

Confirmation of course particulars

It would be appreciated if you could notify Wide Bay Institute of TAFE as soon as possible in regard to and changes to the delivery of services. This will allow us time for preparation and organisation.

Confirmation of acceptance – method of payment

Acceptance of this offer shall be made in writing. For your convenience, a Form of Agreement is attached. Should you wish to accept this quote please complete, sign and return the Form of Agreement via fax prior to service commencement. Payment will be required as agreed on the Form of Agreement payment schedule.

We are very keen to deliver these services for you and will be happy to commence negotiations regarding a start date as soon as you have completed the attached Form of Agreement.

Cancellation/withdrawal clause

The organisation agrees to accept the terms and conditions as detailed below:

- a) **Refund if program or course cancelled by Institute Director**
 - If the Institute Director cancels a course before it starts, the Institute Director **must refund** the fees paid for the program or course.
- b) **Refund if enrolment cancelled more than 5 Days before program or course starts**
 - If a student cancels enrolment in a non-government funded course five days before it starts, the Institute Director **must refund** the fees the student paid for the program or course after deducting an administration charge of \$10.00.
- c) **Refund if enrolment cancelled less than 5 days before program or course starts**
 - If a student cancels enrolment in a non-government funded course less than 5 days before it starts or a student starts the course, the Institute Director **shall not refund** any fees and charges paid by/for the student and **shall not cancel any remaining payments** due in respect of the enrolment.
- d) **Refused applications for fee exemptions, refunds and time to pay**
 - If the Institute Director refuses a person's application for a fee exemption, refund or time to pay, the Institute Director must give the person written notice of the reasons for refusal.
 - The person may, within 7 days after the written notice is given, apply to the Institute Director for a reconsideration of the refusal.

- An Institute staff member more senior than the staff member who refused the original application must reconsider the refusal.

All cancellation/withdrawals relating to non-government funded programs must be made on the prescribed form in accordance with the TAFE Qld Student Refund Policy.

If you require any further information or clarification, please feel free to contact me on **07 41202459**.

Citizenship of Participants

Please note that any participants covered by this agreement who are not Australian Citizens may not be eligible to receive training at the above quoted price. Should this situation arise, please contact the Administration Officer on the number below for further clarification.

Point of contact – acceptance of agreement

To allow us to offer you a point of contact once agreement has been accepted, you have been assigned to:

- **Donna Norman** on **07 41202459** for all program delivery issues.
- **Lorelle Nordling**, Administration Officer Sales and International on (07) 4120 2467 for all administrative and financial enquiries.

Again, thank you for allowing TAFE Queensland the opportunity to quote on providing you with high quality services.

Yours sincerely



DONNA NORMAN
Director, Training Solutions
Wide Bay Institute of TAFE

Ward, Mary

From: Ward, Mary
Sent: Wednesday, 10 June 2009 2:15 PM
To: gsearle@seqwater.com.au
Subject: Fluoridation enrolment forms
Attachments: New Student Personal Details_isas348.pdf; Student Authority to Release Information.doc

Hi Geoff

Please find attached the forms that you need to complete for the NWP276A Fluoridation program. Please complete these forms and either fax back to me on the number below or scan and email them back to me.

Our sales department will forward a form of agreement for payment.

Regards

Mary Ward

Delivery Support Officer - Retail & Water Industries
Wide Bay TAFE
Ph: 07 4120 2526
Fax: 07 4123 4184

Ward, Mary

From: Regan, Tracie
Sent: Monday, 23 March 2009 10:42 AM
To: Ray Stephenson SEQWater (rstephenson@seqwater.com.au); Leeson, Helen
Subject: Mapping NSW OTEN 17233A to outcomes for NWP276A
Attachments: 17233A.pdf; Kate17233A - Supplementary Task_2007.doc; NWP276_Third Party_Report_17233A_Supplement.doc; transfer_credit.pdf

Kate has requested I have mapped the course content you provided (attached documents *17233A.pdf* and *Kate17233A-Supplementary Task 2007.doc*) for the NSW OTEN course in Fluoridation of Public Water Supplies to the performance criteria of NWP276A **Monitor, operate and report fluoridation systems**

This mapping is described in the attached *NWP276 Third Party Report 17233A Supplement.doc* document. I would envisage that if the operator produced a certified copy of his Statement of Attainment (competent result) for Course 17233A and attached this to the signed *NWP276 Third Party Report 17233A Supplement.doc* (to prove currency), that Wide Bay TAFE should recognise this as a Transfer Credit (Code TMC form *Transfer Credit.pdf* attached).

Ray, as the vocational expert in this, please review and indicate your approval of the guide (via email will suffice).

Helen, for your information and checking regarding the process of mapping.

regards

Tracie Regan Snr Training Consultant Wide Bay Institute of TAFE

2008 E-Coaching in the Workplace QLD Innovations Project

2007 QLD Training Awards Industry Partner Finalist

Premier's Award in Innovation

Setting new standards in Water Industry workplace training

ph +61 07 4150 5845 fax +61 07 4150 5892

Mobile 0418 743 261

postal: LMB 279 Maryborough Queensland 4650 AUSTRALIA

Ward, Mary

From: Regan, Tracie
Sent: Friday, 24 July 2009 1:34 PM
To: Ward, Mary; Ray Stephenson SEQWater (rstephenson@seqwater.com.au); Graham Cole (WBW)
Cc: Niblett, Kate; Leeson, Helen; Shang, Nicole
Subject: fluoridation enrolments on hold until review completed

CC Helen, Kate, Nicole, Graham

Hi Mary, Ray,
please note operators wanting to study NWP276A can be enrolled but they will not start studies until the resources have the approval from Qld Health following the recent fluoridation overdosing event. Current students are fine to continue, but new students should not be started.

This review is expected to be completed by September and affects both assessable and non-assessable studies.

This does not affect students applying for Credit Transfer based on previous study.

Nicole, this next group would be a new group (Group 4)

Tracie Regan, Senior Training Consultant, Wide Bay Institute of TAFE
ENABLING EDUCATORS | SUPPORTING STUDENTS | Innovative for the Water Industry
ph 07 4150 5845 | fax 07 4150 5892 | Mobile 0418 743 261 | postal: LMB 279 Maryborough QLD 465

Dunlop, Tammy

From: Ward, Mary
Sent: Thursday, 27 November 2008 11:29 AM
To: Dunlop, Tammy
Subject: FW: Most recent fluoride training schedule spreadsheet
Attachments: 20081118 Fluoride Training Schedule.xls


From: Jo Hollingsworth [mailto:jhollingsworth@seqwater.com.au]
Sent: Tuesday, 18 November 2008 12:45 PM
To: Niblett, Kate; Ward, Mary
Cc: Lois Saedder; Bruce Hutton; Pakee Bala
Subject: Most recent fluoride training schedule spreadsheet

Hi there,

I've had a few people swapping around this morning and have made the changes to the attendance spreadsheet to reflect this.

Cheers,

Jo Hollingsworth
Personal Assistant - Coastal Operations
Queensland Bulk Water Supply Authority *trading as Seqwater*

 cid:image001.jpg@01C8DB5

Level 3, 240 Margaret Street
PO Box 16146, City East Qld 4002
Ph (07) 3035 5609 | Fax (07) 3229 7926 | E jhollingsworth@seqwater.com.au
Website | www.seqwater.com.au

Important information: This email and any attached information is intended only for the addressee and may contain confidential and/or privileged information. If you are not the addressee, you are notified that any transmission, distribution, or other use of this information is strictly prohibited. The confidentiality attached to this email is not waived, lost or destroyed by reasons of mistaken delivery to you. If you have received this email in error please contact the sender immediately and delete the material from your email system.
QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

OPERATOR TRAINING SCHEDULE - DRAFT

THEORETICAL

THEORETICAL

THEORETICAL

November		week 1		21		Week 2		28		Monday Tuesday				
		17/18 Monday/Tuesday		19/20 Wednesday/Thursday		24/25 Monday/Tuesday		26/27 Wednesday/Thursday		1/2 Dec				
LOCATION		LANDERS SHUTE		WEST BANK		MOLENDINAR		WEST BANK		MT CROSBY				
OPERATIONS	1	s.73(1) - Irrelevant infor	LS Ops	s.73(1) - Irrelevant infor	holts ops	1	s.73(1) - Irrelevant in	Mol Ops	s.73(1) - Irrelevant infor	holts ops	s.73(1) - Irrele	Tennix	1	
	1		LS Ops		holts ops	1		Mol Ops		holts ops				1
	1		LS Ops		holts ops	1		Mol Ops		holts ops				1
	1		LS Ops		holts ops	1				holts ops				1
	1		LS Ops		holts ops	1				holts ops				1
	1		LS Ops		holts ops	1				holts ops				1
	1		LS Ops		holts ops	1				holts ops				1
	1		Mol Ops		holts ops	1				holts ops				1
	1		NP Ops		holts ops	1				Mud ops				1
	1		NP Ops							Mol Ops				1
OH&S	1					1								
	1				OH&S	1								
	1				OH&S	1								
ASSET MANAGEMENT	1	s.73(1) - Irrelevant in	LS AM	s.73(1) - Irrelevant infor	MC AM	1	TBA		s.73(1) - Irrelevant infor		TBA			
	1		LS AM		MC AM	1				IP AM		1		
	1		LS AM		MC AM	1				IP AM		1		
	1		LS AM		MC AM	1								
	1		NP AM		MC AM	1								
	1		NP AM		MC AM	1				MC AM		1		
	1		NP AM		MC AM	1				MC AM		1		
	1		NP AM		MC AM	1				MC AM		1		
	1		Tennix		Tennix	1				MC AM		1		
	1		SEQ							MC AM		1		
TENIX	1	TBA	TBA			1								
TOTALS		20		20		11		19		1				
		ONLINE ONLY						70						
		s.73(1) - Irrelevant infor												

PRACTICAL ASSESSMENT

1/12 Landers Shute	2/12 North pine	3/12 Holts hill	4/12 Molendina	5/12 mudgerabah
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s.73(1) - Irrelevant information

TBA	TBA	TBA	TBA	TBA
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Hancock, Matt

From: Hancock, Matt
Sent: Wednesday, 17 December 2008 12:02 PM
To: 'bfoxover@seqwater.com.au'
Cc: Leeson, Helen; Norman, Donna
Subject: Flouridation Training - Invoice
Importance: High
Attachments: SEQWater_Fluoride Training_Inv 2912593.pdf

Tracking:	Recipient	Delivery	Read
	'bfoxover@seqwater.com.au'		
	Leeson, Helen	Delivered: 17/12/2008 12:02 PM	Read: 17/12/2008 1:45 PM
	Norman, Donna	Delivered: 17/12/2008 12:02 PM	Read: 17/12/2008 1:02 PM

Hi Brook

Find attached the invoice for the Training & Observation as per your Purchase Order # PO002224.

As discussed yesterday this training has been charged as GST Free (Accredited Training). You were going to amend your P/O to reflect the charge.

Please call me if you have any questions.

Cheers

Matt Hancock

Contracts - Business Operations | Maryborough Campus
 Wide Bay Institute of TAFE | LMB279 | MARYBOROUGH QLD 4650
 ☎ Ph: 07 4120 2533 | 📠 Fax: 07 4120 2466 | ✉ Email: Matt.Hancock@deta.qld.gov.au

TAX INVOICE / STATEMENT

Department of Education, Training and the Arts ABN 54 456 676 679

Page : 1

SEQWATER
PO Box 37
FERNVALE QLD 4306

Client Reference Number: 3111731405

Invoice Reference Number : 2912593
Invoice date: 16/12/2008

Contact Details: Please see over page.

ACCOUNT ACTIVITY

Previous Account Balance:	39782.40
New Charges:	33525.00
Payments and Credits:	(0.00)
Current Account Balance:	73307.40
Amount Due:	\$73307.40
Payment Due By:	15/01/2009

If you have already made the required payment, thank you. Adjustments will appear on your next Tax Invoice/Statement.
If balances remain unpaid further recovery action will be taken.

Charges due outside this billing period will be displayed on upcoming invoice/statements.
All Amounts include GST if applicable, refer to Tax Invoice/Statement detail where GST has been applied.
Note: Unless otherwise advised, all payments will be allocated to the oldest debt.

PAYMENT METHODS

By BPAY



BILLER CODE: 999870
REF: 1117 3140 53

Contact your financial institution to make the payment from your account. You will need to enter the biller code and REF number shown above. More information: www.bpay.com.au

By Phone

Call your TAFE Queensland Institute to make a payment. Payment can be made by credit card. (Note: American Express is only accepted at some Institutes). Refer overleaf for contact details.

By Mail

Post the payment slip below with your cheque made payable to: Department of Education, Training and the Arts OR supply your credit card details including signature on the payment form below.

Payments can be posted to your Institute, refer overleaf for postal address details.

Paying in Person

Present the Remittance Advice below, with your payment, at any TAFE Queensland Institute. Please contact your Institute for information on accepted payment methods.

REMITTANCE ADVICE: Please detach and submit this portion with your payment

☐ Cheque (please attach) ☐ Credit Card (please complete details below)

Credit Card payment details:

☐ Visa ☐ Mastercard ☐ Bankcard ☐ Amex (only accepted at some Institutes)

Card Number:

Expiry Date: / Cardholder's name: _____

Amount: \$ _____ Cardholder's signature: _____



3111731405 07330740

Date printed: 16/12/2008	Client Reference Number: 3111731405	Amount Due: \$73307.40	
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TAX INVOICE / STATEMENT
Department of Education, Training and the Arts ABN 54 456 676 679

Page : 2

INSTITUTE CONTACT INFORMATION:

If you require further information in regards to this Tax Invoice/Statement, please contact the relevant institute below:

INSTITUTE POSTAL ADDRESS DETAILS	CONTACT PHONE NUMBER	CRICOS REF NUMBER (International Student Use Only)
Wide Bay Institute (WBI) LMB 279 Maryborough Qld 4650	07 4120 2525	02013A

TAX INVOICE / STATEMENT

Department of Education, Training and the Arts ABN 54 456 676 679

Page : 3

DESCRIPTION		GST EXCLUSIVE PRICE	GST AMOUNT	TOTAL AMOUNT
Previous Balance (Inv Ref #2888155)				39782.40
FLUORIDATN TRNG PROG-PO 002224				
Training Cost		22545.00	0.00	22545.00
Observation Cost		10980.00	0.00	10980.00
Sub Total For FLUORIDATN TRNG PROG-PO 002224		33525.00	0.00	33525.00

TOTAL GST	CURRENT ACCOUNT
	BALANCE
\$0.00	\$73307.40

Hancock, Matt

From: Hancock, Matt
Sent: Thursday, 12 March 2009 11:44 AM
To: 'Brooke Foxover'
Subject: DETA QLD Account Reconciliation
Importance: High
Attachments: SEQ Water_account 3111731405_as at 12 Mar 09.xls; SEQ Water_Fluoride Training_3063622_11Mar09.pdf

Hi Brooke

Attached is a spreadsheet of the SEQ Water account with DETA QLD. Also attached is an Invoice for a new charge for a Fluoridation student – s.73(1) - Irrelevant inform

According to the new invoice after posting the new charge the account is in credit \$754.76.

This is due to the following transactions:

- Invoice # 2804573 for \$2282.40 was paid twice –
 - First payment of \$73307.40 on # 2965860 included payments against three invoices # 2804573, 2888155, 2912593; and,
 - Second payment of \$2282.40 on # 3035216.
- The resulting credit balance of -\$2282.40 has been reduced by the following new charges:
 - Inv # 3035216 – Skills Tech Inst – Water Ops enrolment for s.73(1) - Irrelevant inform - \$1027.64
 - Inv # 3063622 – Wide Bay Inst – Fluoridation unit training – s.73(1) - Irrelevant inform - \$500.00
- Net Balance of account – credit \$754.76

Regarding the credit balance there are a couple of options –

1. The account can remain in credit and future charges will bring the account back to a balance owing; or,
2. We can process a refund cheque for the \$754.76. Our finance system limits the refund allowable to the present balance of the account.

Please give me a call if I can assist further.

