PLAN

BITING INSECT MANAGEMENT PLAN (DMSB)

PLN-AUS-QYS-003

REVISION	DATE	AMENDMENT SUMMARY	REVIEWER	APPROVER
01	18/11/2024	Review document and new template	DMSB Manager	Regional HSSEQ Manager
02				
03				

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SCOPE

ASCO Australia has established this biting insect plan to ensure all matters within the scope of all operational requirements provides adequate protection of employees, others involved in its operations, the public, and the environment. The plan sets out the aims of ASCO Australia and highlights the commitment to identify and manage all aspects of this plan.

PLAN SUMMARY

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Mosquitoes are the most likely pest and disease vector species to occur in the general work area of the Marine Supply Base. Pooling and ponding of storm water may lead to the establishment of new breeding sites. Receptacles that hold water can allow for out of season breeding of mosquitoes, especially in the laydown areas. There is also potential for exotic dengue mosquitoes to escape international ships. Dengue mosquitoes only breed in receptacles such as drums, buckets, stormwater sumps, building material etc., therefore preventing containers ponding water on site would minimise risk of breeding. Midges or sand flies also occur in high numbers in the area, especially in the sunset, sunrise period and in relationship to the moon cycle.

DEFINITIONS

REFERENCE	SUMMARY
DMSB	Darwin Marine Supply Base
DEET	Diethyl-toluamide
DP	Darwin Port
EAW	East Arm Wharf
PPE	Personal Protective Equipment
SID	Service Improvement Document

ROLES & RESPONSIBILITIES

ROLE	RESPONSIBILITIES
Marine Supply Base Manager	Safety critical role; has overall responsibility and accountability for overseeing the delivery of safe and efficient operations at the MSB To monitor the activities of Facilities Users to ensure compliance with this plan.
MSB Coordinator & Facilities Coordinator	Ensure competent advice and support is provided to Facility Users in meeting the requirements of this plan. To monitor controls in relation to this plan ensuring all Facility Users are compliant. To promptly report all non-conformances to BU Manager

	and HSSEQ Department.
Regional HSSEQ Manager	Review HSSEQ trends and analysis and develop risk mitigation strategies. Support Supply Base Manager and Supervisors to conduct work in a safe and efficient manner. Approve TBRAs within level of authority. Ensure compliance with this HSEMP. Provide technical HSSEQ support to DMSB.
Facility Users	All ASCO and sub-contractor personnel must ensure that they understand and strictly adhere to all ASCO regulations, standards and guidelines. All individuals operating under ASCO management are to challenge and STOP any activity or condition, which they believe may have a negative effect on their welfare or that of others. To not undertake work for which they are not trained, competent or inducted.

REFERENCE DOCUMENTS

DOCUMENT TITLE	BUSINESS FUNCTION
Internal References	Emergency Response Plan (DMSB) Hazard Identification and Control Permit to Work PPE Standard Adverse Weather Management - Aust Cyclone Management Plan Darwin Environmental Plan (DMSB) Safety Management Plan (DMSB) Spill Management Plan (DMSB) Traffic Management Plan (DMSB)
External References	Northern Territory of Australia - Workplace Health and Safety Act Northern Territory of Australia - Work Health and Safety Regulations Ports Management Act Ports Management Regulations

OBJECTIVES

- Reduce the opportunity for mosquitoes to breed.
- Prevent the creation of wet season ponding areas.
- Ensure personnel exposure is controlled.

POTENTIAL IMPACTS

Mosquitoes can carry diseases which can affect the workers and adjacent land users. Midges or sand-flies do not carry diseases however their bites can be very irritating to some people and can become infected and painful. Refer to section management and monitoring to show how these impacts are measured and controls applied.

PERFORMANCE CRITERIA

- Monitor and implement controls to ensure Mosquitoes and biting insects do not disrupt daily activities within DMSB.
- Ensure control and monitoring during wet season conditions and following rain.
- Prevent the occurrence of mosquito breeding site.
- Ensure the monitoring of all waterways, drainage systems and tanking area to ensure no breeding.
- Raise staff and visitor awareness to ensure compliance with contents of this plan.

