|  |  |  |  |
| --- | --- | --- | --- |
| **Business Unit:** | C2V+ | **Contract No. & Name:** | Macclesfield C14998 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ACTIVITY: | Access Into Glass Lined Tank For Inspection And Cleaning. | | RAMS Ref.: | [RAMS ##] | | Rev: | 0 |
| Location and scope of Works: | Access into the old sludge tank in the tertiary filter area for jet washing and inspection.  The glass lined tank is not classed as a confined space under the Confined Spaces Regulations 1997 as there are no chemicals or other forms of oxygen depletion/enrichment processes are introduced. The roof is open topped and the tank is empty apart from a thin sludge residue on the bottom.  Access is to be gained from the bottom 800mm man way the 800mm man way is at ground level and in the event of an emergency is to be used to evacuate casualties or for the emergency services to enter.  Task lighting is not required as the tank is open topped. | | | | | | |
| Start date: | June 2023 | Anticipated completion date: | | | June 2023 | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| APPROVAL & AMENDMENT RECORD | | | | | | | |
| Rev | Prepared by | | Date | Reviewed / Approved by | | Date | Amendment Details |
|  | Name | Jonathan Jackson |  | Name |  |  | First issue |
| Signature |  | Signature |  |

|  |  |  |  |
| --- | --- | --- | --- |
| REVIEW / CHANGE LOG | | | |
| Date | Reviewer | Comments | Rev No. |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

|  |  |
| --- | --- |
| Personnel consulted during preparation of this document: |  |

|  |  |  |
| --- | --- | --- |
| Distribution List: | | |
| Name | Company | Position |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

