

Risk Assessment Form (RAAC)

Space covered by this Risk Assessment

Date of assessment

Department

Date review due

Description of Task/Process

Assessment carried out by

Additional information

Emergency Response:

- Establish communication protocols and emergency response procedures.
- Keep emergency contact information readily available.

Inspections and Maintenance:

- Regularly inspect the RAAC roof for signs of damage or degradation.
- Implement a maintenance schedule to address any identified issues promptly.

Review and Monitoring:

- Regularly review and update the risk assessment as conditions change or new hazards emerge.
- Monitor the effectiveness of control measures and adjust them as needed.

Record Keeping:

- Maintain records of risk assessments, training, inspections, and incident reports.

Communication:

- Establish clear lines of communication among all parties involved in the project, including workers, supervisors, and emergency responders.

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Potential RAAC hazard identified, location and how they may cause harm	Who may be at Risk?	Existing Control Measures (See Appendix 1)	Current Risk Level* (Critical, High, Medium, Low)	What additional Control Measures are required? (See Appendix 1)	Action required by whom & by when?	Final Risk Level* (Critical, High, Medium, Low)
<p>YTONG PANEL ROOF CONSTRUCTION TO WHOLE BOILER HOUSE BUILDING</p> <p>Structural Integrity: Potential collapse or damage to the RAAC roof due to age, weathering, or structural weaknesses.</p> <p>Risk of falling debris from the roof.</p> <p>Weather conditions (e.g., rain, snow) affecting roof stability</p>	<p>Estates staff with need and permission to work in the Boiler House (Boiler House Engineers, Electricians, Managers)</p> <p>Authorised contractors</p>	<p>Structural assessment conducted by a qualified engineer to confirm RAAC in good and stable condition.</p> <p>Access to locker room restricted by means of a SALTO lock with access given to building custodians and community safety only.</p> <p>SALTO lock access for office to be revoked and access to only building custodians / community safety.</p> <p>Ensure that an induction and toolbox talk is delivered to all stakeholders, staff, contractors and visitors that require access to building space ensuring all those who access the space are informed of visual inspection process to follow before entering space.</p>	MEDIUM	<p>REFER TO ADDITIONAL CONTROL MEASURES AS ADVISED BY QUALIFIED/COMPETENT STRUCTURAL ENGINEER USING APPENDIX 1 AS GUIDANCE.</p> <p>Additional architectural support solutions to be advised and supplied by central health & safety team / structural surveying team.</p> <p>Weekly monitoring to be carried out. Records of visual inspections kept.</p>	<p>Phil Bowen (Energy Centre Manager)</p> <p>Additional architectural support solutions to be advised and supplied by central health & safety team / structural surveying team.</p> <p>End of October 2023</p>	LOW

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		<p>Keep log of all staff, contractors and visitors that have been inducted into the space.</p> <p>Implement exclusion zones or barriers to prevent access to areas with structural concerns.</p> <p>Ensure proper signage warning of RAAC and the potential for falling debris.</p> <p>Provide appropriate training for personnel for identifying and assessing RAAC materials. Ensure all personnel involved have proper training in roof safety procedures and hazard recognition.</p>				

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		<p>Monitor weather conditions and delay entry if adverse conditions could affect safety.</p> <p>Monitor signs of water ingress to roof structure – water effectively softens RAAC.</p> <p>Restrict any roof access until such time as a structural engineer/surveyor has determined it safe to do so.</p> <p>Any additional vibration within the vicinity until such time as a structural engineer/surveyor has determined it's safe to do so.</p> <p>Clear all access and egress routes of obstructions.</p>				