Cheers

Matt Hancock

Contracts - Business Operations | Maryborough Campus
 Wide Bay Institute of TAFE | LMB279 | MARYBOROUGH QLD 4650
 ☎ Ph: 07 4120 2533 | 📠 Fax: 07 4120 2466 | ✉ Email: Matt.Hancock@deta.qld.gov.au

SEQ Water - Org ID # 3111731405 - Account Reconciliation			
um of Item Amt			
Inv #	Item Type	Total	Comment
820889	WBI - Third Party Contract	2020.2	
875734	Payments	-2020.2	
888901	WBI - Third Party Contract	155.4	
950773	Payments	-155.4	
2804573	WBI - Third Party Contract	2209.68	****
	WBI - TPC Tax	72.72	
2888155	WBI - Third Party Contract	37500	
	WBI - TPC Tax	0	
2912593	WBI - Tax	0	
	WBI - Water	33525	
2965860	EFT/IMT Payments	-73307.4	
3035216	EFT/IMT Payments	-2282.4	*** duplicate payment of Inv 2804573
	TTS - Third Party Contract	1027.64	
	TTS - TPC Tax	0	
3063622	EFT/IMT Payments	0	
	WBI - Third Party Contract	500	
	WBI - TPC Tax	0	
Grand Total		-754.76	

TAX INVOICE / STATEMENT

Department of Education, Training and the Arts ABN 54 456 676 679

Page : 1

SEQWATER
PO Box 37
FERNVALE QLD 4306

Client Reference Number: 3111731405

Invoice Reference Number : 3063622
Invoice date: 11/03/2009

Contact Details: Please see over page.

ACCOUNT ACTIVITY

Previous Account Balance:	- 1254.76
New Charges:	500.00
Payments and Credits:	(0.00)
Current Account Balance:	- 754.76
Balance:	<u>\$- 754.76</u>

If you have already made the required payment, thank you. Adjustments will appear on your next Tax Invoice/Statement.
If balances remain unpaid further recovery action will be taken.

Charges due outside this billing period will be displayed on upcoming invoice/statements.

All Amounts include GST if applicable, refer to Tax Invoice/Statement detail where GST has been applied.

Note: Unless otherwise advised, all payments will be allocated to the oldest debt.

PAYMENT METHODS

By BPAY



BILLER CODE: 999870
REF: 1117 3140 53

Contact your financial institution to make the payment from your account. You will need to enter the biller code and REF number shown above. More information: www.bpay.com.au

By Phone

Call your TAFE Queensland Institute to make a payment. Payment can be made by credit card. (Note: American Express is only accepted at some Institutes). Refer overleaf for contact details.

By Mail

Post the payment slip below with your cheque made payable to: Department of Education, Training and the Arts OR supply your credit card details including signature on the payment form below.

Payments can be posted to your Institute, refer overleaf for postal address details.

Paying in Person

Present the Remittance Advice below, with your payment, at any TAFE Queensland Institute. Please contact your Institute for information on accepted payment methods.

REMITTANCE ADVICE: Please detach and submit this portion with your payment

☐ Cheque (please attach) ☐ Credit Card (please complete details below)

Credit Card payment details:

☐ Visa ☐ Mastercard ☐ Bankcard ☐ Amex (only accepted at some Institutes)

Card Number:

Expiry Date: / Cardholder's name: _____

Amount: \$ _____ Cardholder's signature: _____



3111731405 -0075476

Date printed: 11/03/2009	Client Reference Number: 3111731405	Amount Due: \$- 754.76	
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TAX INVOICE / STATEMENT
Department of Education, Training and the Arts ABN 54 456 676 679

Page : 2

INSTITUTE CONTACT INFORMATION:

If you require further information in regards to this Tax Invoice/Statement, please contact the relevant institute below:

INSTITUTE POSTAL ADDRESS DETAILS	CONTACT PHONE NUMBER	CRICOS REF NUMBER (International Student Use Only)
Wide Bay Institute (WBI) LMB 279 Maryborough Qld 4650	07 4120 2525	02013A



TAX INVOICE / STATEMENT
Department of Education, Training and the Arts ABN 54 456 676 679

Page : 3

DESCRIPTION		GST EXCLUSIVE PRICE	GST AMOUNT	TOTAL AMOUNT
Previous Balance (Inv Ref #3035216)				- 1254.76
NWP276A-FLUORIDATION TRNG-WBI				
<div>s.73(1) - Irrelevant information</div>		500.00	0.00	500.00
Sub Total For NWP276A-FLUORIDATION TRNG-WBI		500.00	0.00	500.00

TOTAL GST	CURRENT ACCOUNT
\$0.00	BALANCE
	\$- 754.76

Hancock, Matt

From: Hancock, Matt
Sent: Friday, 13 March 2009 9:06 AM
To: 'tschmidli@seqwater.com.au'
Subject: FW: DETA QLD Account Reconciliation
Importance: High
Attachments: seq water inv 3035216.pdf

Hi Sue

As discussed this morning find attached a copy of the Skills Tech Invoice.

As per the front page of the Invoice – it states that the Payments/Credits Balance is (\$2282.40).

Please let me know if I can assist further.

Cheers
 Matt

From: Hancock, Matt
Sent: Thursday, 12 March 2009 11:44 AM
To: 'Brooke Foxover'
Subject: DETA QLD Account Reconciliation
Importance: High

Hi Brooke

Attached is a spreadsheet of the SEQ Water account with DETA QLD. Also attached is an Invoice for a new charge for a Fluoridation student – s.73(1) - Irrelevant informa

According to the new invoice after posting the new charge the account is in credit \$754.76.

This is due to the following transactions:

- Invoice # 2804573 for \$2282.40 was paid twice –
 - First payment of \$73307.40 on # 2965860 included payments against three invoices # 2804573, 2888155, 2912593; and,
 - Second payment of \$2282.40 on # 3035216.
- The resulting credit balance of -\$2282.40 has been reduced by the following new charges:
 - Inv # 3035216 – Skills Tech Inst – Water Ops enrolment for s.73(1) - Irrelevant inform - \$1027.64
 - Inv # 3063622 – Wide Bay Inst – Fluoridation unit training – - \$500.00
- Net Balance of account – credit \$754.76

Regarding the credit balance there are a couple of options –

1. The account can remain in credit and future charges will bring the account back to a balance owing; or,
2. We can process a refund cheque for the \$754.76. Our finance system limits the refund allowable to the present balance of the account.

Please give me a call if I can assist further.

Cheers
Matt Hancock
 Contracts - Business Operations | Maryborough Campus

29/09/2009

TAX INVOICE / STATEMENT

Department of Education, Training and the Arts ABN 54 456 676 679

Page : 1

SEQWATER
PO Box 37
FERNVALE QLD 4306

Client Reference Number: 3111731405

Invoice Reference Number : 3035216
Invoice date: 07/03/2009

Contact Details: Please see over page.

ACCOUNT ACTIVITY

Previous Account Balance:	0.00
New Charges:	1027.64
Payments and Credits:	(2282.40)
Current Account Balance:	<u>- 1254.76</u>
Balance:	<u>\$- 1254.76</u>

If you have already made the required payment, thank you. Adjustments will appear on your next Tax Invoice/Statement.
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PAYMENT METHODS

By BPAY



BILLER CODE: 999870
REF: 1117 3140 53

Contact your financial institution to make the payment from your account. You will need to enter the biller code and REF number shown above. More information: www.bpay.com.au

By Mail

Post the payment slip below with your cheque made payable to:
Department of Education, Training and the Arts OR supply your credit card details including signature on the payment form below.

Payments can be posted to your Institute, refer overleaf for postal address details.

By Phone

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Present the Remittance Advice below, with your payment, at any TAFE Queensland Institute. Please contact your Institute for information on accepted payment methods.

REMITTANCE ADVICE: Please detach and submit this portion with your payment

☐ Cheque (please attach) ☐ Credit Card (please complete details below)

Credit Card payment details:

☐ Visa ☐ Mastercard ☐ Bankcard ☐ Amex (only accepted at some Institutes)

Card Number:

Expiry Date: / Cardholder 's name: _____

Amount: \$ _____ Cardholder 's signature: _____



3111731405-0125476

Date printed: 13/03/2009	Client Reference Number: 3111731405	Amount Due: \$- 1254.76	
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TAX INVOICE / STATEMENT
Department of Education, Training and the Arts ABN 54 456 676 679

Page : 2

INSTITUTE CONTACT INFORMATION:

If you require further information in regards to this Tax Invoice/Statement, please contact the relevant institute below:

INSTITUTE POSTAL ADDRESS DETAILS	CONTACT PHONE NUMBER	CRICOS REF NUMBER (International Student Use Only)
SkillsTech Australia (TTS) LMB 2020 Archerfield QLD 4108	07 3404 3911	02014M



TAX INVOICE / STATEMENT
Department of Education, Training and the Arts ABN 54 456 676 679

Page : 3

DESCRIPTION		GST EXCLUSIVE PRICE	GST AMOUNT	TOTAL AMOUNT
Previous Balance (Inv Ref #2965860)				0.00
AGREEMENT: RICK MULLER				
<div>s.73(1) - Irrelevant information</div>		1027.64	0.00	1027.64
Sub Total For AGREEMENT: RICK MULLER		1027.64	0.00	1027.64
EFT/IMT Payments				- 2282.40

TOTAL GST **CURRENT ACCOUNT**
\$0.00 **BALANCE**
 \$- 1254.76

* There may be funding available for this program.
Please contact Skilling Solutions Queensland on
1300 654 687 for information.

General Information

WideBay TAFE RPL Unit:
Ann-Marie Chapman
Institute RPL Coordinator
Phone: (07) 4120 2450
Email: ann-marie.chapman@deta.qld.gov.au

For course information or application forms contact the
WideBay TAFE Customer Care Centre on telephone
1300 656 188.

Bundaberg Campus
Walker Street, Bundaberg

Gympie Campus
Cartwright Road, Gympie

Hervey Bay Campus
Urraween Road, Hervey Bay

Maryborough Campus
Nagel Street, Maryborough

Wide Bay Institute of TAFE



Get your water industry skills recognised!



TAFE Queensland
Queensland Government



WideBayTAFE



TAFE Queensland
Queensland Government



WideBayTAFE



Wide Bay Institute of TAFE

Working in the water industry and need the qualifications? You may be eligible for a qualification and not realise it.

Wide Bay Institute of TAFE can provide you with a recognised qualification to work in the water industry. The programs are taught by experienced professionals, who offer a high-level of industry knowledge.

Did you know you can get recognition for:

- work skills
- paid or unpaid work experience
- life experience
- community work

which could count towards a qualification?

Recognition of Prior Learning (RPL) can help individuals obtain the qualifications sooner by recognising skills and knowledge that have been obtained through the workplace and/or formal training.

Available Programs

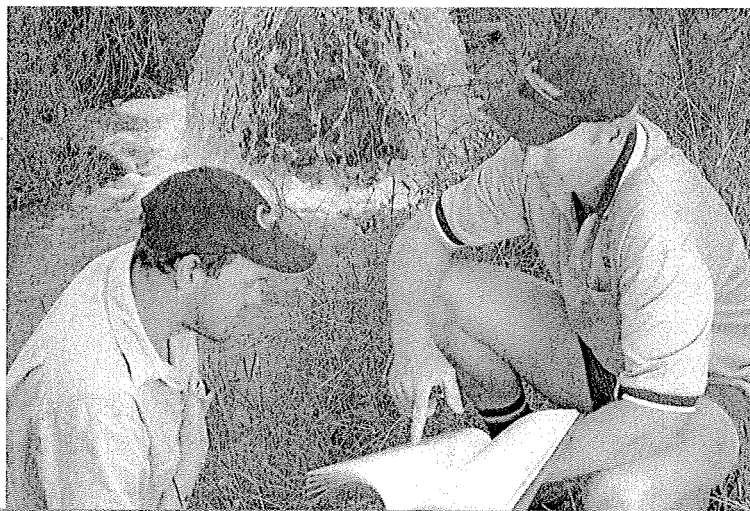
Following is a list of programs WideBay TAFE offers in the water industry field, some may only be offered through an apprenticeship. Find a program that fits your current skills and contact our RPL Coordinator?

Certificate II in Water Operations (Basic Water Treatment/Primary Waste Treatment Systems/Operational Support) (NWP20107)

Careers: Assistant water treatment operator/assistant waste water treatment operator/construction career opportunities/trades career opportunities/construction and maintenance worker in the water industry.

Certificate III in Water Operations (Water Treatment/Secondary Waste Water Treatment/Construction and Maintenance) * (NWP30107)

Careers: Water treatment plant operator/waste water treatment plant operator/construction supervisor, maintenance supervisor.



Learn from industry professionals

1300 656 188

www.widebay.tafe.qld.gov.au



Water Fluoridation Training Participants

Name	Contact Address	Postal Address	Contact Phone Number	Contact Email Address	Participant's Director	Email	
s.73(1) - Irrelevant information	Gold Coast Population Health Unit	PO Box 267 SOUTHPORT BC QLD 4215	s.73(1) - Irrelevant information				
	Gold Coast Population Health Unit	PO Box 267 SOUTHPORT BC QLD 4215					
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870					
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870					
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870					
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870					
	Brisbane South Population Health Unit	PO Box 333 Archerfield QLD 4108					
	Brisbane North Population Health Unit	Locked Bag 2 STAFFORD DC QLD 4053					
	Brisbane North Population Health Unit	Locked Bag 2 STAFFORD DC QLD 4053					
	Wide Bay Population Health Unit (Hervey Bay)	PO Box 185 Bundaberg QLD 4670					
	Wide Bay Population Health Unit	PO Box 185 Bundaberg QLD 4670					

s.73(1) - Irrelevant information	(Hervey Bay)		s.73(1) - Irrelevant information
	Central Population Health Unit (Rockhampton)	PO Box 946 ROCKHAMPTON QLD 4700	
	Townsville Population Health Unit	Locked Bag No 4016 TOWNSVILLE QLD 4810	
	Mackay Population Health Unit	PO Box 5925 MACKAY MC QLD 4741	
	Wide Bay Population Health Unit (Bundaberg)	PO Box 185 Bundaberg QLD 4670	
	West Moreton Population Health Unit	PO Box 73 IPSWICH QLD 4305	
	Sunshine Coast Population Health Unit	PO Box 577 MAROOCHYD ORE QLD 4558	

Water Fluoridation Training Participants

Name	Contact Address	Postal Address	Contact Phone Number	Contact Email Address
s.73(1) - Irrelevant information	Gold Coast Population Health Unit	PO Box 267 SOUTHPORT BC QLD 4215	s.73(1) - Irrelevant information	
	Gold Coast Population Health Unit	PO Box 267 SOUTHPORT BC QLD 4215		
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870		
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870		
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870		
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870		
	Brisbane South Population Health Unit	PO Box 333 Archerfield QLD 4108		
	Brisbane North Population Health Unit	Locked Bag 2 STAFFORD DC QLD 4053		
	Brisbane North Population Health Unit	Locked Bag 2 STAFFORD DC QLD 4053		
	Wide Bay Population Health Unit (Hervey Bay)	PO Box 185 Bundaberg QLD 4670		
	Wide Bay Population Health Unit (Hervey Bay)	PO Box 185 Bundaberg QLD 4670		
	Central Population Health Unit (Rockhampton)	PO Box 946 ROCKHAMPTON QLD 4700		
	Townsville Population Health Unit	Locked Bag No 4016 TOWNSVILLE QLD 4810		
	Mackay Population Health Unit	PO Box 5925 MACKAY MC QLD 4741		
	Wide Bay Population Health Unit (Bundaberg)	PO Box 185 Bundaberg QLD 4670		
	West Moreton Population Health Unit	PO Box 73 IPSWICH QLD 4305		
	Sunshine Coast Population Health Unit	PO Box 577 MAROOCHYDORE QLD 4558		

Water Fluoridation Training Participants

Name	Contact Address	Postal Address	Contact Phone Number	Contact Email Address	Participant's Director	Email	
s.73(1) - Irrelevant information	Gold Coast Population Health Unit	PO Box 267 SOUTHPORT BC QLD 4215	s.73(1) - Irrelevant information				
	Gold Coast Population Health Unit	PO Box 267 SOUTHPORT BC QLD 4215					
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870					
	Cairns Population Health Unit	PO Box 1103 CAIRNS QLD 4870					
	Brisbane South Population Health Unit	PO Box 333 Archerfield QLD 4108					
	Brisbane North Population Health Unit	Locked Bag 2 STAFFORD DC QLD 4053					
	Brisbane North Population Health Unit	Locked Bag 2 STAFFORD DC QLD 4053					
	Wide Bay Population Health Unit (Hervey Bay)	PO Box 185 Bundaberg QLD 4670					
	Wide Bay Population Health Unit (Hervey Bay)	PO Box 185 Bundaberg QLD 4670					
	Central Population Health Unit (Rockhampton)	PO Box 946 ROCKHAMPTON QLD 4700					

s.73(1) - Irrelevant information

Townsville Population Health Unit	Locked Bag No 4016 TOWNSVILLE QLD 4810
Mackay Population Health Unit	PO Box 5925 MACKAY MC QLD 4741
Wide Bay Population Health Unit (Bundaberg)	PO Box 185 Bundaberg QLD 4670
West Moreton Population Health Unit	PO Box 73 IPSWICH QLD 4305
Sunshine Coast Population Health Unit	PO Box 577 MAROOCHYD ORE QLD 4558

s.73(1) - Irrelevant information

Wide Bay Institute of TAFE

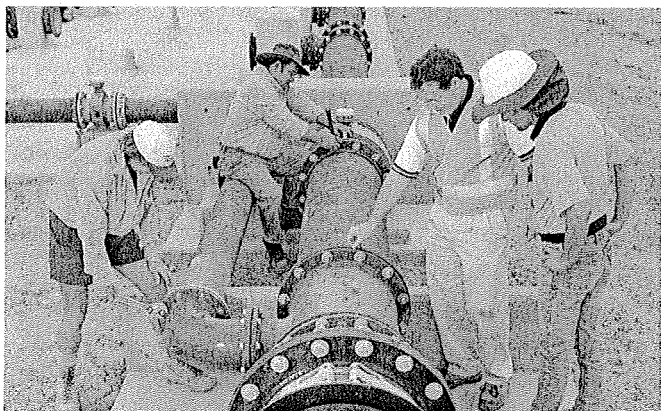
Water industry training delivered to meet the needs of your business!

