

# Appendix C: Post Review Implementation Plan

<p><b>Issue 1/2018</b></p> <p><i>Asset planning: 1(a) Asset Management Plan covers key requirements</i></p> <p><i>Asset planning: 1(i) Plans are regularly reviewed and updated</i></p> <p><i>Environmental analysis: 4(c) Compliance with statutory and regulatory requirements</i></p> <p><i>Review of AMS: 12(a) A review process is in place to ensure that the AMP and the AMS described therein are kept current</i></p> <p><i>Review of AMS: 12(b) Independent reviews (e.g. internal audit) are performed of the AMS</i></p> <p>Although Kleenheat's AMP (last revised 15 September 2017) provides some direction on Kleenheat's asset management framework and practices, including an overview of the major elements of the reticulated gas assets within Kleenheat's gas distribution system:</p> <ul style="list-style-type: none"> <li>• Kleenheat has recognised the need for its AMP to be further expanded and restructured to accommodate all elements of an effective AMP, tailored to Kleenheat's purposes and commensurate with the relative size and simplicity of Kleenheat's Tier 1 network assets. Where appropriate, clear reference should be made to the role of the Distribution Network Safety Management System and related Safety Case in describing and managing the distribution network assets</li> <li>• The AMP does not clearly reference the statutory and regulatory requirements relevant to its distribution network assets (note that those requirements are referenced in Kleenheat's current Safety Case)</li> <li>• Regular annual reviews to update the AMP were not in place during the review period</li> <li>• The current AMP does not define how other independent reviews in key areas that are not included in the Safety Case will assist Kleenheat in ensuring the effectiveness and continuous improvement of its AMS.</li> </ul>	
<p><b>Recommendation 1/2018</b></p> <p>Commensurate with the relative size and simplicity of its network assets, Kleenheat expand and restructure the AMP to accommodate the items raised in the findings above and throughout this report. Ideally the AMP would reference Kleenheat's systems, processes and procedures in place to manage each of the 12 key components of the asset management lifecycle.</p>	<p><b>Action Plan 1/2018</b></p> <p>Kleenheat will implement this recommendation.</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> September 2019</p>

<p><b>Issue 2/2018</b></p> <p><i>Environmental analysis: 4(b) Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved</i></p> <p>Although Kleenheat has developed performance measures for its distribution network assets including the effectiveness of distribution control standards, system reliability, system condition, product controls, system damage, contingency management and worker competency, Kleenheat had not reported on its achievement of those performance measures during the review period.</p>	
<p><b>Recommendation 2/2018</b></p> <p>Kleenheat implement a performance measure reporting process, which includes the following elements:</p> <ul style="list-style-type: none"> <li>• Reporting templates including source system information</li> <li>• Monitoring templates suitable to the network's activities, such as leak surveys and pressure readings</li> <li>• Formal and regular management review and oversight of performance measures.</li> </ul>	<p><b>Action Plan 2/2018</b></p> <p>Kleenheat will implement this recommendation. Monitoring templates will be developed where suitable.</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> June 2019</p>
<p><b>Issue 3/2018</b></p> <p><i>Asset operations: 5(a) Operational policies and procedures are documented and linked to service levels required</i></p> <p><i>Asset maintenance: 6(a) Maintenance policies and procedures are documented and linked to service levels required</i></p> <p>Although it is evident that Kleenheat's procedures have been designed to support its management of a safe and reliable distribution system, the link to specific service levels required (e.g. interruptions, pressure, service connection, emergency (e.g. leak) response time) does not clearly cascade through to specific procedures.</p>	
<p><b>Recommendation 3/2018</b></p> <p>Kleenheat consider updating its key asset operations and maintenance documents (including the AMP and relevant procedures) to ensure required service levels are recognised and accommodated throughout. Note that such updates should occur as part of Kleenheat's normal cycle for reviewing its procedure documents.</p>	<p><b>Action Plan 3/2018</b></p> <p>Kleenheat will implement this recommendation through its review and update of the AMP and relevant procedures.</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> September 2019</p>

<p><b>Issue 4/2018</b></p> <p><i>Asset operations: 5(c) Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data</i></p> <p>Although Kleenheat has added to the content of the asset register in response to recommendation 6/2016 of the 2016 AMS review, further improvements can be made to the asset register to assist Kleenheat to understand and manage all key aspects of its asset portfolio. We recognise that there is a cost/benefit balance to achieve in any further expansion asset records to be maintained in eAM.</p>	
<p><b>Recommendation 4/2018</b></p> <p>Kleenheat consider including the following elements in its asset register:</p> <ul style="list-style-type: none"> <li>• Further description of asset type</li> <li>• Asset working environment</li> <li>• Population sizes</li> <li>• Material/technology applied</li> <li>• Age/remaining life/shelf life/obsolescence</li> <li>• Purchase value/commissioning cost</li> <li>• Logistics data.</li> </ul>	<p><b>Action Plan 4/2018</b></p> <p>Kleenheat will implement this recommendation, giving consideration to the capabilities of the current eAM software.</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> June 2019</p>
<p><b>Issue 5/2018</b></p> <p><i>Asset operations: 5(e) Staff receive training commensurate with their responsibilities</i></p> <p>Kleenheat's training arrangements can be further strengthened by more specifically aligning staff competence with the asset conditions (current risks) as well as current technology in supporting the execution of the AMP.</p>	
<p><b>Recommendation 5/2018</b></p> <p>Kleenheat consider developing a training framework and plan which addresses:</p> <ul style="list-style-type: none"> <li>• Current staff competence, plus records of assessments of staff competence</li> <li>• Training material update process</li> <li>• Asset technology changes that require new or updated training</li> <li>• Seldom exercised tasks</li> <li>• New skills that need to be added to training</li> <li>• Handling of third party contractors.</li> </ul>	<p><b>Action Plan 5/2018</b></p> <p>Kleenheat will implement this recommendation.</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> September 2019</p>
<p><b>Issue 6/2018</b></p> <p><i>Asset maintenance: 6(b) Regular inspections are undertaken of asset performance and condition</i></p> <p>Kleenheat's requirements for asset inspections can be strengthened to more clearly link with underlying risks and asset condition.</p>	
<p><b>Recommendation 6/2018</b></p> <p>Kleenheat consider further updating its Asset Maintenance Plan to include the following elements in its asset inspections:</p> <ul style="list-style-type: none"> <li>• The basis for inspection strategies, linked with the network risk assessment</li> <li>• Compliance metrics/targets</li> <li>• Technology required</li> <li>• How inspection results are used to support wider asset management decisions.</li> </ul>	<p><b>Action Plan 6/2018</b></p> <p>Kleenheat will implement this recommendation.</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> December 2018</p>

