The Development of Environmentally Acceptable Demil in Australia

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Today “Climate Change” is no longer a proposition, is it a reality?

British actress Emma Thompson visits the Arctic Ocean to send Tony Abbott a climate change message – The Guardian, August 2014
Disposal methodologies 1948
Disposal methodologies 1948 – is this acceptable?
Disposal Methodologies:

- Open Burn
- Open Detonation
- Sea Dumping
1994 The Beginning of Change!
1997 – An even braver decision by the Department of Defence!
1997 – An even braver decision by the Department of Defence! cont’d…
Bullet Guillotine and Shotgun
Case Functioner and Crusher
Primer Dust Capture and Filtration
Robotics and Remote Breakdown
Since 2004 we have completed the breakdown, component disposal and recycling of:

- 7.62mm Various
- 5.56mm Various
- .30 Cal Various
- .50Cal API APIT 6000 per day
- .50Cal Ball and Blank
- Shotgun Cartridges
- 20MM various
- Sonar Bouys
- 40/60 Breakup shot rounds
- 76mm Prac Tracer.
- 105mm HCBE
- 81mm prac
- 105mm Illum
- 155 illum
Project Planning

- **TASK**
  - LICENCING
    - LICENSING
      - LOCATION STORAGE PROCESSING
    - TRANSPORT
      - SCHEDULING QUANTITIES
    - DESIGN ASSESSMENT
      - CONSTRUCTION ASSEMBLY ENERGETICS
    - RISK ASSESSMENT
      - IDENTIFICATION MITIGATION ALARP
    - PROCESS FLOW DEVELOPMENT
      - CHAIN OF CUSTODY
    - DOCUMENTATION
      - DEVELOPMENT W/ REGISTERS RECORDS
  - TRIALS
    - CONFIRM RISK ASSESSMENT

- **NEW REQUIREMENTS FACILITIES OTHER DG (GAS/CHEMICALS)**
  - HD/NEQ
  - PALLETS QTY SIZE OVERSTOWED LOCATIONS FROM
  - COSTS OF ABOVE TIME TO ACHIEVE

- **SUBMISSIONS APPROVALS**
  - COSTS OF ABOVE TIME TO ACHIEVE

- **RISK ASSESSMENT**
  - CONFIRM RISK ASSESSMENT
    - TEST PROCESSES PROVE DOCUMENTS RE-ASSESS/AMEND

- **PROCESS FLOW DEVELOPMENT**
  - BREAKDOWN
    - SUB-COMPONENTS
      - ENERGETICS
      - WASTE RECYCLING
    - TRIALS
      - COSTS OF ABOVE TIME TO ACHIEVE

- **DOCUMENTATION**
  - REVIEW

- **TRIALS**
  - CONFIRM RISK ASSESSMENT
Fuse Removal and Base Cutting
Wet Scrubber
Emissions of White Smoke
The Filtered Plume
Propellant Disposal
Function 105mm Cases – Primer Intact followed by inspecting for “Free from Explosives Declaration”
Results:

• Destruction of approximately 93,000 white smoke canisters.
• Destruction of approximately 30,500 fuse assemblies.

Generating:

• Destruction of approximately 75 tons of single and double based propellants
• Destruction of approximately 2 tons kilograms of black powder.
• Recovery of ZN(OH)2 – possible 33.6 tonnes of Zinc recovered from a possible 35.25
• Recycling of approximately 750 KG of lead foil.
• Recycling approximately 118,500 Tons of brass.
• Recycling approximately 210 Tons of mild steel.
• Recycling over 15,000 wooden ammunition boxes.
• Recycling 4,400 KG of ammunition box internal furniture.
Enclosed burn facility
Cooling Fume
“The Development of Environmentally Acceptable Demil in Australia”

Pentarch Industrial offers specialised, environmentally acceptable solutions to the disposal of munitions and other hazardous goods and the management of ammunition packaging.

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