Our Training Services

At Wide Bay Institute of TAFE we understand that those in the water industry value their people and resources. We assist water service providers in retaining a productive and skilled workforce by providing innovative online training solutions in a highly professional and supportive learning environment.

Catering for the industry's geographically diverse workforces through online communication tools allows lots of opportunities for:

- one-on-one teacher-learner engagement;
- peer networking; and
- membership to a community of practice of highly skilled technicians.



'Fast Tracking' qualifications is possible if you meet the criteria for:

- Mutual Recognition,
- Credit Transfer,
- Recognition of Prior Learning (RPL) and
- Recognition of Current Competencies (RCC).

Please contact us on 1300 656 188 to receive a RPL Information Pack.

360 Degree Student Support

Our highly qualified program developers provide leading-edge methods to support the full circle of learning by providing resources for the industry trainer and assessor, workplace coach and the learner.

Our Resources

We take pride in delivering high quality educational packages while focussing on normal workplace management systems and processes. Our programs are developed by industry, for industry. We recommend eLearning as an environmentally friendly (saves more trees) and sustainable study option. All of your assessment material can be sent electronically which will save you time and money in postage and handling.

Our online programs are developed so that all theory components can be related to normal work activities, and completed in the comfort of your own home, at work, anywhere, anytime. We have no semesters so you can start studying whenever you like. Our resources include tips for transitioning new knowledge and skills into the workplace, creating highly competent graduates.

Our resources have been developed for those working in the industry and are critically reviewed to ensure the language is appropriate and we use industry jargon. Our resources cater for a variety of learning styles, with an option to print for those who just love their workbooks!

We use the latest interactive techniques such as self-marking quizzes, learner notes, forums, chat rooms, video, simulated environments and even a little animation! All this is presented in a user-friendly way so the learner isn't intimidated by the technology, but really enjoys their learning experience.

Our Programs

Our professional team are actively involved in:

- training package revisions,
- discussing the needs and compliance requirements of industry, and
- regularly consulting with learners and employers, to ensure our products are technically-correct, use current technology, and support changing business environments.

Wide Bay Institute of TAFE can structure programs to suit a single job outcome, a skills set, or offer a whole career pathway.

Whether you have been a water treatment plant operator for decades, or a new school-based trainee we offer a solution for you. Different training plans are available should you change roles from plant operator, construction and maintenance support worker in the water industry to irrigator.

Encouraging Excellence

Wide Bay Institute of TAFE participates in the annual QLD Training Awards, and several of our nominated learners have qualified as finalists or even won! We also hold an annual graduation event to celebrate the success of our participants, and present an industry award to the student who has shown extra enthusiasm and commitment to their studies, as nominated by our industry-based trainers & assessors.

96% students surveyed would recommend their course to others in the water industry wanting training.

Statistics obtained from student surveys

Programs

Certificate II in Water Operations (NWP20107)

Waste Water Treatment/Sewerage Treatment Program: If you work as a plant operator assistant for a wastewater treatment facility, this nationally recognised program will give you the qualification to competently and safely operate a treatment plant under supervision.

Water Industry Construction & Maintenance Assistant Program: This program targets workers in the water industry looking to establish career options by building a base of practical and industry skills through working in diverse roles and environments.

Water Treatment Program: If you work as a plant assistant operator for a water treatment facility, this nationally recognised program will give you the qualification to competently and safely operate a treatment plant under supervision.

Certificate III in Water Operations (NWP30107)

Waste Water Treatment/Sewerage Treatment Program: If you are currently working in a secondary waste water facility, and would like to upgrade or obtain your qualification, this course offers higher-level skills and knowledge for the safe and competent operation of treatment plants.

Water Industry Construction & Maintenance Program: This program targets workers in a supervisory position in the water industry in the construction and maintenance area performing distribution maintenance, installation of water assets, and leak detection.

Water Treatment Program: This is the nationally recognised training program for water treatment plant operators. It is designed to assist water treatment operators to upgrade or obtain recognition of their knowledge and skills in the safe and competent operation of treatment plants.

Short Programs

Biological Nutrient Removal (NWP359B): Suitable for waste water treatment operators with nutrient removal processes responsibilities, this is an online program offered as a 6 week short course.

Fluoridation (NWP276A): Water fluoridation is being introduced into Queensland water supply commencing from December 2009 to 2012. Water utilities will be required by legislation to have their water plant operators trained in the safe dosing of fluoridation.

Leak Detection (NWP339B): For water distribution operators with leak detection duties this online program is offered as a 4 week short non-assessable course.

QLD Water Quality Monitoring Short Course (NWP201B, NWP202B, NWP207A, NWP210B, NWP218B, NWP317B): Does your role include maintaining water quality at onsite treatment plants in mines or monitoring water quality in catchments? This 1 semester course offers underpinning knowledge in working safely in the water industry, provides an awareness in sampling and testing techniques; and strategies for controlling water quality in the environment and distribution systems.

Safety in the Water Industry (NWP201B): Course covers basic safety, personal protection, risk assessments basics and reporting hazards. This is an online program offered as a 5 week short course. This course is suitable for those new to the water industry.

Understanding the Water Act 2000 (NWP239B): This program targets new workers to the water industry and those wanting work in the industry. Covering the Water Act 2000 compliance requirements, water entitlements and management of allocations.

Waste Water Treatment for Combined Services Areas: Does your role include responsibilities for tertiary waste water treatment plants as well as water treatment plants? Only need to take up some gap training on advanced waste water processes? This 1 semester course offers training in tertiary waste water treatment processes. Designed to supplement Water Treatment (NWP30107) studies.

Working in the Water Industry (NWP207B): This course is suitable for those new to the water industry or those wanting to work in the industry. Covering water sustainability, understanding a range of water delivery systems, and factors affecting water quality in the local community. This is an online program offered over 5 weeks.



TAFE Queensland - "Anything is possible with TAFE"

Enrolment Selection Form

Student Number (if known)

Family Name

Given Names

Date of Birth

 / /

Reduced fees may be available for some students. Evidence is required at time of enrolment to obtain reduced fees. Overdue fees must be paid or enrolment will be refused. Payment option must be indicated.

Payment Options

Cash ☐ EFTPOS ☐ Cheque/ Money ☐
in Person only in Person only Order

Send Invoice ☐ (must attach authority letter)

Credit Card Visa ☐ Mastercard ☐ *Amex ☐ *(Not available at all institutes)

Expiry date Cardholder's name
/ /

Amount Cardholder's signature
\$

Centrelink Concession Validation Consent - Health Care Card (HCC) or Pensioner Concession Card (PCC) issued by Centrelink. Do you authorise TAFE Queensland to confirm with Centrelink the details that you have provided match with Centrelink records and whether you are still receiving a Centrelink benefit? (This consent can be revoked at any time)

Yes ☐ No ☐ If 'Yes', complete the following: Card Type ☐ Card Type ☐
HCC PCC

Student's cardholder no. (CRN)

Expiry Date: / /
Student's Signature: Date: / /

If student is a listed dependant on a HCC or PCC, the primary cardholder of the HCC or PCC must also give consent to the above check. (This consent can be revoked at anytime.)

Primary cardholder Name:
(as it appears on the card)

Consent granted Yes ☐ No ☐ If 'Yes', complete the following: Card Type ☐ Card Type ☐
HCC PCC

Primary cardholder no. (CRN)

Primary cardholder's Signature: Date: / /

Daytime Phone No.

Are you claiming a Fee Concession, or Exception?

Yes ☐ No ☐ If yes tick the relevant boxes, evidence to be supplied at time of enrolment

Under 17 ☐ DVD Blue Card ☐

Under 18 (Sec. Subject) ☐ ATSI ☐

Extreme financial hardship ☐

Is your employee, sponsor paying for the TAFE course

Yes ☐ No ☐ Invoice No:

Office Use Only

Online Check ☐

Card Sighed ☐

Verified by:

Date: / /

Of the following categories, which BEST describes your main reason for undertaking this course/traineeship/ apprenticeship? Tick ONE box only.

To get a job ☐ To develop my existing business ☐ To start my own business ☐

To try for different career ☐ To get a better job or promotion ☐ It was a requirement of my job ☐

I wanted extra skills for my job ☐ To get into another course of study ☐ For personal interest or self development ☐

Other reasons

STUDENT DECLARATION (please read carefully)

- I agree to abide by the TAFE Queensland Rules and Regulations and Institute Policy (available from the Institute) and acknowledge that facilities made available for my use will be used only in accordance with the principles of proper use and relevant rules.
- I confirm the accuracy of the information provided.
- I understand I must provide evidence of concession eligibility at the time of enrolment. Subsequent evidence will not be accepted.

If under the age of 18 years, this form must be signed by a parent/guardian to complete this enrolment. This includes consent for the student to have access to the Internet through TAFE Queensland.

Student's Signature: Date: / /

Parent/Guardian's Signature: (If student under 18 years) Date: / /

Issues may arise beyond the institute's control which affect its ability to deliver programs. Whilst every effort will be made to conduct all programs as advertised, the institute reserves the right to change or otherwise revise any program related issues including programs offered, class timetables, class locations and teacher allocations. The institute will make every reasonable attempt to advise students of any changes made to their selected program. The details in this document are correct at the time of printing.

Please place an 'X' in the boxes beside the classes you wish to enrol in.

Fees Listed below are current as of 11-JUN-2009. Check at time of enrolment that the fees have not changed.

This estimate includes GST where applicable.

0000221307 Certificate II in Water Operations

0000221307

**Full Fee
\$500.00**

**Conc Fee
\$500.00**

2009 FLUORIDATION PROGRAM.

Program : NWP20107-Certificate II in Water Operations

Plan : Water Operations

Institute : Wide Bay Institute

Course/Class Details Institute

Campus

Enrol

NWP 276A Wide Bay Institute

Wblmb ☐ 3914/15693

15693 Monitor fluoridation systems

Start Date End Date

01-Apr-2009 31-Mar-2010 20.00 Hrs \$500.00

\$500.00

Day First Date Time Start Time End Facility

SOS ___/___/___ - COS ___/___/___

Privacy Statement

Personal information collected as a result of your enrolment will be used by the Department for general student administration and vocational education and training administration and regulation; as well as departmental planning, reporting, communication, research, evaluation, financial administration (including debt recovery), auditing and marketing. Only authorised departmental officers and other authorised persons (e.g. service providers, funding recipients) have access to this information. Your personal information may be disclosed to Australian and State Government authorities and agencies. Your personal information may be shared with other Queensland TAFE Institutes in which you enrol or apply to enrol. If you are a school-based apprentice or trainee, your personal information, attendance details, progress and results will be disclosed to your school and the Queensland Studies Authority. Your results may be disclosed to the Queensland Tertiary Admissions Centre. If you are an apprentice/trainee, your personal information, attendance details, progress and results will be disclosed to your employer or host employer. If you are under the age of 18 years your personal information, attendance details, progress and results may be disclosed to your parent/guardian. If you are studying at a Queensland Institute of TAFE towards your secondary education, your personal information, attendance details, progress and results will be disclosed to your school, Queensland Studies Authority and Education Queensland. No further access to your personal information will be provided without your consent, unless authorised by the Information Privacy Principles in Information Standard 42 or as required by law.

Form of Agreement

The organisation agrees to accept the terms and conditions as detailed below.



TAFE Queensland
Queensland Government

Department of
Education, Training and the Arts

Quote Date: 17/09/09 **Quote expiry date:** 17/10/09
Client Trading Name: Population Health Services
CEO/Manager/Owner Name: Fraser Gifford
Position title: Senior Environmental Health Officer
Signature: _____
Date: _____
Agreement start date: _____ **Agreement end date:** _____

Number of participants per group (if group training, then list of participants names needs to be provided by client approx. 1 week prior to commencement of training) OR	15 Participants	Description of Training to be provided	
		NWP276A Monitor operate and report fluoridation systems (Online Delivery)	
Participant's name if individual		Duration of training eg hrs, wks, mths or yrs.	6 - 8 weeks

Total cost per person

\$500.00

Payment schedule (The Client agrees to abide by the Cancellation/Withdrawal Clause attached)

\$500.00/person Due by 100% on enrolment ☒

Billing details

Contact name: _____
Purchase order no (if applicable): _____
Billing address: _____
Town/State/Postcode: _____
ABN: _____
Phone: 07 3624 1111
Mobile: 0438 144 631
Fax: 07 3624 1159
Email: Fraser_gifford@health.qld.gov.au

On completion, please return this form by fax to **(07) 4120 2466** or mail to:

Executive Support Officer
Training Solutions
Wide Bay Institute of TAFE
LMB 279
MARYBOROUGH QLD 4650

Cancellation/withdrawal clause

The organisation agrees to accept the terms and conditions as detailed below:

- a) **Refund if program or course cancelled by Institute Director**
 - If the Institute Director cancels a course before it starts, the Institute Director **must refund** the fees paid for the program or course.
- b) **Refund if enrolment cancelled more than 5 Days before program or course starts**
 - If a student cancels enrolment in a non-government funded course five days before it starts, the Institute Director **must refund** the fees the student paid for the program or course after deducting an administration charge of \$10.00.
- c) **Refund if enrolment cancelled less than 5 days before program or course starts**
 - If a student cancels enrolment in a non-government funded course less than 5 days before it starts, the Institute Director **shall not refund** any fees and charges paid by/for the student and shall not cancel any remaining payments due in respect of the enrolment.
- d) **Refused applications for fee exemptions, refunds and time to pay**
 - If the Institute Director refuses a person's application for a fee exemption, refund or time to pay, the Institute Director must give the person written notice of the reasons for refusal.
 - The person may, within 7 days after the written notice is given, apply to the Institute Director for a reconsideration of the refusal.
 - An Institute staff member more senior than the staff member who refused the original application must reconsider the refusal.

All cancellation/withdrawals relating to non-government funded programs must be made on the prescribed form in accordance with the TAFE Qld Student Refund Policy.

Water Fluoridation Code of Practice

Water Fluoridation Act 2008

Water Fluoridation Regulation 2008

November 2008

Contact:
Water Quality Unit
Environmental Health Branch
Population Health Queensland

GPO Box 48
Brisbane Qld 4001
Telephone: (07) 3234 0938
Fax: (07) 3234 1480

i) Foreword

Water fluoridation involves the adjustment of the level of fluoride in public water supplies to achieve optimal levels for prevention of dental caries. Queensland Health recognises that this public health measure must be conducted safely and effectively to ensure appropriate health benefits for the community.