MOSQUITO AND BITING INSECTS

Mosquitoes and biting midges (genus Culicoides and sometimes erroneously called sand flies) can reach sufficient numbers in wet season conditions and following rain. The bites themselves can be painful and extremely annoying, and people suffer varying degrees of reaction to bites.

Mosquitoes can carry viruses such as Murray Valley encephalitis, Kunjin, Ross River, and Barmah Forest virus, which can cause human disease. Biting midges do not carry any pathogens in Australia that cause human disease.

Female mosquitoes or biting midges bite to take blood from their hosts, which is necessary for the development of eggs. Mosquitoes and biting midges show considerable variation in their preference for hosts. Some species feed selectively on cattle, horses, marsupials, amphibians, birds or humans, while other species are relatively indiscriminate feeders. The time of feeding varies for different species. Many mosquitoes feed just after sunset while others are more active at other times including late in the night, in the late afternoon, or in the early morning.

Biting midges are most active in the evening and early morning. When a mosquito or biting midge bites, fine stylets sheathed in the proboscis are inserted into small capillaries in the skin. Blood is sucked up through one of the channels in the stylets, while saliva is injected down an adjacent channel. This saliva contains histamine like substances that the human body recognises as foreign and often stimulates a bite reaction. Sometimes the saliva can contain viruses or other pathogens that can cause disease.

Some people can become very sensitive after being bitten and suffer a general reaction from further bites. The bites may itch for days, Scratched bites can lead to secondary infections and result in scaring. On the other hand, some people become tolerant to particular species and suffer little after-effects from repeated bites.

Biting insects could create problems in the conducting of work activities within the DMSB, causing a reluctance to enter certain areas or locations. Personal protection equipment (clothing, repellent and awareness) and monitoring measures can offer considerable protection/deterrent from bites, as well as offering protection against mosquito- borne disease.

MANAGEMENT AND MONITORING

ASCO Australia will monitor mosquito activity to all area of the Marine Supply Base to ensure mosquito possible breeding sites are eradicated as much as practice. Significant mosquito activity will be reported to ASCO management group and HSSEQ Advisor who will consult with local environmental authority to ensure eradication and control measures are implemented. Monitoring Program - Preventing Breeding Sites.

ASCO Australia procedures that will be utilised to ensure control measures and monitoring are maintained, some examples are listed below:

- Task Based Risk Assessment
- Planned Inspections
- Environmental Aspects Impacts Procedure
- Environmental Review
- Monitoring Measuring Procedure

PERSONAL PROTECTION EQUIPMENT (PPE)

ASCO Australia will carry out risk assessments to help identify PPE requirements within operational areas of the DMSB, these risk assessments will assist in ensuring suitable and sufficient PPE Guidelines are in place in relation to this plan. As a minimum all operational personnel must have ankle to wrist high viz clothing, and the provision will be made for appropriate levels of additional PPE to be available at all times (repellent, gloves, safety glasses, head protection, etc.). All ASCO Australia employees, contractors, and visitors to the DMSB will be briefed on this plan to ensure all PPE measures are understood and complied with.

REPELLENTS

Relief from biting insect attack may be obtained by applying repellents to the skin and clothing. Repellents with the chemical diethyl-toluamide (DEET) or picaridin give good protection, with DEET based repellents the best. Many botanical based products do not offer sufficient protection. Some specific repellent products, such as standard Aerogard, which are formulated to repel flies, are generally not efficient against mosquitoes or biting midges. Brands with DEET such as Rid, Tropical Strength Aerogard, Bushman's, and Muskol, or products with picaridin such as Repel include specific products that are effective. Those products with higher amounts of DEET or picaridin are usually the most efficient.

