



**Tertiary Education Commission**  
**Te Amorangi Mātauranga Matua**

# **Audit Approach**

**for Tertiary Education Organisations Participating in  
the Performance-Based Research Fund  
Quality Evaluation 2012**

**MAY 2011**

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# 1 Introduction

## 1.1 2012 Quality Evaluation audit approach

The Tertiary Education Commission Te Amorangi Mātauranga Matua (TEC) has developed an audit approach to assist participating tertiary education organisations (TEOs) to prepare for the 2012 Performance-Based Research Fund (PBRF) Quality Evaluation. This audit approach is designed to provide assurance to the TEC that staff meet the PBRF staff participation criteria (i.e. PBRF-eligible and non-eligible staff have been correctly classified) and to provide assurance on the integrity of Nominated Research Outputs (NROs) and Other Research Outputs (OROs).

This document sets out the audit approach for the PBRF 2012 Quality Evaluation process.

This audit approach is designed to be robust, complete, transparent and equitable to both the TEC and TEOs. In addition, this audit approach involves a review of processes adopted by TEOs and validation to determine their effectiveness.

We encourage the TEOs to use the techniques described in this document to assess their own internal processes for determining which staff meet the PBRF staff participation criteria and that data relating to NROs and OROs submitted to the TEC are complete and valid.

This audit approach seeks to encourage TEOs to develop robust and rigorous processes for applying the PBRF Guidelines. The audit approach will assist both those TEOs participating for the first time and TEOs that participated in the 2006 Quality Evaluation. The audit approach seeks to ensure all TEOs are operating within both the letter and the spirit of the PBRF guiding principles and the Quality Evaluation 2012 guidelines.

For the 2012 Quality Evaluation audit, all eight universities will be visited. Other TEOs will be visited according to the audit team's risk assessment. The risk assessment will be based on the results of the PBRF Audit Questionnaire.

## 1.2 Background Information

Performance in the PBRF will determine the allocation of approximately \$1.6 billion of funding for the six years starting 2012. The majority (60%) of this funding is allocated through the Quality Evaluation.

The TEC implemented the first Quality Evaluation in 2003 as part of the introduction of the PBRF to the New Zealand tertiary education sector.

The 2006 partial PBRF Quality Evaluation was redesigned to incorporate feedback received from the tertiary education sector and TEC's experience gained from the 2003 Quality Evaluation.

In 2012, the Quality Evaluation will be conducted for the third time. The audit approach has again been updated to reflect feedback and lessons from the 2006 audit and to meet the requirements of TEOs and the TEC.

### 1.3 Performance-Based Research Fund

The aims of the PBRF are to:

- increase the average quality of research
- ensure that research continues to support degree and postgraduate teaching
- ensure that funding is available for postgraduate students and researchers
- improve the quality of public information on research outputs
- prevent undue concentration of funding that would undermine research support for all degrees or prevent access to the system by new researchers, and
- underpin the existing research strength in the tertiary education sector.

The PBRF funding formula is based on three measurements with the following weightings:

- Quality Evaluation – 60% weighting
- Postgraduate Research Degree Completions – 25% weighting, and
- External Research Income – 15% weighting.

The Evidence Portfolio (EP) forms the basis of the Quality Evaluation measure and comprises three components with the following weightings:

- Research Outputs (NROs and OROs) – 70% weighting
- Peer Esteem – 15% weighting, and
- Contribution to the Research Environment – 15% weighting.

## 2 Audit objectives

The objectives of the audit are to:

- provide assurance to the TEC that TEOs are applying the guidelines in a transparent, fair, and consistent way that adheres to both the letter and spirit of the guidelines
- determine that TEOs have adequate systems and controls in place for:
  - ensuring their preparedness for the 2012 Quality Evaluation round
  - determining the eligibility of staff, and
  - submitting EPs
- provide assurance to the TEC that the NRO and ORO components of the EP (Quality Evaluation process), and staff eligibility data submitted by TEOs are complete and accurate.

