

BHP Billiton Petroleum (BHPB) plans to develop the Stybarrow and Eskdale hydrocarbon reserves for oil production, the 'Stybarrow Development'. In preparation for the Stybarrow FPSO (Floating Production, Storage & Offloading unit) arrival and subsea construction, a spread mooring system will be installed from the Anchor Handling Tug (AHT) 'Normand Mariner' between December 2006 – January 2007. The FPSO location and well locations are listed in Table 1. The Installation Support Vessel (ISV) 'CSO Deep Pioneer' is the main construction vessel. The CSO Deep Pioneer will be assisted by the 'CSO Venturer'. Two Heavy Lift Vessels (HLVs) will be contracted to transport the flexible flowlines and other subsea equipment from Europe, and will need to anchor in Exmouth Gulf to support installation activities. Two Anchor Handler Tugs (AHTs) and a supply vessel will also be required for the offshore operations. The supply vessel will be the same vessel performing support for the current drilling operation. The FPSO, once on location, will be used to provide equipment and services during dynamic riser pull in and pre-commissioning.

Table 1: Wellhead & FPSO Locations

Wellhead	Drill Centre	Depth (m)	Type	Easting (Longitude) ¹	Northing (Latitude) ¹
FPSO	-	826	FPSO Location	170,855 (113° 49' 28.47")	7,624,804 (21° 26' 56.96")
Stybarrow I2 Stybarrow I3	A	801	Deviated water injector I-2 Deviated water injector I-3	173,133 (113° 50' 46.01")	7,622,672 (21° 28' 07.70")
Stybarrow H3 Stybarrow H4 Stybarrow I1	B	836	Horizontal producer H-3 Horizontal producer H-4 Deviated water injector I-1	171,000 (113° 49' 31.56")	7,622,050 (21° 28' 26.50")
Stybarrow H1 Stybarrow H2	C	857	Horizontal producer H-1 Horizontal producer H-2	171,420 (113° 49' 44.49")	7,619,714 (21° 29' 42.64")
Eskdale EH1 Eskdale EG1	D	810	Horizontal producer EH-1 Deviated gas injector EG-1	170,030 (113° 49' 05.16")	7,632,340 (21° 22' 51.68")

The seabed at the well centres has been found to comprise very soft sand/silt and carbonate clays of 10 to 20m thickness. Remote camera footage of the Stybarrow location shows a relatively low abundance of invertebrate fauna, with occasional deepwater sponges, echinoderms and transient crustaceans and bottom dwelling fish.

The main subsea installation and construction phase of the project is scheduled to commence in February 2007. It is anticipated that the activities will take 165 days to complete, with the scope of work including the following:

- Connection of the spider buoy to pre-installed mooring system;
- Pre-lay route survey;
- Installation of 9 riser holdback suction piles;
- Installation of 5 Subsea Distribution Units (SDUs);
- Installation of 1 Water Injection Manifold (WIM);
- Installation of flexible flowlines, dynamic risers and tree jumpers;
- Installation of one Electro Hydraulic Umbilical (EHU) dynamic riser and four static EHUs;
- Subsea Tie-in of the flowlines, jumpers, umbilicals and flying leads;
- Pre-Commissioning comprising function testing, and hydro testing of flowlines;
- Pull through of the risers from FPSO.

The Offshore Construction and Installation Phase is completed when the FPSO arrives on-site, and all hook-ups, as well as pre-commissioning & leak-testing are completed. The Commissioning and Start-up activities will be outlined in a separate Commissioning and Operations Environment Plan.

The consultation programme has included:

- Face-to-face briefings and discussions
- Periodic written newsletter updates posted to stakeholders
- A 1800 toll-free telephone number
- Community Reference Groups (CRGs) established in Exmouth and Perth
- Advertising of public comment opportunities in newspapers for activities undergoing EPBC Act processes.

Ongoing consultation activities over the duration of the drilling programme will include:

- Continued use of CRGs established in Exmouth and Perth
- Periodic written newsletter updates posted to stakeholders
- A 1800 toll-free telephone number.

