

**Tertiary  
Education  
Commission**

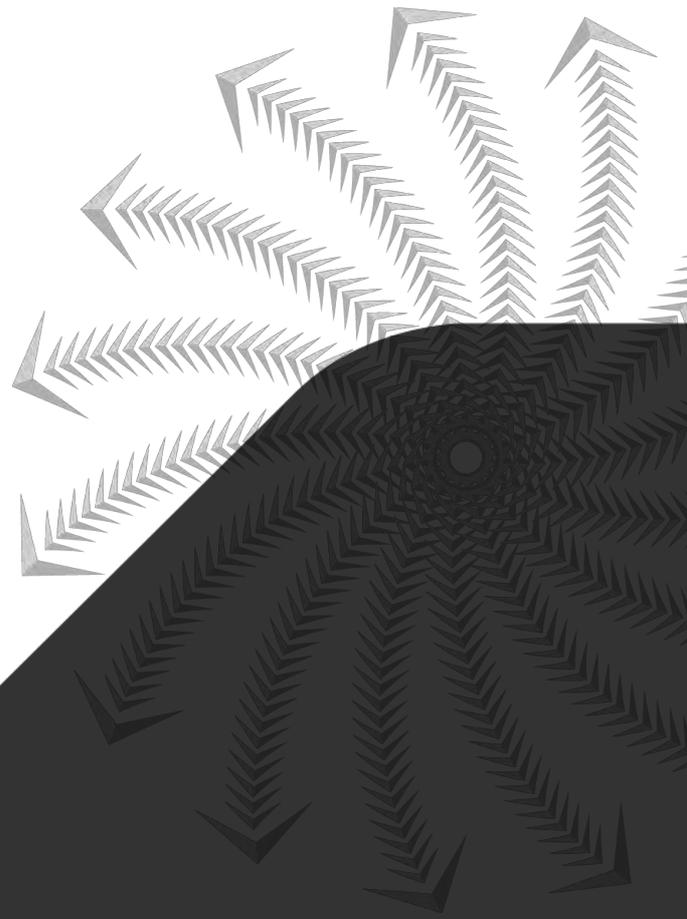
*Te Amorangi  
Mātauranga Matua*



# Performance-Based Research Fund

**2018 Quality Evaluation Guidelines  
Evidence Portfolio Schema Definition**

Updated: January 2018



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Te Amorangi Mātauranga Matua

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Every effort is made to provide accurate and factual content. The TEC, however, cannot accept responsibility for any inadvertent errors or omissions that may occur.



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## Changes August 2017

Change	Reference
1. Title added back to the Learner Name element	Page 12
2. Confirmed that either a URI or location must be provided for the main research object in the NRO element, but not both	Page 24
3. Removed reference to checking the clustering of other research outputs (OROs) by type	Page 31
4. Removed reference to checking the clustering of research contributions by type	Page 33
5. Tertiary education organisation names updated	Appendix A7 Pages 45, 46

## Changes January 2018

Change	Reference
1. Removed instruction that NROs should be grouped by type in an EP	Page 23

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# Introduction

## Document purpose

The Evidence Portfolio Schema Definition contains the proposed structure of an Evidence Portfolio (EP). It reflects decisions made that affect the EP structure.

For the Performance-Based Research Fund (PBRF) 2018 Quality Evaluation, participating tertiary education organisations (TEOs) will be able to submit EPs by either of two methods:

- › Create an electronic file of EPs and upload to the TEC.
- › Use the TEC's PBRF IT System and enter an EP online using web forms.

For those TEOs who wish to submit a file of EPs, this document describes the fields that make up the EP schema for the 2018 Quality Evaluation.

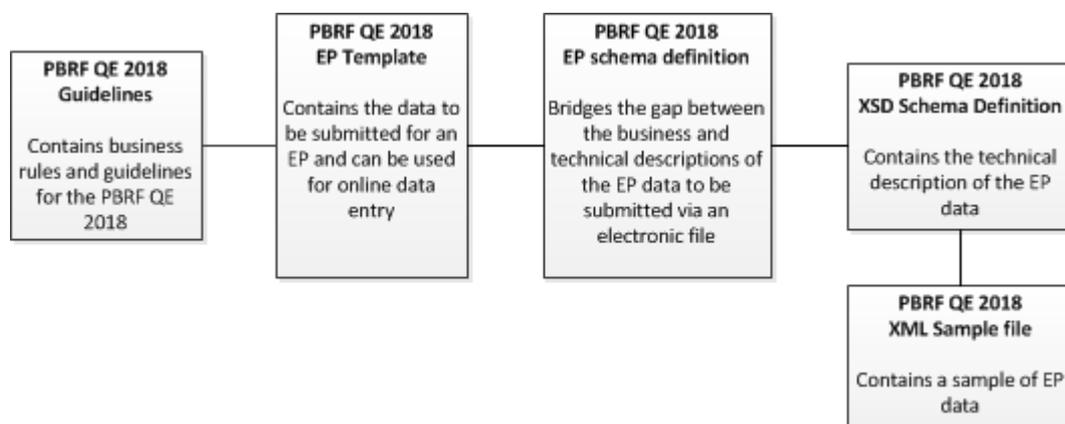
For those TEOs who prefer to enter EPs online using the web forms, the [Evidence Portfolio Template](#) document is provided to assist with the collection of EP data.

The corresponding XSD, a technical schema definition, is provided in a separate file, the XSD Schema Definition File. An XML (Extensible Markup Language) sample file based on this XSD has also been provided. You can find these on the TEO Information site or email [pbrfhelp@tec.govt.nz](mailto:pbrfhelp@tec.govt.nz) for copies.

Wherever possible, validation rules have been built into the XSD. TEOs should be aware that additional validation rules will be applied at the time the XML file is processed. This means that an individual EP could be flagged as failing one or more validation rules, even though it conformed to the XSD. The EP would require correction and re-submission to ensure it is assessed.

This document contains reference to the validation rules that will be built in to the XSD or applied as the XML file is processed.

The relationship between these documents is indicated below.



## Audience

The audience for this document includes:

- › TEO developers involved in the development of systems to supply EP files to the TEC.
- › TEO business users who need to understand the data items to be captured as part of an EP.
- › TEC staff and service providers involved in the update of the technical solution to support the 2018 Quality Evaluation.

While this document has been written with a non-technical audience in mind it does assume a basic understanding of XML schemas.

## Document scope

This document describes the data elements contained within an EP, their meaning, data types and basic validation rules. Detailed business rules and process-related issues are not covered in this document and are described in detail in the [guidelines that govern the 2018 Quality Evaluation](#). Where a business rule described within this document is in conflict with the guidelines then the definition in the guidelines takes precedence.

## Terminology and conventions

As this document describes data to be supplied in an XML format the terminology used is consistent with the XML standard. Some basic terminology and conventions used in this document are:

- › Element – an item of data to be supplied is known as an “element”, e.g. Surname and FirstName are examples of elements.
- › Cardinality – Describes how many instances of an element must be supplied:
  - 0..1 – Optional, can only supply 1 or 0
  - 1 – Mandatory, must supply a single value
  - 0..n<sup>1</sup> – Optional, may supply many instances
  - 1..n – Mandatory, must supply at least one value but could supply multiple
- › Data Types – This document lists the type or format of data required for a given element (e.g. string, integer etc.) and uses XML types to describe this. Where the element contains sub-elements then the data type will be listed as “complex”. Complex elements will have a postfix term called Type.

*Example: EvidencePortfolio**Type** is the same element called EvidencePortfolio.*

## HTML markup

A number of descriptive elements may contain HTML. It should be noted that the XSD file will be unable to validate the number of characters contained in these elements. TEOs should be aware that validation checks for character size will occur at the time the XML is processed and the EPs submitted to the PBRF IT System.

The data elements that can include HTML are:

- › ContextualNarrative (EP Platform of Research Contextual Summary)
- › Title (NRO)
- › OutputSource (NRO)
- › IndividualContribution (NRO)
- › Description (NRO)
- › Description (ORO)
- › Description (RC)

Data elements that can include HTML have been classified as unparsed Character Data (CDATA).

When the XSD is validated, everything inside a CDATA section (which starts with <![CDATA[" and ends with "]]>) is effectively ignored. This means that no “upper limit” is being applied to these data fields within the XSD validation.

---

<sup>1</sup> The schema may specify a maximum number of instances that may be supplied.

When the PBRF IT System validates the EP data, the number of characters in a CDATA section will be counted as the **rendered text** of the section, rather than the actual count of the number of characters. The number of rendered characters is then checked against the maximum allowed for the data element.

*For example, the text*

```
<![CDATA["<div style="font-family:courier;font-size:12px;"><h2 style="color:green;">Some text</h2>
</div>"]]>
```

*contains 91 characters (excluding spaces) but would be rendered as*

*Some text*

*which has only nine characters including the space.*

Owing to the many and varied methods by which HTML can be created and inserted into a EP record (e.g. by cutting and pasting from Microsoft Word in a web-based input system), the PBRF IT System will accept all “valid” markup (such as content that has open and closed tags) except that which might compromise security or layout (see the sample list of blacklisted tags below). The TEC cannot guarantee that font tags, reference system fonts, or that markup will render accurately in a browser. For this reason, if TEOs include HTML in their EP submissions, the responsibility lies with the TEO to view the EP in the PBRF IT System and check that the content is rendering correctly.

TEOs who wish to submit HTML formatted material may wish to conduct a cleanup of HTML in their research repositories prior to submission to minimise any risk of data not rendering correctly.

Please note that special characters can be included in any text element providing the characters are supported by the latest Unicode character set. This means that any requirement for special characters that cannot be met by HTML markup must still be met by providing those characters in Unicode. For the avoidance of doubt, this would not apply to an attached document in PDF format, where the text is rendered other than through a browser.

The following is a non-exhaustive list of tags that if used in an HTML data element, will result in the file being invalid:

- > HTML
- > BODY
- > HEAD
- > script
- > link
- > iframe
- > frameset
- > frame
- > applet
- > object
- > embed
- > a (hyperlinks)
- > img (image tags)
- > attributes – event handlers (onblur, onclick etc.)
- > attribute – style that contains executable expressions

## Evidence Portfolio File Structure Overview

The EP file structure is designed to allow a TEO to submit a collection of EPs.

A TEO can submit multiple EP files over time and is encouraged to do so to avoid any last-minute issues with validation and correction.

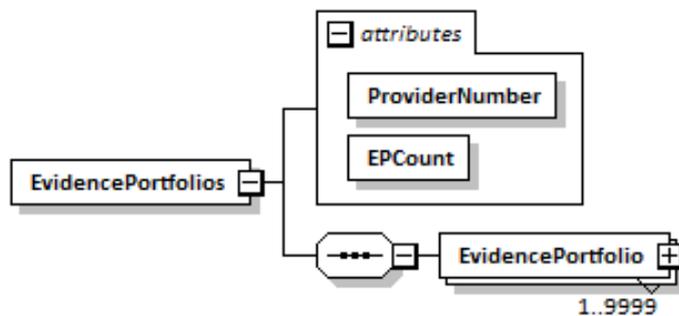
The design of the EP structure and processing assumes that each EP file:

- › contains EPs for a single TEO only
- › must contain at least one EP but may contain many.

If an EP is re-submitted, the new data will replace the data previously submitted.

If an EP has been submitted in error, the TEO will need to tag it as deleted using the online web-based PBRF IT System.

The diagram below summarises the basic structure of an EP file:



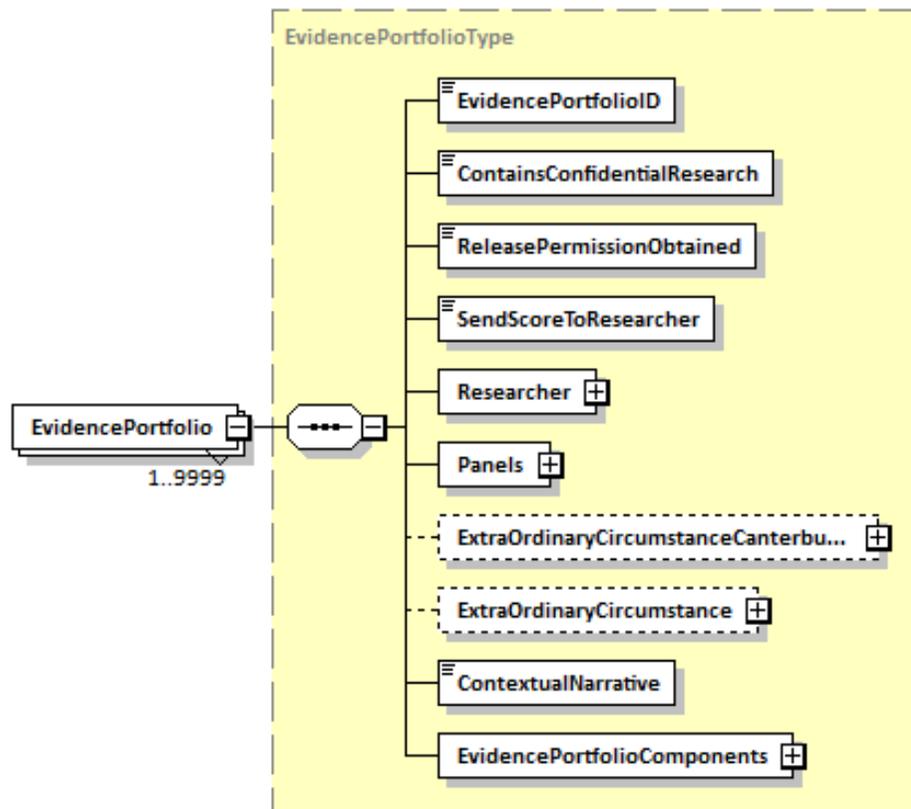
Element Name	Cardinality	Data Type	Description
ProviderNumber	1	xs:int Enumeration	A number that uniquely identifies the TEO submitting the EPs. <b>Validation:</b> Must provide one of the values in <b>Appendix A7</b> .
EPCount	1	xs:int	A count of the number of EPs contained within the file. Used by the TEC as part of the validation processing. <b>Validation:</b> Must provide a number range 1 to 9999.
EvidencePortfolio	1..n	Complex	An EP forms the basis of the Quality Evaluation measure.

## Evidence Portfolio

### Overview

An EP forms the basis of the Quality Evaluation measure. The EvidencePortfolio element is a summary of a researcher's relevant research being submitted for evaluation.

The diagram below lists the main parts of the EvidencePortfolio element.



*Note: Special characters can be included in any text element providing the characters are supported by the latest Unicode character set.*

Element Name	Cardinality	Data Type	Description						
EvidencePortfolioID	1	xs:string MinLen:1 MaxLen:10	<p>A character string that uniquely identifies an EP.</p> <p><b>Validation:</b> Must be unique within the TEO submitting the TEO. This means that a TEO cannot submit two EPs with the same EvidencePortfolioID in the same file. If duplicates are found in an XML file, the whole XML file will be rejected.</p>						
ContainsConfidentialResearch	1	IndicatorType MinLen:1 MaxLen:5	<p>Indicate if Evidence Portfolio Components that were supplied contain any confidential content.</p> <p><b>Validation:</b> Must provide one of the following values (case in-sensitive):</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>True, Yes, Y,T</td> <td>True</td> </tr> <tr> <td>False, No, F,N</td> <td>False</td> </tr> </tbody> </table> <p><b>Note:</b> This element relates to the <a href="#">ConfidentialResearchOutput</a> element.</p> <p>If either of the two circumstances below occur, the whole XML file will be rejected:</p> <ul style="list-style-type: none"> <li>• &lt;ContainsConfidentialResearch&gt; is flagged as true, but no NRO with &lt;ConfidentialResearchOutput&gt; true has been provided.</li> <li>• &lt;ContainsConfidentialResearch&gt; is flagged as false, but at least one NRO with &lt;ConfidentialResearchOutput&gt; true has been provided.</li> </ul>	Value	Description	True, Yes, Y,T	True	False, No, F,N	False
Value	Description								
True, Yes, Y,T	True								
False, No, F,N	False								

Element Name	Cardinality	Data Type	Description						
ReleasePermissionObtained	1	IndicatorType MinLen:1 MaxLen:5	<p>Indicates whether the content owners' permission has been sought prior to submission of the EP.</p> <p>Confidential research outputs (such as outputs not readily available in the public domain) may be listed in an EP if the employing TEO can arrange all necessary permissions and make any other arrangements for members of peer review panels to access those research outputs if required.</p> <p>The TEC will manage these outputs in accordance with the processes set out in the guidelines. All peer review panel members are required to maintain the confidentiality of all material considered as part of the assessment process.</p> <p><b>Validation:</b> Must provide one of the following values (case in-sensitive):</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>True, Yes, T, Y</td> <td>True</td> </tr> <tr> <td>NA, N/A</td> <td>Not Applicable</td> </tr> </tbody> </table>	Value	Description	True, Yes, T, Y	True	NA, N/A	Not Applicable
Value	Description								
True, Yes, T, Y	True								
NA, N/A	Not Applicable								
SendScoreToResearcher	1	IndicatorType MinLen:1 MaxLen:5	<p>This element indicates if the staff member would like to receive their quality category score from their TEO.</p> <p><b>Validation:</b> Must provide one of the following values (case in-sensitive):</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>True, Yes, Y,T</td> <td>True</td> </tr> <tr> <td>False, No, F,N</td> <td>False</td> </tr> </tbody> </table>	Value	Description	True, Yes, Y,T	True	False, No, F,N	False
Value	Description								
True, Yes, Y,T	True								
False, No, F,N	False								
Researcher	1	Complex	<p>This element describes the researcher who has submitted research evidence.</p> <p>See <a href="#">Researcher</a> for more details describing this element.</p>						
Panels	1	Complex	<p>This element provides information about the primary panel requested by the TEO and information to assist Chairs in determining cross-referrals to other panels.</p> <p>See <a href="#">Panels</a> for more details describing this element.</p>						

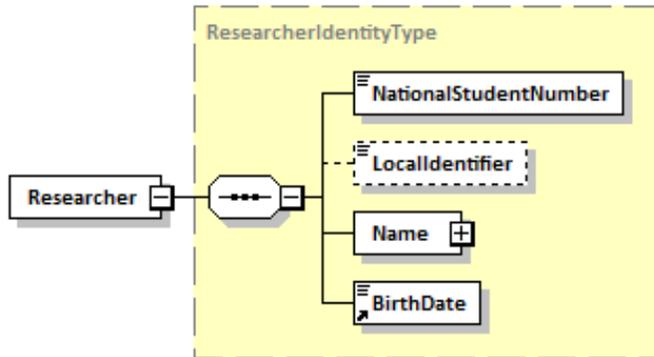
Element Name	Cardinality	Data Type	Description
ExtraOrdinaryCircumstanceCanterburyEarthquakes	0..1	Complex	<p>The Canterbury Extraordinary Circumstances relate to the ongoing earthquake-related issues experienced by staff at the Canterbury-based TEOs.</p> <p>Staff members can claim any or all of the five areas of impact and provide a commentary in relation to the specific nature of the circumstance and the direct impact it has had on the ability of the individual to undertake research and/or research-related activity.</p> <p>See <a href="#">Extraordinary Circumstances</a> for more details describing this element.</p>
ExtraOrdinaryCircumstance	0..1	Complex	<p>The Extraordinary Circumstances relate to the exceptional nature of circumstances that can directly impact the ability of an individual to undertake research and/or research-related activity.</p> <p>Staff members can claim any or all of the three circumstances and provide a commentary in relation to the specific nature of the circumstance and the direct impact it has had on the ability of the individual to undertake research and/or research-related activity.</p> <p>See <a href="#">Extraordinary Circumstances</a> for more details describing this element.</p>

Element Name	Cardinality	Data Type	Description
ContextualNarrative	1	xs:string MinLen:2 MaxLen:2500  Please refer to <a href="#">HTML markup</a>	<p>Any relevant information on the nature, quantity, and quality of research outputs that demonstrates research quality during the assessment period.</p> <p>This data element can include HTML. If it does contain HTML it must be classified as unparsed Character Data (CDATA)</p> <p>e.g.</p> <pre>&lt;ContextualNarrative&gt; &lt;![CDATA[   &lt;div&gt;     &lt;P&gt;Research related &lt;strong&gt;comments&lt;/strong&gt;&lt;/P&gt;   &lt;/div&gt; ]]&gt; &lt;/ContextualNarrative&gt;</pre> <p>This will render as:</p> <p>Research related <b>comments</b></p>
EvidencePortfolio Components	1	Complex	<p>This element contains the set of items that will be considered by the TEC when assessing the EP.</p> <p>See <a href="#">Evidence Portfolio Components</a> for more details describing this element.</p>

## Researcher

Within the context of the EP file, a researcher is a person who is being assessed for the purposes of PBRF funding. Only one EP may be submitted for a researcher. TEC will use the National Student Index (NSI) system to manage this aspect of the PBRF process. The information captured here will be used to validate the researcher against the NSI and to match the EP with the information supplied for the researcher in the Staff Data file.

The diagram below shows the elements captured for a researcher. In the PBRF context, the TEC standard reference to a learner should be interpreted as a researcher.



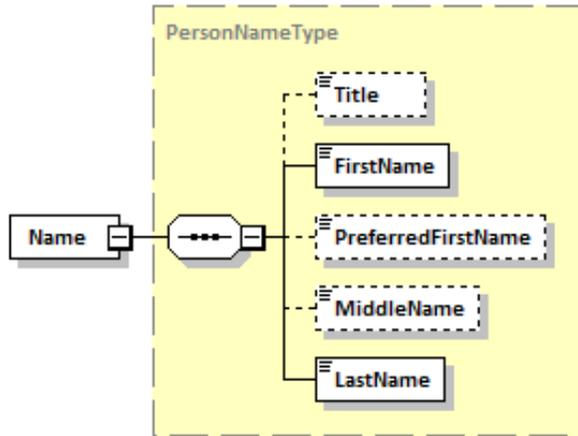
*Note: Special characters can be included in any text element providing the characters are supported by the latest Unicode character set.*

Element Name	Cardinality	Data Type	Description
NationalStudentNumber	1	xs:int	<p>The unique number (NSN) issued by the National Student Index (NSI) that identifies a person (or researcher in the context of PBRF) on the NSI. The TEC will check that the details (NSN, Birth Date) provided in the EP match those on the NSI and will report any EP where the details do not match. (Reporting will be available online.)</p> <p><b>Validation:</b> The PBRF IT System will check that the NSN exists on the NSI and is an NSI master record.</p> <p>If a second EP is received for a researcher (where the EvidencePortfolioIDs is different), it will not be accepted unless the first has been flagged as deleted.</p>
LocalIdentifier	0..1	xs:string MinLen:1 MaxLen:10	<p>The TEO reference or identifier for the researcher. This identifier may assist the TEO with identifying the researcher in their own records.</p>

Element Name	Cardinality	Data Type	Description
Name	1	Complex	<p>Researcher name element</p> <p>See <a href="#">Learner Name</a> for more details describing this element.</p>
BirthDate	1	xs:date	<p>Date of Birth in the format CCYY-MM-DD.</p> <p>The date values are described as follows:</p> <ul style="list-style-type: none"> <li>• CC: Century (19-20)</li> <li>• YY: Year (00-99)</li> <li>• MM: Month (01-12)</li> <li>• DD: Day (01-31)</li> </ul> <p>Example: 12 March 1965 will be formatted "1965-03-12".</p> <p>Wherever possible actual date of birth should be provided.</p> <p><b>Validation:</b> Must be provided in this format and must match the birth date held on the NSI unless the NSI default date of birth has been used; for example, there may be a situation where the EP contains the correct date of birth but the NSI contains the default date of birth (e.g. 11 November 1918). In this case a warning will be given.</p> <p>The Date of Birth in the EP must match the Date of Birth in the matching Staff Data file.</p>

### Learner Name

Learner name element (or researcher in the context of PBRF) will be matched to NSI. This element is of data type “PersonNameType” and described in detail below.



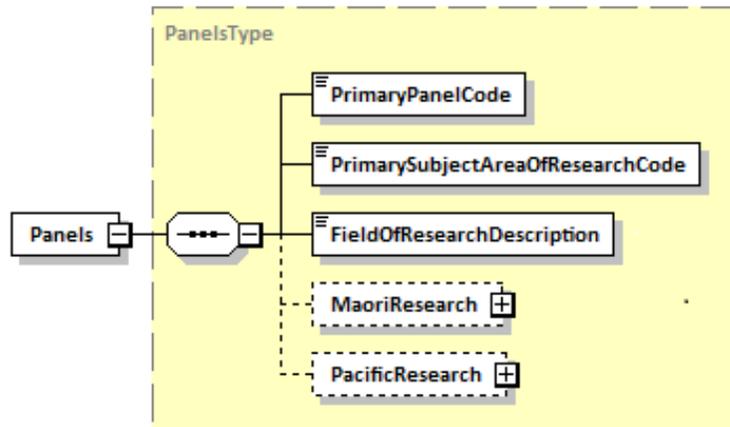
Element Name	Cardinality	Data Type	Description
Title	0..1	xs:string MinLen:1 MaxLen:250	Title of researcher. <b>Validation:</b> Optional
FirstName	1	xs:string MinLen:2 MaxLen:250	First name of researcher. <b>Validation:</b> Required
PreferredFirstName	0..1	xs:string MinLen:1 MaxLen:250	Preferred first name of researcher. <b>Validation:</b> Optional

Element Name	Cardinality	Data Type	Description
MiddleName	0..1	xs:string MinLen:1 MaxLen:250	Middle name(s) of researcher. <b>Validation:</b> Optional
LastName	1	xs:string MinLen:2 MaxLen:250	Family name/surname of researcher. <b>Validation:</b> Required

## Panels

TEOs must select a primary panel and primary subject area of research. They must also provide information regarding Māori research and/or Pacific research to assist the Chair of the Māori Knowledge and Development Panel and/or the Pacific Research Panel with determining whether to accept a cross-referral.