An overview of the audit process is set out in *Section 4 – Overview of audit approach* and further details are provided in '*Appendix A – Additional detail - staff eligibility audit approach*' and '*Appendix B – Additional detail - Research output audit approach*'.

The audit methodology outlined in this document does not include providing assurance over the following processes:

- Peer Esteem (Quality Evaluation process)
- Contribution to the Research Environment (Quality Evaluation process)
- Research Degree Completion (PBRF funding formulae measure)
- External Research Income (PBRF funding formulae measure), and
- Panel Review and Moderation processes.

Assurance over these processes is provided separately through the TEC's internal audit processes. The peer esteem and contribution to the research environment components of a small sample of EPs may be evaluated by the TEC, further advice on this will be provided on this by the TEC at a later date.

## 3 Key Auditing Principles

### 3.1 Guiding principles of the PBRF

The key auditing principles in developing this audit approach are to ensure it is robust, transparent and equitable to all TEOs subject to audit. This aligns with the ten guiding principles of the PBRF. We set out six of these which are particularly relevant to this methodology below:

- *Respect for academic traditions* – the PBRF should operate in a manner that is consistent with academic freedom and institutional autonomy
- *Consistency* – evaluations of quality made through the PBRF should be consistent across the different subject areas and in the calibration of quality ratings against international standards of excellence
- *Continuity* – changes to the PBRF process should only be made where they can bring demonstrable improvements that outweigh the cost of implementing them
- *Credibility* – the methodology, format and processes employed in the PBRF must be credible to those being assessed
- *Efficiency* – administrative and compliance costs should be kept to the minimum consistent with a robust and credible process, and
- *Transparency* – decisions and decision-making processes must be explained openly, except where there is a need to preserve confidentiality and privacy.

The TEC understands concerns relating to the efficiency of the audit approach. This approach strikes an appropriate balance between compliance costs and the necessary level of assurance over this important process.

### 3.2 PBRF Quality Evaluation Auditors

Following a tender process, KPMG has been appointed as the PBRF auditors for the 2012 Quality Evaluation<sup>1</sup>.

To ensure the reputation of the sector is maintained it is essential that the both the letter and the spirit of the guidelines are upheld, the auditors will use a combination of the following three auditing techniques:

- process assurance – providing assurance as to the adequacy and effectiveness of the systems and controls TEOs have in place for the 2012 Quality Evaluation
- substantive testing – reviewing NRO and ORO components of the EPs and staff eligibility data on a sample basis, and
- analytical review – for example; comparing actual eligible staff with expected eligible staff as estimated in the auditor's model.

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<sup>1</sup> KPMG was also appointed as the PBRF auditors for the 2006 Quality Evaluation.

### 3.3 Equity and staff participation

The TEC is aware anecdotally that some TEOs may be using strategies to reduce the number of eligible staff, or may be seeking to include researchers that are not attached to a TEO. As outlined above, the TEC expects TEOs to act within the letter and spirit of the PBRF guidelines and the auditors will be examining for evidence of TEOs using these types of strategies during the PBRF Quality Evaluation.

Strategies that are possibly being used and have been brought to the TEC's attention include:

- TEOs employing 'professional practitioners' under contract
- TEOs placing staff not involved in research "under supervision" when they designing, teaching and assessing degree courses.
- large shifts in subject area designation in the final stages of the PBRF process, and
- new employment contracts for less than a year with revised job titles and responsibilities.

### 3.4 PBRF Quality Evaluation Audit Team

There are six PBRF work streams, one of which is audit. For the 2012 Quality Evaluation, the TEC has appointed David Sinkins as Audit Workstream Leader. The Audit Workstream Leader's key focus will be to manage the audit of TEO processes, NROs, OROs and Staff Eligibility. In addition, he will be responsible for ensuring the auditors are trained in the audit approach and have an understanding of the PBRF environment. The Audit Workstream Leader will manage the communication process with the TEOs in conjunction with representatives from the TEC.