| **RISK ASSESSMENT for:** | | Access Into Glass Lined Tank For Inspection And Cleaning. | | | RAMS Ref.: | [RAMS ##] | | Rev: | 0 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Hazard | Person(s) at Risk | Undesired event | Control Measures  *(List control measures that are required)* | | | Actioned by | | Date |
| 1 | Slips trips and falls | All involved in the operation | Broken bones/ sprained muscles | * Maintain good levels of housekeeping at all times in the work area and access routes * Adopt the ‘Don’t walk by’ attitude and remove any potential hazards if safe to do so. | | |  | |  |
| 2 | Plant Movement & Reversing Vehicles whilst moving materials and jetwash |  | Entrapment / Crushing / Collisions / Overturning | * All Plant Operatives to be CPCS certified, competent, experienced and authorised to operate the plant they are using. * All vehicle and plant movements and reversing vehicles to be directed by a Banksman. * Segregate vehicle movements and pedestrian routes with barriers / fencing where practicable * Ground based operatives to attract Operator attention prior to entering working radius of plant. | | |  | |  |
| 3 | Manual Handling |  | Injury / Sprains / Repetitive Strain Injuries | * Jetwash to be manoeuvred using the 6 tonne dump truck where possible * Don’t attempt to move the jet wash if it is beyond your lifting capability | | |  | |  |
| 4 | Working near to United Utilities operations | Operatives / UU staff | Death by contact with UU loader / forks / Excavator | * Work under UU permit / induction. * Barrier to separate from UU operatives. * Keep to designated routes avoiding UU working areas. Liaise with UU to inform loaders / forks etc of movement of personnel, plant and deliveries. * United Utilities must be notified when accessing their working areas. | | |  | |  |
| 5 | Working in public areas / traffic routes | Operatives & public | Death or serious injury | * Barrier off / cone off works from public. * If work cuts down road width to one lane ensure stop / go boards or traffic lights are used. Avoid plant / materials falling onto or reversing into road. * Heras fencing to be double clipped to avoid falling into road. | | |  | |  |
| 6 | Working in existing tanks | Operatives | Injured, incapacitated | * Top man to be in place at all times to aid in rescue * Confined space check to be carried out before works, if unsure, ask your Supervisor BEFORE starting works. | | |  | |  |
| 7 | HAVS (power tools) | Power tool users | Permanent nerve damage  Hand arm vibration syndrome  Carpal tunnel syndrome | * The jet wash is very low vibration and can be used for over 6 hours per day (actual trigger time). | | |  | |  |
| 8 | Lighting | All involved in operation | Slips, trips and falls | * Task lighting is not expected to be required due to the time of year and the fact the tank is open topped. * Operations to cease if inadequate lighting is provided. | | |  | |  |
| 9 | Disease |  | Catching diseases eg tetanus/weils disease | * Wear full and correct PPE as issued. * Use Good personal hygiene precautions ie wash hands before eating etc. * Operatives to be briefed and aware of `causes, symptoms and controls of WEILS * Check with your GP you are immunised against tetanus or can be. | | |  | |  |
| 10 | Confined spaces |  | Fire, explosion, engulfment in liquid or free flowing solid, gases | * If the work area changes and the area is deemed a confined space, then a separate RAMS must be produced detailing the high risk activities. | | |  | |  |
| 11 | Jet washing within close proximity to electrical items | All | Electric shock, damage to machinery | * All electrical panels have been disconnected. * Do not use jetwash within 3 metres of any MCC Room. * Do not jetwash directly at any compressor motors. | | |  | |  |
| 12 | Spilled fuel | All | Slippery surface  Contamination of water/land | * Have fuel spill kit to hand when fuelling jet wash. * Report all spillages immediately * Use a plant nappy underneath the jetwash at all times to prevent leaks entering the water course. | | |  | |  |
| 13 | Diesel fumes | Tank Entrants | Unconsciousness | * Jet wash must be placed as far away as possible from the tank to prevent Diesel fumes entering the tank. * If the jetwash cannot be placed far enough away and there’s a risk of Diesel fumes entering the tank, then the task becomes a confined space. | | |  | |  |
| 14 | Noise | All | Tinnitus, deafness | * The jetwash doesn’t pose a danger to hearing as it is at a safe distance from the operation * If in the unlikely even that the operator is using the jetwash with the engine right beside them, then hearing protection must be worn | | |  | |  |
| 15 | Engulfment in liquids and sludge from wet process | Entrants | Drowning & asphyxiation under process liquids | * The sludge tank is already isolated from process plant electrically and mechanically. | | |  | |  |
| 16 | Exposure to toxic gases - Hydrogen Sulphide, Methane and other gases from the anaerobic digestion process | Entrants | Asphyxiation and poisoning from exposure to hazardous substances | * The tank has an open roof and is empty apart from a thin layer of slurry on the bottom. * Gas detector will be worn by tank entrants as a precautionary measure. | | |  | |  |
| 17 | Work in a restricted access area (Enclosed space) | Entrants | Injuries being exacerbated due to problems with access for First Aiders and casualty evacuation. | * Rescue stretcher available at short notice, rescue drills for staff involved, minimum 800mm manway at bottom of tank | | |  | |  |
| 18 |  |  |  |  | | |  | |  |
| 19 |  |  |  |  | | |  | |  |
|  |  |  |  |  | | |  | |  |
|  |  |  |  |  | | |  | |  |
|  |  |  |  |  | | |  | |  |

| ACTIVITY: | | Access Into Glass Lined Tank For Inspection And Cleaning. | | RAMS Ref.: | [RAMS ##] | Rev: | 0 |
| --- | --- | --- | --- | --- | --- | --- | --- |
| METHOD STATEMENT | | | | | | | |
| Personnel REQUIRED  *Give the number and role of personnel required to carry out activity - including any specific skills, fitness levels, training or qualifications required.* | | | | | | | |
| No. of | Role | | Qualifications / Experience required | | | | |
| 1 |  | |  | | | | |
| 2 |  | |  | | | | |
| 3 |  | |  | | | | |
| 4 |  | |  | | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Associated Documents: | | | | | | | | | | |
|  | | | Required | | | Location of document if not attached to this RAMS | | | | |
| Yes | | No |
| COSHH Assessment Ref. (ensure those carrying out activity have signed on to COSHH assessment) | | |  | |  | Diesel/Petrol | | | | |
| Lift Plan (Non-routine) H55-03 / R07 | | |  | |  |  | | | | |
| Rescue Plan *(for working at height)*: | | |  | |  | Enclosed space rescue plan | | | | |
| Other Documents: *(such as drawings, sketches, consents, licenses, etc.)* | | |  | |  |  | | | | |
| Permits / PLANS Required *Indicate those that apply or add other contract specific permits* | | | | | | | | | | |
| Permit to Break Ground  H14-01 / H14-01R | Hot Works Permit  HSE-27 | Confined Space Permit  HSE-21 | | Routine Lift Plan  H55-03 /  R07 | | | Permit to Operate Plant  H09-09 | Work Near Power Lines  H14-08 | Temporary Works  Q25\* | Permit to Pump  EMS-29 |
|  |  |  | |  | | |  |  |  |  |

