

## **Corrective Action Plan (CAP)**

# **Environmental Protection Program**

Submitted by TransCanada PipeLines Limited and its National Energy Board – Regulated Subsidiaries to address non-compliant findings in the National Energy Board's

Final Audit Report – Environmental Protection Program

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#### 1. AUDIT FINDINGS

The *National Energy Board Onshore Pipeline Regulations* Final Audit Report (March 31, 2014) on TransCanada PipeLines Limited's (TransCanada) Environmental Protection Program (EPP) identified findings in various Management System sub-elements:

Finding	NEB Element	NEB Sub-Element	
1	1.0 Policy and Commitment	1.2 Policy and Commitment Statements	
2		2.1 Hazard Identification, Risk Assessment and Control	
3	2.0 Planning	2.2 Legal Requirements	
4		2.3 Goals, Objectives and Targets	
5		3.3 Management of Change	
6	2.0 Locale mentation	3.4 Training, Competence and Evaluation	
7	3.0 Implementation	3.5 Communication	
8		3.6 Documentation and Document Control	
9	4.0 Checking and Corrective Action	4.1 Inspection, Measurement and Monitoring	
10		4.3 Internal Audits	
11	5.0 Management Review	5.1 Management Review	

In addition to a number of improvement areas identified for the EPP, there were also several positive observations including:

- Confirmation that the EPP manages and controls the environmental hazards associated with TransCanada's facilities, processes and activities;
- Acknowledgement that company personnel and contractors are appropriately informed and/or trained on the EPP practices and procedures; and
- Confirmation that TransCanada has properly resourced the EPP and that senior management is involved in the implementation and oversight of the program.

#### 2. CAP RESPONSE METHODOLOGY

In developing this Corrective Action Plan (CAP), TransCanada considered the National Energy Board (NEB) findings, Onshore Pipeline Regulations (OPR), current practices, scope, resourcing requirements and implementation timelines. While preliminary milestones have been established to address all findings, the working teams formed will establish more detailed execution plans. The steps and timelines presented in this CAP are TransCanada's best estimate for the time to complete the work outlined, assuming approval of the CAP within 30 days from submission. TransCanada will notify the NEB in advance if, at any time during the implementation of these improvement activities outlined in the CAP, significant changes to the plans are required.

Where findings were common across all five of the protection programs audited by the NEB (Protection Programs), TransCanada will consider implementing broader systemic processes to address the gaps identified. This cross-functional and organizational review is a significant undertaking that will require time to design, develop and implement. To accomplish this, TransCanada proposes the establishment of cross-functional working teams and governance committees to ensure organizational alignment and support. Intermediate deliverables have been established for these broader issues to measure progress on these CAPs. Once key corrective actions are implemented, an internal review will be undertaken to determine adherence and effectiveness of new processes and procedures. Therefore, some CAP milestones have been extended to allow for the review cycle.

Detailed below are brief summaries of the audit findings and TransCanada's proposed corrective action to address each finding.

#### 3. SUB-ELEMENT 1.2: POLICY AND COMMITMENT STATEMENTS

## 3.1 Finding

The Board determined that TransCanada's Health, Safety and Environment (HSE) Commitment Statement provides clear policies and goals towards environmental protection. However, it is not clear from TransCanada's Code of Business Ethics (COBE) that TransCanada staff who report hazards, potential hazards, incidents and near-misses would be granted immunity from disciplinary action as required by the NEB's expectations. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

#### 3.2 Corrective Action

TransCanada has updated its HSE Commitment Statement to include language that clearly defines that employees are immune from retaliation resulting from reporting of hazards, potential hazards, incidents and near misses.

TransCanada will revise the language in the COBE and the Incident and Issue Management Program to more clearly state that immunity from retaliation for reporting is provided for those who report issues, incidents, hazards or near misses.

TransCanada will deliver a focused communication and awareness campaign to ensure that employees and in-house contractors are aware of the changes made and processes for reporting.

## 3.2.1 CAP Schedule / Stage Gates for Implementation

The documents will be updated by December 31, 2014, and communicated to employees and in-house contractors by May 31, 2015.

#### 3.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Updated HSE Commitment Statement;
- Updated Incident Management Program Document;
- Updated COBE; and
- Executed awareness campaign.

## 4. SUB-ELEMENT 2.1: HAZARD IDENTIFICATION, RISK ASSESSMENT AND CONTROL

## 4.1 Finding

TransCanada demonstrated that it has implemented elements of a hazard identification process; however, it lacks an established and documented process to ensure ongoing review and maintenance of its hazard inventory. In addition, TransCanada was unable to demonstrate an implemented risk assessment process for the EP Program. As a result, TransCanada was not able to demonstrate that it had met the NEB's requirements and was found to be Non-Compliant in this sub-element.