The Audit Workstream Leader's contact details are listed below:

David Sinkins

0800 727 301

Tertiary Education Commission

PO Box 27 048 Wellington 6141

[david.sinkins@tec.govt.nz](mailto:david.sinkins@tec.govt.nz)

## 4 Overview of audit approach

### 4.1 Introduction to audit approach

This section provides an overview of the audit approach the TEC intends to implement to meet the key objectives of the audit approach. The objectives of each phase are as follows:

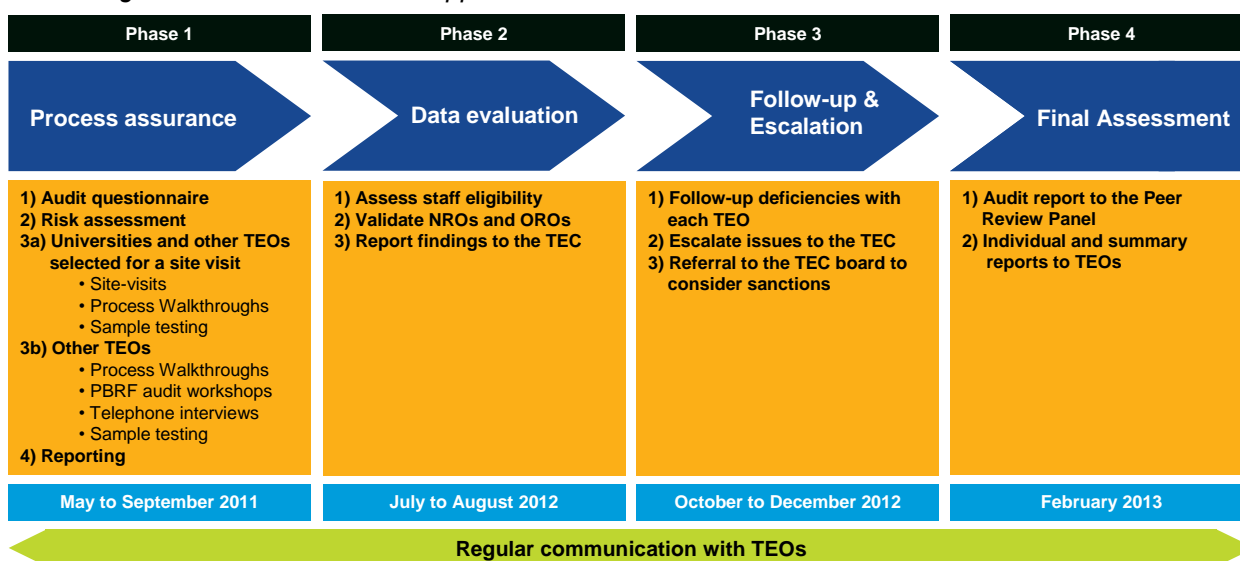
**Phase 1: Process Assurance** - To provide assurance to the TEC that TEOs have adequate systems and controls in place to ensure their preparedness for the 2012 Quality Evaluation, including systems and controls for determining the eligibility of staff and for submitting correct and accurate EPs. This phase will commence with an audit questionnaire to be sent to all TEOs, followed by site-visits to these and other selected TEOs. The audit team will hold telephone interviews with TEOs not selected for a site visit.

**Phase 2: Data Evaluation** - To provide assurance to the TEC and PBRF Peer Review Panels that staff eligibility data submitted by TEOs and the NRO and ORO components of EPs are complete and accurate.

**Phase 3: Follow-up** - To review findings and discrepancies identified and assess whether these require escalation to the TEC Executive Team or Board.

**Phase 4: Final Assessment** - To report to the TEC to provide assurance to the PBRF Peer Review Panels on the accuracy and integrity of TEO application of staff eligibility criteria and the validity of the EPs research outputs.

Diagram 1: Overview of audit approach



Source: TEC

## 4.2 Detailed audit approach

### Phase 1: Process assurance

Phase 1 of the process assurance approach seeks to assess, evaluate and build an understanding of the maturity of each TEOs internal processes systems and controls and their level of preparedness for the Quality Evaluation. We anticipate that this phase will take place between June and September 2011.