Table 2: Environmental Aspects and Construction & Installation Activity Interactions

Activity	Aspect										
	Physical Presence	Light	Noise	Sediment Impacts	Water quality	Nutrient addition	Hydrotest discharges	Solid Waste Disposal	Greenhouse gas emissions	Hydrocarbon Contamination	Biodiversity
Routine Events											
• Mobilisation to site	✓	✓						✓			
• Anchor placement / ISV & FPSO presence	✓	✓	✓	✓							
• Power generation			✓						✓		
• Placing of flowlines & risers	✓		✓	✓			✓				
• FPSO Hook-up	✓		✓	✓							
• Hydrotesting				✓	✓		✓				
• Demobilisation	✓	✓	✓					✓			
• Supply vessel and helicopter operations	✓	✓	✓					✓			
• Sewage and greywater						✓					
• Discharge of foodscraps						✓					
• Deck drainage					✓					✓	
Accidental Events											
• Hydrocarbon Spill				✓		✓		✓		✓	✓
• Chemical Spill						✓		✓		✓	
• Introduced species											✓

The Stybarrow offshore construction & installation activities follows the Stybarrow Development HSEC Management System (HSEC-MS), which in turn is in accordance with BHP Billiton HSEC Management Standards and BHP Billiton Environmental Management Protocol (PR 9.2). These systems are consistent with ISO-14,000 series Environmental Management Systems (EMSs) and OHSAS 18,001 Safety Management System requirements. A systematic approach is taken to the management of hazards and risk through the identification and assessment of hazards and risk, the establishment of objectives, plans and performance standards, and the development of adequate documentation.

Table 2 summarises the key environmental aspects and the offshore construction & installation related activities that may lead to these aspects being adversely affected.

Objectives and performance standards for environmental management have been established based on consideration of:

- Sustainable Development Policy requirements
- BHPB HSEC management Standards
- Legal requirements
- Community comments received from consultation
- Technology options and feasibility.

Table 3 provides a summary of environmental objectives, standards and performance criteria. All staff and contractors taking part in the Stybarrow offshore construction and installation program will be advised of their responsibilities prior to commencement of activities. This will occur through meetings with key contractor personnel and an induction and awareness presentation that will be given to all crew.

Further information may be obtained from BHPB's external affairs 1800 036 247 or by writing to:

The External Affairs Advisor
 BHP Billiton Petroleum Pty Ltd
 Central Park 152-158 St Georges Terrace
 PERTH WA, 6000.

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Table 3: Summary of Environmental Objectives, Standards and Performance Criteria

Aspect	Objective	Standards	Performance Criteria
Physical Presence	<ul style="list-style-type: none"> • No significant impact to seabed habitat • No significant impact to seabed biological communities • Minimise adverse effects to marine biota • No significant impact on fishing or shipping activities in the region • No collisions or near misses 	<ul style="list-style-type: none"> • P(SL)A 1967, s.119, 124, 140A • P(SL)(MoE) Regulations 1999, r.13 and 14 • APPEA Code of Environmental Practice • BHPB Sustainable Development Policy • BHPB HSEC Management Standards • HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> • Information on ISV location and activities forwarded to AMSA for inclusion into Marine Notices • Stybarrow project location is offshore in deep water, away from areas commonly used by fishing or recreational vessels • Activities will not commence unless accepted Construction & Installation Safety Case (BHPB-00ST-N940-0002) is in place • Navigation lights will be in place • Standard marine communications systems will be in place • 500m safety exclusion zone requested • Seabed habitat type has been reviewed and no sensitive habit or rock outcrops will be affected • Vessel-Whale interaction procedures will be implemented to avoid interference with whales • Dynamically positioned ISV and FPSO mooring has minimal footprint on seabed • Ongoing consultation with local users
Light	<ul style="list-style-type: none"> • No significant adverse effect on marine biota • No significant impact on visual amenity for coastal communities or island visitors 	<ul style="list-style-type: none"> • P(SL)(MoE) Regulations 1999, r.13 and 14 • APPEA Code of Environmental Practice • BHPB Sustainable Development Policy • BHPB HSEC Management Standards • HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> • Activities will not commence unless accepted Construction & Installation Safety Case (BHPB-00ST-N940-0002) is in place • Lighting on ISV and construction vessels will be at levels required for safe working practices • Stybarrow project location is significant distance offshore from turtle and seabird nesting areas • Equipment designed to normal oilfield practice, which includes specifications for safe levels of lighting
Noise	<ul style="list-style-type: none"> • No significant adverse effect on marine biota • No significant impact on coastal or island communities 	<ul style="list-style-type: none"> • EPBC Act Regulations Pt 8 • P(SL)(MoE) Regulations 1999, r.13 and 14 • APPEA Code of Environmental Practice • BHPB Sustainable Development Policy • BHPB HSEC Management Standards • HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> • Helicopter flights will be routed to avoid flying over identified sensitive seabird nesting areas at Muiron Islands and Exmouth township except if required during emergencies • Helicopter flights will be carried out during daylight hours only, except if required during emergencies or for training purposes • Vessel-Whale interaction procedures to be implemented to avoid interference with whales • Helicopters to maintain distance of at least 1,000m from any observed whales (except for landing and takeoff from ISV & FPSO) • Activities will not commence unless accepted Construction & Installation Safety Case (BHPB-00ST-N940-0002) is in place • Equipment designed to normal oilfield standards including specifications for noise levels.