## **4.2** Corrective Action

TransCanada will formalize and implement a process for identifying, analyzing and consolidating an inventory of its hazards and potential hazards for its Protection Programs. TransCanada will also review, refine and implement a process for evaluating and managing the risks associated with the identified hazards, including the risks related to normal and abnormal operating conditions.

TransCanada will further refine these processes by first compiling a hazard inventory that incorporates hazards previously identified in existing processes, then revising the hazard identification process and re-evaluating the inventory.

Following the documentation of these processes, TransCanada will develop and deliver the awareness training for Protection Program stakeholders that will enable them to carry out the processes outlined. Existing documents will be modified to reference the updated processes.

All processes noted above, including hazard identification and analysis, hazard inventories and risk assessment, will be documented and housed in a corporate document controlled repository that will provide:

- Accessibility by program owners and program staff;
- Review by dates specified;
- Reference to document/process owner;
- Revision control; and
- Version control.

## 4.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Compile existing Hazard Inventories September 30, 2014;
- Finalized process for identifying and analyzing Hazards December 31, 2014;
- Finalized process for assessing risk December 31, 2014;
- Process Training completion March 15, 2015;
- Refined Hazards Inventory based on updated process April 15, 2015; and
- Document changes completed May 15, 2015.

#### **4.2.2** Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions

- Hazard Inventory populated using current processes for all Protection Programs;
- Hazard Identification and analysis process developed and documented;

- Hazard Inventory process developed and documented;
- Risk Assessment process developed and documented;
- Training on updated processes provided to Protection Program stakeholders
- Updated Hazard Inventory based on new processes developed; and
- Existing TransCanada documents updated to reference new processes.

#### 5. SUB-ELEMENT 2.2: LEGAL REQUIREMENTS

## 5.1 Finding

TransCanada demonstrated that it is tracking, listing and communicating some of its legal requirements. However, TransCanada did not demonstrate that it has a complete inventory of specific legal requirements. Therefore, TransCanada did not demonstrate that it has an established, implemented and effective process for identifying and monitoring compliance with all legal requirements that are applicable to the company in matters of protection of the environment. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

#### **5.2** Corrective Action

To address the NEB's findings for the Legal Requirements sub-element, TransCanada will review, update, populate and maintain a list of regulatory requirements for the EPP for NEB-regulated facilities and activities.

TransCanada will also implement a common process for identifying and managing changes to legal requirements applicable to EPP for NEB-regulated assets. The process will consolidate and improve upon existing legislative monitoring processes currently in use and will leverage the concordance table that will be developed.

Following the establishment of the processes and related documents, TransCanada will develop and deliver awareness training to Protection Program stakeholders that will enable them to carry out the processes outlined. Once the training is complete, existing program documents will be modified using the new process.

## **5.2.1** CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

• Compile a comprehensive list of legal requirements for NEB regulated facilities and associated activities – December 31, 2014;

- Develop a concordance table to align legal requirements with TransCanada's facilities and associated activities December 31, 2015;
- Develop a process for legislative monitoring March 31, 2015;
- Process Training completion September 30, 2015; and
- Relevant document changes completed December 31, 2015.

## **5.2.2** Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Concordance table developed and aligned to NEB Regulations;
- Legislative monitoring process updated;
- Training on updated processes provided to Protection Program stakeholders; and
- Existing TransCanada documents updated to reference new processes.

## 6. SUB-ELEMENT 2.3: GOALS, OBJECTIVES AND TARGETS (GOT)

#### 6.1 Finding

TransCanada demonstrated that it has developed a corporate objective to remain compliant with environmental regulations. However, it did not demonstrate that specific environmental protection GOTs were documented nor discussed at management meetings. Therefore, TransCanada did not demonstrate that it has an established, implemented and effective process for developing and setting goals, objectives and specific targets relevant to the risks and hazards associated with its facilities and activities. As a result, the NEB found that this sub-element is Non-Compliant.

#### **6.2** Corrective Action

TransCanada has developed GOTs that are more specifically tied to its EP, including metrics around Environmental Stewardship, Environmental Protection and Environmental Performance. Further work will be performed to link each target to hazard control protection at the subprogram level.

TransCanada will also review and standardize its processes for setting GOTs for all of its Protection Programs. The process will leverage and reference the Environment Strategy, be documented and include provisions for communication to EP Program stakeholders. Following the establishment of the process, TransCanada will awareness training for protection program stakeholders that will enable them to carry out the processes outlined.