\* Business unit specific

| ACTIVITY: | Access Into Glass Lined Tank For Inspection And Cleaning. | RAMS Ref.: | [RAMS ##] | Rev: | 0 |
| --- | --- | --- | --- | --- | --- |
| RESOURCES REQUIRED | | | | | |
| Operated Plant | | | | | |
| * Dump truck – 6 tonne | | | | | |
| Non-Operated Plant / Small Tools / Equipment | | | | | |
| * Brushes, shovels * Jet wash up to 240 bar pressure * Rescue stretcher * Plant nappy/ spill kit | | | | | |
| Materials | | | | | |
|  | | | | | |

| ACTIVITY: | | Access Into Glass Lined Tank For Inspection And Cleaning. | RAMS Ref.: | [RAMS ##] | Rev: | 0 | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Programme of Operations and Potential Interface with Others: | | | | | | | |
| Sequence of Activities / Safe System of Work  *(to include access / egress, plant & pedestrian segregation, limitations & constraints and state any HOLD POINTS)* | | | | | | | **Hold Point** |
|  | **Access Constraints**  • All personnel to receive a C2V and UU site-safety induction before starting work.  • The work is to be carried out within the fenced area of the site boundary (where possible).  • United Utilities traffic and the traffic of the general public must be given right of way. | | | | | |  |
|  | **Side wide High pressure Jet washing**   * The Jet wash we have on site is capable of generating 240bar of pressure; it uses a fuel powered motor to generate this pressure. * When fuelling the jet wash, care should be taken not to spill the fuel – have a spill kit to hand just in case. * The jet wash should be checked before every use to make sure it is in good working order – any defects or damage to be reported to management, Check; * Wheels * Fuel tank integrity * “Trigger” action of jet lance * Exhaust integrity * Nozzle * Hose integrity and connections * If the jet wash is to be used either planned or not should be included on the day’s start of shift briefing. * The Jet wash should be kept on a fuel spill mat. * FFP3 masks must be worn if the material generated may be deemed contaminated. * The area identified to be jet washed should be marked out by hazard tape or barriers (if applicable) * If jet washing outside be wary of wind direction and speed as you may be jetting contaminated material into people’s direction. * The jet wash should never be directed at any person, this could cause serious injury. * The jet wash should not be used around any chemicals on site, water may react badly to any alkaline chemicals * If jet washing near any electrical panels these should be masked up with water proof material i.e. plastic or tarpaulin first to mitigate the risk of water entering a live panel. * Jet washing should not be carried out within 3 metres of an MCC room. * The jet wash should never be directed straight at any electrical panel even if masked up. * After jet washing has finished any excess water should be diverted back into the system at a place agreed upon with United Utilities Management. * Once cooled the jet wash should be wiped down after use. | | | | | |  |
|  | **Enclosed Space Working**   * The area has been deemed as **not** being a confined space due to there being none of the specified risks below. * The following flow chart from the HSE has been used as a guide. | | | | | |  |
|  | **Rescue plan for working in existing tanks**   |  |  |  | | --- | --- | --- | | Rescue Scenario | Potential Causes | Priority of Rescue Method | | Rescue of a Suspended Person in Fall Arrestor | * Fall from height or slip whilst working in fall arrest equipment. | 1. Rescue winch to lower person to safe place | | Rescue from lower working areas e.g. tank | * Injury or health issue | Access the casualty via the scaffold tower/ladder access that has been installed on the tank. Harnesses must be worn and attached to the davit arm winch when entering and exiting the tank. The davit arm/winch is secured to a scaffold or other secure structure. The last person to enter the tank must make sure that the winch is clipped to a ladder rung near the bottom so that anyone seeking to exit the tank can attach their harness to the winch. Emergency stretcher is available on site. This can be lowered and lifted via rescue winch | | * Fall into harness, inertia reel | Assess the casualty if possible and lower  Call emergency services- initiate specialist rescue | | * Medical emergency in Cofferdam/HST | Access the casualty via the scaffold tower/ladder on the tank.  Call emergency services- initiate rescue | | * Injury, ill health | Access the casualty via the scaffold tower/ladder on the tank.  Call emergency services- initiate rescue | | | | | | |  |