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Aspect	Objective	Standards	Performance Criteria
Seabed Disturbance: Sediment Quality	<ul style="list-style-type: none"> No significant alteration of sediment characteristics No contamination of sediments No adverse effect on marine biota 	<ul style="list-style-type: none"> P(SL)(MoE) Regulations 1999, r.13 and 14 APPEA Code of Environmental Practice ANZECC Water Quality Guidelines DoIR Guidelines Sheet No.3 – Use and Management of Drilling Fluids BHPB Sustainable Development Policy BHPB HSEC Management Standards HSEC Guideline No. G09 Hazardous/Non-Hazardous Wastes and Emissions 	<ul style="list-style-type: none"> The distance from the Project location to Ningaloo Marine Park will be at least 23 km
Seabed Disturbance: Footprint	<ul style="list-style-type: none"> No significant impact to seabed habitat No significant impact to seabed biological communities No adverse effects to marine biota 	<ul style="list-style-type: none"> P(SL)A 1967, s.124 P(SL)(MoE) Regulations 1999, r.13 and 14 APPEA Code of Environmental Practice BHPB Sustainable Development Policy BHPB HSEC Management Standards HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> Final mooring pattern has been reviewed to ensure that anchoring impacts will not affect sensitive habitats FPSO Anchoring with minimal footprint on seabed ISV Dynamically positioned
Water Quality: Foodscraps	<ul style="list-style-type: none"> No significant adverse effect on water quality No adverse effects on marine biota Maximise efficient resource utilisation Minimise incremental increase to environmental impact associated with onshore disposal as far as possible 	<ul style="list-style-type: none"> P(SL)A 1967, Schedule c. 222 (4) P(SL)(MoE) Regulations 1999, r.29 (1) Protection of the Sea (Prevention of Pollution From Ships) Act 1993 Division 2 MARPOL 73/78 Annexe IV APPEA Code of Environmental Practice ANZECC Guideline for Fresh and Marine Water Quality BHPB Sustainable Development Policy BHPB HSEC Management Standards HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> Wastage will be limited where possible Non-food material will be segregated and stored on board for onshore disposal Food scraps and other putrescible wastes such as food oils and grease will be disposed of in accordance with MARPOL 73/78 Annex IV, and Clauses 222 and 616 of the Schedule of the P(SL)A All food scraps will be macerated to less than 25 millimetres Foodscraps will only be discharged to the ocean when more than 12 nautical miles from land.
Water Quality: Sewage	<ul style="list-style-type: none"> No reduction in ambient water quality No adverse effects on marine biota No adverse aesthetic effects. 	<ul style="list-style-type: none"> P(SL)A 1967, Schedule c. 222 (4) P(SL)(MoE) Regulations 1999, r.29 (1) Protection of the Sea (Prevention of Pollution From Ships) Act 1993, Division 2 APPEA Code of Environmental Practice ANZECC Guideline for Fresh and Marine Water Quality BHPB Sustainable Development Policy BHPB HSEC Management Standards HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> Sewage treatment plant on ISVs, HLVs & FPSO complies with MARPOL requirements Sewage and putrescible wastes will not be discharged within 12 nautical miles of land. When within 12 nautical miles, vessels will contain any sewage discharges. Sewage and greywater will be disposed of in accordance with MARPOL 73/78 Annex IV and Clauses 222 and 616 of the Schedule of the P(SL)A

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Aspect	Objective	Standards	Performance Criteria
Water Quality: Hydrotest Discharges	<ul style="list-style-type: none"> No significant alteration of sediment characteristics No contamination of sediments No adverse effect on marine biota. 	<ul style="list-style-type: none"> P(SL)A 1967, s.124 Clause 516, issued as a schedule to the P(SL)A, 1967 P(SL)(MoE) Regulations 1999, r.13 and 14 APPEA Code of Environmental Practice ANZECC Water Quality Guidelines DoIR Petroleum Information Series – Guidelines Sheet 3: The use and management of drilling fluids and cuttings BHPB Sustainable Development Policy BHPB HSEC Management Standards HSEC Guideline No. 9 Hazardous/Non-hazardous Wastes and Emissions 	<ul style="list-style-type: none"> Maximise hydrotest of systems prior to arrival on-site (pre-commissioning) Avoid chemical treatments where practicable Chemical selection process has preference for chemicals with least potential for environmental harm No hydrotest discharges planned as part of Offshore Construction and Installation activities. However, bleeding of small volumes of preservation fluids containing biocide, oxygen scavenger and antifreeze is expected during subsea installation Disposal Plan to be developed as part of commissioning procedures (to be addressed in Stybarrow Development Operations Environment Plan).
Water Quality: Deck Wash-Down; hydrocarbon & chemicals handling, storage, loading and offloading	<ul style="list-style-type: none"> No significant adverse effect on water quality No adverse effects on marine biota Minimise incremental increase to environmental impact associated with onshore disposal as far as possible 	<ul style="list-style-type: none"> P(SL)A 1967, Schedule c.285 and 616 P(SL)(MoE) Regulations 1999, r.13 and 14 APPEA Code of Environmental Practice ANZECC Guidelines for Fresh and Marine Water Quality BHPB Sustainable Development Policy BHPB HSEC Management Standards HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> All Chemicals & fuel storage areas will be bunded / contained An approved chemicals handling, storage & disposal procedure, as well as a refuelling and bulk transfer procedure shall be in place at the start of offshore installation activities No fuel bunkering or chemicals loading/offloading shall commence after dark ISVs and support vessels will have current MARPOL compliant Shipboard Oil Pollution Emergency Plan (SOPEP) No wastes will be routinely discharged via deck washdown Utility equipment integrity to restrict leakages and small spills Operating and maintenance procedures to restrict leakages and small spills Equipment onboard ISVs and support vessels for responding to, and cleaning up, small spills of oils and other chemicals as per SOPEP requirements Slops water will be monitored for oil-in-water content, no water with oil in water concentration exceeding 30mg/L will be discharged Small deck spills contained and cleaned up as soon as possible Drainage from utility areas where leaks are likely will be collected and processed by oily water separator system such as slops tanks Chemical selection process has preference for chemicals with least potential for environmental harm