Application of repellents over large areas of the body or on extensive areas is not recommended particularly those repellents with concentrations of DEET greater than 20%. Protection from mosquito penetration through wearing appropriate personnel protecting clothing and by applying a light application of aerosol repellent to the exterior of clothing. Should give appropriate levels of protection. Repellents can prevent bites for up to 3 hours. In general aerosol alcohol-based repellents will only give one-hour protection in the tropics so reapplication is necessary. Products labelled low irritant generally mean less active ingredient.

ASCO Australia will ensure that all personnel are advised on insect repellents in relation to application times, application levels and locations of repellents to ensure personnel exposure is controlled and monitored through the period of their daily activities.

LIGHTING

Many mosquito and biting midge species are attracted to white light. The use of yellow or red incandescent lighting illumination rather than white light will reduce the attractiveness of lights to insect.

TREATMENT OF BITES

Relief from bites and prevention of secondary infection can be obtained by the application of various products, either to the skin or internally. The effectiveness of various products is variable, depending on individual reaction. Skin application products include proprietary products such as Eurax, Stingose, Medicreme, Katers lotion, Dermocaine and Paraderm crème and topical antihistamine products, and non-proprietary products such as paw ointment, tea tree oil, eucalyptus oil, aloevera gel or ice. Ice packs to the general bite site will usually give immediate relief for painful and itchy bites and swelling or blisters from of mosquitoes and biting midges. The sooner the ice pack is applied after bites or reactions, the better the relief, and can often avoid more intense reactions.

ASCO Australia will ensure all bites are properly assessed and consultation takes place between effected personnel and ASCO Australia first aider to ensure appropriate levels of first aid are applied. If personnel reaction to biting insects is severe, guidance will be sought from professional medical practitioner.

EMPLOYEE, CLIENT & VISITOR AWARENESS

All ASCO Australia employees, contractors and visitors will receive a full induction to the DMSB to ensure all personnel are aware and comply with all plans and procedures to ensure safety and security of all personnel whilst on site.
Consultation will take place between ASCO safety representative and personnel to ensure suitable and sufficient measures are installed to ensure compliance with any personnel specific medical or allergic conditions.

NON-CONFORMANCES

All non-conformances, uncontrolled pooling areas, objectives and performance standards not maintained will be investigated utilising the ASCO Service Improvement Process (SID) to ensure all non-conformances are investigated and suitable measures imposed to ensure satisfactory outcome.

MONITOR AND REVIEW

The ASCO Biting Insect Management Plan will be continually monitored to ensure full compliance with local and territory legislations, and as a minimum a full review will be conducted annually by the HSSEQ Advisor and/or ASCO Australia Manager to ensure compliance.

APPENDIX A - BITING INSECT MITIGATIONS

Controls	Monitoring	Corrective Actions
• Advise workers of the potential risk of mosquito borne diseases during the induction and provide relevant brochures/ posters from the Medical Entomology Branch in crib areas, outlining types of diseases and how to protect yourself. • Supply insect repellent to minimise risk to workers from biting insects. Ensure operational personnel adhere to ASCO PPE policy • All employees to notify supervisors/HSSEQ Advisor of any increased numbers in biting insect activity	• Daily inspections and supervision by supervisors and inspections by HSSEQ Advisors, and regular discussions with field personnel re mosquito numbers • Weekly/monthly planned inspections • Environmental monitoring	• Contact local authority for advice in case of increased numbers of biting insects. • Daily LiveSafe conversations, to continually discuss biting insects. • Ensure levels of PPE are maintained. • Ensure all recommendations from inspections are rectified satisfactory. • Ensure quarterly review of aspects, and environmental register.
• Manage open containers and receptacles to avoid holding water. • Ensure stormwater drains are inspected to ensure no ponding. • Ensure all sumps are inspected to ensure no ponding.	• Daily inspections and supervision by supervisors and inspections by HSSEQ Advisors, and regular discussions with field personnel re mosquito numbers. • Weekly/monthly planned inspections. • Environmental monitoring.	• Empty water holding containers. • Ponded water will be treated with biological larvicide where required. • Where practical, water holding containers will be stored away from rainfall exposure.