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		<p>Provide adequate lighting for safe movement within the building.</p> <p>All works / visits to the affected space to be kept to a minimum.</p>				
<p>YTONG PANEL ROOF CONSTRUCTION TO WHOLE BOILER HOUSE BUILDING</p> <p>Structural Integrity:</p> <p>Potential collapse or damage to the RAAC roof due to age, weathering, or structural weaknesses.</p> <p>Risk of falling debris from the roof.</p>	<p>Staff</p> <p>Contractors</p> <p>Visitors to office space occupied primarily by Trinity</p>	<p>Contractor "Trinity" to be moved from upstairs office space and access to area by card revoked.</p> <p>Control to area only available to building custodians via SALTO lock control.</p>	MEDIUM	<p>REFER TO ADDITIONAL CONTROL MEASURES AS ADVISED BY QUALIFIED/COMPETENT STRUCTURAL ENGINEER USING APPENDIX 1 AS GUIDANCE.</p> <p>Additional architectural support solutions to be advised and supplied by central health & safety team / structural surveying team.</p>		LOW

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Weather conditions (e.g., rain, snow) affecting roof stability						
Structural Integrity: Potential collapse or damage to the RAAC roof due to age, weathering, or structural weaknesses. Risk of falling debris from the roof. Weather conditions (e.g., rain, snow) affecting roof stability	Staff Contractors Visitors Main boiler house plant area	Ensure proper signage warning of the potential for falling debris. Provide appropriate training for personnel for identifying and assessing RAAC materials. Ensure all personnel involved have proper training in roof safety procedures and hazard recognition. Monitor weather conditions and delay entry if adverse conditions could affect safety. Clear all access and egress routes of obstructions.	MEDIUM	REFER TO ADDITIONAL CONTROL MEASURES AS ADVISED BY QUALIFIED/COMPETENT STRUCTURAL ENGINEER USING APPENDIX 1 AS GUIDANCE. Additional architectural support solutions to be advised and supplied by central health & safety team / structural surveying team.	To be supplied by central health & safety team / structural surveying team.	LOW

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		<p>Provide adequate lighting for safe movement within the building.</p> <p>Establish an emergency evacuation plan and ensure all personnel are familiar with it.</p> <p>Ensure all personnel with a potential to access the building have suitable training in roof safety procedures and hazard recognition.</p> <p>Ensure correct use of suitable and appropriate personal protective equipment (PPE)</p>				

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<p>YTONG PANEL ROOF CONSTRUCTION TO WHOLE BOILER HOUSE BUILDING</p> <p>Potential collapse or damage to the RAAC roof due to age, weathering, or structural weaknesses.</p> <p>Risk of falling debris from the roof.</p> <p>Weather conditions (e.g., rain, snow) affecting roof stability</p> <p>(Honeywell Stores and Comms room roof)</p>	<p>Staff, contractors, visitors</p> <p>(Reference Honeywell engineering team)</p>	<p>Access to area restricted to Honeywell engineering staff by means of SALTO lock control. Access to all other personnel with no requirement to enter this space will be revoked.</p> <p>Honeywell engineering staff to complete an induction and toolbox talk advising of RAAC and hazard identification. Keep record of induction.</p>	<p>MEDIUM</p>	<p>REFER TO ADDITIONAL CONTROL MEASURES AS ADVISED BY QUALIFIED/COMPETENT STRUCTURAL ENGINEER USING APPENDIX 1 AS GUIDANCE.</p> <p>Additional architectural support solutions to be advised and supplied by central health & safety team / structural surveying team.</p>	<p>Phil Bowen & Iain Cockroft (Via Honeywell contract manager) TBC.</p> <p>To be supplied by central health & safety team / structural surveying team.</p>	<p>LOW</p>

*See Risk Matrix below

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Risk Matrix (Taken from the Institute of Structural Engineers publication 'Reinforced Autoclaved Aerated Concrete (RAAC) Investigation and Assessment – Further Guidance, April 2023')

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Assessment category	Risk category	
Red	Critical risk	Requires urgent remedial works which may include taking out of use or temporary propping to allow the safe ongoing use of a building. Depending on the extent, this may be part or all of the building. Combined with awareness campaign for occupants including exclusion zones.
	High risk	Requires remedial action as soon as possible. Combined with awareness campaign for occupants, which may include exclusion zones, signage, loading restrictions and the need to report changes of condition, eg, water leaks, debris, change in loading, etc.
Amber	Medium risk	Requires inspection and assessment on a regular basis, eg, annually. Combined with awareness campaign for occupants, which may include signage, loading restrictions and the need to report changes of condition, eg, water leaks, debris, etc.
Green	Low risk	Requires inspection and assessment occasionally, say three year period depending on condition. Combined with awareness campaign for occupants, which may include signage, loading restrictions and the need to report changes of condition, eg, water leaks, debris, etc.