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Aspect	Objective	Standards	Performance Criteria
Water Quality: Antifouling Leachate	<ul style="list-style-type: none"> No significant adverse effect on water quality No adverse effects on marine biota 	<ul style="list-style-type: none"> Protection of the Sea (Prevention of Pollution From Ships) Act 1993 Division 2 MARPOL 73/78 Annexe IV and V Navigation Act 1908 P(SL)(MoE) Regulations 1999, r.29 (1) APPEA Code of Environmental Practice ANZECC Guideline for Fresh and Marine Water Quality BHPB Sustainable Development Policy BHPB HSEC Management Standards HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> Only legally permitted antifouling paints will be used
Waste Disposal: General Non-Hazardous Waste	<ul style="list-style-type: none"> Minimise incremental increase to environmental impact associated with onshore disposal as far as possible Maximise efficient resource utilisation 	<ul style="list-style-type: none"> EPBC Act 1999 Environmental Protection Act 1986 (WA) APPEA Code of Environmental Practice ICCM Framework BHPB Sustainable Development Policy BHPB HSEC Management Standards HSEC Guideline No G09 Non-hazardous Wastes, Hazardous Wastes and Emissions HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> An approved Waste Management Plan shall be in place at the start of offshore installation activities No solid wastes to be discharged overboard Limit waste creation at site by application of the waste management hierarchy ISV and support vessels to have waste management plan in place that has been reviewed by BHPB and found to, at least, meet all of MARPOL requirements for waste management (including recording of amounts) Skips provided for waste containment are to have covers to prevent material being blown overboard Segregation of all waste at site, onshore disposal, recycling where practicable (note 'practicable' in this context includes a consideration of the net benefit of recycling compared to disposal for the particular waste stream in question) Waste disposed of to licensed receival facilities.
Waste Disposal: Hazardous Waste	<ul style="list-style-type: none"> Avoid contamination of the marine and terrestrial environment Minimise incremental increase to environmental impact associated with onshore disposal Maximise efficient resource utilisation 	<ul style="list-style-type: none"> P(SL)(MoE) Regulations 1999, r.13 and 14 APPEA Code of Environmental Practice BHPB Sustainable Development Policy BHPB HSEC Management Standards HSEC Guideline No G09 Non-Hazardous Wastes, Hazardous Wastes and Emissions HSEC Guideline No. T07 Risk Criteria/ALARP Principle 	<ul style="list-style-type: none"> An approved Waste Management Plan shall be in place at the start of offshore installation activities Storage areas for hazardous liquid waste shall be banded / contained No discharge of hazardous materials to sea Limit creation of hazardous waste through tendering and contracting process, e.g. chemical selection process has preference for chemicals with least potential for environmental harm ISVs and support vessels to have waste management plan in place that has been reviewed by BHPB and found to, at least, meet all of MARPOL requirements for waste management (including recording of amounts) Containers clearly marked, stored in secure areas designed to

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Aspect	Objective	Standards	Performance Criteria
			<p>prevent and contain spills</p> <ul style="list-style-type: none"> Material Safety Data Sheets (MSDSs) will be available for all chemical materials onboard of ISV and FPSO Hazardous waste segregated offshore for onshore recycling or disposal to approved onshore facility (note that waste transport operators and waste disposal facility operators will be required to demonstrate compliance with relevant government regulatory requirements) Defined facility procedures for transfers Procedures to track hazardous wastes until final disposal
Greenhouse Gas Emissions	<ul style="list-style-type: none"> Minimise contribution of greenhouse gases to atmosphere Comply with requirements BHPB's Greenhouse Gas Agreement Efficient use of resources 	<ul style="list-style-type: none"> APPEA Code of Environmental Practice BHPB Sustainable Development Policy BHPB HSEC Management Standard HSEC Guideline No G17 Energy and Greenhouse HSEC Guideline No G20 Energy and Greenhouse Gas Management Plan Stybarrow Development Greenhouse Gas Management Plan 	<ul style="list-style-type: none"> Appropriate maintenance of equipment to ensure efficient operation
Accidental Release of Oil or Chemicals	<ul style="list-style-type: none"> No spill of oil or chemicals No significant adverse effect on water quality No adverse effects on marine biota 	<ul style="list-style-type: none"> EPBC Act 1999 P(SL)(MoE) Regulations r.14(7) P(SL)(MoSoOF) Regulations r. 24.(1) Environmental Protection Act 1986 (WA) APPEA Code of Environmental Practice ICCM Framework BHPB Sustainable Development Policy BHPB HSEC Management Standards 	<ul style="list-style-type: none"> All Chemicals & fuel storage areas will be banded / contained An approved chemicals handling, storage & disposal procedure, as well as a refuelling and bulk transfer procedure shall be in place at the start of offshore installation activities No fuel bunkering or chemicals loading/offloading shall commence after dark Risk assessment and hazard identification studies completed prior to mobilisation to identify potential sources of spills Implementation of good oilfield practice for prevention of accidental releases An accepted Emergency Response Plan, which includes an Oil Spill Contingency Plan (OSCP) must be in place before any construction and installation activities commence.
Accidental Introduction of Marine Pest Species	<ul style="list-style-type: none"> No introduction of exotic marine species 	<ul style="list-style-type: none"> Quarantine Act 1908 (Cth). Australian Ballast Water Management Requirements 	<ul style="list-style-type: none"> Ballast Water Management Plan in accordance with AQIS requirements shall be in place for all vessels involved in installation & construction activities. Ballast water assessed as being 'high risk' must not be discharged into Australian ports or waters. A hull fouling risk assessment will be undertaken for vessels entering Exmouth Gulf; high risk vessels will not be allowed to enter Exmouth Gulf