This will involve four key audit steps:

#### Step 1: Audit questionnaire

A questionnaire is to be completed by all PBRF-participating TEOs. The questionnaire will focus on providing information to the auditors on matters such as the total population of staff, the number of eligible and ineligible staff at each TEO, and the TEO structure.

The questionnaire places particular emphasis on the maturity of the TEOs' internal quality control processes for ensuring decisions about staff eligibility, and NROs and OROs included in EPs, meet the PBRF criteria. The audit team will follow up with TEOs on questionnaires that are not returned, as this forms an integral part of the audit process.

#### Step 2: Risk assessment

The audit team will analyse the results of the questionnaires and select which Institutes of Technology and Polytechnics (ITPs), Wānanga and Private Training Establishments (PTEs) to visit. This will involve undertaking a risk assessment of TEOs based upon the results of the questionnaire. This risk assessment will influence the level of audit work required for each TEO and whether the audit team will visit each TEO or audit the TEO remotely (desktop-review).

Based on the participation rate and likely distribution of funds, all eight universities will be visited.

#### Step 3: Preliminary site visits and desktop-review

This step varies depending on the TEOs involved. For some TEOs it involves a site visit, whereas for others a desktop-review and telephone interview will be conducted.

##### 3A: Universities and TEOs selected for a site visit

Site visits will take place between June and August 2011.<sup>2</sup> All eight universities and selected other TEOs as identified through Steps 1 and 2 will be visited.

These visits will review in detail internal processes at each TEO. Site visits will cover the following three areas:

- general information
- staff eligibility, and
- research outputs.

A more detailed description of the audit work to be undertaken for each of these three areas is given on the following page.

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<sup>2</sup> We will engage with TEOs as to when is the most appropriate time to conduct these visits.

### *General information*

- meet appropriate TEO personnel, for example:
  - PBRF Manager (or equivalent)
  - TEO's Internal Auditor
  - Vice-Chancellor responsible for Research (or equivalent)
  - Human Resources Manager
- understand the structure of each TEO, and
- confirm information provided in the audit questionnaire.

### *Staff eligibility*

- understand and 'walk through' processes for determining staff eligibility and ineligibility for inclusion in the PBRF Quality Evaluation, including:
  - criteria relating to new and emerging researchers
  - substantiveness and strengthened substantiveness tests
  - staff participation criteria for overseas staff
  - assessment of supervision of staff
  - assessing whether staff have a 'primary role' in teaching, and
  - assigning staff to the correct panels.
- understanding TEO policies and processes relating to:
  - assessing employment period and history (in particular for transferring staff)
  - employment contracts and the various types in use by each TEO
  - sub-contracted staff, and
  - Chief Executive Officer / Vice-Chancellor declaration sign-off.
- testing an attribute-based sample of eligible and non-eligible staff at each TEO.

### *Research outputs*

- assess quality assurance processes for submitting EPs (both submitting EPs internally within TEOs and for submission to the TEC)
- determine staff contributions to research outputs
- processes for identifying, validating, and recording research outputs (both NROs and OROs), and
- test an attribute-based sample of EPs and verifying a sub-sample of NROs and OROs.

Testing will ensure that at least one EP is tested for each of the 12 peer review panels and one EP for each participating TEO.

### **3B: Other TEOs (Workshop and desktop-review)**

The audit team will facilitate two PBRF audit workshops (one in Auckland the other Wellington). The primary audience of these workshops will be the other TEOs not subject to a site visit in Phase 1, however all interested parties are welcome to attend. These workshops will be held in September 2011 and will cover:

- what the TEO needs to do to be prepared for the audit
- the TEC's expectations, i.e. the PBRF guiding principles and guidelines, and
- key dates for the PBRF audit.

It is expected that most ITPs, Wānanga and PTEs will be audited remotely but some site visits will be made where deemed necessary. The remotely completed desktop-review will involve completion of the audit questionnaire and a telephone interview to further understand the TEO's processes for the PBRF Quality Evaluation. At this stage the audit team will also test a sample of up to five EPs from each desktop-reviewed TEO. The telephone interview will cover similar content to the site visits of universities and selected other TEOs described in Step 3A, above.

