PROCEDURE

PET-HSE27-HH-PRD-00004
Occupational Exposure Management

PART OF A BETTER FUTURE

Woodside Energy

Objective

To establish a process for the assessment of occupational health exposures and subsequent control where exposures are determined to be potentially harmful to human health.

Audience

Manager/Head HSE Business Partnership (BP), HSE BP team, and Operations Managers.

NOTE: This procedure also applies to contractors unless formally agreed to (and documented) through the Contractor Management Procedure (PET-SUP68-SU-PRD-00001).

Owner

Annette Bisby, Head of Health and Safety - Corporate

Document Signatures (e-signatures are permissible)

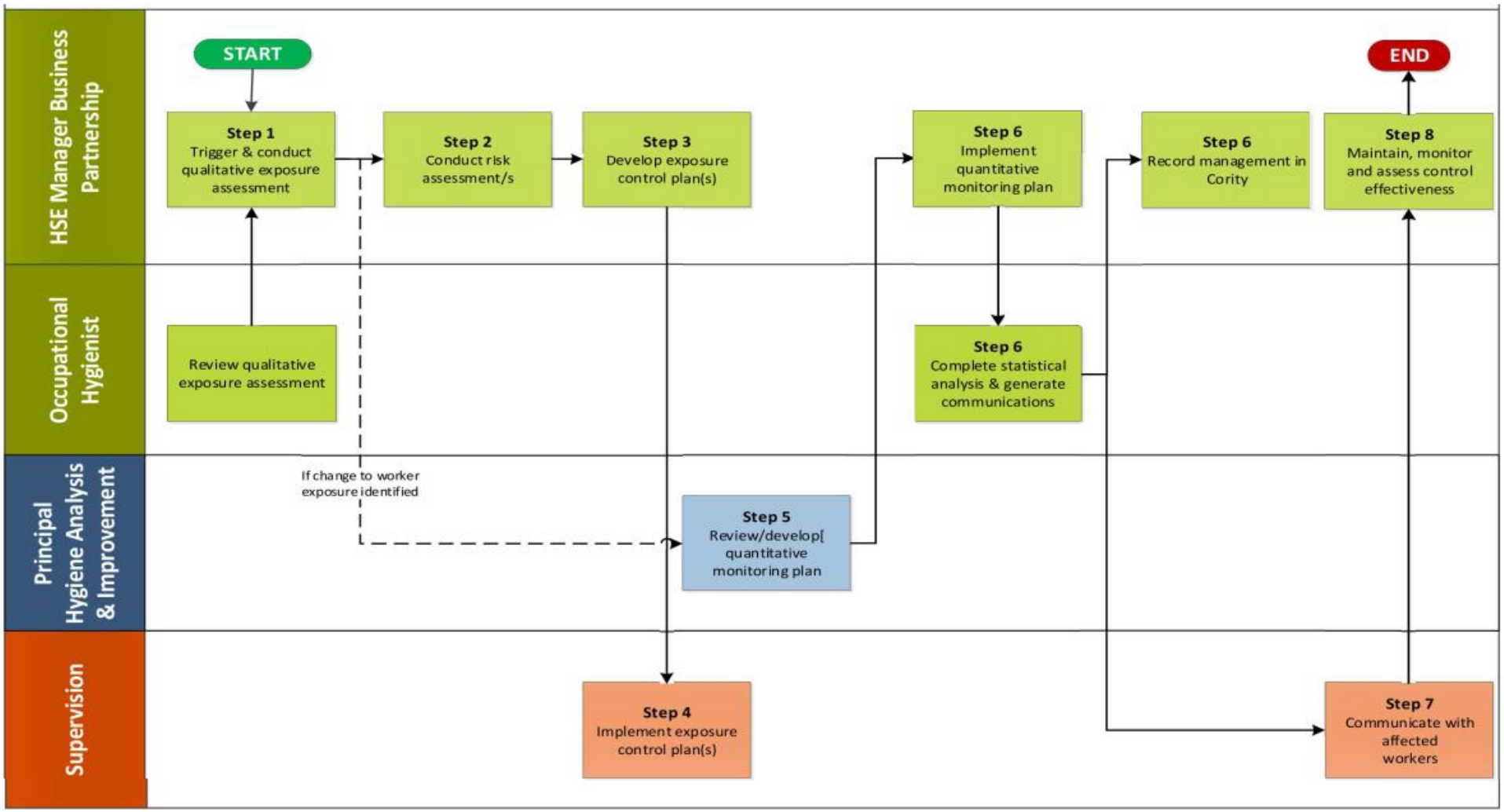
	Business Role	Name	Signature
Approver	VP HSEQ Projects	Karelis Holuby	*Signature on file – refer to Memorandum: Heritage BHP Petroleum HSE MS Post-Merger Update*