| ACTIVITY: | Access Into Glass Lined Tank For Inspection And Cleaning. | | | RAMS Ref.: | |  | Rev: | 0 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mandatory and additional PPE required:  *(rigger boots or similar are banned from use, wellingtons can only be used following inclusion in the RA)* | | | | | | | | |
| Mandatory PPE: | | | Task-Specific PPE: | | | | | |
| * Gloves (suitable for task) * Hard hat * High-visibility clothing * Light Eye Protection (LEP) * Boots (with steel toecap and mid-sole) | | | * Ear defenders * Safety Goggles * Overtrousers | | | | | |
| Environmental considerations: *Consider Waste Management - pollution prevention measures, protected wildlife / sites / trees, noise / vibration / dust, resource use. Refer to H02-G03 Environmental Guidance for RAMS* | | | | | | | | |
| Waste Management | | | | | | | | |
|  | | | | | | | | |
| Pollution Prevention *(water & ground; consider fuels, concrete & silt)* | | | | | | | | |
| Spill kits are available  Plant nappies will be used at all times | | | | | | | | |
| Protected & Invasive Species | | | | | | | | |
| Himalayan balsam on site, this task does not interfere | | | | | | | | |
| Nuisance *(noise, dust, vibration)* | | | | | | | | |
|  | | | | | | | | |
| Resource Use *(fuel, water, aggregates, etc.)* | | | | | | | | |
|  | | | | | | | | |
| Other *(archaeology, NRMM, etc.)* | | | | | | | | |
|  | | | | | | | | |
| Emergency response: | | | | | | | | |
| Event | | Action to be Taken *(indicate location of first aid facilities, fire extinguishers, spill kits, rescue lines)* | | | Emergency Contact Details | | | |
| Fire: | | Raise the alarm, go to the muster point. | | | Alert Fire Warden or 999 | | | |
| Accident: | | Information on site first aider. First aider to deal with situation, 999 to be called if required. | | | Alert First Aider or 999 | | | |
| Pollution: | | Emergency spill procedure to be actioned. | | | Alert Site Management | | | |
| Water: | | Site management to be informed who will alert UU. | | | Alert Site Management or UU | | | |
| Service strike: | | Stop work immediately and evacuate the area. Service coordinator to be informed immediately. | | | Alert Site Management and Service Provider | | | |
|  | |  | | |  | | | |

**Record of briefing of the personnel who are to undertake this work:**

*(Extend the table as necessary to record the briefing on any revisions in separate rows)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ACTIVITY: | Access Into Glass Lined Tank For Inspection And Cleaning. | RAMS Ref.: | [RAMS ##] | Rev: | 0 |
| Briefing Given by: *(name)* |  | Signed: |  | Date: |  |

I confirm that I have received and understood the briefing for the task(s) outlined.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Forename | Surname | Role  *(in relation to this task)* | Signature | Date and time |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ACTIVITY: | Access Into Glass Lined Tank For Inspection And Cleaning. | RAMS Ref.: | | [RAMS ##] | | | Rev: | 0 |
| **MINOR AMENDMENTS** | | | | | | | | |
| AMENDMENT TO RAMS CARRIED OUT BY *(Supervisor responsible for works)* | | | | | | | | |
| Name | Position | Signature | | | | Date | | Time |
|  |  |  | | | |  | |  |
| AMENDMENT SUMMARY *changes required & reasons for minor amendment(s)* | | | | | | | | |
|  | | | | | | | | |
| Outline of the significant hazards involved: | | | Outline the controls to be followed to do the work: | | | | | |
|  | | |  | | | | | |
|  | | |  | | | | | |
|  | | |  | | | | | |
|  | | |  | | | | | |
|  | | |  | | | | | |
|  | | |  | | | | | |
|  | | |  | | | | | |
|  | | |  | | | | | |
|  | | |  | | | | | |
| AMENDMENT TO RAMS APPROVED BY *(Manager responsible for works)[if approval by phone call record date & time]* | | | | | | | | |
| Name | Position | Signature | | | Date | | | Time |
|  |  |  | | |  | | |  |

I confirm that I have received and understood the briefing for the task(s) outlined:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Forename | Surname | Role  *(in relation to this task)* | Signature | Date and time |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |