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| **Risk Assessment Details** |
| Date | 18 Sept 2017 |
| Risk Assessment Group | List the risk assessment team with the first person being the author of the risk assessment. N.B. A minimum of two people should be included in the risk assessment team including a Health and Safety Representative (HSR) where possible.Daniel Ebert, Jodi McAlary, Oliver Knox. |
| **Hazard** **Description and Location** |
| Insert a brief description/summary of the hazard that has been identifiedInfection with zoonotic bacterial pathogen *Coxiella burnetii* and subsequent illness – Q Fever.This hazard is present at all UNE facilities where ruminant animals (cattle, sheep, goats) are farmed, housed or handled. It is also present at such facilities that are not UNE properties but that staff or students visit.It is also present at slaughtering and meat processing facilities that slaughter or process cattle, sheep or goats.It is also present wherever wild animals, native or feral, are handled.It is also present in any location where a person could inhale an aerosol or dust particle that has been contaminated with *C. burnetii* by previous contact with an infected domestic or wild animal. Examples include exposure to dust from livestock transport trucks and exposure to animal faeces or urine during activities such as mowing grass. Effectively, there is a background level of risk of exposure to *C. burnetii* associated with living and working in rural and semi-rural locations where animal production operations with ruminants occurs, e.g. Armidale and the New England region. |
| **Historical Considerations, Contributing Factors and Previous Occurrences**  |
| **Specific Hazards and Associated Issues:** Detail all hazards and number them if there are more than one.A single bacterium is enough to cause infection and potential disease. Routes of potential exposure and possibly entry are:1. Inhalation of bacterial cells within aerosolised bodily fluids of livestock - mainly cattle, sheep or goats.

Aerosolised bodily fluids, including urine, blood, reproductive fluids and milk, may be encountered in animal handling, in other work in animal facilities, e.g. cleaning, or in processing of biological samples such as meat, organs, blood, plasma, serum, reproductive fluids and milk.1. Inhalation of bacterial cells adhered to dust particles.

Cells of *C. burnetii* are extremely persistent the environment in dried form. The absence of infected animals does not mean the absence of the hazard if infected animals have previously been present.Exposure to contaminated dust could occur at or near farms, other animal holding facilities (e.g animal houses, saleyards) and animal transportation facilities and vehicles.Transmission of inhalable dust from one person to another, for example via contaminated clothing, represents a mode of transmission of *C. burnetii* from person to person.**Historical Considerations and Background:** When did the hazard appear?Q fever was first diagnosed in 1935. It is likely that some hazard of Q fever has been present from the inception of UNE operations.**Contributing Factors:** Why did the hazard appear?People breed, raise, slaughter and eat animals. Zoonoses are one of the consequences of interactions with animals. UNE is in a rural location and has staff and students who handle animals as part of their work or studies. Q fever is a zoonotic disease known to occur in NSW, mostly associated with interactions of people with ruminant livestock.**Past Occurrences:** Has the hazard or resulting incident occurred before? Please explain.It is likely that the hazard of Q fever has been present from the inception of UNE operations. The authors are not aware of any case of Q fever that is thought to have been contracted while working or studying at UNE. |
| **Existing Controls** |
| Detail all existing controls and number them if there are more than one.As of 18 September 20171. Immunity – some UNE staff and students are immune to Q fever. Some of these staff and students are naturally immune due to previous exposure to *C. burnetii*. Others have, of their own volition or as a requirement of previous employers, attended a Q fever clinic where immunity was assessed and vaccination was performed as needed. As of 18 Sept 2017 not a systematic control.
2. Respiratory protection – some UNE staff and students wear masks to prevent the inhalation of *C. burnetii* cells that may be present at locations such as abattoir processing areas.
3. Cleaning – animal holding facilities at the UNE animal houses are cleaned regularly. This limits the accumulation of potentially contaminated dust.
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| **Assessment of Risk** |
| **Risk** | **Risk Score with existing controls in place: Likelihood, consequence = score** | **Residual Risk Score with Additional Controls in place (listed below): Likelihood, consequence = score** |
| Detail the risk/s and number them if there are more than one. A risk score is to be calculated for each specific risk.Inhalation of *C. burnetii* cells in aerosols or attached to dust particles. | Possible X Major (long term absence is a possible consequence) = 6 | Rare (e.g. failed vaccination) X Major = 4 |