Disclaimer:

This document has been updated to meet post-merger requirements. Updates have been restricted to rebranding of logo, company name and revision number and date. Updates have not impacted the design or functionality, or taken away from original intent, of the document.

Contents

Process Summary



NOTE - Occupational Hygienist
This role may be a resource embedded in the HSE BP team or an external consultant engaged by HSE BP. The resource must have knowledge and experience in the area they are being asked to support e.g., oil and gas for Petroleum sites. A list of the current vendors for Occupational Hygiene can be found on HSE Control Documents by searching, and a list of the deliverables in Appendix 1 of this document.

Procedure

Step 1 – Complete qualitative exposure assessment

- HSE Business Partnership (BP) will trigger a qualitative exposure assessment:
  - when a new project is approved for definition or enters the execution phase, to identify exposures and trigger controls in project design and selection of equipment in alignment with HSE Requirements for the Design of Offshore Projects (PET-PRO00-PM-STD-00103).
  - when there is a change in process and/or engineering control that may affect exposure levels or introduce new hazards, e.g., an increased production rate, or new chemical addition.
  - when organizational change affecting similar exposure group definition and/or work schedule changes.
  - as part of an annual review cycle to identify organizational changes or changes to existing plant/equipment.
- HSE BP will facilitate a workshop with a representative cross-section of affected workers or their management, to complete/update the Exposure Risk Profile (PET-HSE27-HH-FRM-0014) tabs 1-4, including Similar Exposure Group (SEG) populations and upload completed document to Exposure Risk Profiles.
- Exposure risk profile(s) must be reviewed or verified by a qualified Occupational Hygienist.
- If there have been changes to worker exposure a quantitative assessment shall be triggered, see Step 5.

NOTE: Short term projects[1] (less than one year) require a qualitative assessment.

Outputs 1. Qualitative Exposure Risk Profile completed and retained in Exposure Risk Profiles

Step 2 – Conduct risk assessment

- HSE BP will conduct a risk assessment for exposure agents identified in the exposure risk profile using one of the methods listed in Pet DW (WEL) Risk Management Guidance Note Risk Assessment Techniques.

NOTE: Fatigue must be embedded as an escalation factor for material risks where human error related to fatigue has been identified.

Outputs 1. Risk assessments completed and retained in document repository

Step 3 – Develop exposure control plan(s)

- HSE BP with support from line management will develop an Exposure Control Plan when the criteria provided in the following table is met, and must include the minimum inputs provided in Appendix 2):

Plan	Criteria
Respiratory Agents	▪ Where Similar Exposure Group (SEG) exposure to an airborne agent meets one of the following criteria: – Is classified as 'A' or 'B' in the Exposure Risk Profile-Characterize Exposures tab, or – exceeds 50% of the occupational exposure limit (OEL) for carcinogens, or – exceeds 100% of the occupational exposure limit, or any short-term exposure (STEL) (where applicable) for non-carcinogens.
Noise	▪ Where SEG exposure to noise meets one of the following criteria: – is classified as Exposure Risk Profile-Characterize Exposures tab, or – exceeds 50% of the occupational exposure limit in the Exposure Risk Profile-Quantitative Assessment tab.

[1] Short term projects defined as all short term work occurring on a Petroleum Deepwater (WEL) work location.

