**E137**

**ISOLATION**

**ASSIGNMENT**

**TASK -** Follow the link embedded below to the location where information required to complete this assessment is available.

<http://www.commerce.wa.gov.au/sites/default/files/atoms/files/guide-isolation_of_plant.pdf>

1) What is an isolation procedure?

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| 1. lock; |
| 2. tag; and |
| 3. try. |
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2) The basic isolation procedure requires what two things to ensure it is successful?

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| 1. lock; |
| 2. tag; and |
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3) Which of the Occupational Safety and Health Regulations 1996 are covered in this guidance note?

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| regulation 4.37 Duties of certain persons as to the use of plant; |
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| regulation 4.38 Duties of employers as to damaged plant. |

4) What is the aim of the basic principle of isolation?

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| control all other hazards to those doing the work; and |

5) What are the three separate steps that make up the basic principle of isolation?

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| 1. lock; |
| 2. tag; and |
| 3. try. |

6) What are the basic steps of risk management when preparing to carry out repairs or maintenance works to plant and equipment?

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| 1. hazards to be identified; |
| 2. associated risks to be assessed; |
| 3. risks to be eliminated or controlled; and |
| 4. the controls to be reviewed from time to time to ensure they remain effective. |

7) Give three examples of additional potential hazards that may occur when shutting down a functioning piece of plant or equipment?

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| pipes and lines carrying gases, |
| water, |
| acids or alkalis, |

8) State five plant energy sources?

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| electricity (mains, solar and by generator); |
| chemicals; |
| fuels; |
| heat; |
| steam; |
| pneumatic pressure (compressed air); |
| fluids under pressure, such as water or hydraulic oil; |
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| gravity; and |
| radiation. |

9) State five other hazards associated with plant and equipment?.

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| person may drown; |
| falls; |
| burns; |
| asphyxiation; and/or |
| impact |

10) When carrying out an electrical isolation what other protection devices, apart from a local isolating switch, should be employed and tagged?

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11) What is a potential additional risk associated with isolator switches with regard to power and control circuits?

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| The mains power source feeding the plant must be isolated. |
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12) State two hazards associated with emergency stop buttons?

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13) How is isolation of fluid, steam and pneumatic energy sources usually achieved?

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14) Give four examples of fluids that may be encountered when working with systems carrying fluids through piping?

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| caustic or acid solutions |
| Gas |
| solvents |
| Mineral slurries or water |

15) Give three examples of potentially hazardous stored energy?.

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| Electrical capacitors |
| Springs |
| Gases under pressure |

16) Give three examples of methods of dealing with potential energy, where it is not possible or appropriate to allow plant to “come to rest” so that gravity is no longer a risk?

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| it may be necessary to prevent movement by blocking, wedging or propping. |
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17) State the risk associated with negative pressure?

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18) Describe the one key only principle?

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19) State the three principles associated with the storage and use of duplicate or master keys?

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| Stored away from the work area |
| Only to be used by supervisor |
| Only to be used in an emergency |

20) Give three examples of the rules associated with the use of personal danger tags?

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| These tags should be restricted to people who will be working on the equipment. |
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| danger tag to the lockout device. |
| A personal danger tag should be removed only by the person whose name is written on the tag. |
| All disposable personal danger tags should be destroyed after use. |

21) What needs to happen BEFORE guarding is removed from machinery?

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| The plant’s energy source must always be isolated and locked out before guarding is removed. |
| When work on the plant is complete, guarding must be replaced and secured before energy is restored and normal operations re-commence. |

22) When carrying out an electrical isolation procedure what must you do to ensure your test instrument is functioning correctly?

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| Your instrument must be first tested on a known live source to confirm operation. |
| Following verification that energy has been isolated the test instrument must be |
| Verified again on a known source to ensure meter is functioning |

23) Create a step by step isolation procedure for isolating an air conditioning unit prior to

carrying out electrical works?

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| Advise client of requirement to de-energise and agree on a time. |
| Switch off local isolator switch if applicable. |
| Identify correct circuit protection device in switch board. |
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| Apply danger tag to circuit breaker or fuse holder. |
| Verify test instrument is working by testing on a live source. |
| Test for zero volts at the point where works are to be carries out. |
| Test instrument again on known source to verify correct operation. |
| Commence work. |
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