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| **STEP 1** | **STEP 2** |
| **Determine likelihood of occurrence** | **Determine severity/consequence/cost** |
| **Risk Score Calculator: Definition of Terms** |
| Rare | Likely to occur here only in very exceptional circumstances | Insignificant | No personal injury; and/or No adverse media attention; and/or Financial cost under $2000 |
| Unlikely | Could occur here at some time | Minor | Minor personal injury (first aid treatment); and/or Adverse Local Media Coverage; and/or Cost $2000-$50,000 |
| Possible | May occur here at some time | Moderate | Serious personal injury (medical treatment); and/or Adverse Capital City Media Coverage; and/or Cost $50,000-$250,000 |
| Likely | Will probably occur here (has happened before) | Major | Serious Personal Injury/long term absence; and/or Adverse & Extended National media Coverage; and/or Cost $250,000 - $1m |
| Almost Certain | Is expected to occur here in most circumstances | Catastrophic | Fatality(ies)/ long term impairment; and/or Government intervention; and/or Financial cost more than $1million |
| **STEP 3: Determine Risk Score** |
| **Risk Score Calculator: Matrix** |
|  | **Severity/Consequence/Cost** |
| **Likelihood** | **Insignificant** | **Minor** | **Moderate** | **Major** | **Catastrophic** |
| **Rare** | 2 | 3 | 4 | 5 | 6 |
| **Unlikely** | 3 | 4 | 5 | 6 | 7 |
| **Possible** | 4 | 5 | 6 | 7 | 8 |
| **Likely** | 5 | 6 | 7 | 8 | 9 |
| **Almost Certain** | 6 | 7 | 8 | 9 | 10 |
| **STEP 4: Determine Risk Score Response Priority** |
| **Risk Score** | **Risk Score Response** |
| 9-10 | Severe risk. Highest of priorities. Must be rectified immediately. |
| 8 | Very high risk. Requires urgent attention for quick resolution. Temporary controls to be implemented. |
| 6-7 | Moderate to high risk. Prompt planning and resolution required with consultation. |
| 4-5 | Low to moderate risk. Consult and identify controls that are reasonably practicable |
| 3 | Very low risk. Minor issue for monitoring |
| 2 | Insignificant Risk |
| **STEP 5: Implement the Highest Control Possible** |
| **Hierarchy of Controls** |
| Eliminate the hazard |
| Substitute the hazard with something safer |
| Isolate the hazard from people |
| Introduce engineering controls |
| Implement administrative controls |
| Use Personal Protective Equipment (PPE) |

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| **Control Measures** | **Person responsible** | **Due Date** | **Status** | **Review Date** |
| Detail control measures and number them if there are more than one. 1. Immunity

Cost of referral to the UNE Medical Centre for Q fever clinic according to the criteria below will be met by the university. Staff and students referred will be provided a cost code by relevant manager.* 1. UNE staff and students who as part of their work or study regularly handle ruminant animals, or samples of bodily fluids or faeces of ruminant animals, will be referred to the UNE Medical Centre for Q fever clinic.
	2. UNE staff and students who as part of their work or study regularly visit intensive ruminant animal farms or animal holding or transportation facilities that are regularly occupied by ruminant animals will be referred to the UNE Medical Centre for Q fever clinic.
	3. UNE staff and students who as part of their work or study regularly visit slaughtering or butchering facilities that process ruminant animals will be referred to the UNE Medical Centre for Q fever clinic.
	4. UNE staff and students who regularly handle wild mammals, native or feral, will be referred to the UNE Medical Centre for Q fever clinic.
1. Cleaning

Where feasible facilities for holding, handling or transportation of ruminant animals will be maintained such that the accumulation of dust or dust generating materials (e.g. dried faeces or urine) will be minimised.Cleaning high risk facilities, e.g. hosing out pens, is itself a hazardous task and cleaning staff must be either immune (above) or wear appropriate PPE (below). Relevant staff should be offered the Q Fever vaccine.1. PPE

UNE staff or students who perform high risk tasks (e.g. handling ruminant animals) or visit high risk locations (e.g. animal houses that house ruminant animals, abattoirs) and who are not known to be immune to Q fever will wear breathing protection (P2 class mask or better) and over-clothes that can be removed and laundered either on site or commercially. | Criteria included in WHS F039Animal House Manager/sAll supervisors | OngoingOngoingOngoing | OngoingOngoingOngoing | As per WHSMS 3 yearly review scheduleOngoingOngoing |

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| **Sign Off** |
| **Sign off from risk assessment participants indicates agreement amongst the risk assessment team with the contents of this document. Sign off is also required by the person responsible for the control measures and subsequent review of control measures (to ensure they are adequate and effective in their intent).** |
| Name | Signature | Date |
| Jodi McAlary | H:\Signature.PNG | 8/12/2017 |

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| **Management Review** |
| **The relevant manager must review this risk assessment and ensure control measures are reasonably practicable and implemented, specific to the work environment under their control.** |
| Review | Response |
| Are planned control measures reasonably practicable? | Yes |
| Are planned control measures sufficient to mitigate risk (based on your knowledge, experience and review of this risk assessment)? | Yes |
| Are there any changes to planned control measures? | No |
| Are further controls required in the future? | No |
| Name | Signature | Date |
| Frank Leayr | Signature RLeayr.gif | 7/12/17 |

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| ***Records Storage Instructions*** |
| *A copy of all completed WHS F020 Risk Assessment Forms shall be submitted to the WHS Team via* *whs@une.edu.au* *for storage in TRIM Container A16/3849.* |