Once the training is complete, GOTs for the EP Program will be set using the updated process. The program level GOTs will be documented and used as a basis for the development of subprogram level GOTs. This systematic approach will promote alignment of programs, Environment Strategy and corporate environmental GOTs. Once all GOTs are developed, remaining document updates will proceed to ensure appropriate linkages are made to the new GOTs and references within existing documentation are correct.

The GOTs process noted above will be documented and housed in a corporate document controlled repository that will provide:

- Accessibility by program owners and program staff;
- Review by dates specified;
- Reference to document/process owner;
- Revision control; and
- Version control.

## **6.2.1** CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Finalize GOTs setting process February 13, 2015;
- Process training completion April 30, 2015;
- Finalize program level GOTs May 15, 2015;
- Finalize sub-program level GOTs September 15, 2015; and
- Complete document changes October 31, 2015.

#### **6.2.2** Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- GOTs setting process for Protection Programs is reviewed, standardized and documented;
- Training on updated processes provided to Protection Program stakeholders;
- Program GOTs are incorporated into program documentation; and
- Program documentation is housed in a corporate document controlled repository.

#### 7. SUB-ELEMENT 3.3: MANAGEMENT OF CHANGE

## 7.1 Finding

TransCanada has implemented some aspects of a Management of Change (MOC) process. However, TransCanada did not demonstrate that it has established and implemented a process for proactively identifying and managing any change that could affect safety, security or protection of the environment. This includes any new hazard or risk, any change in design, specification or standard or procedure and any change in the company's organizational structure or applicable legal requirements. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

#### 7.2 Corrective Action

TransCanada is in the midst of implementing a revised MOC framework, which provides a consistent methodology for the management of change. This framework reflects a more comprehensive approach beyond the use of the Pipe Integrity MOC and TransCanada Operating Procedures (TOPs) MOC processes as reviewed during the audit.

The revised MOC process manages technical and physical changes, document change procedures, and variances and process changes for the Operations and Engineering (O&E) department.

A pilot program for this process was completed, and lessons learned were incorporated. It will now be implemented for all EP programs.

## 7.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- MOC rollout and training to all EPPs for NEB-regulated facilities October 31, 2014; and
- Internal audit of consistent use of process April 30, 2015.

#### 7.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- MOC rolled out on schedule;
- Training completed on updated processes provided to Protection Program stakeholders for NEB-regulated facilities; and
- Audit of consistent use of the process completed.

## 8. SUB-ELEMENT 3.4: TRAINING, COMPETENCE AND EVALUATION

## 8.1 Finding

TransCanada was able to demonstrate that it invested a significant amount of resources in developing and implementing a formal training process. However, it was not able to demonstrate that it has effectively established and implemented processes for developing and verifying competency requirements for operations staff to conduct environmental related tasks. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

#### **8.2** Corrective Action

To address the NEB's findings for the Training, Competence & Evaluation sub-element, TransCanada will compile a list of environmental tasks performed in the field; assess qualifications and competencies required to complete environmental tasks; and ensure that only qualified personnel perform environmental tasks.

Leveraging existing training tools, TransCanada will review and update training requirements and track completion for those who have environmental tasks assigned to them.

## 8.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Compile a list of environmental tasks performed in the field June 30, 2014;
- Assess qualifications and competencies required to complete environmental tasks
   December 31, 2014;
- Review and update training requirements in Learning Management System tool as necessary March 31, 2015;
- Track training completion for those who have environmental tasks assigned to them September 30, 2015; and
- Conduct an audit to verify that only qualified personnel have performed environmental tasks March 2015.

## 8.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

• Environmental Training and Awareness Program updated;

- Training profiles for personnel performing environmental tasks updated based on established qualification and competency requirements; and
- Verification that competent personnel perform environmental task.

#### 9. SUB-ELEMENT 3.5: COMMUNICATION

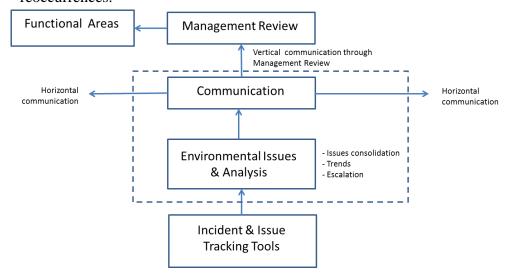
## 9.1 Finding

TransCanada demonstrated appropriate, ongoing communication practices, procedures and activities between TransCanada and its external stakeholders. However, it did not demonstrate the communication of environmental Non-Compliances (in particular NEB Non-Compliances) vertically and horizontally across the organization in order to prevent reoccurrences of the same issue. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

#### 9.2 Corrective Action

TransCanada will improve communication of non-compliance findings by developing a process that includes the following elements:

- Gathering of data and information on non-compliance findings from TransCanada incident and issue tracking tools;
- Analysis and evaluation of non-compliance findings to assess causes, trends, triggers for escalation, and necessary corrective actions; and
- Focused and more effective communication on environmental non-compliances vertically to management review functions, preceded by horizontal communication with the aim to address issues and prevent non-compliance reoccurrences.