#### **Step 4: Reporting**

The audit workstream leader will prepare a report to the TEOs, the TEC and the PBRF steering group on each TEO's preparedness for the 2012 Quality Evaluation and the auditor's opinion as to the adequacy of the TEOs' processes

The results of the process assurance phase at the TEOs will determine the sample size applied to the staff eligibility and research outputs testing in Phase 2: Data Evaluation.

### **Phase 2: Data Evaluation**

Phase 2 of the PBRF audit process will involve validation of the information provided by TEOs in two steps. We anticipate that this phase will take place between July and August 2012.

#### **Step 1: Assess staff eligibility**

Assessment of PBRF staff eligibility will occur initially through the assessment and evaluation of information obtained from the process assurance phase. The process assurance phase includes a risk assessment of each TEO. This risk assessment will influence the sample sizes selected for the assessment of staff eligibility.

This step will include substantive testing of staff eligibility data on a sample basis and the use of analytical review auditing techniques to assess compliance with the PBRF guidelines.

Timing of this part of the review process will be dependent on complete information received from the PBRF Census in June 2012. It is anticipated that this will be performed during July and August 2012.

Refer to *'Appendix A – Additional detail – staff eligibility audit approach'* for further information on this step.

## **Step 2: Validation of Nominated Research Outputs (NROs) and Other Research Outputs (OROs)**

The data integrity of the RO component of the EP, in particular the NRO, forms the most important aspect of the evaluation process due to its significant weighting of 70%.

The objective of this audit process is to provide assurance to the TEC that the NROs and OROs are complete and accurate based on a robust sampling methodology. The size of the sample at each TEO will be influenced by the results of Phase 1: Process assurance.

The validation of NROs and OROs will involve:

- assessing the completeness of EP data submitted, and
- remotely assessing research outputs.

The auditors will sample proportionally more NROs than OROs due to their significance and weighting during the evaluation process by the Peer Review Panels.

Refer to *'Appendix B – Additional detail - Research output audit approach'* for further information on this step.

## **Phase 3: Follow up and Escalation**

In cases where the auditor identifies discrepancies resulting from the misapplication of the PBRF guidelines, we have adopted the following escalation approach:

- 1) follow-up with the TEO to address NRO, ORO and Staff Eligibility discrepancies. As part of the site visit, we will identify a key contact at each TEO where we would address the discrepancy first. If discrepancies are identified, the affected TEOs may be selected for a follow-up site visit. This site visit will focus on identifying the cause of discrepancies and understanding the impact of these discrepancies on that TEOs PBRF information
- 2) an escalation progress report will be issued to the TEC. This report will summarise the issues to the TEC. The TEC is to use the report to analyse trends and to monitor TEO response time, and
- 3) referral to the TEC Board to consider applying sanctions resulting from escalated issues as set out in the PBRF Guidelines.

We anticipate that this phase will take place between July and December 2012.

## **Phase 4: Final Assessment**

The final phase in the audit approach is a report to the Peer Review Panel on the outcomes of the audit. The report will include recommended improvements to the PBRF process, which should be implemented in time for the 2018 Quality Evaluation Audit process.

Feedback to TEOs will occur at site visits as applicable. The TEC will report back to TEOs on an individual basis and through an overall summary report.

We anticipate this phase occurring in February 2013.

