

FTTH Council Asia Pacific Education & Training Committee

Request, Assessment, Endorsement, and
Certification process for FTTH Training
Programmes

Document Control

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Version History:

This table shows a record of significant changes to the document.

Version	Date	Author	Description
Initial	1 June 2013	Michael Hansen	Initial version
V2.0	16 August 2013	Michael Hansen	General updates
V2.1	10 September 2013	Michael Hansen	General updates
V2.2	13 September 2013	Michael Hansen	Updated Section 3.2.1

Document Review

This document will be subject to periodic review. It is the responsibility of the Document Owner to initiate and control the review process.

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1. Introduction

1.1.1. Objectives of Manual

The objective of this manual is to provide detailed processes and related information for:

- Training providers to request FTTH Council APAC endorsement for their FTTH training programmes.
- Assessment of training programmes against specified criteria.
- Approval and endorsement of training programmes.
- Ongoing management of certifications for individuals.
- Re assessment and renewal of certifications for individuals.

1.1.2. Purpose of Processes

FTTH Council APAC Training programme assessment, approval and endorsement:

- Provides independent assessment of FTTH training programmes to confirm their relevance, effectiveness and quality for the target market.
- Provides recommendations and advice to training providers on how their training can be adapted for the Asia Pacific FTTH market.
- Provides FTTH Council APAC approval and endorsement to training programmes that meet assessment criteria. This allows training providers to use the Council logo on training material and course completion certificates.
- Provides the ability to register FTTH technicians in the FTTH Council APAC FTTH technician certification database, and to use the database for reference checking of certifications.

1.1.3. Limitations

The scope of assessment and approval is limited to FTTH training programmes covering service provisioning and fault fixing activities for an individual FTTH customer circuit, from the GPON port in the Central Office or FFP through to the ONT and / or RGW at the end customer's premises.

The scope does not include training programmes for design, build, testing, commissioning, complex fault troubleshooting, or fault fixing activity on communal fibre network infrastructure.

1.1.4. Intended Audience

- FTTH Council Asia Pacific members
 - FTTH training providers.
-

1.2. Background & Related Reference Material

1.2.1. FTTH Council Asia Pacific Education and Training Committee

The Education and Training Committee has the following goals:

- Support the wider goals of the FTTH Council APAC.
- Encourage FTTH training in the Asia Pacific region to improve workforce skills, productivity, and FTTH uptake.
- Support ongoing employability of people working in the industry in the Asia Pacific region by ensuring their FTTH skills and qualifications are consistent and reflect the needs of local telecommunications networks.
- Provide assessment, approval and endorsement of FTTH training programmes.
- Manage a FTTH technician certification database.
- Support local qualifications frameworks and training providers.
- Develop standardisation of FTTH training across APAC, and Global Council Members (APAC, MENA, Africa, USA, and Europe).

Please refer to the following Council websites for more information:

FTTH Council Asia Pacific:

www.ftthcouncilap.org

FTTH Council Asia Pacific Education and Training Committee:

http://www.ftthcouncilap.org/index.php?option=com_community&view=groups&task=viewgroup&groupid=4&Itemid=55

1.2.2. Related Documents

Although the following documents provide related reference material, they may or may not be referenced directly in this document:

Document Title	Comment
FTTH Council Asia Pacific Education & Training Committee Request, assessment, endorsement, and certification process for FTTH training programmes	This document
FTTH Council Asia Pacific Education & Training Committee Training and standards handbook	Available to Council members at: http://ftthcouncilap.org/index.php?option=com_mygroupdocuments&group=4
FTTH Council Asia Pacific Education & Training Committee On-line database user guide	In development

1.3. Glossary of Terms Used

The following list describes some of the terms used in this document:

Term	Description
ABF	Air Blown Fibre
ABFAT	Air Blown Fibre Access Terminal
E&T	Education & Training
FAT	Fibre Access Terminal
FTTH	Fibre to the Home
FFP	Fibre Flexibility Point
GPON	Gigabit Passive Optical Networking
H-ONT	Home Optical Network Terminal
ITU	International Telecommunications Union
NQA	National Qualifications Authority
OFDF	Optical Fibre Distribution Frame
RGW	Residential Gateway
T&M	Test and Measurement
xPON	x Passive Optical Networking