The process will address horizontal communication of Non-Compliances to cross functional teams and vertical communication of Non-Compliances will be identified and communicated through the Management Review process and linkages with the review of any decisions, actions and commitments which relate to the improvement of the management system and Protection Programs, and the company's overall performance.

## 9.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Develop process improvement or new approach November 30, 2014;
- Process Training completion February 28, 2015; and
- Document changes completed March 31, 2015.

### 9.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Updated process documented and housed a corporate document controlled repository;
- Training on updated processes above provided to EP Program stakeholders; and
- Analysis of trends completed on a quarterly basis and communicated to management.

#### 10. SUB-ELEMENT 3.6: DOCUMENTATION AND DOCUMENT CONTROL

#### 10.1 Finding

TransCanada demonstrated that it has established and implemented a process for the development, revision and management of operational procedures. However, it was not able to demonstrate that other pertinent EPP documents (design standards, manuals, etc.) being used across the organization were periodically reviewed and revised to ensure its adequacy and effectiveness. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

#### **10.2** Corrective Action

The TOPs program framework document provides the basis for continuous improvement of the TOPs. The framework outlines the process for planning, document development, analysis, measurement, control, audits and alignment with management systems. The majority of TransCanada's documentation for the EPP is kept in the TOPs database.

To address the NEB's findings for the Documentation and Document Control subelement, TransCanada will review EPP documents that are not currently maintained in the TOPs database and reviewed through the TOPs process, define reviewers for annual review of these documents, and then store and maintain them going forward utilizing the TOPs database.

TransCanada will identify EPP documents remaining outside of the document control systems for incorporation into the TOPs database.

## 10.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Updated Mainline and BC Environmental Design Standard January 30, 2015;
- Updated Mainline and BC Environmental Design Standard incorporated into document control system February 6, 2015;
- Updated Post Construction Reclamation and Monitoring (PCRM) Integrity Plan August 8, 2014;
- Updated PCRM Integrity Plan incorporated into document control system August 15, 2014;
- Updated Site Assessment Remediation and Monitoring Program August 8, 2014;
- Updated SARM Program document incorporated into document control system August 15, 2014;
- Updated Noise Design Philosophy and Procedure documents December 31, 2014;
- Updated Waste and Hazardous Materials Management Manual August 8, 2014;
- Completed list of other environmental protection program documents with document management gaps August 8, 2014;
- Implementation plan to address other environmental protection program document management gaps –September 19, 2014; and
- Review and revise document control standard December 31, 2014.

#### **10.2.2** Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Documents referenced above updated to include review and revision guidance;
- Documents referenced above incorporated into the TOPs document control system; and
- Review of other environmental protection documents outside of a document control system completed and entered into TOPs document control system.

## 11. Sub-Element 4.1: Inspection, Measurement and Monitoring

## 11.1 Finding

TransCanada demonstrated established processes for inspecting and monitoring its activities and facilities in order to evaluate the adequacy and effectiveness of its EP Program. However, it could not demonstrate that these processes are being consistently implemented. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

#### 11.2 Corrective Action

TransCanada will change the process for recordkeeping on Planned Inspections by requiring a copy of completed inspection reports to be submitted to a centralized repository for review for quality assurance and trending purposes. Actions will be identified and taken to address gaps.

Additionally, the requirements for consistently identifying and reporting environmental issues during aerial patrols will be reinforced through training and auditing of surveillance reports.

#### 11.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Modify procedure to require submission of planned inspection records to centralized repository – July 2014; and
- Re-Training on environmental requirements of aerial patrol procedures September 2014.

#### 11.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Consistent completeness of Planned Inspection Reports;
- Completed trending of issues noted in planned inspections; and

• Improved review of environmental conditions by aerial patrol as demonstrated through reports.

#### 12. SUB-ELEMENT 4.3: INTERNAL AUDITS

## 12.1 Finding

TransCanada demonstrated that its quality assurance program is implemented on a scale that exceeds the NEB's expectations with respect to frequency. However, the audits focused on conformance to internal requirements rather than compliance with statutory requirements. There was also a lack of guidance to enable senior management to prioritize and manage corrective and preventive actions for deficiencies identified in audits. As a result, the NEB found TransCanada to be Non-Compliant with this subelement.