## 5 Audit protocols

### 5.1 Tools and templates

The audit team will use a range of tools and templates to collect the information to ensure auditors apply a consistent approach. Tools and templates may include:

*Table 1: Audit tools and templates*

Template	Description
Audit Checklist and File Structure Template (including electronic records)	A checklist to ensure each step of the process has been completed for each TEO (as appropriate).
Questionnaire for TEOs	A series of questions designed to assist the auditors to understand the process related to the PBRF Quality Evaluation in place at each TEO.
Work programmes for: <ul style="list-style-type: none"> <li>• Site visits</li> <li>• Desktop-reviews</li> <li>• Staff Eligibility</li> <li>• Research Outputs</li> </ul>	Work programmes form the detailed approach for the audits. They outline what audit steps will be performed at each TEO.
Staff Eligibility templates: <ul style="list-style-type: none"> <li>• Selecting sample template</li> <li>• Performing tests</li> <li>• Reconciliation template</li> <li>• Discrepancies template</li> </ul>	Templates designed to assist with: <ul style="list-style-type: none"> <li>• selecting the sample</li> <li>• performing tests to ensure consistency with the audit approach, and</li> <li>• performing the reconciliation.</li> </ul>
Research Outputs templates: <ul style="list-style-type: none"> <li>• Selecting sample template</li> <li>• Performing tests</li> <li>• Discrepancies template</li> </ul>	Templates designed to assist with: <ul style="list-style-type: none"> <li>• selecting the sample, and</li> <li>• performing tests to ensure consistency with the audit approach.</li> </ul>
Reporting template to TEC / TEOs	Reporting to the TEC and TEOs on audit findings and discrepancies.

*Source: TEC*

### 5.2 Communication

Communication is a vital tool in ensuring the success of this audit. Therefore, the TEC will keep the TEOs PBRF coordinator briefed during the audit approach process through the TEC website and TEC NoW updates. The TEC envisage communication including:

- initial notification to TEOs of key audit dates
- distribution of questionnaire to all TEOs
- follow up on questionnaires
- follow up on missing data
- further information relating to staff eligibility and research outputs
- site visits, and

- reporting.

### **5.3 Availability of Research Outputs**

For the 2012 Quality Evaluation, the majority of ROs (including NROs and OROs) will be available electronically through the PBRF IT system. However, as outlined in the PBRF Guidelines, the TEC may request any non-electronic ROs for verification purposes and any NRO for assessment purposes. TEOs are required to provide suitable information within 10 working days of any request.

### **5.4 Complaints regarding TEO activities**

The TEC has established a telephone number, 0800 727 301 to enable anyone with concerns about any TEOs' practices in applying the Guidelines to raise these in a confidential way. The auditors will evaluate and determine whether the complaint warrants investigation and follow the escalation processes set out in Appendices A and B as appropriate.

The 0800 telephone number will be available between 8:30am and 5pm, Monday to Friday.

### **5.5 Complaints regarding the Auditors**

Complaints regarding the activities / behaviours of an auditor should be made in **writing** to the PBRF Project Manager.

The relevant contact details are:

Amber Flynn

PBRF Project Manager

Tertiary Investment and Monitoring Directorate - Implementation Design

Tertiary Education Commission

PO Box 27-048

Wellington 6141

Email to: [pbrfinfo@tec.govt.nz](mailto:pbrfinfo@tec.govt.nz)

### **5.6 TEO audit contact**

Each TEO is required to nominate a contact person with whom the Auditors will be responsible for maintaining day-to-day communication. This contact person will also be responsible for addressing NRO, ORO, and Staff Eligibility issues. Issues that the TEC auditors are unable to resolve will be escalated to the TEC's Audit Workstream Leader.

## **Appendix A – Additional detail - staff eligibility audit approach**

### **Staff Eligibility Audit process**

#### **Key risk:**

The key risk associated with the PBRF process relates to TEOs not assessing staff eligibility correctly, resulting in an understatement the number of eligible staff. This may be intentional or unintentional. staff eligibility may be incorrectly assessed due to:

- incorrectly applying the PBRF Guidelines, and
- not including staff who are eligible because their own internal quality evaluation assessment would have resulted as an “R” or “R(NE)” which would lower the overall FTE-weighted score. TEOs may consider this might affect their reputation and the image they are trying to promote.