2. Processes

2.1. Process Flow

2.1.1. Process Flow

1	Request for Assessment and Endorsement	<p>Requestor submits email request for training programme assessment and endorsement to the E&T Committee Chair.</p> <p>Requestor agrees via email to the E&T Chair to fund the Assessor directly for training course attendance and reasonable travel and expenses.</p> <p>E&T Chair acknowledges the request by email.</p> <p>E&T Chair advises The E&T Committee and the General Manager by email.</p> <p>E&T Chair determines if an NDA is required.</p>
2	Submit Training Material	<p>Requestor submits training material to E&T Chair by mail and / or email.</p> <p>Requestor agrees to disclose the information required for the Assessor to complete the assessment detail.</p>
3	Audit Visit and Assessment	<p>Requestor arranges training course travel and attendance details directly with the Assessor.</p> <p>E&T Assessor attends training course and assesses training material based on assessment criteria.</p> <p>E&T Assessor provides their report on training to the E&T Chair and the Requestor, and recommendations for any changes, within two weeks of attending the course. The E&T Chair will provide a copy of the report to the E&T Vice Chair and the General Manager.</p>
4	Approval and Endorsement	<p>E&T Committee and the General Manager approves the Requestor's training programme based on the Assessor's recommendation within four weeks of the Assessor attending the course.</p> <p>Final approval for endorsement provided by Board of Directors within six weeks of the Assessor attending the course.</p> <p>E&T Chair issues Endorsement Letter to Requestor within one-week of approval for endorsement.</p> <p>Requestor must be an FTTH Council Asia Pacific Gold or Platinum Member.</p>

2.2. Request for Assessment and Endorsement

2.2.1. Request for Assessment and Endorsement

- Requestor submits email request for training programme assessment and endorsement to the E&T Committee Chair.
- Requestor agrees via email to the E&T Chair to fund the Assessor directly for training course attendance and reasonable travel and expenses.
- E&T Chair acknowledges the request by email.
- E&T Chair advises The E&T Committee and the General Manager by email.
- E&T Chair determines if an NDA is required.

The request form appears in **Appendix A**.

2.3. Submit Training Material

2.3.1. Submit Training Material

- Requestor submits training material to E&T Chair and the Assessor by mail and / or email. Assessor carries out assessment of training material.
 - Requestor agrees to disclose the information required for the Assessor to complete the assessment detail.
-

2.4. Audit Visit and Assessment

2.4.1. Audit Visit and Assessment

- Requestor arranges training course travel and attendance details directly with the Assessor.
- E&T Assessor attends training course and assesses training material based on assessment criteria.
- E&T Assessor provides their report on training to the E&T Chair and the Requestor, and recommendations for any changes, within two weeks of attending the course. The E&T Chair will provide a copy of the report to the E&T Vice-Chair and the General Manager.

FTTH training programme criteria appears in **Section 3**.

The assessment checklist appears in **Appendix B**.

A list of approved assessors appears in **Appendix F**.

2.5. Approval and Endorsement

2.5.1. Approval and Endorsement

- E&T Committee and the General Manager approves the Requestor's training programme based on the Assessor's recommendation within four weeks of the Assessor attending the course.
- Final approval for endorsement provided by Board of Directors within six weeks of the Assessor attending the course.
- E&T Chair issues Endorsement Letter to Requestor within one-week of final approval for endorsement.
- Requestor must be an FTTH Council Asia Pacific Gold or Platinum Member at the time of final approval for endorsement.

2.6. Certification for Individuals

2.6.1. Certification and Re Certification for Individuals

Individuals who are certified under an endorsed training programme will be recorded in a certification database maintained by the Council.

The database administrator will provide the trainer with an on-line login to the certification database. The trainer must be a FTTH Council Asia Pacific Gold or Platinum Member.

Certification will be valid for three-years from the date of issue. The trainer must re assess the trainee prior to re certification.

A single email reminder will be issued to the trainer and the trainee three months prior to expiry. The record will be removed from the database on expiry if a re certification request is not received.

Database information will be visible on the FTTH Council Asia Pacific website to members for the purpose of reference checking Service Technicians.

2.6.2. Certification Database Request

The training provider will forward details as per the table below to the data base administrator for entry into the certification database.

The database administrator will respond with a certification serial number for the trainee. The serial number should appear on the trainee's course completion certificate along with the FTTH Council APAC logo. Completion certificate template will be provided by the database administrator.

Certification Database Request	
Send to the Database Administrator: xxxxxxx@ftthcouncilap.org (TBC)	
US\$50 per person (To Be Confirmed) administration fee applies for certification and re certification requests	
<i>13 September 2013 Note: certification requests will be managed manually by the current Assessor while the certification database is in development. The FTTH APAC Council reserves the right to limit certification requests to match available administration resources.</i>	
Database Field	Detail
Type	Certification or Re Certification
Trainee: Name, address, email	
Trainee: Date trained	
Trainee: Date assessed / re assessed	
Trainee: Date certified / re certified	
Level of Training	Fundamental, Intermediate, or Advanced (refer to Appendix B for more detail)
Trainer: name, address, and email	
Training Company: name, address, & email	
Approval for Trainee's database information to be visible to all FTTH Council Asia Pacific members for the purpose of	Yes/No

reference checking.	
Approval for Council to contact Trainee and Trainer when re assessment and re certification is due.	Yes/No
Certification Serial Number	Will be provided by the database administrator

3. FTTH Training Programme Criteria

3.1. Training Programme Scope

The scope of fibre to the home training programmes under this process is limited to FTTH training programmes covering service provisioning and fault fixing activities for an individual FTTH customer circuit, from the GPON port in the central office or FFP through to the ONT and / or RGW at the end customer's premises.

The scope does not include training programmes for design, build, testing, commissioning, complex fault troubleshooting, or fault fixing activity on communal fibre network infrastructure.

Training programmes will clearly define the learning outcomes that service technicians need to achieve in order to gain the skills and certification required for carrying out the following activities on an individual FTTH circuit on the national FTTH Network:

- Testing and measurement
- Service provisioning & commissioning
- Service fault troubleshooting and fault fixing
- Business process workflows and records management for FTTH provisioning and fault fixing

These learning outcomes are intended to bring existing service technicians and new trainee service technicians up to the required skill level to support activities for FTTH service provisioning and fault fixing on an individual FTTH customer circuit.

Optical health and safety considerations for the customer and the service technician are a particular area of focus for all training, assessment, and certification activity.

3.2. Alignment to National Training Standards

3.2.1. Compliance to National Qualifications and Standards

It is assumed that FTTH training programmes undertaking this assessment and endorsement process will have:

- Alignment to the training provider's local national training and qualification framework, and any other relevant formal industry training standards.
- Certification that is formally recognised by the training provider's local national training and qualification authorities.
- Alignment to the relevant national training and qualification framework, and any other relevant formal industry training standards of the country in which the course is being run.
- Alignment to the local telecommunications (FTTH) environment, standards, and practices of the country in which the course is being run.
- Alignment to the activities, standards, and practices of the local FTTH network companies and service companies that employ the service technicians undertaking FTTH training and certification.

The assessment process may result in recommendations for alignment.

A list of recommended reference texts by country appears in **Appendix E**.

3.2.2. Service Technician Trade Qualifications

People undertaking FTTH training activity as defined and required for this certification need to have basic knowledge and skills for effectively and safely working on telecommunications networks.

This may be provided by:

- Service technicians holding a relevant national telecommunications trade qualification for their country, or be undertaking a course of study to achieve this.

Or:

- Undertaking additional training relevant to their role to gain the required basic knowledge and skills.