Plan	Criteria
Heat Stress	▪ Where SEG exposure to heat stress is classified as 'A' or 'B' in the Exposure Risk Profile-Characterize Exposures tab.
Potable Water	▪ Mandatory when Pet DW (WEL) has responsibility over the quality and safety of the drinking water, such as: – Pet DW (WEL) provides a drinking water supply at a Pet DW (WEL) workplace; or – Pet DW (WEL) supplies water to, or receives water from, a third party (excluding bottled water) with the eventual intended use as drinking water.
Fatigue	▪ Mandatory in all locations.
Blood-Borne Pathogens	▪ Mandatory for all locations with on-site medical facilities/treatment rooms or where employees are responsible for rendering first aid or medical assistance as part of their job duties.

NOTE: Short term projects (less than 1 year) still require exposure control plans.

Outputs 1. Exposure Control Plan(s) developed

Step 4 – Implement exposure control plan(s)

- Supervision, with support from HSE BP and line management to implement the Exposure Control Plan(s).
- Where exposure exceeds 50% of the OEL medical surveillance must be conducted in accordance with the Medical Assessment and Surveillance Procedure (PET-HSE27-HH-PRD-00003).
- Where exposure exceeds 50% of the OEL and an ACGIH BEI notation exists biological monitoring must be conducted in accordance with the Medical Assessment and Surveillance Procedure (PET-HSE27-HH-PRD-00003).

Outputs 1. Exposure Control Plan(s) implemented, including medical surveillance (where required)

Step 5 – Develop quantitative monitoring plan

NOTE: A quantitative exposure assessment is not required for short-term projects (less than 1-year).

- HSE BP will engage Petroleum HSE Analysis & Improvement (A&I) to develop a quantitative monitoring plan in the Exposure Risk Profile (PET-HSE27-HH-FRM-00014).
- Quantitative monitoring strategy triggers:
  - baseline monitoring: to establish a quantitative exposure profile, examples of triggers are new exposures, activities, or operations identified.
  - compliance monitoring: in accordance with regulatory required monitoring frequency, following change(s) with the potential to impact worker exposure, or at a minimum every three years[2] to verify workplace exposures.
  - diagnostic/investigative monitoring: to quantify exposure from a specific source or task.

Outputs 1. Quantitative monitoring plan developed

[2] Three yearly frequency of compliance only applies when the previous quantitative assessments have yielded a data set with a geometric standard deviation (GSD) of less than three.

Step 6 – Conduct quantitative exposure assessment

Sampling

- HSE BP will coordinate resources and will implement the quantitative monitoring plan, in compliance with the deliverables listed in Appendix 1 of this document.

Statistical Analysis

- HSE BP will coordinate with the Occupational Hygienist to complete the work outlined in Appendix 1 of this document.
- HSE BP will notify Petroleum HSE A&I if the geometric standard deviation exceeds three to confirm if additional sampling is required.

Record Management

- HSE BP will coordinate resources to ensure all data is retained in Cority in compliance with deliverables listed in Appendix 1 of this document.

Adjust Exposure Control Plans

- HSE BP will update the risk assessment(s) and associated Exposure Control Plan(s) based on the results of any quantitative exposure monitoring.

Outputs	1. Quantitative exposure data analyzed, and Exposure Risk Profile updated in Exposure Risk Profiles 2. 2. Long term retention of exposure data in Cority 3. 3. Exposure Control Plans(s) updated based on quantitative data (where required)

Step 7. Exposure Communications

Potential Exposure to Carcinogens

- Operational Managers, with support from the HSE BP team, will:
  - Notify employees and contractors of carcinogens located in the work environment when they start, and at a risk-based frequency, even if the exposure risk profile has identified the potential for exposure is below the OEL. This can be achieved by customizing the Potential Carcinogen Awareness template and including the slides in the site orientation. See *HSE Controlled Documents/ Health/ Occupational Exposure/ Training/ Potential Carcinogen Awareness*.
  - Ensure Personal Protective Equipment (PPE) is available for voluntary use upon worker request and training provided on its proper use.

Exposure Risk and Controls

- Supervision, with support from the HSE BP team, will provide:
  - Individual monitoring results to workers who participated in the exposure monitoring program. Letters must include the sample result, the significance of the result, and health effects.
  - Group communication to workers who are part of an affected SEG (reports that are distributed to more than one worker must be redacted to remove personal identifiers to ensure confidentiality).
- Supervision, with support from the HSE BP team, will provide education as to the potential health effects and relevant control measures where determined by defined Exposure Control Plan(s), retaining training attendance records.

Outputs	1. Potential carcinogens communicated to workers at work location 2. Communication of monitoring results tor affected workers 3. Relevant education provided to workers in affected SEGs

Step 8. Maintain, monitor, and assess control effectiveness

- HSE BP with support from line management will complete the following on a minimum annual basis:

- Assess exposure control effectiveness; this may be done through a collective analysis of monitoring data, maintenance activities, health surveillance outcomes, field compliance audits, occupational illness cases, industry trends and technology advances.
- Identify exposure control improvement opportunities using the hierarchy of controls, and prioritize based on underlying economics of the design, severity of exposure, and the number of workers exposed.
- Obtain management support of identified control improvement projects.
- Include improvements in an update of the risk assessment(s) and exposure control plan(s).

- HSE BP to review local regulatory commitments related to occupational hygiene and ensure compliance, to be completed annually at a minimum.

Outputs	1. Control effectiveness assessed 2. Improvement opportunities identified and projects endorsed by line management 3. Risk Assessment(s) and Exposure Control Plan(s) updated (where relevant)

Roles and Responsibilities

Process Role	Responsibilities
HSE Business Partnership (BP)	▪ Implementation of this procedure within each business area (e.g., Production Unit). ▪ Allocation of resourcing (both staffing and financial) to implement the requirements of this procedure.
Occupational Hygienist	▪ Completion of the technical components of this procedure. ▪ Provide technical guidance in relation to occupational hygiene issues.
HSE Analysis and Improvement (A&I)	▪ HSE Control Framework Content Admin for Occupational Exposure Management. ▪ Provide technical advice from a Petroleum design perspective. ▪ Deliver a quantitative monitoring plan.
Supervisor **e.g. field supervisor, construction supervisor**	▪ Support HSE BP to implement exposure control plan(s). ▪ Ensure that persons under their control participate in exposure monitoring when required. ▪ Communicate outcome of exposure assessments to their personnel and provide education on health effects and relevant control measures
All Workers	▪ Deploy exposure controls, including correctly wearing personal protective equipment. ▪ Participate in assessing exposure risks and exposure monitoring activities.

Appendix 1. Occupational Hygienist Deliverables

Service	Deliverables
Qualitative Assessment	▪ Participate in Qualitative Exposure Risk Profile workshop, or review/validate output of workshop and document the details of the review on the "Review Details" tab ▪ Copy of Occupational Hygienists qualification for retention with Qualitative review of the Exposure Risk Profile.
Qualitative Assessment - Field	**Sampling** ▪ Conduct sampling in accordance with: – Exposure Risk Profile monitoring plan (5). Note: additional sampling may be needed to ensure a minimum of six valid samples. – Methodology outlined in Health Our Requirements Appendix 1. If using an alternate method, Occupational Hygienist must verify it meets or exceeds the Pet DW (WEL) method prior to sampling, and document this in the report. ▪ Resources used to conduct sample activities must be appropriately trained or supervised by a qualified Occupational Hygienist. ▪ Equipment used must have current calibrations as per manufacturer's recommendations. ▪ Personal samples must be collected in a random manner over a duration representative of normal work activities. ▪ Laboratory analysis must be completed by an AIHA accredited laboratory or equivalent. ▪ Apply Pet DW (WEL) OELs listed in Health Our Requirements Appendix 2. ▪ For shifts exceeding eight hours, the OEL must be adjusted in accordance with the Guide for the adjustment of permissible exposure values for unusual work schedules (IRSST) and recorded in the Exposure Risk Profile "Quantitative Assessment (6)" tab **Statistical Analysis** ▪ Statistical analysis to be performed using IH Stat. ▪ Personal samples less than the limit of detection shall be used in the analysis and entered into IH Stat as half the limit of detection for the sample. ▪ Identify outliers and trigger investigation in collaboration with HSE BP representative. **Records to be provided:** ▪ Final Report which includes – Details of the sampling performed – Methodology used to collect the samples including collection media – Documentation of any professional judgment used during the survey – Sample reviews indicating approved/voided samples, and if voided include reason for voiding – Outcome of investigation into outliers – Summary of IH Stat analysis ▪ Sample field sheets - to include survey ID, sample date, sample ID, worker name, worker number (if known), work shift schedule, start/end times & shift length, job title, SEG name, type of sample, sample start/stop time, monitoring equipment and calibrator numbers, flow rate or pre/post calibration, sample media type and identification, tasks performed during sampling period, task duration, controls present, PPE used. ▪ Chain of custody forms. ▪ Current calibration certificates for all equipment used to collect samples during the monitoring period. ▪ Laboratory reports for all of the samples collected (full not excerpt).

	▪ Noise dosimetry download reports (full not excerpt). ▪ Hygiene monitoring logs (if generated). ▪ IH notes, e.g., sampling conditions and observations (if generated). ▪ Excel spreadsheet of all sampling results (to allow for samples to be bulk uploaded to Cority). ▪ Copies of IH Stat analysis. ▪ Individual feedback letters If letters generated outside of Cority: copies of letters and evidence worker received letter. ▪ Group SEG communication (unless HSE BP delivering this). ▪ Evidence of Occupational Hygienist's qualifications ▪ Evidence of laboratory accreditation certificates for the methods used to analyze the samples.
Quantitative Assessment Cority Data Entry	**Record Management - Cority Data Entry** ▪ Create survey. ▪ Enter air and noise samples linked to survey and worker who was sampled. ▪ Review samples for accuracy and validity. Approve/void samples based on determination by field occupational hygiene resource, entering reason for voided samples. Confirm pre/post calibrations and void samples based on methodology outlined in Health Our Requirements Appendix 1. ▪ For shifts exceeding eight hours, the OEL must be adjusted in accordance with the Guide for the adjustment of permissible exposure values for unusual work schedules (IRSST) and confirm the correct OEL is listed in Cority. ▪ Generate individual feedback letters using Cority (unless generated outside of Cority). ▪ Upload 'records to be provided' listed above in Quantitative Assessment – Field. ▪ Copy of updated exposure risk profile (following validation). ▪ Contact HSE BP if any of the required documentation has not been provided, so HSE BP can obtain missing documentation. **Exposure Risk Profile Occupational Hygienist Validation** ▪ Statistically analyze data using the Cority IH Stat Report (with current and previous sample data) and enter results of the statistical analysis into the Exposure Risk Profile "Quantitative Assessment (6)" tab, retaining clear records wherever professional judgement has been used in the analysis. NOTE: ensure noise samples are converted to Pa for statistical analysis. ▪ For shifts exceeding eight hours, the OEL must be adjusted in accordance with the Guide for the adjustment of permissible exposure values for unusual work schedules (IRSST) and recorded in the Exposure Risk Profile "Quantitative Assessment (6)" tab. ▪ Amend data in the Exposure Risk Profile if there are differences between the initial qualitative assessment (Exposure Risk Profile Characterize exposure tab) and the quantitative exposure monitoring results (Exposure Risk Profile quantitative assessment (6) tab). ▪ Confirm that the SEG population on the Exposure Risk Profile quantitative assessment (6) tab is consistent with the "Define SEGs (1) tab.

Appendix 2. Exposure Control Plan Inputs

<table>
<tr><th colspan="2">Respiratory Protection Exposure Control Plan</th></tr>
<tr><td>General Inclusions</td><td>

Review risk assessment for sources of exposure and identify key controls to prevent respiratory agent exposure. Consider the hierarchy of controls when developing controls, and prioritize controls based on health consequences, number of workers exposed and magnitude of exposure reduction.
Apply control methodology consistent with Health Our Requirements Appendix 1 if applicable.

</td></tr>
<tr><td>Respirator Selection, use and Maintenance</td><td>

Leverage the content of AS/NZS 1715:2009 or OSHA 29CFR 1910.134 for the selection, use and maintenance of respiratory protection.