This Code of Practice defines the operational criteria needed to meet the main technical, workplace health and safety, and environmental requirements of the relevant legislation. It also identifies how fluoridation plants are to be established and operated in a safe manner to satisfy these criteria. It applies to all new and existing plants in Queensland, and has been endorsed by the following organisations:

- Queensland Health
- Department of Natural Resources and Water
- Department of Infrastructure and Planning
- Department of Employment, and Industrial Relations
- Queensland Water Commission
- Queensland Water Directorate
- Local Government Association of Queensland.

Queensland Health recognises and greatly values the contribution of local governments and water boards to improving the health of the community, particularly in the field of environmental health.

The Code of Practice was first published in January 2000 following extensive consultation with all major stakeholders. Since then all local governments with fluoridation plants have taken steps to ensure that they achieve full compliance, and are to be congratulated for their commitment to ensuring this important public health measure is available to their communities.

Queensland Health is committed to achieving better health outcomes for the population of Queensland. This Code of Practice contributes to this commitment by ensuring fluoridation of water in Queensland is based on current best practices in Australia and overseas.

Director-General
Queensland Health
November 2008

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ii) Introduction

Fluoridation of drinking water at optimal levels remains the most significant dental public health program in Queensland and Australia. Water fluoridation delivers the most cost-effective and socially equitable means of achieving community-wide exposure to the dental caries (tooth decay) preventive effects of fluoride. Fluoride occurs naturally in varying concentrations in almost all public water supplies. The optimum level of fluoride in the public water supply is the level associated with the maximum reduction of tooth decay in the population balanced against the risk of dental fluorosis. Water fluoridation involves the adjustment of fluoride in public water supplies to achieve the optimum fluoride level for the reduction of tooth decay. This important public health measure must be conducted safely and effectively to ensure appropriate health benefits for the community.

Australian and overseas surveys show repeatedly that children living in fluoridated areas have less tooth decay than children living in non-fluoridated areas. Victorian surveys show six-year-old children in fluoridated areas have 45 percent less decay in baby teeth compared with those living in non-fluoridated areas and 12-year-olds have 38 % less¹. Appropriately designed studies within Queensland show that Townsville (fluoridated) children aged 5-12 have a rate of tooth decay 45 percent less than children living in Brisbane (non-fluoridated)². Studies in Britain show 3 year olds in the fluoridated community of Yorkshire had 59% less dental caries than those in the non-fluoridated Yorkshire communities³.

Fluoridation remains the most effective means of tackling tooth decay particularly in areas with high levels of dental caries. Water fluoridation can reach the entire community regardless of age, socio-economic status, education or individual motivation. Water fluoridation is a very effective public health measure that results in true cost savings in that it saves more money than it costs to operate.

An estimated two-thirds of the Australian population live in an area with adjusted fluoride levels in the water supply. It is estimated that over 350 million people are currently receiving artificially fluoridated water worldwide⁴. Other countries with water fluoridation schemes include the United States, the United Kingdom, Ireland, Israel, New Zealand, Canada, Malaysia, Singapore, and Hong Kong. Many countries that do not fluoridate water supplies achieve a similar benefit through fluoridation of salt.

Water fluoridation is supported by Queensland Health, and has been endorsed as a safe and effective public health measure by more than 150 science and health organizations, including the National Health and Medical Research Council (NHMRC), Australian Dental Association, International Dental Federation (FDI), the International Association for Dental Research (IADR), and the World Health Organization (WHO).

iii) Aim

The aim of the Code of Practice is to achieve best practice in the design and operation of fluoridation plants in Queensland, benchmarked against Australian and international standards. It provides a best practice standard for water suppliers to meet when installing and operating new fluoridation equipment. Where appropriate, the Code of Practice has adopted the requirements contained in the Code of Practice for the Fluoridation of Public Water Supplies in New South Wales (2002), with the aim of achieving commonality of approach across jurisdictions. The Code of Practice is intended to complement, and should be read in conjunction with, the following key legislation:

Water Fluoridation Act 2008

Water Fluoridation Regulation 2008

Workplace Health and Safety Act 1995

Dangerous Goods Safety Management Act 2001

Environmental Protection Act 1994

Plumbing and Drainage Act 2002

iv) Legislative framework

The *Water Fluoridation Act 2008* refers to a "relevant public potable water supply." This is a water supply supplying water to a population of 1000 people or more. All relevant public potable water suppliers must supply fluoridated water unless they are exempt. The number of members of the public being supplied potable water by a relevant public potable water supply is to be worked out by reference to the results of the most recent Census of Population and Housing published by the Australian Bureau of Statistics.

Under Part 3 section 8 of the *Water Fluoridation Act* the Health Minister may grant exemptions from the requirement to fluoridate where:

- The water supply contains natural average fluoride concentrations within or above the range prescribed in the *Water Fluoridation Regulation 2008*;
- The water supply, due to the natural water chemistry, cannot maintain fluoride levels in the water at the concentrations prescribed in the *Water Fluoridation Regulation*; or
- The addition of fluoride to the water is unlikely to result in substantial ongoing health benefit to the community and the numbers of members of the public that consume water from the water supply is less than 1000.

A water supplier who is exempt from mandatory fluoride addition to water may add fluoride to a public potable water supply at their discretion. Such a water supplier will then be subject to the same requirements under the *Water Fluoridation Act* and *Water Fluoridation Regulation* as would apply to a relevant public potable water supplier.

The Water Fluoridation Act states that before adding fluoride to a public potable water supply, all water suppliers must give a fluoridation notice to the Chief Executive of Queensland Health and publish the fluoridation notice at least once in a newspaper circulating in the area of the state serviced by the water supply, at least 30 days before adding fluoride to the water supply. A fluoridation notice is a notice stating that the water supplier intends to add fluoride to the public potable water supply from a stated date.

v) Terminology

Throughout this document the use of “must” implies that there is a legislative requirement for the procedure or equipment. The word “should” implies that the procedure or equipment is consistent with the best practice approach detailed in the Code of Practice. Queensland Health recommends that the performance criteria and minimum standards be achieved at all times.

In this document, *water suppliers* means “relevant public potable water suppliers” as well as “exempt public potable water suppliers” who opt to add fluoride at their discretion.

In this document this Water Fluoridation Code of Practice is referred to as the Code of Practice.

The bulk of the requirements in this Code of Practice relate to the design and operation of a Water Fluoridation Plant. In some instances, the entity running the fluoridation plant will be different to the entity managing the reticulation system. This Code of Practice defines the fluoridation plant as the treatment plant where fluoride is added. This Code of Practice defines the reticulation system manager as the entity which is responsible for the reticulation system. This is important in the recording and reporting section where requirements apply to the fluoridation plant and the reticulation system separately for the benefit of those entities that do not manage both. If your entity is responsible for both the fluoridation plant and the reticulation system then both requirements apply to you.

vi) Structure of the Code of Practice

The Code of Practice has been designed to provide performance solutions to meet the statutory requirements of the Water Fluoridation Regulation and ensure safe operation of fluoridation plants. The Code of Practice covers a number of subject areas. Within each area there is a table with performance criteria and minimum standards. The performance criteria reflect the fundamental intent of the Code of Practice, and as such, should remain the focus of water suppliers at all times. Minimum standards are the minimum requirements for achieving the performance criteria. In some instances guidance notes are available to provide further explanation and give acceptable solutions to meet the performance criteria and minimum standards.

The performance criteria and minimum standards are presented in table form with the performance criteria in column 1 and the minimum standards in column 2. Relevant guidance notes including acceptable solutions (where relevant) are in the following row of the table.

vii) Fluoride compounds

The fluoride compounds permitted under the Water Fluoridation Regulation 2008 are listed below, together with their alternative names. These compounds are considered suitable for use in drinking water by the NHMRC in the Australian Drinking Water Guidelines, 2004⁵ and listed in Table 1 below.

Table 1: Fluoride compounds used in treatment of drinking water

Fluoride compound	Formula	CAS No.	Alternative names
Sodium fluorosilicate	Na ₂ SiF ₆	39413-34-8	Sodium silicofluoride, Disodium hexafluorosilicate
Fluorosilicic acid	H ₂ SiF ₆	16961-83-4	Hexafluorosilicic acid, Dihydrogen hexafluorosilicate
Sodium fluoride	NaF	7681-49-4	Sodium monofluoride

viii) Risk assessment and safety in design of the fluoridation plant

Early in the fluoridation treatment plant design process, hazard identification and risk assessment methods need to be employed to eliminate or minimise the risk of injury and the risk of fluoride overdosing. This should encompass the design of the whole plant including facilities, hardware, systems, equipment, products, tooling, materials, energy controls, layout and configuration.

Safety in design principles should be followed in the design of the fluoridation plant and the documentation of this process should be retained by the water supplier. This can include but is not limited to:

- HAZard and OPerability analysis (HAZOP)
- Hazard Analysis and Critical Control Point (HACCP) principles
- 12 elements of the Australian Drinking Water Guidelines.

The Queensland Plant Code of Practice, 2005 provides general information on safety in design at the Workplace Health and Safety website at www.deir.qld.gov.au/workplace/law/codes/plant/index.htm

Risk assessment process

The water supplier should carry out and document a site-specific risk assessment covering all aspects of safety associated with the design, construction and operation of the fluoridation plant including environmental risk, at the concept stage of the fluoridation plant. Where risks are identified,

appropriate control measures should be implemented. Control measures should be based on the hierarchy of controls. That is, wherever possible hazards should be eliminated. If not possible, hazards should be controlled using engineered control methods. Personal protective equipment as a sole risk control measure should be relied upon only if no other control methods are available. For more information see the following website, www.deir.qld.gov.au/workplace/law/codes/ruralchemicals/controls/hierarchy/index.htm. The design team and the owner and operator of the plant should have input into the risk assessment. The outcome of the risk assessment and a description of control measures (e.g. standard operating procedures) should be documented in a risk management plan.

The risk assessment for the fluoridation plant and the effectiveness of the implemented control measures should be reviewed on a regular basis. Initial design risk controls must not be degraded through subsequent modifications to the fluoridation plant or the water supply system.

In accordance with the *Water Supply (Safety and Reliability) Act 2008*, all drinking water providers will be required to operate under an approved Drinking Water Quality Management Plan (DWQMP) by July 2013. All drinking water providers operating a fluoridation plant will need to include the fluoridation plant in their DWQMP. The *Water Supply (Safety and Reliability) Act 2008* is administered by the Department of Natural Resources and Water (NRW). NRW will publish a guideline specifying requirements for the preparation of a DWQMP. NRW will not be specifying the risk assessment methodology to be used in the DWQMP. Their guidelines will advocate the 12 element management framework in the Australian Drinking Water Guidelines, 2004⁵.

1. Design criteria for fluoridation plants

Fluoridation plants may use a variety of different systems to deliver fluoridating agents to the water supplier. Design criteria in this section apply to all fluoridation plants.

1.1. Design criteria for all fluoridation plants

Performance criteria	Minimum standard
P 1.1.1. <ul style="list-style-type: none"> The water supplier must ensure the fluoridation plant is designed for operator safety and safe fluoride addition. 	MS 1.1.1 A <ul style="list-style-type: none"> The water supplier must ensure that the legislative requirements of the Water Fluoridation Act and Water Fluoridation Regulation are met. All structures and installations including bunding must be designed and built to comply with all relevant legislation (including Australian Standards). A risk assessment should be done before the treatment plant is designed to ensure that safety is designed into the plant. This includes safety for operators and the safe addition of fluoride to the water. Fluoridation equipment must be located in a room provided exclusively for this purpose. Electrical control panels for the fluoridation plant should be located outside the fluoridation room. The fluoridation room should be purpose designed for the type of fluoride dosing system it will house. The fluoridation room should be designed to allow easy cleaning and removal of spilt fluoridation chemical. A hose and cock should be provided in the fluoridation room. A fluoridation laboratory should be located in close proximity to the fluoridation plant and should contain appropriate resources to ensure accurate fluoride analysis.

Guidance notes for MS 1.1.1.

- Under the Workplace Health and Safety legislation, risks arising from plant at workplaces must be controlled in accordance with the Queensland Plant Code of Practice 2005. Plant includes (a) machinery, equipment, appliance, pressure vessel, implement and tool; (b) personal protective equipment; and (c) a component of plant and a fitting, connection, accessory or adjunct to plant. The Queensland Plant Code of Practice gives practical advice on ways to manage exposure to risks related to the use of plant, including its safe design, manufacture and installation. It outlines the obligations of persons involved with plant and provides information on risks and their

control. Plant should be designed in accordance with acceptable engineering principles and relevant standards. A risk assessment should be done to identify risk areas and implement controls to minimize risk.

- The risk assessment process, discussed at the beginning of this document, is an important process and should be initiated in the design stage of the plant. Safety in design should incorporate hazard identification and risk assessment and risk management methods early in the design process to eliminate or minimize the risk of injury or overdosing throughout the life of the fluoridation plant.
- The floor of the fluoridation room should be made of concrete.
- Electrical cubicles should be located outside the fluoridation room to minimise deterioration due to corrosion and to minimise the need for entry into the room for operational and maintenance staff. Control cubicles can be in a separate room beside the room containing the fluoridating agent dosing equipment. If so, this room should have a separate entry door and no interconnecting door or other means for which air can pass between the rooms. There should be a window in the common wall between the fluoridation room and the control cubicle room to allow operators to have a clear view of the dosing equipment when operating the control panel.
- Careful thought needs to be given to the finished physical layout of equipment within the fluoridation plant room so that the safety risks are minimised. Trip hazards and items that people may walk into or hit their heads on should be avoided.
- Dry clean up, if managed safely, may be more effective for fluoride chemical spills than the hosing of granulated chemical into a sump. The collection, treatment or disposal of contaminated water may be more difficult to manage than dry chemical waste.
- The installation of all equipment, valves, controls and access points should facilitate easy access for all expected operational and maintenance requirements (e.g. relative locations, mounting height and all round access).
- If a laboratory is not already available, it should be sited in an area separate from but close to the fluoridation room. It should contain appropriate power, water supply and equipment to enable the required analyses to be carried out.

1.2. Design criteria for fluoridation plants using dry chemical

Design criteria in this section apply only to fluoridation plants that use dry chemical for the fluoridation of water.

Performance criteria	Minimum standards
P 1.2.1. <ul style="list-style-type: none"> The plant room using dry fluoride chemical is designed for operator safety and safe fluoride addition. 	MS 1.2.1. A <ul style="list-style-type: none"> An appropriate dust management system should be included in the design to prevent escape of powder into the fluoridation room and to maintain acceptable air quality. The bag loader for filling a storage hopper should have a dust extraction fan, vented to the outside of the fluoridation room.
	MS 1.2.1. B <ul style="list-style-type: none"> The design of the fluoridation plant room should remove any potential for build up of powder from air deposition over time. The fluoridation room should have a ceiling to prevent dust accumulation on roof beams and other surfaces. Internal walls and ceilings should have smooth surfaces to stop dust accumulation and simplify cleaning.
	MS 1.2.1. C <ul style="list-style-type: none"> Dry fluoridating agents should not be allowed to escape from the fluoridation room to the external atmosphere and cause a health hazard. Doors and walls should be flush with no gaps.
	MS 1.2.1. D <ul style="list-style-type: none"> The design of the plant should minimise the need for any manual handling. Where manual handling is appropriate the design should minimise the number of lifts required, the amount of bending, and the distance and height through which bags are lifted.

Guidance notes for MS 1.2.1. A

- The design of the dust management systems should take into account the total process from when the bags are unloaded into storage hoppers, powder transport from the hoppers to the feeders and from the feeders into the dosing solution. Depending on the size of the hopper and fluoridation room, the use of two ventilation systems may need to be considered.

Guidance notes for MS 1.2.1. B

- A suitable smooth surface for internal walls and ceilings would include gloss paint. Windows should have no ledges.

Guidance notes for MS 1.2.1. C

- The use of doors with rubber seals and airtight windows should be considered.
- Systems such as dust exhausts blowing down into external water tanks can be used to capture fluoride dust. The Environmental Protection Agency can be contacted on 1300 130 372 for more information.