Country	National Qualification Body	National Telecommunications Trade Qualification
Australia	Australian Quality Training Framework (AQTF)	Certificate in Telecommunications
Bangladesh		
Brunei		
Cambodia		
Canada		
China		
Hong Kong	Qualifications Framework	
India		
Indonesia		
Japan		
Korea		
Malaysia	Malaysian Qualifications Framework (MQF)	Malaysian Skills Certificate Level 3 (SKM 3): Electrical & Electronic, Telecommunications & Broadcasting Industry
New Zealand	New Zealand Qualifications Authority (NZQA)	National Certificate in Telecommunications Level 3: Access Network Technologies Core Network Technologies Radio & Wireless Technologies
Philippines		
Singapore		
Thailand		
USA		
Vietnam		

Other APAC Countries will be added to this list.

3.3. Training Provider Professional Standards

FTTH training providers seeking assessment and endorsement of their programmes will:

- Be formally recognised as a Telecommunications trainer under their local national qualifications authority.
 - Demonstrate high professional and ethical standards in the delivery of technical training.
-

3.4. Training Programme Standard and Quality

The FTTH training programme under assessment will:

- Broadly cover the range of content listed in Appendix C, as appropriate for the target audience.
 - Conform to a structured training methodology, assessment process, and certification process.
 - Have undergone reasonable independent moderation to ensure it is fit for purpose in the local FTTH environment of the target audience.
 - Be fit for purpose for the target audience and have training material and a trainer that is of a professional standard and sufficient for the needs of the target audience.
 - Have a reasonable mix of theory and practical content.
-

3.5. Compliance to Standards

The FTTH training programme and training company under assessment will:

- Comply with international FTTH standards, and standards relevant to the local environment of the target audience.

A list of industrial FTTH standards appears in **Appendix D**.

3.6. Training Programme Independence

The FTTH training programme under assessment will:

- Not directly or indirectly promote a specific brand or technology, or display any other form of exclusivity.
 - Not directly or indirectly infringe any copyright.
-

3.7. Training Programme Certification

FTTH Council APAC Certification is allocated one of the following three categories:

Fundamental: Learn knowledge and practical skills via lecture and practical demonstration. Apply knowledge and practical skills in a classroom/laboratory environment.

Intermediate: Fundamental plus, practical application and assessment of knowledge and skills in a production (live) network environment.

Advanced: Intermediate plus, practical application of knowledge and skills:

- In a production (live) network environment, and;
 - In a design and job management environment, and;
 - In advanced troubleshooting and fault fixing activities
-

The assessor will recommend which category applies to the training programme under assessment.

Appendix A Assessment and Endorsement Request Form

Assessment and Endorsement Request Form: (example data included)

FTTH Training Programme Assessment and Endorsement Request Form		
Complete this form then sign, scan, and email to: Michael Hansen, Chair of FTTH Council APAC Education and Training Committee <u>Michael.hansen@chorus.co.nz</u>		
Item	Details (example data)	
Training company name	Train Co Ltd	
Training company address	10 Smith St, Kuala Lumpur, Malaysia	
Contact details	Email, telephone, mailing address, contact names	
Training location	Auckland, New Zealand,	
Target audience	NZ Telco Ltd technical staff	
Training level	3 & 5 day FTTH introduction for field service provisioning staff – theory and practical	
List of material provided to FTTH Council APAC for pre course assessment <i>(material supplied will be securely destroyed following assessment)</i>	Training company background information Books or training manuals Other training course material e.g. instructor's video's and notes List of training equipment Sample assessment	
Detail of audit visit for assessor	Location: YMCA hotel conference centre, Auckland, New Zealand Date: 1 st – 8 th September 2020	

FTTH Training Programme Assessment and Endorsement Request Form

Complete this form then sign, scan, and email to:

Michael Hansen, Chair of FTTH Council APAC Education and Training Committee

Michael.hansen@chorus.co.nz

Item	Details (example data)	
Placement on course booked for FTTH Council APAC assessor	Yes	
<p><i>The Requestor agrees to pay time, travel, accommodation, and expenses, as per the Inclusions listed below, for the assessor in advance:</i></p> <p><i>The Assessor will work directly with the Requestor to identify where costs can be minimised e.g. by leveraging video conferencing and teleconferencing facilities, pre assessment of course collateral, and minimising time required for on course attendance.</i></p> <p><i>Time Inclusions:</i> <i>US\$1,000 per travel day and course day for Assessor time.</i></p> <p><i>Travel and Expense Inclusions:</i> <i><10 hour flight is economy class, >10 hour flight is business class.</i> <i>Flights are to be most direct route.</i> <i>Business class accommodation including reasonable in-room Internet costs.</i> <i>Reasonable expenses for airport transfers, taxis to and from course venue, and meals.</i></p> <p><i>General Exclusions:</i> <i>Professional indemnity insurance</i> <i>Personal travel insurance</i> <i>All costs for personal excursions</i> <i>All alcohol</i></p>		Yes / No