NOTE: Particulate (dust, mist, and fume) filtering respirators are allocated a class indicating the purpose for which they have been designed, as follows:
<table>
<tr><th>Australia & Europe</th><th>USA</th><th>Design For</th></tr>
<tr><td>P1</td><td>N95 (non-oily particulate)</td><td>Mechanically generated dust from operations such as crushing, screening</td></tr>
<tr><td>P2</td><td>N95 (non-oily particulate)
R95 (oily mists)
P95 (all particulate)</td><td>Dusts and thermally generated fume from processes such as welding and work with molten metals</td></tr>
<tr><td>P3</td><td>P100</td><td>Highly toxic materials - these are high efficiency particulate air (HEPA) filters</td></tr>
</table>
</td></tr>
<tr><td>Respiratory Protection Program</td><td>

SEG exposure to respiratory agents exceeding 50% of the OEL require employees and full-time stable contractors engaged for one or more years to be enrolled in the Respiratory Protection Program which includes:

Respiratory Fit Testing
Respiratory Medical Surveillance
Training.

</td></tr>
<tr><td>Fit Testing</td><td>

Fit testing to be carried out:

prior to initial use of the respirator
whenever a different respirator (size, style, model or make) is used or
at least annually.

Fit testing to be performed:

Using a quantitative device that either samples the air inside and outside the respirator or tests negative pressure and produces a numerical readout. This readout is an indication of fit but must not be used as a protection factor, only as an indication of adequacy of fit.
by a trained competent tester

PET DW (WEL) employee and agency contractor fit testing records to be stored in Cority. Service contractors to retain evidence and supply upon request.

</td></tr>
<tr><td>Medical Surveillance</td><td>

Require personnel covered by the Exposure Control Plan to complete a baseline respiratory medical assessment, followed by an annual assessment in accordance with the Medical Assessment and Surveillance Procedure (PET-HSE27-HH-PRD-00003).

EXCEPTIONS: Individuals who require a respirator for escape purposes only must be trained on fit and function of the escape apparatus but will not be required to undergo medical monitoring or fit testing.
</td></tr>
<tr><td>Training and Communication</td><td>

Training to be provided at least annually.

</td></tr>
</table>

	▪ Educate personnel on the key content of the Exposure Control Plan (e.g., risks and controls). ▪ Train personnel in the selection, use, care and limitations of respiratory protection devices they are required to use.
Verification	▪ Outline site level activities to verify controls have been implemented ▪ Examples of verification activities are: – Review of Cority compliance report for completion of medical surveillance and fit testing – Respiratory agent hazard signage erected – Respirator protection available at the work location and used correctly by workers with respiratory agent exposure.

Noise Exposure Control Plan to include:	
General Inclusions	▪ Review the risk assessment for sources of exposure and identify key controls to prevent noise exposure. Consider the hierarchy of controls when developing controls. ▪ Prioritize controls based on health consequences, number of workers exposed and magnitude of exposure reduction.
Hearing Protection Selection, Use and Maintenance	▪ Use hearing protectors as an interim measure while other controls are implemented. ▪ Where hearing protectors are used, select a type that adjusts noise exposure to below 82 dBA. ▪ Use a method to adjust the level of protection offered by hearing protectors. The preferred method is to take the Single Number Rating (SNR) and subtract the value from the baseline noise exposure value to determine the expected level of actual exposure. If the SNR number is unavailable, then use the Noise Reduction Rating (NRR) or Sound Level Conversion (SLC80). Regardless of rating system used, no hearing protectors will be considered to provide more than 30 decibels of attenuation, singularly or in combination. ▪ Mandate the use of dual hearing protection when noise levels are greater than 105 dBA. Double hearing protection must not be considered to give more than five additional decibels of protection. The additional protection provided is also subject to the 30 dBA limit of any device.
Hearing Conservation Program	▪ SEG noise exposure at or above 82 dBA requires employees and full-time stable contractors engaged for one or more years to be enrolled in the Hearing Conservation Program which includes: – Hearing protection fit testing – Audiometric testing – Training
Hearing Protection Fit Testing	▪ Fit testing must be performed using the VeriPro or 3M EARfit validation system by a trained tester. See Hearing Fit Testing - VeriPRO (PET-HSE27-HH-PRD-00007) ▪ Fit testing will be performed upon joining the hearing conservation group and repeated at least annually. ▪ Fit testing records will be stored in Cority. NOTE: If a worker uses earplugs, they must be fit tested. If a worker exclusively wears earmuffs, a qualitative fit check must be performed and documented to confirm earmuffs are providing an adequate seal.
Audiometric Testing	▪ Audiometric testing frequency: – baseline audiometric test within 6 months of joining an exposed SEG for the first time – follow-up audiometric test annually (or more frequently if required by regulatory requirements) ▪ Audiometric testing service providers to be approved in accordance with the Medical Assessment and Surveillance Procedure (PET-HSE27-HH-PRD-00003) and use assessment equipment that conforms to the requirements of AS IEC60645-1:2001 the IEC 60645 Electroacoustic audio-logical equipment. ▪ Where a Standard Threshold Shift in hearing is diagnosed using OSHA 1910.95 criteria: – a review must be conducted of the person's SEG noise exposure, use of hearing protectors, and knowledge of noise and its effects. Upload evidence in Cority.