The audit team will use the following audit techniques (where appropriate) to mitigate the key risk (understatement of eligible staff)

#### **Process assurance:**

Process assurance auditing techniques may include:

- reviewing processes to determine how TEOs identify eligible and ineligible staff. Particular focus will be on:
  - staff classified as less than 0.2 FTE
  - new and emerging researchers
  - staff who have recently transferred to the TEO
  - decision as to whether staff have a primary role in teaching
  - contractors, and
  - overseas staff.
- researching publicly available information to identify related entities under the control of TEOs and ascertaining whether these entities include eligible staff.

#### **Substantive testing:**

Reviewing staff eligibility data on a sample basis to assess compliance with the PBRF guidelines. Substantive testing techniques may include:

- performing a completeness check to ensure data is submitted by all participating TEOs
- reviewing a sample of staff who are eligible and ineligible for each TEO. Particular emphasis will be placed on staff that are ineligible to address the key risk identified above
- identifying staff that remain employed by TEOs that were recorded in the 2006 census but not in 2012. Investigate reasons for their 2012 ineligibility

- reviewing the first academic appointment date for a sample of new and emerging researchers
- reviewing a sample of employment contracts to identify staff with unusually short-term contracts due for expiry / renewal on or around the census date
- comparing the PBRF 'primary panel' of a sample of staff against their degree level course teaching for consistency, and
- comparing TEO staff lists with PBRF census data and Ministry of Education National Student Number data for reasonableness.

**Analytical review:**

Using alternative sources of information to develop a model to estimate the number of eligible staff per TEO. Analytical review techniques may include:

- using 2006 PBRF census data to build an expectation of each TEOs eligible staff. Comparing this with actual census data and investigating significant variances, and
- developing a student to eligible staff ratio and applying across the sector. Investigate significant variances.

**Sample sizes:**

All sample sizes will be based on the results of Phase1: Process assurance. TEOs identified as higher risk will be subject to an increased confidence level in our sampling process and accordingly a higher sample size. We expect that a greater level of sampling will occur in the 2012 audit than in 2006. If discrepancies are identified at a TEO we will increase our sample size to obtain the required level of confidence.

**Discrepancies:**

Any discrepancies will be followed up with TEOs and escalated to the TEC Board as appropriate.

**Staff eligibility follow-up and escalation process**

As part of Phase 2: Data evaluation the audit team will identify any staff eligibility related discrepancies requiring further explanation. This follow up phase will involve two key steps:

**Step 1:** The audit team attempt to resolve any discrepancies through direct communication with the TEO. Discrepancies may result from:

- submission of an evidence portfolio for a staff member but the staff member is not listed as part of the PBRF Census (Staffing Return) data
- submission of eligible staff as part of the PBRF Census (Staffing Return) data but no EP has been submitted and the staff member is not listed as part of the Category "R" and "R(NE)" staff listing
- entering "No" for the PBRF Flag on the PRBF Census (Staffing Return) data return
- FTE status discrepancies
- employment history discrepancies, and

- non-reconciling items due to duplicate staff or lack of unique identification numbers.

**Step 2:** If the audit team is not satisfied with the response and/or documentation received from the TEO, the audit workstream Leader will determine whether to:

- expand the TEOs sample of eligible staff and/or
- perform a further site visit to the TEO and/or
- report the issue to TEC, and/or
- escalate the issue to the TEC Executive Team or Board.

## **Appendix B – Additional detail - Research output audit approach**

### **Research output audit process**

As part of the first stage of the quality evaluation, TEOs are required to assess the research performance of their eligible staff in a self-assessment exercise.

EPs of staff that are considered to be of an “A”, “B”, “C” or “C(NE)” quality category standard are forwarded to the subject panels for peer review.

The Research Output comprises two parts:

- Nominated Research Outputs (NROs), and
- Other Research Outputs (OROs).

Eligible staff can submit up to four NROs and, where they have four NROs, up to an additional 30 OROs. TEOs will submit EPs by either uploading a file of EPs and associated NRO files to the TEC, or submitting an EP online and uploading the associated NRO files.

This aspect of the audit approach involves assessing the integrity and validity of the research outputs to ensure that information relating to research outputs is accurate and reliable prior to evaluation by the panels.