Guidance notes for MS 1.2.1. D

- The design should consider the use of hand operated pallet forklifts, the matching of the height of the fluoride loading floor with the tray of the delivery truck, use of self raising pallet systems to maintain the same 'lifting' level as bags are taken off a pallet for loading into the storage hopper – this minimises the need to bend further the emptier the pallet becomes.

1.3. Design criteria for fluoridation plants using fluorosilicic acid

Design criteria in this section apply only to fluoridation plants that use fluorosilicic acid for the fluoridation of water.

Performance criteria	Minimum standards
1.3.1. <ul style="list-style-type: none"> The design of the fluorosilicic acid fluoridation plant and equipment should provide a safe working environment and facilitate safe working practices for operators. 	MS 1.3.1 A <ul style="list-style-type: none"> Corrosive fumes associated with fluorosilicic acid should be removed from the fluoridation plant room via mechanical ventilation and venting of fume sources, such as internal storage tanks, to an appropriate outside location. Acid fumes must be maintained at a level below occupational exposure standards.
	MS 1.3.1. B <ul style="list-style-type: none"> Storage and handling systems such as carboys, drums, day tanks, indoor bulk storage tanks and graduated calibration tubes should be sealed and vented back to the bulk storage tank or directly to the outside of the fluoridation plant building.
	MS 1.3.1. C <ul style="list-style-type: none"> All tanks containing fluorosilicic acid must be in a bunded area. This includes the day tank and the bulk storage tank. The bunded area must have sufficient capacity to comply with the relevant Australian Standard.

Guidance notes for MS 1.3.1. A

- Fluorosilicic acid is corrosive and will give off acidic fumes. These fumes will affect the air quality and increase corrosion rates of equipment in the fluoridation plant room. Fumes from internal storage tanks should be minimised through sealing of the tank and extending vents outside the building. Water seals can be used on the tank overflow outlet if the bunded area is internal to the room. An acid resistant exhaust fan should be installed to remove the fumes from the fluoridation plant room. The location of the fan and room vents should be chosen to maximise cross flow ventilation of the room. If exhaust fans are used, they should be acid-fume resistant, designed for continuous operation and vented to open air away from doors, windows and air inlets and any area that may be accessed outside the fluoridation room.

Guidance notes for MS 1.3.1. B & C

- Storage and handling of fluorosilicic acid must comply with requirements under the *Dangerous Goods Safety Management Regulation, 2001*. This includes making provision for spill containment systems for leaks and spills from the storage and handling systems. Bunded areas may be used to achieve this as long as they can

contain sufficient volume such that no acid can escape into the environment. Australian Standard 3833:2007 states that for dangerous goods, the bunding capacity must be at least 100 % of the largest container plus 25 % of the storage capacity up to 10,000 litres together with 10 % of the storage capacity beyond 10,000 litres.

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2. Operational controls for fluoride dosing systems

Operational controls should be designed into the fluoridation plant to ensure it can consistently achieve a set fluoride concentration in treated water. The operational controls in this section apply to all fluoridation plant dosing systems regardless of the type of the fluoridation agent used.

2.1. Operational controls for all fluoride dosing systems

Performance criteria	Minimum standards
P 2.1.1 <ul style="list-style-type: none"> The fluoride dosing system design must ensure the fluoride plant consistently meets the values specified in the Water Fluoridation Regulation. 	MS 2.1.1. A <ul style="list-style-type: none"> The design of the plant must incorporate two water flow-measuring devices to pace the fluoride dosing equipment. One of these devices must be a flow meter.
	MS 2.1.1. B <ul style="list-style-type: none"> All key components of the fluoride dosing system must be electrically or mechanically interlocked to ensure dosing system shutdown on the failure of any equipment in the fluoride dosing system and to ensure that the dosing system cannot operate unless water is flowing. All key components should be alarmed to alert the operator of a failure in the system.
	MS 2.1.1. C <ul style="list-style-type: none"> Feeding or dosing systems must be able to accurately deliver the required volume or weight of fluoridation chemical for the quantity of water being treated. Feeding or dosing systems should be sized as to be able to deliver the required volume or weight of fluoridation chemical when the treatment plant is running at maximum flow rate.
	MS 2.1.1. D <ul style="list-style-type: none"> It must be made physically impossible for any component of the fluoridation feeding or control equipment to be manually plugged into standard electrical outlets for continuous operation. It must be impossible for the fluoridation chemical feeding equipment to be switched to manual mode. Fluoride chemical feeding equipment must be operated in automatic mode to prevent unattended manual operation.

Guidance notes for MS 2.1.1. A

- The fluoride dosing system must be designed to consistently achieve the annual value for the public potable water supplier zones shown in schedule 3 of the Water Fluoridation Regulation.
- Two separate physical indications of water flow through the plant should be hard wired in series, either directly or via PLC (programmable logic controller) coding, in the control loop for starting and stopping the fluoridation plant. One indicator of water flow must be a flow meter that measures flow into which the fluoride is being dosed. The failure of either one of the devices should stop the fluoridation plant dosing. Flow-measuring devices should be appropriately located to enable the fluoride dosing equipment to be paced to water flow over the full flow rate range of the water treatment plant.
- The physical indicators of water flow through the plant can be via two flow meters or by a combination of a flow meter with a flow-sensing device such as a flow switch. Reliance on a single primary flow-sensing device can significantly increase the risk of overdosing, as a fault/failure could lead to the fluoridation plant continuing to dose after the water flow has actually stopped. Care should be taken in selecting the most appropriate devices for this duty (e.g. flow switches have a significant history of sticking). Use of flow sensing devices, which are remote to the fluoridation plant using telemetry, may increase the risk of inaccurate reading.
- Flow-measuring devices should measure both the rate of flow and total volume of flow. This is critical to the accuracy and reliability of the whole process. Where possible the use of electromagnetic flow meters is recommended as they can achieve an accuracy of $\pm 1-2\%$.
- For a gravity flow situation, the first flow signal could originate from a flow meter (upstream location) and the second signal could come from a secondary flow-based control device (e.g. flow switch) installed on the downstream side of the dosing point. The flow indication or flow measuring device should be positioned to provide a true representation of flow through the plant.
- For pumped supplies, the fluoride-dosing pump should be electrically interlocked with the pump supplying water.
- In-line monitoring of fluoride concentration in the fluoridated water may also be used as part of the fail-safe system. The in-line monitoring system can be interlocked with the dosing system to shut it down when the concentration of fluoride exceeds a maximum set point.

Guidance notes for MS 2.1.1. B

- A risk assessment should include consideration of all possible causes of overdosing and where feasible appropriate interlocks and alarms designed into the system. This will minimise both the risk of overdosing occurring and the length of time for which the condition exists before plant staff intervention. This assessment should be documented, stored, and made available upon request for auditing by the Chief Executive. The key components of a fluoride dosing system would include stop/start/pacing signals, feeders, dosing pumps, solution transfer pumps, solution tank levels, mixers and dilution water pumps. The failure of any of these key components should result in alarms being generated and operational staff responding.

Guidance notes for MS 2.1.1. C

- Fluoride dosing systems such as pumps should be sized appropriately so that the dosing pump running at full capacity, delivers as close as practicable the desired fluoride dose, when the plant is running at the maximum flow rate. The sizing of the fluoride dosing system should ensure that fluoride chemical can not be delivered into treated water at concentrations that lead to an exceedance of 1.5 mg/L in the reticulation system.
- Electronically controlled pumps should be locked with a code to ensure the operator cannot inadvertently set the pump to a rate that may result in an overdose.

Guidance notes for MS 2.1.1. D

- Dosing pumps or electrical controls at small water treatment plants are sometimes wired with standard single or three phase power plugs to facilitate removal for maintenance by non-electrical staff. This is not permitted for fluoridation plants.

Performance criteria	Minimum standards
P 2.1.2. <ul style="list-style-type: none"> • Backflow should be prevented. 	MS 2.1.2. <ul style="list-style-type: none"> • Any solution water supply should have an air gap or a backflow prevention device fitted upstream of where the fluoridating agent is diluted (e.g. mixing tanks) or injected (e.g. dosing pumps). The device should comply with the relevant Australian Standards.

Guidance notes for MS 2.1.2.

- It is important that fluoridating agent is not syphoned backwards into the solution water system should a failure of the solution water system occur. This possibility could cause problems to other equipment, create a health hazard, or result in an environmental release.

Performance criteria	Minimum standards
P 2.1.3. <ul style="list-style-type: none"> • The design of the fluoride dosing point should allow adequate mixing of fluoride chemicals with water being treated. 	MS 2.1.3. <ul style="list-style-type: none"> • The fluoride dosing point should be located where adequate mixing with treated water can occur. • The fluoride dosing point should be located to ensure adequate mixing with treated water is not affected by other treatment chemicals and processes.

Guidance notes for MS 2.1.3.

- The dosing point should occur after any coagulation, filtration and pH adjustment to avoid substantial losses that can occur if fluoride complexes with other water treatment chemicals such as aluminium, calcium and magnesium, and forming a precipitate.
- A barrier (e.g. storage reservoir) or mixing process designed to achieve sufficient mixing should be provided between the fluoride dosing point and all water service off-takes. No consumer water service or water service within the plant should be taken directly off the water line to which fluoride is dosed without sufficient mixing.

Performance criteria	Minimum standards
P 2.1.4. <ul style="list-style-type: none"> • The design of the fluoridation plant must provide operational staff with everything required to measure and control the fluoridation process accurately in a timely manner. 	MS 2.1.4. <ul style="list-style-type: none"> • The plant design must provide the ability to measure the fluoride dose rate immediately. • All necessary local indications must be provided to allow the operator to assess whether the process and equipment are running satisfactorily.

Guidance notes for MS 2.1.4.

- The use of large storage tanks, inappropriately designed graduated calibration tubes, and poor choice of integrated water flow units can significantly increase measurement errors to a point where they become meaningless for daily process control.
- Plant design should allow operators to be able to perform a gross check that the fluoride dose is being achieved to within 5% of the fluoride value. Plant inspections and dosing calculations for fluoride should be done daily.
- It is important to provide plant operators with the ability to accurately monitor the fluoridation plant and equipment performance. Local indicators that need to be considered include water flow, fluoridating agent feed rate, pressure and level indicators, storage levels, equipment status, alarms, ammeters and hours run.

2.2. Design controls for dry fluoride feed systems

The operational controls in this section apply to fluoridation plants with dry feed systems.

Performance criteria	Minimum standards
P 2.2.1. <ul style="list-style-type: none"> A dry fluoride feed system must be designed and operated to minimise the risk of overdosing fluoride in treated water. 	MS 2.2.1. A <ul style="list-style-type: none"> Dry fluoride feed systems should include: <ul style="list-style-type: none"> a powder unloading system, a storage/feed hopper, a volumetric or gravimetric dry feeder, a dissolving tank with mechanical stirrer, a weight loss system to monitor the weight of fluoridating agent used, a potable dilution water source, and a solution transfer pump (if not gravity fed).
	MS 2.2.1. B <ul style="list-style-type: none"> The capacity of the storage/feed hopper should be sufficient to ensure continuity of fluoridation, but should not exceed seven days supply (to minimise the risk of overdosing).
	MS 2.2.1. C <ul style="list-style-type: none"> The system should include a water softener where the total hardness of the water used for dissolving sodium fluoride chemical exceeds 75 mg/L as calcium carbonate. This requirement applies only to the water used to make up the fluoride solutions in the mixing tanks and does not apply to the main water supply being treated.

2.3. Design controls for fluoride batch solution dosing systems

The operational controls in this section apply to fluoridation plants with batch solution dosing systems.

Performance criteria	Minimum standards
P 2.3.1. <ul style="list-style-type: none"> A fluoride solution feed system must be operated to minimise the risk of overdosing fluoride in treated water. 	MS 2.3.1. A <ul style="list-style-type: none"> Fluoride batch solution feed systems should include: <ul style="list-style-type: none"> two batching tanks with mechanical mixers a dilution water meter a potable or filtered dilution water source a method for calibrating dosage rates a metering pump with pressure relief and a loading valve on the delivery side of the pump.
	MS 2.3.1. B <ul style="list-style-type: none"> The capacity of the tank should be sufficient to ensure continuity of fluoridation but should not exceed seven days supply (to minimise the risk of overdosing).
	MS 2.3.1. C <ul style="list-style-type: none"> Tank solution level sensor, mixer and transfer pump should be interlocked to ensure total fluoride dosing system shut down when malfunction of any one of these items occurs.
	MS 2.3.1. D <ul style="list-style-type: none"> Any water supply used for dissolving the fluoridating agent should have a fixed flow rate in order to maintain correct dissolving time in solution.

Guidance notes for MS 2.3.1. A

- Both batching tanks containing the dissolved fluoride chemical must be located in a bunded area.
- Suitable methods for calibrating dose rates include a graduated calibration tube or calibrated dipsticks.

Guidance notes for MS 2.3.1. D

- A positive displacement pump should be used for dosing batch solutions into treated water.

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2.4. Design controls for fluoride saturator systems

The operational controls in this section apply to fluoridation plants with a fluoride saturator system.

Performance criteria	Minimum standards
P 2.4.1. <ul style="list-style-type: none"> The operation of a fluoride saturator solution dosing system must minimise the risk of fluoride overdosing in treated water. 	MS 2.4.1. A <ul style="list-style-type: none"> A downflow saturator should always contain at least 150 mm of chemical above the top of the media but should not be filled to the top of the tank where it may impede the flow of water into the tank. An upflow saturator should never be filled so high that undissolved chemical can be drawn into the suction line.
	MS 2.4.1. B <ul style="list-style-type: none"> The saturator tank should be designed so that it is possible to visually check the level of undissolved fluoridating agent in the saturator tank.
	MS 2.4.1. C <ul style="list-style-type: none"> Fluoride saturator systems should include: <ul style="list-style-type: none"> a saturator tank with powder support media a powder unloader system a dilution water meter a potable or filtered dilution water source a method for calibrating dose rates and a metering pump with pressure relief and a loading valve on the delivery side of the pump.

2.5. Operational controls for fluorosilicic acid dosing systems

The operational controls in this section apply only to water fluoridation plants dosing fluorosilicic acid.

Performance criteria	Minimum standards
P 2.5.1. <ul style="list-style-type: none"> A fluorosilicic acid fluoridation plant must be operated to minimise the risk of overdosing fluoride in treated water. 	MS 2.5.1. A <ul style="list-style-type: none"> No more than 24 hours supply of fluorosilicic acid should be connected at any time to the suction side of the chemical feed pump. All bulk storage tanks with more than a 7-day supply should have a day tank. A day tank can contain up to 24 hours worth of acid and the fluoride transfer from the bulk tank to the day tank should be controlled and not occur more than once in any 24 hour period.
	MS 2.5.1. B <ul style="list-style-type: none"> All fluorosilicic acid day tanks should be equipped with online weight measurement.
	MS 2.5.1. C <ul style="list-style-type: none"> Fluorosilicic acid dosing systems should include: <ul style="list-style-type: none"> a day tank a weighing platform for the acid container a method for calibrating dose rates a metering pump with pressure relief and a loading valve on the delivery side of the pump and a potable or filtered water source.
	MS 2.5.1. D <ul style="list-style-type: none"> Practical controls should be incorporated into the acid dosing system to prevent overdosing by rapid release of the day tanks contents into the water being treated. Methods may include anti-siphon pump controls.

Guidance Note for MS 2.5.1 A

- Fluoride transfer from the bulk tank to the day tank should be initiated manually and stopped automatically and only occur once in a 24 hour period. Day tanks should be equipped with online weight management to ensure overdosing does not occur. There should be a motorized valve in the line between the bulk tank and the day tank. Another safeguard is to have an anti-siphon and a motorized valve installed in the metering pump discharge line.

Guidance notes for MS 2.5.1. C

- Suitable methods for calibrating dose rates include a graduated calibration tube or calibrated dipsticks.
- A weighing platform should be supplied for the measurement of loss of mass in the day tank. A load cell can be provided for online measurement of loss and as a check of the average concentration being dosed compared to results of an online fluoride analyser. The accuracy of load cell measurements should be within $\pm 1\%$ of the range being measured.

3. Water supply system upgrade

This section applies to all existing fluoridation plants that are undergoing a system upgrade or an upgrade in equipment. This section applies to any upgrade that will affect the original risk assessment done for the fluoridation plant. It does not apply to new fluoridation plants.

Performance criteria	Minimum standards
P 3.1.1. <ul style="list-style-type: none">Initial design measures for controlling the risk or overdosing should not be degraded through subsequent modifications of the fluoridation plant and/or the water supply system.	MS 3.1.1. <ul style="list-style-type: none">The fluoridation plant must continue to comply with the Water Fluoridation Regulation and Code of Practice requirements following any water supply system capacity upgrade or major fluoridation plant upgrade.A new risk assessment should be done if any alteration or modification is made to the fluoride system. Control measures should be adjusted accordingly to control any new or different risks arising from the changes.

Guidance notes for MS 3.1.1

- Plant upgrades or water supply system capacity upgrade should not negatively impact on the fluoridation control measures. All changes to the fluoridation plant should be recorded in a plant register, or via a maintenance management system.
- Any modification to the plant should not increase the Workplace Health and Safety Risk to the workers or visitors to the plant.

4. Fluoride chemicals

This section applies to all fluoridation plants. It provides information on the quality and storage of fluoridation agents

4.1. Quality of fluoridation chemical

Performance criteria	Minimum standards
P 4.1.1. <ul style="list-style-type: none"> Any impurities in the fluoridating agent must not represent a health hazard for consumers. 	MS 4.1.1. <ul style="list-style-type: none"> The water supplier should develop and use a suitable chemical specification standard when purchasing the required fluoridating agent. The latest American Waterworks Association standard specifications for fluoridating agents should be treated as a minimum requirement (Table 1, Appendix 1). Impurities in fluoridating agents added to treated water must not exceed relevant guideline values in the Australian Drinking Water Guidelines, 2004. Physical characteristics and variations in fluoridating chemical strength should not significantly increase the risk of reliably maintaining the required fluoride concentration in the treated water.

Guidance notes for MS 4.1.1.

- Metals are the main impurities of health significance found in fluoridating agents, particularly fluorosilicic acid. The presence of moisture in powdered chemicals can lead to unreliable feeder operation. The level of insoluble matter can increase turbidity levels in the final water. Water suppliers should include the requirement for regular full chemical analysis by suppliers in supply contracts. It is also good practice to periodically obtain an independent chemical analysis of shipments of fluoridating agents. Samples may be sent to Queensland Health Forensic and Scientific Services or to a laboratory with NATA accreditation for the analysis required. The specification requirements shown in Table 1, Appendix 1.
- Further guidance on contaminants in drinking water chemicals is available in Chapter 8 of the Australian Drinking Water Guidelines, 2004.

4.2. Storage of fluoridation chemicals

Performance criteria	Minimum standards
P 4.2.1. <ul style="list-style-type: none"> Fluoridation plants must not run out of fluoridating agent. 	MS 4.2.1. A <ul style="list-style-type: none"> Sufficient chemical must be available or kept in storage to ensure continuity of water fluoridation.

Guidance notes for MS 4.2.1. A

- The supply risk is influenced of a number of issues including the quantities involved, transport distance, procurement strategy and general availability of the agent, transient populations and access to the treatment facility. For some plants, seasonal conditions may require the plant to store a few months' worth of chemical on site.

Performance criteria	Minimum standards
P 4.2.2. <ul style="list-style-type: none"> Fluoridating agents are appropriately stored to minimise deterioration. 	MS 4.2.2. A <ul style="list-style-type: none"> Dry fluoridating agents must be stored in a secure dry environment off the ground protected from the weather.

Guidance notes for MS 4.2.2. A

- When bags of powdered fluoridating agent become damp or wet they can be very difficult to use in the fluoridation equipment, often leading to increased maintenance and variable fluoride concentrations in the treated water. In more extreme circumstances, the bags can become unusable and would need to be disposed. In some situations the use of room heaters can minimise such problems.
- Powdered fluoridating agents should always be stored off the ground. A raised platform is one option for both storage and chemical loading to dry feeders or solution tanks.
- Chemical storage areas should be bunded in accordance with the relevant Australian Standard.

5. Fluoridation plant operation

This section applies to all fluoridation plants. It provides operating targets for fluoridation plants to ensure they comply with the Water Fluoridation Regulation. It also provides information on the measurement of fluoride in water, quality assurance, maintenance and calibration and operator qualification and training.

5.1. Operating targets

This section of the code needs to be read in conjunction with the Water Fluoridation Regulation. Terms such as allowable range and applicable local government zone are defined in the glossary of this Code of Practice.

Performance criteria	Minimum standards
P 5.1.1. <ul style="list-style-type: none"> The fluoridation plant is operated to ensure a consistent fluoride concentration throughout the reticulation system in accordance with the Water Fluoridation Regulation. 	MS 5.1.1. <ul style="list-style-type: none"> The water supplier must ensure that the average fluoride concentration meets the prescribed fluoride concentration (± 0.1 mg/L) for the relevant local government zone as specified in the Water Fluoridation Regulation. SOPs should be produced and followed for all routine operational duties at the fluoridation plant. Fluoride plant shutdowns exceeding 2 weeks will require the water supplier to notify the Chief Executive of the reasons for the shutdown, how problems will be resolved and how long it is expected to take. Water entering the reticulation system and in the reticulation system must never have a fluoride concentration exceeding 1.50 mg/L in order to comply with the Public Health Regulation.

Guidance notes for MS 5.1.1.

- Fluoride plant shutdowns should not occur for greater than 5% (approximately two weeks) of a year.
- In some instances, the operator of the fluoridation plant and the manager of the reticulation system may be different entities. In this situation, the manager of the reticulation system will not have any control over the fluoride concentration in the reticulation system. The operator of the fluoridation plant still needs to comply with the Water Fluoridation Regulation and should therefore maintain the concentration of fluoride in the treated water within the allowable range for the applicable local government zone. The entity that operates the fluoride plant should have an agreement with the entity that manages the reticulation system outlining the procedures to be followed if water cannot be supplied with a fluoride concentration within the ± 0.1 mg/L of the prescribed fluoride concentration. This agreement should include the channels of communication to be followed to inform the manager of the reticulation system of any

disruption to the addition of fluoride to the water. If the manager of the reticulation system is not satisfied that the supplier of fluoridated water is able to maintain the prescribed fluoride concentration in the reticulation system, the manager of the reticulation system may need to contact the Chief Executive.

- Some water supplies have fluctuating fluoride concentrations in their raw water. Raw water sampling may need to be done frequently or daily for the initial period of operation to gain a better understand of this. This is up to each water supplier to assess this risk in the risk assessment process. On-line monitors may be needed to consistently monitor the raw water fluoride concentration where fluctuations in raw water fluoride concentrations could affect the ability of the water supplier to maintain the prescribed fluoride concentrations in treated water.
- The water supplier should develop standard operating procedures (SOPs) for all routine operational duties within the fluoridation plant. The water supplier should provide training to all staff on how to carry out these procedures so there is consistency between operators. All operators should be competent in carrying out these SOPs. The use of SOPs is a clear outcome of integrating quality management principles into routine duties. The use of pictures in SOPs can be quite useful and effective. The SOPs should cover routine daily inspections, management of fluoridating agent (e.g. topping up of day tanks, hoppers, saturators, ordering new stocks etc.), process control decisions, dose corrections, and record keeping.
- The fluoride standard in the Public Health Regulation, 2005 is 1.5 mg/L. Exceedances of this value will need to be reported to the Office of the Water Supply Regulator (OWSR) in accordance with the Water Supply (Safety and Reliability) Act. The OWSR will then notify the Chief Executive of the exceedance.

5.2. Measurement of fluoride in treated water

This section applies to all fluoridation plants. It provides information on the where samples should be taken and how fluoride samples should be analysed.

Performance criteria	Minimum standards
P 5.2.1. <ul style="list-style-type: none"> The system must allow for a representative sample of treated water entering the reticulation system to be collected at any time. 	MS 5.2.1. <ul style="list-style-type: none"> The sampling point location must be far enough downstream from the fluoride injection point to ensure the fluoride is well mixed, but prior to any service reservoir or tank if possible.

Guidance notes for MS 5.2.1.

- The plant operator needs to be able to directly relate the measured fluoride level in the treated water to plant settings at a given point of time. If the sample point is too far downstream, or if the sample is from or after a service reservoir then this becomes more difficult. Where long sample lines are used it is good practice to carry out regular checks to ensure the sample line is not affecting the sample water quality (e.g. compare results taken from each end of the sample line).

Performance criteria	Minimum standards
P 5.2.2. <ul style="list-style-type: none"> The fluoride concentration in water must be analysed by trained staff using an accepted, accurate and precise method. 	MS 5.2.2. <ul style="list-style-type: none"> The method must be a prescribed analysis from the Water Fluoridation Regulation. Prescribed analyses (methods) include the following: <ul style="list-style-type: none"> ion-selective electrode (ISE) method, SPADNS method ion chromatography. An on-line fluoride analyser can be used. The daily concentration of fluoride in water must be confirmed by a prescribed method when an on-line fluoride analyser is in operation. The method should conform to the latest edition of Standard Methods for the Examination of Water and Wastewater. Staff must be appropriately trained in the method used to analyse fluoride. Staff must be trained in following any SOPs associated with fluoride analysis. The analysis procedure should ensure that the fluoride calibration standard(s), quality control samples and the routine fluoride samples are at the same temperature before proceeding with the analysis.

Guidance notes for MS 5.2.2.

- Appropriate spare equipment/parts should be available on site. Only plastic should be used for fluoride samples as the use of glassware (such as bottles, beakers) may lead to lower results due to fluoride interacting with the glass.
- The ion selective method is preferred as it is reliable, easy to perform, and less impacted by interfering substances.
- The minimum requirements for equipment and reagents to carry out ion selective analyses are:
 - An ion selective meter that can be used for fluoride and temperature probes, and that can display in millivolts (and preferably fluoride concentration), and degrees Celsius as required.
 - Fluoride electrodes (either a combined electrode, or separate measuring and reference electrodes)
 - Temperature probe (for measuring temperature of sample being tested)
 - A magnetic stirrer with insulated top, moveable arm stand with probe holder for fluoride and temperature probes, and teflon coated stirrer bars
 - Laboratory plastic ware (beakers, measuring cylinders and sample/storage bottles)
 - Timer and thermometer
 - Reagents (total ionic strength adjuster, and electrode filling solution)
 - TISAB, Total Ionic Strength Adjustor Buffer of appropriate quality.
- The fluoride meter should be checked regularly for sensitivity (follow manufacturers instructions).
- Electrode filling solutions if used should be of suitable quality.
- Any standards used for instrument calibration standards should be checked independently for accuracy.
- Calibration standards should include at least 4 points between 0.1 to 2 mg/L (e.g. 0.1, 0.5, 1.0, 1.5, 2.0)
- It is good practice to carry out regular checks on fluoride standards and chemical reagents bought or made by a water supplier. Simple checks help to give confidence in the fluoride results. Checks may include keeping track of the following for fluoride analysis reagents and fluoride standards:
 - batch numbers,
 - age and expiry date,
 - comparison of results when changing from one batch to another, and
 - quality assurance documentation from the manufacturers.
- On-line analysers can be used to pace fluoride dosing pumps to control the fluoride concentration in treated water. A daily fluoride concentration using another fluoride analytical method needs to be used to confirm the on-line result.
- The on-line fluoride analyser should correct for temperature and pH and should include buffering if interferences cause errors in the measurement of the fluoride ion of 0.05 mg/L or greater. Interferences are caused when fluoride forms complexes with several other cations (such as aluminium and iron). The extent to which complexes are formed depends on solution pH, fluoride concentration and concentration of complexing species.

- Calibration records including the slope and sensitivity readings on the meter can help identify whether a fluoride meter/electrodes have changed in performance and will require maintenance or replacement.
- It is important to follow manufacturer's instruction with regard to calibration of equipment for the method used for fluoride analysis. Instructions should indicate any interference likely to affect the fluoride reading.
- An SOP should be established for calibration of analysis equipment and for the fluoride analysis.
- SOPs should include sampling procedures and analytical procedures and should specify any areas that may be problematic (ie. Adding reagents, timing of methodology or interfering substances)

Performance criteria	Minimum standards
P 5.2.3. <ul style="list-style-type: none"> • Appropriate resources for determining fluoride concentration in the treated water must be provided at all times. 	MS 5.2.3. <ul style="list-style-type: none"> • A laboratory, or an appropriate permanent bench area, should be provided in an area separate from the fluoridation room, but in close proximity to it, to allow routine fluoride concentration analyses to be performed. • There should be adequate power, water supplies and equipment to enable the analyses to be carried out.

Guidance notes for MS 5.2.3..

- Analytical equipment should be permanently set up. Bench space should be adequate for analysis and sufficient storage available for consumables (such as glassware, chemicals and spare parts). The area should not be exposed directly to sun or high temperature. Air conditioning is preferred. A small fridge for storing samples and reagents at a constant low temperature should be provided.

5.3. Contingency planning

Fluoridation plants and reticulation system managers should have a contingency plan developed to deal with fluoride overdosing events. Where the fluoridation plant and the reticulation system are managed separately, communication channels should be included in the contingency plan.

Performance criteria	Minimum standards
P 5.3.1. <ul style="list-style-type: none"> Water suppliers should have contingency plans for over and under dosing. 	MS 5.3.1. <ul style="list-style-type: none"> Contingency planning should be developed and documented as part of the risk management plan. If treated water leaving the fluoridation plant has a fluoride concentration greater than 0.3 mg/L above the prescribed fluoride concentration for the relevant local government zone in the Water Fluoridation Regulation, then an additional sample should be taken and the cause of the overdose found and rectified immediately. The treatment plant supervisor should be notified. Contingency planning should include: <ul style="list-style-type: none"> Procedures for shutting down the equipment in the event of overdosing; The actions required to identify and rectify problems Action required to warn and protect the public in the event of a significant overdosing event, and Reporting protocols including a clear chain of command and designated responsibility.

Guidance notes for MS 5.3.1.

- The Australian Drinking Water Guideline and the fluoride standard in the Public Health Regulation is 1.5 mg/L.
- Contingency planning and response plans are explained further in Appendix 3.

5.4. Quality assurance and quality control samples

This section provides information on quality assurance and quality control samples. Terms such as daily quality control sample and monthly quality control samples are defined in the glossary of this Code of Practice. This section applies to all fluoridation plants.

Performance criteria	Minimum standards
P 5.4.1. <ul style="list-style-type: none"> Appropriate regular quality assurance checks and balances should be in place to ensure the accuracy, precision and reliability of fluoride measurements in water. 	MS 5.4.1. <ul style="list-style-type: none"> A daily quality control sample should be analysed along with the routine daily samples of fluoridated treated water. This sample must be analysed using the same methodology as the routine samples. Once a month, a monthly quality control sample of fluoridated treated water must be collected. This sample must be split into two portions with one portion analysed at the treatment plant using the method routinely used at the plant to analyse fluoride. The other portion must be forwarded to a laboratory that is NATA accredited for fluoride analysis. Once a month, the daily quality control sample must be split into two portions with one portion analysed at the treatment plant using the method routinely used at the plant to analyse fluoride. The other portion must be forwarded to a laboratory that is NATA accredited for fluoride analysis.

Guidance Notes for MS 5.4.1.

- The daily quality control sample is a sample of known fluoride concentration that must be analysed along side every daily routine fluoride sample using the same method. This sample will also provide information in the event that samples analysed by different methods or in different laboratories do not give the same result. This daily quality control sample (e.g. 1 mg/L fluoride ion) should be prepared separately from the calibration standards as it used to check on the accuracy and precision of the analysis performed.
- If there is a greater than 0.2 mg/L difference in fluoride concentration between the locally and externally analysed monthly control samples, then this should be investigated.
- The daily quality control sample can be prepared in the treatment plant laboratory from analytical grade chemicals or can be purchased externally.
- The monthly quality control sample is required by the Water Fluoridation Regulation as part of a quality control system to provide independent confirmation of the accuracy of the analytical procedures employed at the treatment plant. Queensland Health Forensic and Scientific Services is NATA accredited for fluoride analysis.

5.5. Maintenance and calibration

This section deals with the maintenance of the treatment plant and equipment and the calibration of equipment used to measure the concentration of fluoride in water. This section applies to all fluoridation plants.

Performance criteria	Minimum standards
P 5.5.1. <ul style="list-style-type: none"> The analytical equipment in the fluoridation plant should be calibrated on a programmed basis. 	MS 5.5.1. <ul style="list-style-type: none"> All operational staff at a fluoridation plant should follow an SOP when calibrating equipment and analysing fluoride samples. All operational staff should be training and competent in following SOPs in calibration and fluoride analysis. Standards used for calibration should be the same temperature as the fluoride sample being analyses.

Guidance notes for MS 5.5.1.

- The use of Standard Operating Procedures (SOPs) is a clear outcome of integrating quality management principles into routine duties. The use of pictures in SOPs can be useful and effective.
- Significant errors can occur in fluoride measurements when calibration standards are at a different temperature to that of the treated water sample. This can be solved by either keeping the calibration standards at room temperature and waiting for the treated water sample to come to room temperature before analysis, or keeping the calibration standards in a water bath using a continuously running treated water sample, in which case the analysis is done immediately. The potential impact of this issue is greatest where the diurnal temperature range is large and the laboratory area is not air-conditioned. The error can be as large as 2% per degree of temperature difference.

Performance criteria	Minimum standards
P 5.5.2. <ul style="list-style-type: none"> Equipment in the fluoridation plant should be properly maintained. 	MS 5.5.2. <ul style="list-style-type: none"> The water supplier should carry out frequent inspections to assess equipment condition. The water supplier should ensure that the fluoridation plant and associated equipment is adequately maintained to achieve reliable operation. All staff at a fluoridation plant should be trained and competent in following SOPs for equipment maintenance and servicing.

5.6 Operator qualification and training

The section provides information on the training requirements for fluoridation plant operators.

Performance criteria	Minimum Standard
<p>P 5.6.1.</p> <ul style="list-style-type: none"> The fluoridation plant operators are competent to operate a fluoridation plant in a manner that ensures their safety, that of others, and the environment. 	<p>MS 5.6.1.</p> <ul style="list-style-type: none"> Operators of the fluoridation plant must have a relevant nationally recognised unit of competency through a Registered Training Organization. The water supplier must ensure that it has a sufficient number of qualified people available to operate the fluoridation plant. A minimum of two people should be qualified. Only qualified operators, or operators in training in the presence of a qualified operator, must operate the fluoridation plant and equipment.

Guidance notes for MS 5.6.1.

- The number of qualified people required will depend on the particular staffing arrangements used by a water supplier (e.g. single operator, team based). As a minimum, two qualified operators are required to ensure periods of sickness, annual leave, weekends and other issues such as training and meetings are covered. It is also recommended that the fluoridation plant operator's supervisor (or other appropriate manager) obtain the operator's qualification in order to provide a detailed awareness of requirements under the Fluoridation Act within the management structure of the water supplier (as well as providing operational support in an emergency).
- The nationally recognised unit of competency is NWP276 – Monitor, operate and report on fluoridation systems. The unit of competency should be from the Water Training Package NWP07 or equivalent.

6. Records and reporting requirements

6.1. Records

The records in this section must be kept by all fluoridation plants and/or reticulation system managers. Requirements that apply to the fluoridation plant and the reticulation system are listed separately for the benefit of those entities that do not manage both. If your entity is responsible for both the fluoridation plant and the reticulation system then both requirements apply to you. These records are not the reporting requirements however, they may be audited. This information should be recorded electronically or in hard copy for auditing purposes.

Performance criteria	Minimum standards
<p>P 6.1.1.</p> <ul style="list-style-type: none"> Records must be kept to show that the fluoride concentration in treated water at the fluoridation plant complies with the Water Fluoridation Regulation. 	<p>MS 6.1.1. A</p> <ul style="list-style-type: none"> The fluoridation plant operator must record the daily: <ul style="list-style-type: none"> Volume of water fluoridated Calculated fluoride concentration of treated water The measured fluoride concentration in the treated water The measured concentration of the daily quality control sample. Where on-line fluoride analysers are used, the fluoridation plant operator should record the average fluoride concentration over the day. If fluoride is analysed at the treatment plant then the water supplier must record the monthly: <ul style="list-style-type: none"> Fluoride concentration in the monthly quality control sample analysed at the treatment plant as in 5.4.1 The fluoride concentration in the monthly quality control sample analysed externally as in MS 5.4.1. Records should also be kept of the following <ul style="list-style-type: none"> Results from the chemical analysis of fluoridating chemicals Results from analysis of fluoride concentration in raw water Maintenance and calibration records of plant and equipment. All other fluoride results from NATA registered laboratories must be recorded, maintained and be available for auditing.

Performance criteria	Minimum standards
P 6.1.2. <ul style="list-style-type: none"> Records must be kept to show that the fluoride concentration in treated water in the reticulation system complies with the Water Fluoridation Regulation. 	MS 6.1.2. <ul style="list-style-type: none"> The reticulation system manager must record weekly: <ul style="list-style-type: none"> Measured fluoride concentration from samples taken from two or more well-separated locations in the reticulation system.

6.2. Reporting requirements

The Water Fluoridation Regulation requires that water suppliers must report to the Chief Executive. In order to simplify reporting requirements the Office of the Water Supply Regulator (QWSR) has agreed to receive fluoridated water quality results for water supplier and forward them to the Chief Executive. Therefore by reporting fluoridated water quality results to OWSR, water suppliers are complying with their obligations under the Water Fluoridation Regulation. This section is divided into the reporting requirements for the fluoridation plant and the reporting requirements for the reticulation system.

Performance criteria	Minimum standards
P 6.2.1. <ul style="list-style-type: none"> Reports show compliance of the fluoridation plant with the Water Fluoridation Regulation. 	MS 6.2.1. A <ul style="list-style-type: none"> The fluoridation plant operator must report to OWSR quarterly with the following for the preceding three months: <ul style="list-style-type: none"> Quarterly average measured fluoride concentration in the treated water Maximum and minimum measured fluoride concentration in the treated water The number of samples taken for the reporting period Exceedances of the 1.5 mg/L Public Health Regulation fluoride standard.

Performance criteria	Minimum standards
P 6.2.2. <ul style="list-style-type: none"> Reports are generated to show compliance of the reticulation system with the Water Fluoridation Regulation. 	MS 6.2.1. A <ul style="list-style-type: none"> The reticulation system manager must report to OWSR quarterly with the following for the preceding three months: <ul style="list-style-type: none"> Quarterly average measured fluoride concentration in samples taken from two or more well-separated locations in the reticulation system Maximum and minimum fluoride concentration in samples taken from two or more well-separated locations in the reticulation system

6.3. Auditing

Queensland Health may audit the operation of fluoridation plants periodically.

Performance criteria	Minimum standards
P 6.4.1. <ul style="list-style-type: none">• Appropriate records documenting the fluoridation plant performance are maintained and accessible.	MS 6.4.1 <ul style="list-style-type: none">• Records documenting compliance with the Water Fluoridation Regulation must be available to auditors and authorized persons under the Water Fluoridation Act.• Water suppliers must keep analytical records for a minimum of 2 years.

Guidance notes for MS 6.4.1

- Care needs to be taken to ensure electronic records are reliably backed up, and paper records are kept in an appropriate environment that will minimise deterioration. In applying quality management principles, it is important that records are traceable to the date they were created and to those who generated the records.
- Independent audits may be carried out from periodically.

7. Workplace health and safety

The workplace health and safety website has a lot of useful information and the Codes mentioned in this section at www.deir.qld.gov.au/workplace/. This section applies to all fluoridation plants.

Performance criteria	Minimum standards
P 7.1.1 <ul style="list-style-type: none"> The water supplier must provide a safe working environment and safe working practices for both plant operators and untrained staff or visitors. 	MS 7.1.1. A <ul style="list-style-type: none"> All structures and installations should be designed and built to comply with the legislative requirements previously identified in P 1.1.1 Pipes, conduits and ducts must be identified as referenced in AS 1345 Safety obligations must be met under the <i>Workplace Health and Safety Act 1995 (WHS Act)</i> and the <i>Dangerous Goods Safety Management Act 2001 (DGSM Act)</i>.

Guidance notes for MS 7.1.1.

- The Acts and Regulations identified in this document will impact all aspects of the fluoridation plant, including design, operational and maintenance procedures, training, auditing, and record keeping. Water suppliers need to regularly review the requirements of these Acts and Regulations to ensure compliance. In the area of safety, and the handling and storage of dangerous goods, these Acts and Regulations will have precedence over the Fluoridation Act, Regulation and Code of Practice. If clarification is required in these areas Workplace Health and Safety Queensland can provide the defining interpretation.
- All safety aspects of the design, commissioning, operation, testing, maintenance, repair and decommissioning should be anticipated and planned at the design stage. This enables control mechanisms to be incorporated into the design. The costs of control measures may well be lower if incorporated into a safe design rather than by adapting inappropriately designed plant or premises. The water supplier should carry out and document site specific hazard identification and risk assessment process and document a safety management system covering all aspects associated with the design and operation of the fluoridation plant. Where hazards are identified, appropriate control measures (based on the hierarchy of controls) should be implemented to minimise the associated risks. Based on the hierarchy of controls, hazards should be eliminated wherever possible, followed by use of engineering controls to minimise and control the associated risks. Fluoridation plant designers should only rely on personal protective equipment as a risk control measure as a last resort.
- Where feasible the involvement of a range of people in the risk assessment process (e.g. plant operators, managers and technical experts etc) may provide an improved end result over that achieved by one person. Hazard identification and the subsequent risk assessments should be done as part of the design and commissioning processes for new plants. The risk assessments for the fluoridation plant and the effectiveness of implemented control measures should be reviewed on a regular basis.
- The water supplier is required to assess what control measures it should employ to

manage occupational and safety risks associated with the operation and maintenance of the fluoridation systems. Safety obligations require that risk assessments be conducted to assess the risk to people, property, and the environment and to control the associated risks. This is where the MSDS is essential as it will assist in the identification of the substance, outline the routes of entry and the toxic effects expected from excessive exposure, and detail the safe storage and handling procedures required.

- The safety obligations applicable under the DGSM Act are determined by the quantity of dangerous goods at the facility. Every facility holding dangerous goods has obligations under the DGSM. Many fluoridation facilities will be either a dangerous goods location or a large dangerous goods location. The site classification under the DGSM Act for a water treatment facility is calculated using ALL the dangerous goods at the facility or location. Bearing this in mind, the site classification based on the fluoridation chemicals alone is as follows-

Dangerous Goods Location-

- Quantity of Fluorosilicic acid (Class 8, Packing Group II) exceeding 250 Litres.
- Quantity of Sodium Fluoride or Disodium hexafluorosilicate (Class 6.1, Packing Group III) exceeding 1000 kilograms.

For larger quantities, a Large Dangerous Goods Location-

- Quantity of Fluorosilicic acid (Class 8, Packing Group II) exceeding 2500 Litres.
- Quantity of Sodium Fluoride or Disodium hexafluorosilicate (Class 6.1, Packing Group III) exceeding 10, 000 kilograms.

- Once the site classification is determined using the inventory of dangerous goods for the site, the safety obligations that apply under the DGSM Act can be determined. All facilities are required to have developed, implemented and maintained a safety management system for the facility. Additionally, large dangerous goods locations are required to establish maintain and document emergency plans and procedures for a Hazardous Materials emergency; have a manifest for emergency services; and notify the Department of Emergency Services of their location and quantities of dangerous goods.
- Although this Code of Practice relates primarily to fluoridation chemicals, the safety management system must also be applied to the storage and handling of ALL hazardous materials. Issues that need to be addressed in the safety management system will include:
 - Documenting the hazard identification and risk assessments for all aspects of the storage and handling (e.g. product delivery, operation, maintenance, and emergency response). For example, special controls may be required while maintenance work is being carried out (e.g. isolation of the storage tank, draining or release of pressure in dosing pumps and lines, mechanical and electrical isolation, use of personal protective equipment, not working alone, etc). The degree of control required may also reflect the knowledge and training of the maintenance staff (e.g. are they experienced internal staff, under long term maintenance contracts, or "one off" contractor who has never previously been to the plant etc). The water supplier should ensure standard operating procedures include all relevant safety requirements.
 - The safe commissioning, operation, testing, maintenance, repair, and decommissioning of associated storage and handling systems including items such as drums, bags, tanks, pipe work, control systems, bunds, and fire protection systems.

- Provision of information including MSDS and registers that are readily accessible by operators and other workers.
- Labelling of all containers.
- Controlling worker exposure to ensure the atmosphere in any area where the fluoridating agent is stored or used is acceptable for staff to work in. For dry fluoridating agents the fluoride dust concentration should not exceed the recommended exposure limit specified by the Workplace Health and Safety Legislation. The current recommended exposure limit is 2.5 mg/m³. This requirement will generally require dust extraction for both the fluoridation plant room and any powder bag loader in order to comply (typically two separate units). If there is concern about the air quality air sampling and analysis can be performed. For fluorosilicic acid plants exhaust fans should be used to ventilate the fluoridation plant room. This will not only benefit the air quality for staff but should also reduce corrosion rates due to the acidic fumes. Workers should be supplied with appropriate and maintained personal protective equipment, and trained in its use. PPE may include:
 - elbow length impervious rubber or plastic gloves;
 - long sleeve shirt, trousers, and full length impervious rubber or plastic apron, or disposable full suit system;
 - impervious rubber or plastic boots;
 - for plants using dry fluoridating agents, a full face mask with type P3 respiratory filters (as per AS/NZS 1715 1994);
 - for fluorosilicic acid, where there is a risk of exposure to acid fume, a full face respirator fitted with an acid gas filter;
 - for plants using fluorosilicic acid, a full face shield or splash proof safety goggles;
- Emergency eyewash/showers and adequate routine washing facilities should be available where ever fluoridating agents are stored and handled.
- Prevention of unauthorised access.
- Provision of induction, supervision, education and training regarding hazards and safe work procedures.
- Provision of appropriate spills cleanup materials and equipment.
- Safety signage and warning placards for the facility and storage areas. Outer warning placards and information placards for tanks and package stores are required under the *Dangerous Goods Regulation 2001*. For guidance on warning placards refer to Appendix 2. Provision of additional safety information via warning signs and other safety signs maybe required under the *Workplace Health and Safety Regulation 1997*.
- Processes to ensuring stability of fluoridation chemicals and prevent interaction with incompatible materials.
- Emergency plans and procedures.
- Processes for accident investigation and review of risk assessments
- Regarding obligations under the WHS Act for controlling worker exposure to hazardous substances, it can usually be determined whether significant exposure is likely using MSDS information, coupled with observation of the worker's practices. Where such an assessment is difficult, such as where there is airborne contamination (dust, mist, gas, fume or vapour), specialised monitoring of the work environment by an occupational hygienist should be considered.

- Regarding obligations under the WHS Act for ways to prevent or minimise exposure to risk factors such as bag handling, that can contribute to or aggravate work related musculoskeletal disorders, the Manual Tasks Code of Practice should be referred to.

- Records of risk assessments should be comprehensive and should be retained. The risk assessment should include a conclusion statement about whether the risk to health is significant or insignificant for a hazardous substance. This is important because if the risk is significant then air monitoring and/or health surveillance may be required. Health surveillance for fluoride compounds is not mandatory. A decision as to whether health surveillance is required should be based upon the findings of the risk assessment. Health surveillance for workers should be considered in following circumstances:
 - If the risk assessment concludes that the risk is significant and not effectively controlled;
 - If the airborne concentration of the fluoride compound is likely to be greater than 50% of the exposure standard;
 - If a worker is exhibiting a health symptom that could be related to fluoride exposure.
- When establishing a health surveillance program, the employer (or self employed person) should arrange for health surveillance to be undertaken by a designated doctor. Specialists in occupational medicine are designated doctors for all hazardous substances, including fluoride compounds. Other medical practitioners need to make application to the Chief Medical Officer of Workplace Health and Safety Queensland (GPO Box 69 Brisbane 4001), or phone 07 32479482, to obtain the necessary health surveillance information material to assist them to carry out the fluoride health surveillance.
- A number of documents including codes of practice, guidelines and Australian Standards are available to assist with complying with the legislative requirements for operator safety and are identified below. Documents referenced in this Code of Practice are periodically updated to incorporate the latest health and safety knowledge and experience. When applying the provisions and specifications from a referenced document such as an Australian Standard, the latest edition should always be followed to ensure that the latest health and safety requirements are incorporated. When a later edition is subsequently published with updated provisions, a workplace that complied with an earlier edition may no longer comply. The implications for the workplace should be assessed by carrying out a risk assessment to determine whether the current control measures are still satisfactory or upgrading is required.