<p><b>Issue 7/2018</b></p> <p><i>Asset maintenance: 6(d) Failures are analysed and operational/maintenance plans adjusted where necessary</i></p> <p>Kleenheat's Asset Maintenance Plan and its procedures applied in practice do not adequately address the need for demonstrating analyses of any failures (corrective work, leaks, emergency attendance etc.), with conclusions or recommendations on future changes in operation and maintenance, as well as for engineering/asset renewal.</p>	
<p><b>Recommendation 7/2018</b></p> <p>Kleenheat consider a developing an asset and system reliability/availability performance process which addresses the following elements:</p> <ul style="list-style-type: none"> <li>• Major identified failure modes with various assets</li> <li>• How work order information is used to feedback to the operation/maintenance plan and strategy</li> <li>• RACI behind maintenance strategy development/improvement</li> <li>• When root cause analysis is applied</li> <li>• How work (engineering, operation and maintenance) is prioritised by analysing the past occurrences (or non-occurrences)</li> <li>• Assessment of consequences for past failures including near-misses.</li> </ul>	<p><b>Action Plan 7/2018</b></p> <p>Kleenheat will implement this recommendation</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> June 2019</p>

<p><b>Issue 8/2018</b></p> <p><i>Asset maintenance: 6(e) Risk management is applied to prioritise maintenance tasks</i></p> <p>Although there is evidence of relevant risks and hazards being recognised within the Asset Maintenance Plan and associated procedures, Kleenheat has not clearly documented the link between those key risks and hazards, and its asset maintenance strategies, plans and priorities. Kleenheat had recognised this matter through an independent assessment of the adequacy of its Safety Case, conducted in January 2018.</p>	
<p><b>Recommendation 8/2018</b></p> <p>Kleenheat consider including the following elements in its Asset Maintenance Plan:</p> <ul style="list-style-type: none"> <li>• Reference to those major risks and hazards that drive maintenance tasks (per examples outlined in the Safety Case), including any prioritisation of tasks to address risks relating to safety, reliability, compliance, environment etc.</li> <li>• A mechanism for accommodating instances where maintenance tasks themselves have an impact on risks and hazards (including introducing new risks).</li> </ul>	<p><b>Action Plan 8/2018</b></p> <p>Kleenheat will implement this recommendation.</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> June 2019</p>

<p><b>Issue 9/2018</b></p> <p><i>Risk management: 8(b) Risks are documented in a risk register and treatment plans are actioned and monitored</i></p> <p><i>Risk management: 8(c) The probability and consequences of asset failure are regularly assessed</i></p> <p>Kleenheat has not developed a process for monitoring the control activities and actions listed in its distribution qualitative risk assessment or the impact of recent events and incidents in order to regularly assess the probability and consequence of asset failure, which impacts the residual risk rating.</p>	
<p><b>Recommendation 9/2018</b></p> <p>Kleenheat consider implementing a regular review process of its distribution qualitative risk assessment to assess and update the residual risk of each threat as at a point in time, including the following considerations:</p> <ul style="list-style-type: none"> <li>Monitoring through updating recent results of the listed treatment plans and actions</li> <li>Recent impact on threats and treatment plans and actions from recent events and incidents</li> <li>Reassessing the probability and consequence of asset failure regularly which impact the low, medium or high residual risk rating.</li> </ul>	<p><b>Action Plan 9/2018</b></p> <p>Kleenheat will implement this recommendation.</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> October 2018</p>

<p><b>Issue 10/2018</b></p> <p><i>Contingency planning: 9(a) Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.</i></p> <p>The Kleenheat distribution safety case stipulates frequency of testing of the contingency plans as annual, which does not exactly align with requirements of AS/NZS 4645.1, which requires the frequency of testing of contingency plans to be "on a regular basis, not less than once per year".</p> <p>The Contingency plan for Leinster was tested in May 2016 and November 2017. The frequency of this testing for Leinster was not executed in line with the requirements of AS/NZS 4645.1 of "... not less than once per year".</p>	
<p><b>Recommendation 10/2018</b></p> <p>Kleenheat consider:</p> <ul style="list-style-type: none"> <li>Updating the frequency of testing of the contingency plans within the Kleenheat distribution safety case to be in line with requirements of AS/NZS 4645.1, being "on a regular basis, not less than once per year"</li> <li>Scheduling and executing the testing of the contingency plan for each locality to ensure compliance with the Safety Case.</li> </ul>	<p><b>Action Plan 10/2018</b></p> <p>Kleenheat will implement this recommendation.</p> <p><b>Responsible Person</b> Reticulation and Standards Manager</p> <p><b>Target Date</b> December 2018</p>