Overall Final Risk Rating (Highest level in final column above)	LOW RISK
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Additional Comments from Risk Assessor	Weekly visual inspection to be carried out and. Record of inspection kept. Immediately update RA if any changes are noted.
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	Take appropriate action.
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Approved By	Heather Loosemore
Date	29/09/2023

Position	Acting Head of Maintenance
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Please print a copy, sign it and keep for your records

Document History

Version	Date	Reviewer	Comments
1	28/09/2023	Phil Bowen	Draft for comment
2	29/09/2023	Duncan Stiles	Approved by Heather Loosemore

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Appendix 1 Risk Control Measures (Taken from the Institute of Structural Engineers publication 'Reinforced Autoclaved Aerated Concrete (RAAC) Investigation and Assessment – Further Guidance, April 2023')

Remediation

Remedial action should be undertaken on any panels assessed to be Red (High or Critical risk) condition, with planned remedial action determined for Amber (Medium risk) condition panels. In some instances, it may be appropriate to apply remedial action only to the affected panels. Alternatively, depending on the remedial works, this may be applied to all panels within the building being assessed. The response to Red (High or Critical risk) panels should be considered as time dependent. In some instances, immediate exclusion zones or the introduction of temporary propping to allow the safe ongoing use of a building may be recommended. In all instances, the ongoing use of buildings with RAAC panels identified to be in a Red (High or Critical risk) category should be risk assessed. Engineers undertaking the risk assessments should be aware of the approach being developed for the management of high-risk buildings under the Building Safety Act. Remediation strategies may include:

- The addition of secondary supports or beams at the end bearing to provide an increased effective bearing length. This is applicable to panels with short bearings length and misplaced transverse anchorage bars. This strategy will not be suitable for cut panels with no transverse anchorage reinforcement
- Positive remedial supports to actively take the loading from the panels. This could include the addition of new timber or lightweight structures to support the panels directly
- Passive fail safe supports to mitigate catastrophic failure of the panels if a panel was to fail. Such as a secondary structure designed to support the panels
- Removal of individual panels and replacement with an alternative lightweight solution • Entire roof replacement

Management Strategy

A management strategy should be applied to Amber (Medium risk) and Green (Low risk) RAAC panels. This should be developed by the building occupant/owner. It is expected that panels presenting a Low or Medium risk will deteriorate over time, but precise details of the mechanism that causes this, or the rate at which it will occur is not yet known. The management strategy should consider the current condition of the RAAC panels and include:

- Monitoring plans for RAAC panels and inspection regime

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- Risk assessment details • Areas for proposed future remediation
- The assumption on degradation of RAAC panels that have informed the plans – this should be informed by the structural engineer, based on site conditions
- The management strategy should also include plans for reducing the risks associated with RAAC panels

These should include plans for limiting:

- o Applied operational loads, for example no-walk zones on RAAC roofs, maintaining roof drainage and removal of ponding water
- o Applied fixed loads, for example, restricting new or removal of existing building services equipment
- o Durability risks, for example reducing humidity in plant or kitchen spaces, re-roofing including insulation laid to falls

An awareness campaign should be implemented so that all occupants are aware of the concerns about RAAC. This should provide reassurance that measures are being undertaken, but also help involve occupants in the management. Occupants should be encouraged to notify the responsible person if conditions change, for example, if leaks are detected, debris is found, or adverse loading noted.