Relevant Codes of Practice/Guidelines include:

- Plant Code of Practice (DEIR 2005)
- Code of Practice for Electrical Work (DEIR 2002)
- Hazardous Substances Code of Practice (DEIR 2003)
- Manual Tasks Code of Practice (DEIR 2000)
- Risk Management Code of Practice (DEIR 2007)
- Safe Storage and Handling of Dangerous Goods: Guidelines for Industry (DES 2002)

Relevant Australian Standards

Numerous Australian Standards have been published to address a range of issues

associated with operator safety and storage and handling requirements for hazardous substances and dangerous goods that includes the fluoridation chemicals. Of particular note are the following:

- AS3780 The storage and handling of corrosive substances (relevant to hydrofluorosilicic acid)
- AS4452 The storage and handling of toxic substances (relevant to powdered fluoridation chemicals)
- AS1319 Safety signs for the occupational environment
- AS/NZS 4360 Risk Management
- AS/NZS 4801 Occupational health and safety management systems- Specification with guidance for use.
- AS/NZS 1715 Selection, use and maintenance of respiratory protective devices

8. Environmental safety

The environmental safety requirements apply to all fluoridation plants. The EPA should be contacted on 1300 130 372 to provide advice on any fluorosilicic acid spill or other environmental query.

Performance criteria	Minimum standards
P 8.1.1. <ul style="list-style-type: none"> The environment is protected from harm from the fluoridation plant. 	MS 8.1.1. <ul style="list-style-type: none"> The water supplier must comply with the Environmental Protection Act 1994 and associated regulation, policies and approvals. The plant design must also take into consideration the fluoridating agent transport and unloading risks, which can be substantial. Spill containment at the unloading area must be incorporated into the design. Fluoridating agents must be stored and handled in accordance with the Dangerous Goods Safety Management Act 2001 and relevant Australian Standards. The storage area may be a designated part of the fluoridation room. Any spills of fluoridating agent should be carefully managed: <ul style="list-style-type: none"> Any spilt fluoridating agent should be hosed off the floor and not removed by dry sweeping. Removal by vacuum cleaner is permissible only if the cleaner is fitted with a HEPA filter; Safety procedures detailed in the MSDS should be followed when a large spill of fluoridating agent occurs. Wherever possible, fluoridating agent containers should be returned to the manufacturer for disposal. In circumstances where this cannot be arranged, the water supplier needs to discuss disposal with EPA.

Guidance notes for 8.1.1.

- In the area of protection of the environment these Acts and Regulations will have precedence over the Fluoridation Act, Regulation and Code of Practice. Under the Environmental Protection Act 1994 a Municipal Water Treatment Plant may be a Level 2 Environmentally Relevant Activity, and as such this activity must not be carried out without an approval issued under the Act. This approval would normally be issued subject to conditions. In addition, the operator also has a general environmental duty under the Act not to carry out any activity that causes or is likely to cause environmental harm unless the person takes all reasonable and practicable measures

to prevent or minimise the harm. If clarification of Environmental Protection Act requirements is necessary in these areas then the Queensland Environment Protection Agency should be consulted.

- The DGSM Act is also relevant here due to its objective of protecting people, property and the environment from harm as a result of storing and handling dangerous goods. In particular, the DGSM legislation stipulates the need to control and clean up spills, respond to a hazardous material emergency, and have available appropriate fire protection. On this basis no other minimum standards are stated under this section. The issues and control measures discussed are presented under the following dot points:
 - The process of conducting hazard identification and risk assessments covering all aspects associated with the design and operation of the fluoridation plant should address environmental protection considerations to ensure appropriate control measures to protect the environment are implemented.
 - The water supplier should ensure the fluoridation plant and equipment is designed and operated to both minimise the risk of fluoridating agent spills or leaks and to contain any spills or leaks should they occur. The fluoridating agent should be stored in a designated storage area separate from other chemicals to ensure product stability and prevent interaction with incompatible materials. In designing the fluoridation plant, the inclusion of all elements containing concentrated fluoridating agent handling (including the feeding equipment) in the storage bund area may be an effective way of reducing environmental risks. Where powdered fluoridating agents are used then both the bag loading equipment and the fluoride plant building atmospheres should be contained and filtered. If powder is spilt then it should be removed either by hosing down, or by vacuuming rather than by sweeping.
 - The water supplier should prepare, document and implement an environmental waste disposal plan for fluoridating agent spills and leaks, contaminated fluoridating agent and fluoridating agent containers. The option for disposal of fluoridating agent containers varies from returning them to the supplier, engagement of a waste disposal contractor to disposal in the local waste landfill (if permitted under relevant approval from the EPA). Concentrated fluoride powder is poisonous to wildlife and thus care should be taken with some disposal options. The plan should follow the waste fluoridating agent and containers to their final disposal irrespective of whether private waste disposal contractors are employed or not. Where appropriate, an emergency response plan should also be developed.

9. Plant security

Performance criteria	Minimum standards
P 9.1.1 <ul style="list-style-type: none"> Visitors to the fluoridation plant should be supervised and given the appropriate instruction. 	MS 9.1.1. <ul style="list-style-type: none"> The water supplier should ensure that visits by any personnel to the fluoridation room are authorised and a qualified operator accompanies visiting personnel on entering. Once visitors have entered the fluoridation room, the presence of the qualified operator may be exempted if a qualified operator is satisfied that: <ul style="list-style-type: none"> The personnel have been adequately instructed and will not be in contact with the fluoridating agent or any part of the fluoridation equipment; or The personnel have been given appropriate instruction and provided with the appropriate personal protective equipment if contact with fluoridating agent is likely when maintaining specific items of the fluoridating equipment.

Guidance notes for MS 9.1.1.

- Entry to the fluoridation plant by untrained persons (staff and public) needs to be controlled both for protection of the process (and for their own safety). In particular the carrying out of maintenance work needs to be carefully controlled to prevent impacts on the fluoridation process. The responsibility lies directly with the water supplier and plant operator(s) to ensure maintenance staff do not impact or put themselves, the fluoridation process, or the environment at risk. Best practice would involve the use of some form of work permit system that includes a systematic risk assessment of the potential impact on the fluoridation process from the work being done.
- The operator and the maintenance staff should assess the risks together and agree on any special controls required while the work is being carried out (e.g. work carried out while water flow is off, maintenance staff will not switch dosing equipment on or off for testing without the knowledge of the operator etc). The degree of control required (e.g. Whether maintenance staff are left unsupervised or not) will depend on the knowledge and training of the maintenance staff (e.g. Are they experienced internal staff, under long term maintenance contracts, or "one off" contractor who have never previously been to the plant etc). Irrespective of what control measures are put in place however, maintenance staff must not be allowed to operate the fluoridation plant.

Performance criteria	Minimum standards
9.1.2. <ul style="list-style-type: none">Fluoridation plant design should minimize the risk of accidental damage or wilful damage.	MS 9.1.2. <ul style="list-style-type: none">Fluoridation plant should be a solid lockable construction.The fluoridation plant should be kept locked when unattended to prevent unauthorised entry.

Guidance notes for MS 9.1.2.

- The fluoridation plant (plant room/building, fluoridating agent storage areas, dosing lines etc) should be of sufficiently solid construction to minimise the risk of damage to equipment due to vandalism. The plant design should minimise the risk of accidental damage to equipment such as dosing lines, valves etc. where feasible.

10. Glossary

Calculated fluoride concentration

The calculated fluoride concentration is the concentration of fluoride calculated using the following:

- the amount (kg) of fluoride ion added to water calculated using the loss of volume from a tank (day tank or otherwise) or loss of weight from a tank (day tank or otherwise),
- volume of water treated
- fluoride concentration in the raw water.

Chief executive

Chief Executive means the Chief Executive of Queensland Health.

Daily quality control sample

The daily quality control sample is a sample of known fluoride concentration that is analysed along side the routine treated water sample in the treatment plant laboratory. This sample is of known concentration and is intended to alert the operator of any analytical problems.

Dangerous goods

Dangerous goods are defined under the Australian Code for the Transport of Dangerous Goods by Road and Rail and are classified on the basis of immediate physical or chemical effects, such as fire, explosion, corrosion and poisoning, affecting people, property, or the environment.

Externally analysed fluoride concentration

Fluoride sample analysed at a laboratory not at the treatment plant site. This laboratory must be NATA accredited for fluoride analysis.

Fluoridating agent

A fluoridation agent is a substance that is added to drinking water to achieve fluoridation. Fluoridating agents include the dry (or powder) fluoridating agents Sodium Fluorosilicate (Na_2SiF_6) and Sodium Fluoride (NaF) as well as "liquid fluoride" or "fluoride acid" Fluorosilicic Acid (H_2SiF_6).

Fluoridation

Fluoridation is the addition of fluoride to drinking water for the purpose of oral health benefit. Fluoridation involves the controlled addition of a fluoridating agent to a public water supply to increase the fluoride to a level that effectively prevents tooth decay.

Fluoridation plant

The building and equipment involved in the fluoridation of drinking water, including chemical storage areas, dosing and control equipment, safety equipment and any other fixtures used for, or associated with, the purpose of fluoridation.

Fluoride value

The fluoride value is the value in the Water Fluoridation Regulation, Schedule B, column 4.

Guidance notes

Guidance notes include explanatory notes for the minimum standard requirements. They may include suggestions for meeting the minimum standard

or may just provide additional information. Also included in the guide notes are information on meeting the requirements of other legislation, such as the Dangerous Goods Regulations and the Workplace Health and Safety regulation. The guide notes are not legislative requirements under the Fluoridation Regulation.

Hazardous substances

Hazardous substances are classified on the basis of health effects (whether they are immediate or long-term). Materials are classified as hazardous substances if they meet the classification rules in the Approved Criteria for Classifying Hazardous Substances and/or if their name appears in the publication titled "List of Hazardous Substances" and are found above the stated cut-off concentrations in that publication.

Interlocked

An interlocked system is interconnected in such a way that the failure of any one part of the fluoride dosing system results in the shutdown of the entire fluoride dosing system.

Local government zone

The local government zone is the zone applicable to the local government in the Water Fluoridation Regulation, schedule 2.

Locally analysed fluoride concentration

Fluoride sample analysed at the laboratory on-site at the fluoridation plant.

Minimum standard

Minimum standards are the minimum requirements considered necessary to achieve the performance criteria and best practice in water fluoridation. Achievement of the minimum standard in this Code of Practice is only a legislative requirement under the Water Fluoridation Act and Regulation if the word 'must' is used (See section v) Terminology at the beginning of the document).

Monthly quality control sample

The monthly quality control sample is a sample that is taken from the fluoridated treated water or the reticulation system and split into two portions. One portion is analysed in the treatment plant using the fluoride method routinely used at the treatment plant and the other portion is sent away to a laboratory that is NATA registered for fluoride analysis.

PLC

Programmable Logic Controller

Prescribed fluoride concentration

The prescribed fluoride concentration is specified in the Water Fluoridation Regulation, Section 6 (2) as follows: local government zone 1 – 0.6 mg/L, local government zone 2 – 0.7 mg/L and local government zone 3 – 0.8 mg/L.

SCADA

Supervisory Control and Data Acquisition

SPADNS method

A spectrophotometric method for determining fluoride concentration in water.

Water Fluoridation Act

Water Fluoridation Act means the *Queensland Water Fluoridation Act 2008*.

Water Fluoridation Regulation

Water Fluoridation Regulation means the Queensland Water Fluoridation Regulation 2008.

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11. Appendices

Appendix 1 - Fluoride chemical quality

Table 1

In the absence of relevant Australian Standards, these specifications are based on the American Water Works Association standards.

Table 1: Fluoride Chemical Quality

	NaF	H₂SiF₆	Na₂SiF₆
Product purity, % by weight	min 97 (dry basis)	20-30	min 98 (dry basis)
Moisture, % by weight	max 0.5		max 0.5
Insoluble matter, % by weight	max 0.6		max 0.5
Heavy metals, expressed as lead, % by weight*	max 0.04	max 0.02	max 0.05
Hydrogen fluoride (HF), % by weight		max 1.0	

* These levels ensure that at the appropriate dose of the fluoride chemical, which adds 1 mg/L of fluoride ion to the water, the maximum concentration of metals added to the water will be of the order of 1 µg/L expressed as lead. This is one order of magnitude less than the Australian drinking water guideline value for lead of 10 µg/L. The analysis for heavy metals is based on reduction with hydrogen sulphide at a pH 3-4 and colour comparison with a lead standard treated in a similar manner.

Appendix 2 - Warning Placards

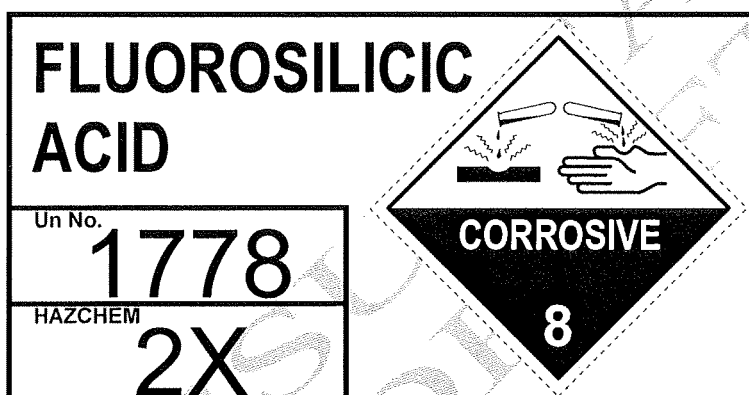
Placards provide visual warning of the hazards associated with dangerous goods present at the premises and are a requirement under the *Dangerous Goods Safety Management Regulation 2001*. The form and dimensions of the placards are specified in Schedule 3 of the *DGSM Regulation 2001*. Dangerous Goods Locations (DGLs) and Large DGLs must be display an Outer Warning Placard at all entrances to the facility as shown below.

HAZCHEM

In addition to the outer warning placard for the facility, placards are required at the individual chemical storage areas whether they are a tank,¹ or a storage area or enclosure for packages² in quantities exceeding the placarding threshold.

Placards for dangerous goods in tanks

Placards for storage of dangerous goods in tanks are essentially the same as the full size Emergency Information Panel (EIP) required by the ADG Code³ for bulk transport, but without the bottom row showing emergency contact details as shown below.



Example of a placard for a storage tank for Fluorosilicic acid.

The example above displays the form identifying the Proper Shipping Name, the dangerous goods class, the UN number and the Hazchem code. This information is obtained from the ADG Code. The placard for bulk storage of dangerous goods must be located on or adjacent to each tank or vessel.

Placards for dangerous goods in packages

Storage and handling areas for packages containing fluoridation chemicals must be placarded with the class label ('diamond') if the quantity in the area exceeds the quantity specified below:

¹ Tank means a container having a capacity greater than 450 L or a net mass greater than 450 kg. Examples are the main storage tank, auxiliary or day tank or intermediate bulk container for Fluorosilicic acid exceeding 450 L, or hoppers and bulk bags of powdered fluoridation chemicals exceeding a net mass of 400 kg.

² Package means a container having a capacity less than that specified for a tank. Examples are a 205 L drum of Fluorosilicic acid or a 25 kg bag of powdered fluoridation chemicals.

³ ADG Code is the Australian Code for the Transport of Dangerous Goods by Road and Rail

- For Hydrofluorosilicic acid in packages such as drums where aggregate amount exceeds 250L, the following class label is required:



- For Sodium fluoride or Disodiumhexafluorosilicate in packages such as 25 kg bags where the aggregate amount exceeds 1000 kg, the following class label is required:



Where the fluoridation chemicals are stored in an indoor area and require a placard, it must be displayed at the main point of entry to the building where the store is located, and either, at every point of entry to the storage room or enclosure, or adjacent to the fluoridation chemicals.

For further information refer to DGSM Regulation 2001 section 50-55 and Schedule 3.