#### 12.2 Corrective Action

To address the NEB's findings for the Internal Audit sub-element, TransCanada will review audit procedures and protocols for incorporation of records of verification to legal requirements. This CAP will be implemented in conjunction with the CAP for Sub-Element 2.2 and will incorporate regulatory requirements into the audit protocols. Accordingly the timetable for completion of this CAP is linked to the milestones for the CAP for Sub- Element 2.2.

Further development of the process whereby management evaluates and prioritizes audit finding for corrective and preventive action is addressed in the Management Review CAP.

#### 12.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Develop a process for auditing compliance to legal requirements at sub-program level July 31, 2015; and
- Implement changes to audit process and plan to incorporate a subsection for legal July 31, 2015.

#### 12.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

• Internal audit procedures and protocols revised to include assessment of compliance to legal requirements.

#### 13. SUB-ELEMENT 5.1: MANAGEMENT REVIEW

#### 13.1 Finding

TransCanada demonstrated that it is undertaking a significant number of management review activities consistent with the descriptions included in its internal Health Safety & Environment Framework document. However, TransCanada did not demonstrate that it has a documented and comprehensive process for conducting a consistent management review of the EP and for ensuring continual improvement as described in the NEB's expectations. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

#### 13.2 Corrective Action

TransCanada will improve management review of environment related issues through quarterly reporting on the environmental protection metrics discussed in Section 6.2 above.

TransCanada will also develop criteria to assist senior leaders in prioritizing issues and audit findings tied to compliance.

To address the NEB's remaining finding for the Management Review sub-element, TransCanada will review and consolidate its existing management review processes and incorporate into an annual management review of the programs contained in the EPP. The review will consider the management system and each Protection Program to ensure continual improvement. The annual review will include a review of any decisions, actions and commitments which relate to the improvement of the management system and Protection Programs, and the company's overall performance.

#### 13.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Develop quarterly reporting of EPP metrics December 31, 2014;
- Develop criteria for prioritizing management actions December 31, 2014;
- Finalized process for annual Management Review February 28, 2015; and
- Complete proposed document changes –May 15, 2015.

#### 13.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Quarterly reporting of EPP metrics in place;
- Audit findings criteria for prioritizing management actions in place;

- Process for conducting an annual management review of the management system and each Protection Program established;
- Training on updated processes above provided to Protection Program stakeholders; and
- Existing TransCanada documents updated to reference new processes.

#### 14. MANAGEMENT REVIEW OF CAP OUTCOMES

Regular updates to management on the progress of the Program and the CAP will be provided through regular reporting and progress reviews.

#### **Responsible Vice President and Affected Directors and Managers**

The progress of the CAP will be reported in the applicable Business Review Report to the Manager, Director, and Vice President levels of the responsible departments. The Vice Presidents and their Directors complete a formal review of information, which may include scorecards and summaries quarterly to ensure timely line of sight to the progress of the CAP and to identify required actions to ensure GOTs targets are met.

## **Senior Management**

The progress of the CAP will be communicated to the O&E Senior Governance Committee (SGC) through the O&E Scorecard. The SGC provides the highest level of management governance. At the SGC level, formal monthly management reviews are held to discuss key items of concern, including any material deviations from the CAP objectives and required actions to ensure objectives can be met. The SGC is led by TransCanada's Executive Vice President of O&E and includes the Vice Presidents of Pipeline Integrity, Engineering and Asset Reliability, Canadian & Mexico Pipeline Operations, Pipeline Safety and Compliance and Community, Safety and Environment (CS&E).

The progress of the CAP will also be communicated to HSE Committee. The committee is comprised of Senior Leaders from Operations & Engineering and Major Projects with advisors from CS&E Management. This committee addresses health, safety and environment and wellness issues related to the development, design, construction and operation of TransCanada businesses.

The findings and corrective actions along with interim dates and deadlines will be tracked and progress reported as noted above. A summary is provided in **Table 1**.

As required by the EPP, internal audits of EPP will be completed on a three-year cycle to further identify areas requiring management action.

TransCanada will also provide the NEB updates quarterly or as otherwise agreed upon on the progress of corrective actions until completion of the CAP.

**Table 1: Communication Summary** 

MANAGEMENT TEAM	INFORM	REVIEW for ACTION	ACTION
Accountable Officer	Quarterly Reviews	Quarterly Reviews	Action Items
Responsible VP	Business Review Report	Monthly Meetings Monthly Scorecard Reviews Performance Review	Meeting Minutes
Responsible Director Manager CAP Lead	Business Review Report	Performance Review	Meeting Minutes