	– the audiogram must be designated as the new baseline in Cority for future measures of hearing loss in the affected ear (if the retest shows the potential standard threshold shift to have been temporary then the retest is retained as the annual audiometric result)
Training and Communication	▪ Educate personnel on the key content of the Exposure Control Plan (e.g. risks and controls). ▪ Train personnel in the selection, use, care, and limitations of hearing protection devices that they are required to use.
Verification	▪ Outline site level activities to verify noise controls have been implemented. ▪ Examples of verification activities are: – Review of Cority compliance report for completion of medical surveillance and fit testing – Noise signage erected – Hearing protection available at the work location and used correctly by workers exposed to noise.

Heat Stress Exposure Control Plan to include:	
General Inclusions	▪ Review the risk assessment for sources of exposure and identify key controls to prevent heat stress. Consider the hierarchy of controls when developing controls. ▪ Outline process for identifying heat stress risks such as worker hydration levels, hot/humid work environment, high physical work demands, PPE to assess risk and trigger implementation of controls.
Monitor Personnel	▪ Require site supervision and employees to monitor and/or self-assess the execution of their duties for signs of heat stress, taking action where deemed necessary to reduce exposure for the individual concerned.
Training and Education	▪ Communicate key content of the Exposure Control Plan (e.g., risks and controls).
Verification	▪ Outlined site level activities to verify heat stress controls have been implemented e.g. FLEX has hot/humid indoor or outdoor conditions questions that can be pulled into a layered audit

Potable Water Exposure Control Plan (or Water Safety Plan) to include:	
General Inclusions	▪ Develop a plan based on the WHO 2017 Guidelines for Drinking Water Quality at a minimum. ▪ Comply with local regulatory obligations and requirements listed in the Pet DW (WEL) Resource Engineering Centre of Excellence 2019 Drinking (Potable) Water Standard. ▪ Potable water containment and transfer mechanisms must be of a material compliant with ANSI/NSF 61-2013 Drinking Water System Components recommendations. ▪ Conduct potable water transfers in a closed system to prevent contamination during delivery or distribution. ▪ Install backflow preventers at every location that branches off the main water distribution line.
Identify Potential Contaminants and Testing Program	▪ Identify potential contaminants for ongoing assessment using a risk assessment process. ▪ Define sampling frequency, action thresholds and response protocols upon verification of contaminants within potable water including ice machines.
Sampling	▪ Conduct water sampling at agreed frequencies using an approved endorsed 'work instruction' complaint with local regulatory methods. ▪ Develop a water sampling 'work instruction' that includes: – defined step by step instruction for collecting water/ice sample(s) – defined sample locations (collection points must support analysis that is representative of the water in the entire system. Locations must include one sample per cycle that is furthest from the containment tanks as possible) – defined personal protective equipment required to support safe and effective collection

	– precautions associated with supplementary equipment such as attachments on the collection faucets – preparatory steps prior to sample collection such as disinfecting the water tap with a chlorine solution and allowing water to flow for at least two to three minutes before sampling – handling instructions post collection – shipping preparation instructions
Analyze Results	▪ Engage a Certified Laboratory to analyze samples and provide the site with recommendations. ▪ Initiate response protocols upon receipt of a positive test result.
Training and communication	▪ Communicate key content of the Exposure Control Plan (e.g., risks and controls).