The key risk associated with ROs include:

- ROs are submitted that fall outside the assessment period
- RO is incorrectly recorded as Quality Assured when it is not
- staff member did not contribute to one or more of the listed outputs and/or co-authors and/or co-producers have not been acknowledged
- staff member has misstated their role in the RO
- special circumstances are stated when these are incorrect / invalid, and
- location provided for the RO is inaccurate.

To address these key risks, the audit team will select a stratified sample of NROs and OROs and validate that the:

- ROs exist
- RO was produced during the assessment period
- stated researcher produced the RO and not someone else
- researcher’s role is stated correctly (e.g. the researcher claims authorship of a book when the input was editorial in nature), and
- type of the RO is correctly recorded (e.g. a conference contribution is not recorded as a journal article).

Testing will be stratified to ensure that at least one EP is tested for each of the 12 peer review panels and that at least one EP is reviewed for each participating TEO.

## Research output follow-up and escalation process

As part of Phase 2: Data evaluation the audit team will identify any research output related discrepancies requiring further explanation. This Follow-up Phase will involve 2 key steps:

**Step 1:** Resolution of any discrepancies through direct communication with the TEO. Discrepancies identified will require assessment in accordance with the type of discrepancies identified to determine the level of discrepancy: Fundamental, Serious or Minor

Table 2: Research output escalation criteria

<b>Fundamental</b>	<b>Fundamental errors are those that render research outputs ineligible (and thus the output is discounted from the assessment process)</b>
	<ul style="list-style-type: none"> <li>• The output was produced (i.e. published, performed, exhibited, etc) outside the assessment period for the 2012 Quality Evaluation</li> <li>• The output was not authored by the person who submitted the relevant EP</li> <li>• There was no evidence to confirm the output's existence</li> </ul>
<b>Serious</b>	<b>Serious errors are those that materially affect a panel assessors judgement on the quality of research outputs</b>
	<ul style="list-style-type: none"> <li>• Claims that an edited book was an authored book</li> <li>• Failure to include the names of co-authors, thus implying that the research output was sole-authored</li> <li>• Claims that a conference contribution was a journal article (or a book chapter)</li> <li>• Significant location errors that might affect an assessor's perception of an research output (e.g. the wrong publisher)</li> <li>• Title errors that might affect an assessors perception of a research output</li> <li>• Claims that an output had significantly more (or fewer) pages (i.e. 30% plus or minus) than was actually the case</li> </ul>
<b>Minor</b>	<b>Discrepancies that show a lack of attention to detail and will not affect the assessment of the EP</b>
	<ul style="list-style-type: none"> <li>• Simple errors such as typographical mistakes i.e. wrongly recorded volume number, page numbers, and spelling title mistakes</li> </ul>

Source: TEC

**Step 2:** If the response and/or documentation received from the TEO does not adequately address or explain the discrepancy, the Workstream Leader will determine, along with the number of types of discrepancies, whether to:

- expand the TEO's sample of ROs for the TEO / individual and/or
- perform a further site visit to the TEO and/or
- report the issue to TEC, and/or
- escalate the issue to the TEC Executive Team or Board.

## **Appendix C: IT system to support the PBRF Quality Evaluation**

The TEC has commissioned the development of an IT system to support the 2012 Quality Evaluation. The IT system will support the audit of the Quality Evaluation in three ways:

- provide the population from which the auditors will select samples for testing staff eligibility and EP data
- provide electronic sources for many NROs and OROs submitted for evaluation, and
- use system based controls to validate data submitted as part of the Quality Evaluation. These controls are listed below.

The IT system controls will validate:

### **Census data**

- Census data against the National Student index, and
- Confirm Census data has been loaded from every TEO.

### **EP data**

- that the EP contains the minimum required information
- EP data against the NSI using name, date of birth
- EP data against the census
- that at least one NRO has been submitted for each EP
- that each EP contains no more than 4 NROs and no more than 30 OROs, PE and CRE
- that EPs have been submitted and processed from every participating TEO, and
- that if an EP includes an NRO that links to a file in the TEC file store, the IT system checks that a file exists.