The diagram below shows the elements captured about the primary panel, primary subject area, Māori research and/or Pacific research:

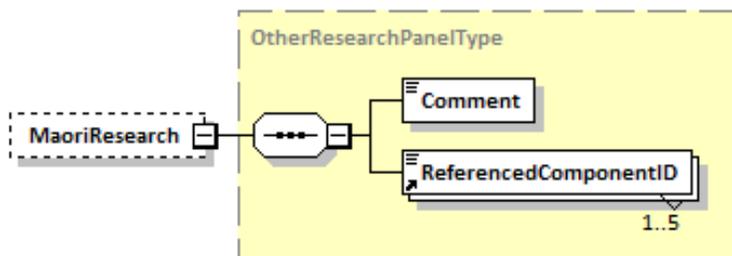


## Panels

Element Name	Cardinality	Data Type	Description
PrimaryPanelCode	1	xs:string Enumeration	<p>This element contains the primary panel code requested by the TEO. The primary review panel should be the panel that covers the discipline or subject area best representing the staff member's overall EP.</p> <p><b>Validation:</b> Must provide one of the values in <b>Appendix A1</b>.</p>
PrimarySubjectAreaOfResearchCode	1	xs:int Enumeration	<p>The subject area selected for the EP will be the subject area that the quality score will be reported under on a nationally standardised basis.</p> <p>Forty-three subject areas have been identified across the panels. The subject area chosen needs to align with the subject area assessed by the primary panel.</p> <p>Staff members need to select the subject area for their EP that best matches their primary subject area of research. This may not always be the same as the subject area represented by the staff member's academic department.</p> <p><b>Validation:</b> Must provide one of the values in <b>Appendix A2</b>.</p>
FieldOfResearchDescription	1	xs:string MinLen:2 MaxLen:200	<p>This text element will describe the level of a discipline or sub-discipline (e.g. educational psychology, molecular biology). This information is only used by Chairs to assign the EP to the appropriate panellists.</p>
MaoriResearch	0..1	Complex	Supporting details for cross-referral of this EP to the Māori Knowledge and Development Panel.
PacificResearch	0..1	Complex	Supporting details for cross-referral of this EP to the Pacific Research Panel.

## Māori Research

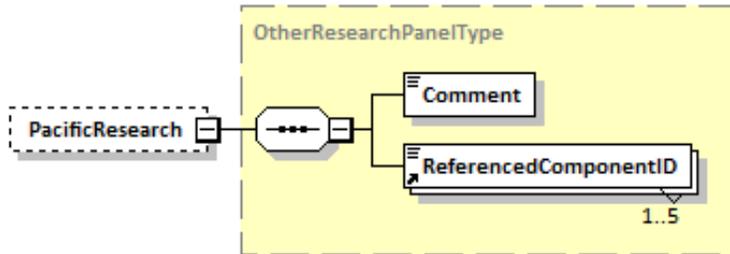
This information will be used by the Chair of the Māori Knowledge and Development Panel to determine if the EP should be accepted for cross-referral.



Element Name	Cardinality	Data Type	Description
Comment	1	xs:string MinLen:2 MaxLen:500	This field contains the rationale for cross-referral to the Māori Knowledge and Development Panel and to explain how this is represented in one or more relevant components (NRO, ORO or RC).
ReferencedComponentID	1::5	xs:string MinLen:1 MaxLen:10	<p>The ComponentID of an NRO, ORO or an RC component relevant to Māori research. Up to five IDs are allowed.</p> <p>An NRO, ORO or RC component referenced in this section cannot be referenced in the Pacific Research element.</p> <p><b>Validation:</b> The PBRF IT System will ensure that the referenced components exist for the EP to be assessed.</p>

## Pacific Research

This information will be used by the Chair of the Pacific Research Panel to determine if the EP should be accepted for cross-referral.



Element Name	Cardinality	Data Type	Description
Comment	1	xs:string MinLen:2 MaxLen:500	This field contains the rationale for cross-referral to the Pacific Research Panel and to explain how this is represented in one or more relevant components (NRO, ORO or RC).
ReferencedComponentID	1::5	xs:string MinLen:1 MaxLen:10	<p>The ComponentID of an NRO, ORO or an RC component relevant to Pacific research. Up to five IDs are allowed.</p> <p>An NRO, ORO or RC component referenced in this section cannot be referenced in the Māori Research element.</p> <p><b>Validation:</b> The PBRF IT System will ensure that the referenced components exist for the EP to be assessed.</p>

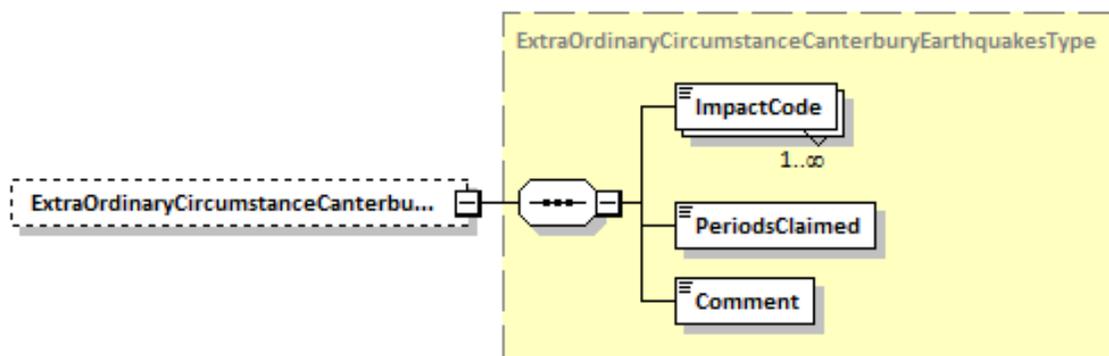
## Extraordinary Circumstances

### Canterbury Extraordinary Circumstances

The Canterbury Extraordinary Circumstances relate to the ongoing earthquake-related issues experienced by staff at the Canterbury-based TEOs.

Staff members can claim any or all of the five areas of impact and provide a commentary in relation to the specific nature of the circumstance and the direct impact it has had on the ability of the individual to undertake research and/or research-related activity.

The diagram below shows the elements captured for Canterbury Extraordinary Circumstances:



*Note: Special characters can be included in any text element providing the characters are supported by the latest Unicode character set.*

Element Name	Cardinality	Data Type	Description
ImpactCode	1..5	xs:int Enumeration	A staff member can select any of the impact codes to describe the personal impact of the Canterbury earthquakes. Any or all of the impact codes can be selected. <b>Validation:</b> Must select the code values in <b>Appendix A5</b> . (Only if Canterbury Extraordinary Circumstances apply).
PeriodsClaimed	1	xs:string MinLen:1 MaxLen:500	A staff member must have been impacted for a minimum time period of three years during the assessment period over which the circumstances need to have occurred in order for these circumstances to be submitted.  The three years does not need to be contiguous and this field allows for the staff member to enter multiple sets of start and end dates to signify when the circumstances occurred.

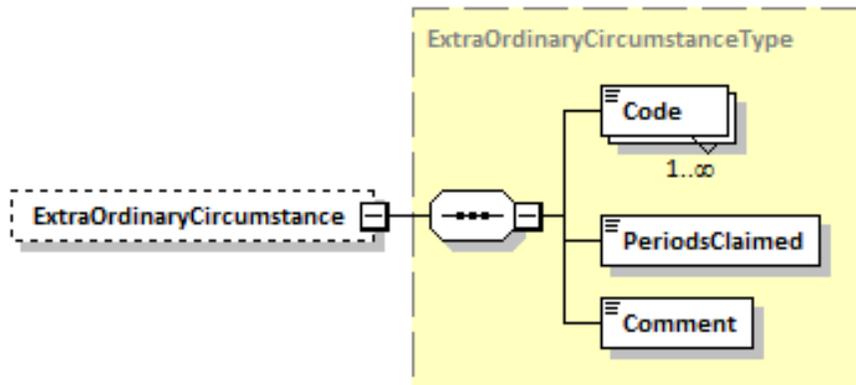
Element Name	Cardinality	Data Type	Description
Comment	1	xs:string MinLen:1 MaxLen:2000	This element is used describe any relevant information on the nature, extent and seriousness of the ongoing impact of the Canterbury earthquakes on the research activities of the staff member.  The detail should include further description of how the Canterbury earthquakes have affected the quantity of the individual's research.

### Extraordinary Circumstances

This part provides for the exceptional nature of circumstances that can directly impact the ability of an individual to undertake research and/or research-related activity. These circumstances are generally outside the individual's control and are not part of normal academic activity.

A researcher can claim any or all of the three types of Extraordinary Circumstances.

The diagram below shows the elements captured for Extraordinary Circumstances:



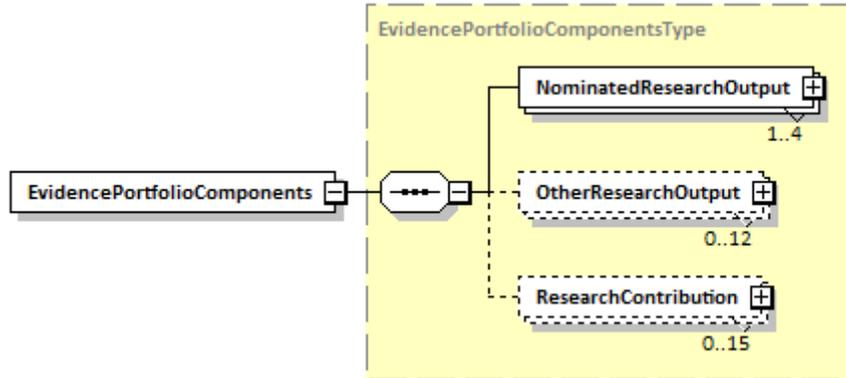
*Note: Special characters can be included in any text element providing the characters are supported by the latest Unicode character set.*

Element Name	Cardinality	Data Type	Description
Code	1..3	xs:int Enumeration	A staff member can select any or all of the three circumstances codes to describe extraordinary circumstances. <b>Validation:</b> Must select the code values in <b>Appendix A6</b> . (Only if Extraordinary Circumstances apply.)
PeriodsClaimed	1	xs:string MinLen:1 MaxLen:500	A staff member must have been impacted for a minimum time period of three years during the assessment period over which the circumstances need to have occurred in order for these circumstances to be submitted.  The three years does not need to be contiguous and this field allows for the staff member to enter multiple sets of start and end dates to signify when the circumstance occurred.
Comment	1	xs:string MinLen:1 MaxLen:2000	This element is used to describe any relevant information on the nature, extent and seriousness of the circumstance(s) and the impact on the research activities of the staff member and how they have affected the quantity of the individual's research.

## Evidence Portfolio Components

The EP components are a set of items used to assess the researcher.

The diagram below shows the elements captured for evidence portfolio components:



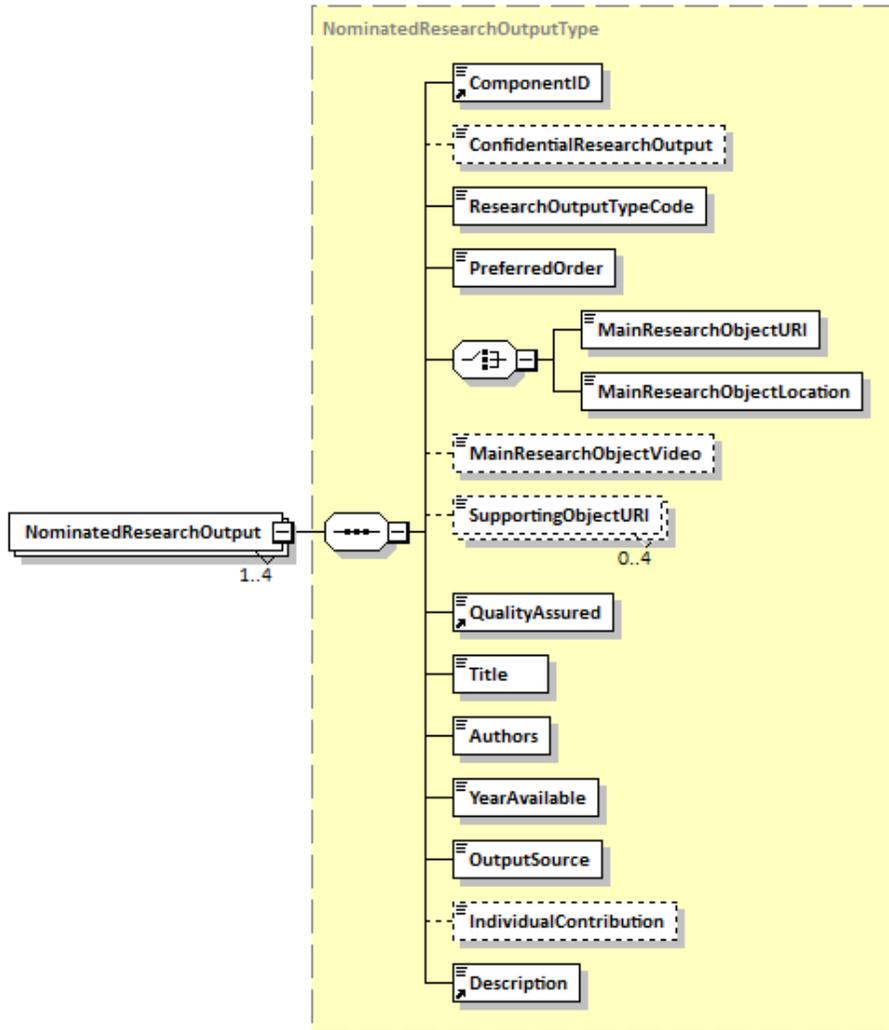
Note: Special characters can be included in any text element providing the characters are supported by the latest Unicode character set.

Element Name	Cardinality	Data Type	Description
NominatedResearchOutput	1..4	Complex	The Nominated Research Output (NRO) element will hold the up to four nominated research outputs that the PBRF-eligible staff member nominates as their best research outputs. See Nominated Research Output (NRO) for a more detailed description of this element.
OtherResearchOutput	0..12	Complex	The Other Research Output (ORO) element will hold the additional research outputs (up to 12) that will be referenced and used during the assessment period. See below for a more detailed description on this element.
ResearchContribution	0..15	Complex	The Research Contribution (RC) element provides for up to 15 examples of the staff member's contribution to a vital high-quality research environment, both within the TEO and beyond it. See below for a more detailed description of this element.

### Nominated Research Output (NRO)

An NRO is an output nominated by the PBRF-eligible staff member as one of their best research outputs. Up to four NROs may be submitted.

The diagram below shows the elements captured for a nominated research output:



*Note: Special characters can be included in any text element providing the characters are supported by the latest Unicode character set.*

Element Name	Cardinality	Data Type	Description						
ComponentID	1	xs:string MinLen:1 MaxLen:10	<p>This element is a unique identifier used for each component within an EP. This would typically be a simple sequenced number starting at 1 and incremented for each additional component. It can also be any identifier that TEOs may use internally to identify this specific component. It is required and must also be unique within the whole of the EP.</p> <p><b>Validation:</b> Duplicated ComponentIDs within the same EP will not pass schema validation.</p>						
ConfidentialResearch Output	0..1	Indicator Type MinLen:1 Max Len:5	<p>This element indicates if the NRO is confidential.</p> <p><b>Validation:</b> Must provide one of the following values (case sensitive)</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>True, Yes, Y, T</td> <td>True</td> </tr> <tr> <td>False, No, F, N</td> <td>False</td> </tr> </tbody> </table>	Value	Description	True, Yes, Y, T	True	False, No, F, N	False
Value	Description								
True, Yes, Y, T	True								
False, No, F, N	False								
ResearchOutputType Code	1	xs:int Enumeration	<p>Code representing the type of research output.</p> <p><b>Validation:</b> Must provide one of the values in <b>Appendix A3</b>.</p>						
PreferredOrder	1	xs:int Range:1-255	<p>NROs should be ordered in the EP according to the researcher's preferred order of assessment.</p> <p>The researcher must indicate the NRO they would prefer to be assessed first.</p> <p>This order will be available to panellists when they view the EP and will assist panellists in deciding which NROs to view.</p> <p><b>Validation:</b> Positive numbers only.</p>						

Element Name	Cardinality	Data Type	Description						
MainResearchObjectURI	0..1	xs:string MinLen:1 MaxLen:2000 if URI is an external URL 255 if URI is a filename	<p>The URI location of the <b>main research object</b> for this NRO.</p> <p>The URI format will indicate either the NRO content was uploaded to the TEC file store prior to submission closing date, or the NRO content is available from a non-secure publicly available web location.</p> <p>If a URI is not provided then the Main Research Object Location field must be supplied.</p> <p>See <a href="#">URI details</a> for further detail about URIs.</p>						
MainResearchObjectLocation	0..1	xs:string MinLen:1 MaxLen:500	<p>Description of how or where the NRO can be physically located or retrieved if it is not accessible using a URI.</p> <p><b>Validation:</b></p> <ul style="list-style-type: none"> <li>• must have a value if no URI provided for the main research object</li> <li>• cannot have a value in addition to the URI.</li> </ul>						
MainResearchObjectVideo	0..1	IndicatorType MinLen:1 MaxLen:5	<p>An indicator to highlight if the main research object is a large video or sound file.</p> <p>This will remind the panellists accessing the research object they are expected to make provision for high quality internet access and latest versions of relevant software.</p> <p><b>Validation:</b> Must provide one of the following values (case in-sensitive):</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>True, Yes, Y,T</td> <td>True</td> </tr> <tr> <td>False, No, F,N</td> <td>False</td> </tr> </tbody> </table>	Value	Description	True, Yes, Y,T	True	False, No, F,N	False
Value	Description								
True, Yes, Y,T	True								
False, No, F,N	False								

Element Name	Cardinality	Data Type	Description						
SupportingObjectURI	0..4	xs:string MinLen:1 MaxLen:2000 if URI is an external URL 255 if URI is a filename	<p>Up to four URI locations of supporting research objects for this NRO.</p> <p>The URI format will indicate either the NRO content was uploaded to the TEC file store prior to submission closing date, or the NRO content is available from a non-secure publicly available web location.</p> <p>See <a href="#">URI details</a> for further detail about URIs.</p>						
QualityAssured	1	IndicatorType MinLen:1 MaxLen:5	<p>An indicator that defines any research output that, prior to its publication (public dissemination, presentation, performance, or exhibition), has successfully completed a formal quality-assurance process.</p> <p><b>Validation:</b> Must provide one of the following values:</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>True, Yes, Y,T</td> <td>True</td> </tr> <tr> <td>False, No, F,N</td> <td>False</td> </tr> </tbody> </table>	Value	Description	True, Yes, Y,T	True	False, No, F,N	False
Value	Description								
True, Yes, Y,T	True								
False, No, F,N	False								

Element Name	Cardinality	Data Type	Description
Title	1	xs:string MinLen:1 MaxLen:1000  Please refer to <a href="#">HTML Markup</a>	<p>The title of the research output as it appears on the output.</p> <p>Special characters can be included providing the characters are supported by the latest Unicode character set.</p> <p>e.g. &lt;Title&gt;BaBar Collaboration. (2004) <i>Search for the Decay <math>B_0 \rightarrow J/\psi\gamma</math></i>. Physical Review D, 70, 9, 091104&lt;/Title&gt;</p> <p>&lt;Title&gt;Peijzel, P.S., Vergeer, P., Meijerink, A., Reid, M.F., Boatner, L.A. and Burdick, G.W. (2005) <i>4f(n-1)5d <math>\rightarrow</math> 4f(n) emission of <math>Ce^{3+}</math>, <math>Pr^{3+}</math>, <math>Nd^{3+}</math>, <math>Er^{3+}</math>, and <math>Tm^{3+}</math> in <math>LiYF_4</math> and <math>YPO_4</math></i>. Physical Review B - Condensed Matter and Materials Physics, 71, 4, 045116 9 pp.</p> <p>&lt;/Title&gt;</p> <p>The alternative is to provide the latex syntax where titles or descriptions contain special math equations.</p> <p>e.g. &lt;Title&gt;The theory and proof that</p> $m \neq \frac{m_0}{\sqrt{1-\frac{v^2}{c^2}}}$ <p>is indeed flawed&lt;/Title&gt;</p> <p>See <a href="http://en.wikipedia.org/wiki/LaTeX">http://en.wikipedia.org/wiki/LaTeX</a> for more information and resources on Latex.</p> <p>Please refer to the accompanying example XML file that demonstrates the use of special characters. See <b>60032017111101.xml</b> sample XML file.</p>
Authors	1	xs:string MinLen:1 MaxLen:2000	<p>This element lists the authors in the order and as they appear on the output. Where there are more authors than can be listed within the number of characters allowed, the number of other authors should be recorded.</p>

Element Name	Cardinality	Data Type	Description
YearAvailable	1	xs:gYear	<p>The year that the output was produced (2012 – 2017 inclusive).</p> <p>The format is CCYY. The values are described as follows:</p> <ul style="list-style-type: none"> <li>• CC: Century (20)</li> <li>• YY: Year (12-17)</li> </ul> <p><b>Validation:</b> Range from 2012-2017</p>
OutputSource	1	xs:string MinLen:1 MaxLen:1000 Please refer to <a href="#">HTML Markup</a>	<p>This element is used to identify where an item is published or made available.</p> <p>It can contain the following: parent document, volume, issue, article/chapter/session number, pagination, publisher, place, year.</p>
IndividualContribution	0..1	xs:string MinLen:0 MaxLen:1050 Please refer to <a href="#">HTML Markup</a>	<p>Where the research output has more than one author, this element provides details on the staff member's overall contribution to the output including the nature of that contribution.</p>
Description	1	xs:string MinLen:1 MaxLen:1000 Please refer to <a href="#">HTML Markup</a>	<p>This element is a comprehensive description of the nature and significance of the output.</p> <p>It also describes why the output has been selected as one of the best four produced during the assessment period and how the output embodies research.</p>

## URI details

The following information describes the format and rules for the provision of URIs for NRO objects.

Description
<p>The URI location of an electronic NRO. The researcher can provide more than one URI for a single NRO (but no more than five). For example, a file of pictures and a video file. This should not be confused with the number of NROs.</p> <p>The following URI formats are acceptable:</p> <ul style="list-style-type: none"><li>• [File Name] This will indicate that the NRO content was uploaded to the TEC file store prior to assessment closing date. Example: &lt;URI&gt;your NRO titled document file.pdf&lt;/URI&gt;</li><li>• http:// [NRO Location and Name] This will indicate a non-secure publicly available web location where the NRO content can be located. <b>If authentication or subscription is required to access this location, this is not a valid web link and another form of evidence submission will need to be used (i.e. either the NRO content is uploaded to the TEC file store or a hard copy must be requested).</b> Example: &lt;URI&gt;http://www.publicresearcharea.co.nz/myNROResources&lt;/URI&gt; This link should take the panellist directly to the NRO text without having to provide any <b>search for</b> or <b>provide any additional subscription or credential</b> information.</li><li>• https:// [NRO Location and Name] This will indicate a secure publicly available web location where the NRO content can be located. <b>No authentication or subscription should be required to access this location (see note above).</b> Example 1: &lt;URI&gt;https://www.publicresearcharea.co.nz/myNROResources&lt;/URI&gt; This link should take the panellist directly to the NRO text without having to provide any <b>search for</b> or <b>provide any additional subscription or credential</b> information. Example 2: &lt;URI&gt; www.publicresearcharea.co.nz/myNROResources&lt;/URI&gt; This will resolve to http://www.publicresearcharea.co.nz/myNROResources</li></ul>

## Description

- ftp:// [NRO Location and Name]

This will indicate a publicly available FTP location where the NRO content can be located. The preference is for the other options using the above URIs rather than the FTP option described here.

**No authentication or subscription should be required to access this location (see note above).**

Example: <URI>ftp://ftp.publicresearcharea.co.nz/myNROResources</URI>

This link should take the panellist directly to the NRO text without having to provide any **search for** or **provide any additional subscription or credential** information.

### Additional Notes:

- TEOs must take all reasonable steps to ensure that any URI that links to an external file store or open website will remain a usable link to the NRO through the period of assessment.
- NROs should be directly accessible and not require the panellist to **search for** or **provide any additional subscription** or **credential information** to access the NRO link.
- We recommend using the DOI naming convention and services (see <http://www.doi.org/>) where possible or use available URI shortening services.

Example using DOI: <http://dx.doi.org/10.1000/182>

doi:10.1000/182 will be automatically linked to <http://dx.doi.org/10.1000/182> by the system.

- Substitute the following characters within the URI to ensure that the schema validation passes, or avoid using these all together if possible:
  - Ampersand—&—&amp;
  - greater-than—>—&gt;
  - less-than—<—&lt;
  - apostrophe—'—&apos;
  - quote—"—&quot;
  - space— —%20

Example URI element

<URI><https://myorg.org/somespace%20share/somepage.aspx?someparam=value&someparam=value&someparam=value></URI>

## Description

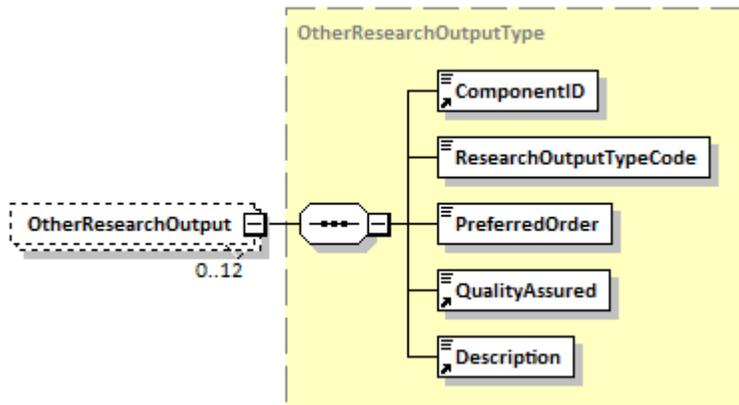
**Validation:** Location details element should have a value when no URI elements are provided.

No duplicate URI will be allowed for a given NRO if more than one URI element is provided for a single NRO.

## Other Research Output (ORO)

Other research outputs are additional research items provided by staff member for consideration. Up to 12 OROs may be submitted providing NROs have been submitted.

The diagram below shows the elements captured about other research output:



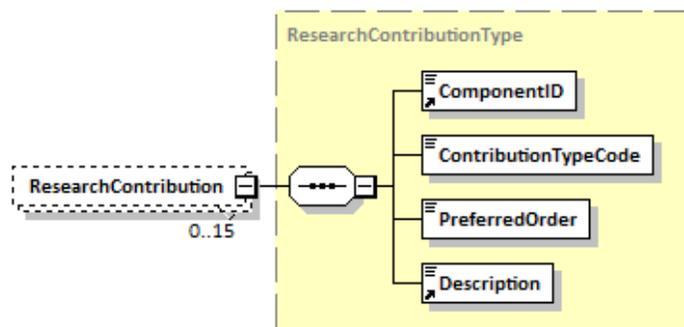
Element Name	Cardinality	Data Type	Description						
ComponentID	1	xs:string MinLen:1 MaxLen:10	<p>This element is a unique identifier used for each component within an EP. This would typically be a simple sequenced number starting at 1 and incremented for each additional component. It can also be any identifier that TEOs may use internally to identify this specific component. It is required and must also be unique within the whole of the EP.</p> <p><b>Validation:</b> Duplicated ComponentIDs within the same EP will not pass schema validation.</p>						
ResearchOutputTypeCode	1	xs:int Enumeration	<p>Code representing the type of research output.</p> <p><b>Validation:</b> Must provide one of the values in <b>Appendix A3</b>.</p>						
PreferredOrder	1	xs:int Range:1-255	<p>The order in which OROs will be displayed to the panellist.</p> <p>OROs should be ordered in the EP according to the staff member's preferred order of assessment.</p> <p>OROs should be clustered by type. The ordering of and within the type will be at the discretion of the staff member or TEO.</p> <p><b>Validation:</b> Positive numbers only.</p>						
QualityAssured	1	IndicatorType MinLen:1 MaxLen:5	<p>An indicator that defines any research output that, prior to its publication (public dissemination, presentation, performance, or exhibition), has successfully completed a formal quality-assurance process.</p> <p><b>Validation:</b> Must provide one of the following values:</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>True, Yes, Y,T</td> <td>True</td> </tr> <tr> <td>False, No, F,N</td> <td>False</td> </tr> </tbody> </table>	Value	Description	True, Yes, Y,T	True	False, No, F,N	False
Value	Description								
True, Yes, Y,T	True								
False, No, F,N	False								

Element Name	Cardinality	Data Type	Description
Bibliographic details/Description	1	xs:string MinLen:1 MaxLen:1000 Please refer to <a href="#">HTML Markup</a>	Entered in a recognised bibliographic format. This must include the title or name of the output, author, and sufficient location details to enable the TEC to independently verify its production (e.g. publication, publisher, publication year, and place of publication or the equivalent details for other output types for example creative works).

## Research Contribution (RC)

Research contributions are concerned with the staff member’s contribution to a vital, high-quality research environment. It provides an opportunity to for staff members to indicate their role and contributions in this respect. Up to 15 RCs may be submitted.

The diagram below shows the elements captured for the Research Contribution:



Element Name	Cardinality	Data Type	Description
ComponentID	1	xs:string MinLen:1 MaxLen:10	This element is a unique identifier used for each component within an EP. This would typically be a simple sequenced number starting at 1 and incremented for each additional component. It can also be any identifier that TEOs may use internally to identify this specific component. It is required and must also be unique within the whole of the EP. <b>Validation:</b> Duplicated ComponentIDs within the same EP will not pass schema validation.
ContributionTypeCode	1	xs:int Enumeration	Code representing the type of research contribution. <b>Validation:</b> Must provide one of the values in <b>Appendix A4</b> .
PreferredOrder	1	xs:int Range:1-255	The order in which Research Contribution examples will be displayed to the panellist. RCs should be ordered in the EP according to the staff member’s preferred order of assessment. RCs should be clustered by type. The ordering of and within the type will be at the discretion of the staff member or TEO. <b>Validation:</b> Positive numbers only.

Element Name	Cardinality	Data Type	Description
Description	1	xs:string MinLen:1 MaxLen:1500 Please refer to <a href="#">HTML Markup</a>	The Research Contribution component provides staff members with an opportunity to demonstrate: <ul style="list-style-type: none"> <li>• the esteem in which their peers, within and outside of TEOs, hold their research</li> <li>• their role, and the contributions they make, in creating a vital, high-quality research environment, and</li> <li>• the impact that their research has had outside academia.</li> </ul>

## Additional Validation Rules

The following validation rules will be applied to EPs when they are submitted. If an EP fails either validation rule it will not proceed for assessment.

1. If fewer than four NROs have been included, there must not be any OROs included.
2. A component ID reference in the Panels part must match an existing component (NRO, ORO or RC) in the EP.

HTML cannot be included in data elements other than the 8 descriptive elements specified. These data elements are:

- › ContextualNarrative (EP)
- › Title (NRO)
- › Source (NRO)
- › IndividualContribution (NRO)
- › Description (NRO)
- › Description (ORO)
- › Description (RC)

Further investigation will be carried out to determine if additional validation can be carried out on URI links to check:

- › links are not to a site requiring subscription or password
- › links are not to a document suggesting the panellist requests a hard copy NRO
- › use of a link does not result in an error for the panellist.

# NRO FTP File Upload Process

## NRO FTP File Process

TEO administrators or systems will connect to the TEC secure FTP server using technologies or tools that support FTPs (SSL/TLS) communication. Each TEO FTP account will provide access to only the TEO's own files and will not allow access to any other TEOs' files or folder locations.

A TEO should upload NRO files prior to the TEO submitting EPs. The reason for this is the submission of an EP XML file will trigger the processing and validation process which may check for the existence of an NRO in the TEC file store.

The format of the file and the options for NRO file formats are listed below in [File Content Types](#).

A TEO requires the following in order to successfully submit EP XML and NRO content files:

- › TEC issued TEO FTP Account (see below)
- › TEC published FTP URI location (see below)
- › FTP Client Tool (see below).

## EP XML File Name

The name of a file containing EPs will be unique for a TEO. An XML file will be overwritten if the file already exists on the FTP location (if it has not yet been processed) and will be rejected if the previous file has been processed.

EP XML files will trigger processing based on the file extension of .xml. It is recommended that the EP XML file names should follow the naming convention described below.

The EP XML filename consist of four parts:

1. **ProviderNumber** (See Appendix A7)
2. **Date** (CCYYMMDD)
3. **Sequence Number** depending on how many files are uploaded for the same date (range 0-999) – Default this value to zero (0)
4. **Extension** (Required)

e.g. **70012018011000.xml**

The example above can be interpreted that the provider 7001 created and/or uploaded an EP file around 10 Jan 2018.

## NRO File Name

NRO files names can be whatever the TEO is using to name the NRO file. The XSD enforces the 255 character limit on file names.

It is the responsibility of TEOs to ensure that the NRO file names are unique across the EPs being uploaded to prevent any accidental overwriting of NRO files.

## TEC issued TEO FTP Account

The FTP account provisioning process and information will be made available to a TEO Administrator by emailing the PBRF Helpdesk at [pbrfhelp@tec.govt.nz](mailto:pbrfhelp@tec.govt.nz) requesting an FTP username and login. A contact phone number must be included in the email request so that a PBRF support person can phone back with the details. Further information on applying for FTP username and login is available on the [TEC Website](#).

## TEC published FTP URI location

TEC will make the FTP URI available at the same time the FTP user account is issued to the requesting TEO.

## FTP Client Tool

The following client tools have been used and tested to work with TEC secure FTP services.

› FileZilla

This free tool can be downloaded and installed and will enable TEO or TEO systems to upload the NRO and EP XML files.

<http://filezilla-project.org/>

- › TEOs can also use their own FTP client providing it supports FTP, FTP over SSL/TLS (FTPS) and SSH (SFTP) transfer protocols.

## File Content Types

The electronic media formats in the table below will be accepted as part of the Nominated Research Output (NRO) uploads. All files will be scanned for viruses and malware before they are accepted, but it is required that TEOs also scan the content files for viruses in order to prevent unnecessary delays or resubmission of research output files.

To ensure that panellists viewing large video files have a good experience, TEOs are requested to indicate in the EP submission if a large video or sound file is provided via the Uniform Resource Identifier (URI) for the main research object in an NRO. This indicator will remind panellists viewing assigned EPs to make provision for the following specification required to access large video or sound files:

- › high-quality internet access (e.g. ultra-fast broadband)
- › Latest version of Quicktime, VLC and/or Windows Media Player

Alternatively large video or sound files could be supplied on DVD and requested via the TEC by a PBRF panellist, rather than being accessed via the URI. TEOs should note that panellists are likely to prefer accessing electronic files and may decide not to view an NRO where they have to request hard copy.

It is the TEO's responsibility to provide the URI and to also provide the location of a physical DVD that can be requested if the panellist is unable to access the URI.

Medium	Format Requirements
Electronic documents – URI link	Adobe Portable Document Format (.pdf) – recommended Microsoft Word (.doc or.docx) (Office 2003 or higher) Rich Text format (.rtf) Extensible Markup Language (.xml)
Electronic Image – URI link, DVD, CD	Graphics Interchange format (.gif) Joint Photographic Experts Group (.jpg or.jpeg) Bitmap (.bmp) Portable Network Graphic (.png)
Electronic Presentation – URI link	Microsoft PowerPoint (Office 2003 or higher) Prezi (via a URL to a public access website only) <sup>2</sup>

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<sup>2</sup> Export of a Prezi file to an .EXE is NOT supported.

Medium	Format Requirements
Film or Video – URI link, DVD or CD	<p>PAL or SECAM format only using the following formats:</p> <ul style="list-style-type: none"> <li>› Audio Video Interleave (.AVI) – recommended</li> <li>› Windows Media Video (.WMV)</li> <li>› Quicktime (.MOV)</li> <li>› Motion Picture Experts Group-4 (.MP4).</li> </ul> <p>Audio content of video content can be compressed with a wide variety of codecs. The use of compression codecs that are not readily available may affect the ability of the panellist to view the content.</p> <p>It is recommended that large video files (upward of 350 megabytes) are uploaded to YouTube, Vimeo or Ustream. This would improve the experience of viewers.</p> <p>Alternatively, large video files can be supplied on DVD when requested, rather than being accessed via a URI. DVDs provide good viewing experiences, which cannot be guaranteed if viewing is via the internet.</p>
Audio – URI link, DVD or CD	<p>MPEG-1 Audio Layer 3 (.MP3) – 128 Kbps (kilobits per second) – required.</p>
Software – URI links, DVD	<p>The recommendation for submitting software research outputs is to:</p> <ul style="list-style-type: none"> <li>› record all screen and audio activity on a computer demonstrating the software and create industry-standard AVI video files. <i>Video Medium</i>, above, provides acceptable formatting information.</li> <li>› provide in addition to the AVI above, any other related software specific documentation and files (such as source files or design representations) in electronic format. These files can be referenced and uploaded as part of the research output. The Evidence Portfolio file specification allows for up to five files to be referenced for a single research output.</li> </ul> <p>If an installable version of the software is the best representation of the research, a recommended approach to providing the software is outlined in the <i>PBRF Quality Evaluation Guidelines 2012</i> Chapter 7 “The Form of Evidence Required for Requested Research Outputs”.</p> <p>A tool such as Camtasia Studio or similar can also be used to record screen and audio activity on a computer and create industry-standard AVI video files. See <a href="http://www.techsmith.com/camtasia.asp">http://www.techsmith.com/camtasia.asp</a> for more information.</p> <p>Other software can be used to record screen and audio activity, provided it can output files in the required format.</p>

The following files will **NOT** be accepted:

- › Executable Files (.EXE or .COM)
- › Batch Command Files (.BAT or .CMD)
- › Script Files (.VBS or .JS)
- › Compressed files (.ZIP or .GZIP or .TAR).

Note that checking your XML file against the XSD will not highlight issues with file types that are not permitted. These will only be detected at the time the XML file is uploaded to the PBRF IT System.

The following file types were accepted in 2012.

Name	Extension	Mimetype
XML file	.xml	text/xml
MS Excel file	.xls	application/x-excel
MS Excel file	.xlsx	application/x-excel
MS Word file	.doc	application/msword
MS Word file	.docx	application/msword
MS Word file	.dot	application/msword
MS Word file	.word	application/msword
Video file	.avi	video/avi
Video file	.moov	video/quicktime
Video file	.mov	video/quicktime
Video file	.mp4	video/mp4
Video file	.m4v	video/x-m4v
Video file	.wm	video/x-ms-wm
Video file	.wvx	video/x-ms-wvx
Video file	.wmx	video/x-ms-wmx
Video file	.wmv	video/x-ms-wmv
Text file	.txt	text/plain
Text file	.rtf	text/rtf
Image	.bm	image/bmp
Image	.bmp	image/bmp
Image	.gif	image/gif
Image	.jpeg	image/jpeg
Image	.jpg	image/jpeg
Image	.png	image/png
Image	.x-png	image/png
Audio	.mp3	audio/mpeg
Audio	.mpa	audio/mpeg
Audio	.mpg	audio/mpeg
Audio	.mpga	audio/mpeg
MS Power Point	.pot	application/mspowerpoint
MS Power Point	.ppa	application/mspowerpoint

<b>Name</b>	<b>Extension</b>	<b>Mimetype</b>
MS Power Point	.pps	application/mspowerpoint
MS Power Point	.ppt	application/mspowerpoint
MS Power Point	.ppz	application/mspowerpoint
MS Power Point	.pptx	application/mspowerpoint
PDF	.pdf	application/pdf

## Appendix

### A1 Panel codes

Panels	Element value for PrimaryPanelCode
Biological Sciences	BIOS
Business and Economics	BEC
Creative and Performing Arts	CPA
Education	EDU
Engineering Technology and Architecture	ETA
Health	HEALTH
Humanities and Law	HAL
Māori Knowledge and Development	MKD
Mathematical and Information Sciences and Technology	MIST
Medicine and Public Health	MEDPH
Pacific Research	PACIFIC
Physical Sciences	PHYSC
Social Sciences and Other Cultural/Social Studies	SSOCSS

## A2 Subject Area of Research codes

Subject Area Description	Element value for SubjectAreaOfResearchCode
Māori Knowledge and Development	10
Law	20
History, History of Art, Classics and Curatorial Studies	30
English Language and Literature	40
Foreign Languages and Linguistics	50
Philosophy	60
Religious Studies and Theology	70
Political Science, International Relations and Public Policy	80
Psychology	90
Human Geography	100
Sociology, Social Policy, Social Work, Criminology & Gender Studies	110
Anthropology and Archaeology	120
Communications, Journalism and Media Studies	130
Education	140
Chemistry	150
Physics	160
Earth Sciences	170
Molecular, Cellular and Whole Organism Biology	180
Ecology, Evolution and Behaviour	190
Agriculture and Other Applied Biological Sciences	200
Pure and Applied Mathematics	210
Statistics	220
Computer Science, Information Technology, Information Sciences	230
Engineering and Technology	240
Architecture, Design, Planning, Surveying	250
Biomedical	260
Clinical Medicine	270
Public Health	280
Nursing	290
Dentistry	300
Veterinary Studies and Large Animal Science	320
Sport and Exercise Science	330
Other Health Studies (including Rehabilitation Therapies)	340

<b>Subject Area Description</b>	<b>Element value for SubjectAreaOfResearchCode</b>
Management, Human Resources, Industrial Relations and Other Businesses	350
Accounting and Finance	360
Marketing and Tourism	370
Economics	380
Music, Literary Arts and Other Arts	390
Visual Arts and Crafts	400
Theatre and Dance, Film, Television and Multimedia	410
Design	420
Pharmacy	430
Pacific Research	440

### A3 Research Output codes

<b>Research Output Description</b>	<b>Element Value for ResearchOutputType Code</b>
Authored Book	100
Chapter in Book	110
Conference Contribution – Other	120
Conference Contribution – Published	130
Creative Work	140
Discussion/Working Paper	150
Edited Volume	160
Intellectual Property	170
Journal Article	180
Oral Presentation	190
Other Form of Assessable Output	200
Report	210
Scholarly Edition/Literary Translation	220
Software	230
Thesis	240

#### A4 Research Contribution codes

Research Contribution Description	Element value for ContributionType Code
Contribution to research discipline and environment	1
Facilitation, networking and collaboration	2
Invitations to present research or similar	3
Other evidence of research contribution	4
Outreach and engagement	5
Recognition of research outputs	6
Research funding and support	7
Research prizes, fellowships, awards and appointments	8
Researcher development	9
Reviewing, refereeing, judging, evaluating and examining	10
Student factors	11
Uptake and impact	12

#### A5 Impact Canterbury Extraordinary Circumstances codes

Impact Description	Element value for ImpactCode
Ongoing trauma, stress and fatigue	1
Ongoing effects of loss or damage to house and/or contents	2
Disruption related to facilities/resources	3
Significant additional responsibilities	4
Reduced research opportunities	5

#### A6 Extraordinary Circumstances codes

Extraordinary Circumstances Description	Element value for Code
Long-term illness or disability	10
Extended personal leave	20
Significant family/community responsibilities	30

## A7 TEO Codes for SAC-funded degree-delivering TEOs

TEO	Element value for ProviderNumber
<b>Institutes of technology and polytechnics</b>	
Ara Institute of Canterbury	6006
Eastern Institute of Technology	6007
Manukau Institute of Technology	6010
Nelson Marlborough Institute of Technology	6011
Northland Polytechnic	6012
Open Polytechnic of New Zealand	6022
Otago Polytechnic	6013
Southern Institute of Technology	6015
Toi Ohomai Institute of Technology	6025
Unitec Institute of Technology	6004
Universal College of Learning	6009
Waikato Institute of Technology	6019
Wellington Institute of Technology	6008
Western Institute of Technology at Taranaki	6017
Whitireia New Zealand	6014
<b>Universities</b>	
Auckland University of Technology	7008
Lincoln University	7006
Massey University	7003
University of Auckland	7001
University of Canterbury	7005
University of Otago	7007
University of Waikato	7002
Victoria University of Wellington	7004
<b>Wānanga</b>	
Te Wānanga o Aotearoa	8630
Te Wānanga o Raukawa	9241
Te Whare Wānanga o Awanuiārangi	9386
<b>Private training establishments</b>	
Alphacrucis International College	8573
Anamata	9242
Auckland Institute of Studies	8530
Bethlehem Tertiary Institute	8694

TEO	Element value for ProviderNumber
Carey Baptist College	8979
Good Shepherd College – Te Heparā Pai	8717
IPU New Zealand	8550
Laidlaw College Inc	8563
Media Design School	8192
New Zealand College of Chinese Medicine Limited	7282
New Zealand College of Chiropractic	8396
New Zealand School of Acupuncture and Traditional Chinese Medicine	9670
New Zealand Tertiary College	8619
Pacific International Hotel Management School	8457
Prema Charitable Trust	8341
SAE Institute	8174
South Pacific College of Natural Medicine	8642
Te Rito Maioha Early Childhood New Zealand	9520
Te Wānanga Takiura o Ngā Kura Kaupapa Māori o Aotearoa	8425
Toi Whakaari New Zealand Drama School	8502
Whitecliffe College of Arts and Design	8509