FTTH Training Programme Assessment and Endorsement Request Form

Complete this form then sign, scan, and email to:

Michael Hansen, Chair of FTTH Council APAC Education and Training Committee

Michael.hansen@chorus.co.nz

Item	Details (example data)	
<p><i>All optional hotel facilities and services, room service & mini bar.</i></p> <p><i>Requestor will arrange training course travel and attendance details directly with the Assessor.</i></p> <p><i>Requestor will arrange payment in advance for Assessor time, travel and expenses directly with the Assessor.</i></p> <p><i>The Assessor will conduct himself in a manner that reflects his personal and professional integrity, and that is respectful and considerate to the culture and country in which the assessment is being conducted.</i></p>		
<p>I understand and accept the terms and conditions of the Assessment and Endorsement process and approve the FTTH Council APAC to proceed.</p> <p>Requestor Name:</p> <p>Requestor Company:</p> <p>Requestor Signature:</p> <p>Date:</p>		

Appendix B Assessment Checklist

This Assessment Checklist summarises the detail provided in Section 3:

Ref.	Criteria	Details	Status Yes/No	Recommended Changes
3.1	Training programme scope	<p>Training programme clearly defines the learning outcomes that service technicians need to achieve in order to gain the skills and certification required for carrying out the following activities on an individual FTTH circuit on the national FTTH Network:</p> <p>Testing and measurement</p> <p>Service provisioning & commissioning</p> <p>Service fault troubleshooting and fault fixing</p> <p>Business process workflows and records management for FTTH provisioning and fault fixing</p>		
3.2	Alignment to national training standards			
3.2.1	Compliance to national qualifications and standards	<p>The FTTH training programme undertaking this assessment and endorsement process has:</p> <p>Alignment to the training provider's local national training and qualification framework, and any other relevant formal industry training standards.</p> <p>Certification that is formally recognised by the training provider's local national training and qualification authorities.</p> <p>Alignment to the relevant national training and qualification framework, and any other relevant formal industry training standards of the country in which the course is being run.</p> <p>Alignment to the local telecommunications (FTTH) environment, standards, and practices of the country in which the course is being run.</p> <p>Alignment to the activities, standards, and practices of the local FTTH network companies and service companies that employ the service technicians undertaking FTTH training and certification.</p>		

Ref.	Criteria	Details	Status Yes/No	Recommended Changes
3.2.2	Service technician trade qualifications	As a prerequisite for undertaking this FTTH training programme and certification activity, service technicians hold a relevant national telecommunications trade qualification for their country or are undertaking a course of study to achieve this.		
3.3	Training provider professional standards	FTTH training providers seeking assessment and endorsement of their programmes are: Formally recognised as a Telecommunications trainer under their local national qualifications authority. Demonstrate high professional and ethical standards in the delivery of technical training.		
3.4	Training programme standard and quality	The FTTH training programme under assessment: Broadly covers the range of content listed in Appendix C, as appropriate for the target audience. Conforms to a structured training methodology, assessment process, and certification process. Has undergone reasonable independent moderation to ensure it is fit for purpose in the local FTTH environment of the target audience. Is fit for purpose for the target audience and have training material and a trainer that is of a professional standard and sufficient for the needs of the target audience. Has a reasonable mix of theory and practical content.		
3.5	Compliance to standards	The FTTH training programme and training company under assessment: Complies with international FTTH standards, and standards relevant to the local environment of the target audience.		
3.6	Training programme independence	The FTTH training programme under assessment: Does not directly or indirectly promote a specific brand or technology, or display any other form of exclusivity.		