Fatigue Exposure Control Plan	
General Inclusions	▪ Review site-based risk assessments where fatigue has been included as an escalation factor. ▪ Identify fatigue causes and impacts. ▪ Utilize Managing fatigue in the workplace – a guide for oil and gas industry supervisors and occupational health practitioners and Performance indicators for fatigue risk management systems to guide the selection of controls, with the following mandatory controls applied: – where an individual's first shift on rotation may commence without the individual having had seven hours continuous rest, the individual is responsible for highlighting fatigue issues which may pose a hazard to safe operations, to their supervisor – no shift is to extend beyond 16 hours from shift commencement – shifts shall rotate forward from day to evening to night, where 8hr shifts are permitted, to reduce symptoms of fatigue – minimum of 10 hours break between work shifts, with a continuous sleep opportunity window of 7 hours
Monitor Personnel	▪ Require site supervision and employees to monitor and/or self-assess the execution of their duties for signs of fatigue, taking action where deemed necessary to reduce exposure for the individual concerned. Action taken should be consistent with knowledge gained through the training and the risk associated with the task at-hand.
Training and Communication	**All Personnel** ▪ Provide awareness level training to all personnel who have been identified to be 'at risk' for fatigue. The purpose of this training is to provide information and education related to the risk factors and signs of fatigue. The training will assist all personnel to recognize the symptoms of fatigue and manage fatigue risks in a safe manner. The training must enable the individual to: – understand the importance of having at least seven hours continuous rest prior to the commencement of work duties – understand and accept their responsibility to use their recovery time effectively and present rested and fit for work when their work shift begins – understand responsibilities and know how to recognize effects of fatigue in themselves and others – understand the influences of a healthy lifestyle and non-work activities on fatigue – understand the effects of medical conditions, sleep disorders, and drugs and alcohol – understand how to apply personal countermeasures to managing fatigue. ▪ Specify risk-based training frequency. **Supervisor** ▪ Provide initial and periodic supervisory-level training for personnel in supervisory roles. The purpose of the training is to provide the skills and information to implement fatigue management principles in the daily operation of their assigned duties. The training will assist supervisors to recognize and manage fatigue risks

	with their direct reports. Training topics must include those contained in the awareness level training and the following: – understand responsibilities and when to initiate fatigue controls – how to manage employees who present signs of fatigue. ▪ Specify risk-based training frequency.
Verification	▪ Outline site level activities to verify the fatigue controls have been implemented and are effective. ▪ Examples of verification activities are: – Review of events to identify if fatigue was a contributing factor – Confirm fatigue training completed in alignment with site specified frequency – Review planned vs. actual hours of work confirm no shift extended past 16 hours from shift commencement, shifts rotate forward from day to night, minimum 10-hour break between shifts – Review absenteeism patterns to identify if fatigue was a factor – Review self-reported fatigue issues for trends – Review fatigue self-assessment checks.

Blood-borne Pathogens Exposure Control Plan	
General Inclusions	▪ Controls, consistent with local regulatory requirements, that cover: – labelling and signage – work area restrictions – specialist PPE – hand cleansing – housekeeping rules – waste management procedure to address blood and infectious material disposal – laundry management arrangements – needle management – specimen management – contaminated equipment management ▪ Require personnel that may be exposed to blood-borne pathogens to be Hepatitis B vaccinated, unless a documented vaccination waiver is signed. ▪ Establish a 'Sharps Injury Log' where required by regulation.
Training	▪ Train personnel with an occupational exposure to blood-borne pathogens on key content of Exposure Control Plan (e.g., risk and controls) annually. ▪ Training must comply with local regulatory requirements.