Ref.	Criteria	Details	Status Yes/No	Recommended Changes
		Does not directly or indirectly infringe any copyright.		
3.7	Training programme certification	<p>The FTTH training programme under assessment is recommended to be allocated to the following category:</p> <p>Fundamental: Learn knowledge and practical skills via lecture and practical demonstration. Apply knowledge and practical skills in a classroom/laboratory environment.</p> <p>or</p> <p>Intermediate: Fundamental plus, practical application and assessment of knowledge and skills in a production (live) network environment.</p> <p>or</p> <p>Advanced: Intermediate plus, practical application of knowledge and skills:</p> <p>In a production (live) network environment, and;</p> <p>In a design and job management environment, and;</p> <p>In advanced troubleshooting and fault fixing activities</p>		

Appendix C Recommended FTTH Training Programme Content

Please refer to the document **FTTH Council FTTH Training Programme and Certification for Telecommunications Service Technicians**. This can be viewed at:

http://ftthcouncilap.org/index.php?option=com_mygroupdocuments&group=4

Appendix D Industrial FTTH Standards

This list provides guidance and does not constitute a complete list.

Fibre type

Single mode optical fibre type

- ITU-T G.652 single mode Optical fibre
- ITU-T G.652D single mode optical fibre
- ITU-T G.657 single mode optical fibre

System standard

- ITU-T G.983 B-PON
- ITU-T G.984 G-PON
- ITU-T G.987 and G.988 10G-PON
- IEEE 802.3 EPON

Physical layer standard

- ITU-T G.652
- ITU-T G.657
- ITU-T G.655
- ITU-T G.671 (Advanced Learning Only)

Physical plant standard

- TIA-568
- TIA/EIA-569

Cable and Fiber Termination Options

- IEC 61753-1
 - IEC 61300-3-35
 - IEC 61755-1
 - IEC 61755-3
 - GR-1081
 - Cables & Ducts to have mechanical compliance with IEC 60794-1
 - Patch Cords & Pigtails compliance to GR.326.CORE
-

Appendix E Recommended Reference Texts by Country

This list provides guidance and does not constitute a complete list.

Reference documents listed here are property of the Document Owner.

Reference documents listed here are subject to Copyright by the Document Owner.

Country	Reference Document	Document Owner
Australia		
Bangladesh		
Brunei		
Cambodia		
Canada		
China		
Hong Kong		
India		
Indonesia		
Japan		
Korea		
Malaysia		
New Zealand	Fibre to the Home Training Programme and Certification for Telecommunications Service Technicians	Chorus New Zealand
	ND0275 CNSP Optical Component Performance Criteria	Chorus New Zealand
	ND0563 NGA Provisioning and Assure Task Handbook for Service Technicians	Chorus New Zealand
	Fibre Competency Assessment Tool Document	Chorus New Zealand
Philippines		
Singapore		
Thailand		
USA		
Vietnam		

Other APAC Countries to be added to this list

Appendix F Approved Assessors

Approved assessors may be added or removed at the discretion of the FTTH Council APAC Education and Training Committee and the General Manager.

Assessor	Detail	Contact Details
Etec Limited	<p>Etec New Zealand Ltd is approved by the FTTH Council APAC General Manager and Education and Training Committee to provide the independent audit and assessment of FTTH Training Programmes.</p> <p>Etec professional affiliations:</p> <ul style="list-style-type: none"> ➤ New Zealand Qualifications authority (NZQA) registered and accredited private training establishment ➤ New Zealand Electrical Workers Registration Board (EWRB) approved as a training provider and examination centre ➤ New Zealand Skills Organisation: contracted for delivery of National Programmes ➤ Prometric approved examination centre for internationally recognised IT examinations 	<p>Physical Address: 1/59 Carbine Road, Mt Wellington, Auckland, New Zealand</p> <p>Postal Address: PO Box 51986, Pakuranga, Auckland, New Zealand</p> <p>Managing Director: Gavin Bowden</p> <p>Telephone: +64 9 573 1964 Fax: +64 9 573 1967</p> <p>Email: info@etec.ac.nz</p>