

Table ES-3: Table of Commitments

Subject	Commitment/Safeguard	Primary Section Reference in PER
Disturbance to Geology	Extraction will be from existing borrow pits and quarries wherever practicable, and development of any new borrow pits will be managed in accordance with an EML or EMP negotiated with Minerals and Energy.	4.2.3
	Particular care and vigilant observance of trenching activities will occur when working in areas that contain karst.	4.2.3
Erosion, Runoff and Soil Compaction	The pipeline will be buried with a minimum depth of cover of 750mm in accordance with AS2885.	2.2.1
	Access during construction and operation will only be via environmentally approved access tracks and the construction corridor.	4.4.3
	Erosion and sediment control management associated with watercourses will include: HDD (geotechnical constraints permitting) at the main watercourses; grading soil away from the watercourses; use of containment structures as appropriate; and use of trench breakers, silt fences and temporary and permanent earth banks.	4.2.3
	Monitoring of erosion and rehabilitation progress will be undertaken for the duration of construction and after the first wet season.	4.2.3
	Erosion control will be applied especially to exposed soil, vegetation stockpiles and water crossings during construction.	4.2.3
	Management measures during construction will include topsoil conservation and the installation and maintenance of erosion control measures.	4.2.3
	Rehabilitation will be undertaken post construction, and will include installation and maintenance of erosion and contour banks spaced in accordance with the physical composition of the soils, catchment size, and slope angles.	4.2.3
	Reinstatement will be completed prior to the first storms of the wet season.	4.2.3
	Short and long term erosion and sediment control measures (e.g. whoaboys, contour banks, earth banks, turn off drains, silt fences) will be installed and maintained throughout construction.	4.2.3
	Landforms, including any erosion controls established prior to construction, will be re-contoured to their original condition.	4.2.3
Generation of Acid Sulfate Soils	A Special Area Plan (SAP) will be developed and implemented if ASS is encountered on the route.	4.2.3
	Excavated soils will be stockpiled for a minimal amount of time, thus reducing the potential time for oxidation of ASS, and subsequent runoff.	4.2.3
	Excavated soil containing ASS will be stockpiled within a bunded area and treated with lime.	4.2.3
	ASS will be retained within the original location of excavation to reduce the potential for spreading acidity.	4.2.3
	The trench will be backfilled and compacted to a level at least similar to that of the surrounding soil profile, ensuring that the structure does not provide a permeable pathway for acid leachate migration, and that permanent lowering of the water table does not occur.	4.2.3

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Seismic activity	If a fault line with potential for activity is identified, then the pipeline design will be modified at that location using design techniques appropriate to the expected fault movement and in accordance with the relevant safety requirements of AS2885.1. Further research and correspondence on regional seismicity will be completed in the detailed engineering phase of the Project.	4.2.3 4.2.3
Impact on Hydrology and Ground and Surface Waters	Watercourses that are trenched will be stabilised. The streambed of trenched watercourse crossings will be restored to as near original condition as possible. If required, bank stabilisation and repairs during operation will be scheduled for the dry season. Watercourse approaches on access tracks will be stabilised using the most suitable method for the conditions, and temporary culverts will be constructed at flowing watercourses. Access tracks to watercourse crossings will be designed and constructed in accordance with environmental guidelines. Watercourses that happen to have a significant amount of flow (approaching 1,000L/s) at the time of construction will be reassessed and crossed with an appropriate method, including flow diversion. At locations where temporary watercourse crossings are created, all excess materials will be removed at the completion of construction and the area reinstated. Extraction from open water sources, such as creeks and rivers, will be in accordance with a Water Extraction Licence. A licence will be sought for the short term use of the bore on Tipperary Station which produces a flow rate higher than 15L/s. Extraction will be spread over a number of bores and water sources where possible.	4.4.3 4.4.3 4.4.3 4.4.3 2.2.15 4.4.3 4.3.3 4.3.3 4.3.3
Hydrotest	Hydrotest water will be treated and disposed of in accordance with a Hydrotest Management Plan. The geofabric which contains the residue from each flush will be disposed of to a landfill. The disposal water will be released under pressure to aerate and manage soil erosion. Disposal water from the hydrotesting will be irrigated to land, in accordance with the recommendations of the CMIT (2005) report. Flush water will be disposed to land, well-separated from any water bodies. The flush water will be treated in accordance with the recommendations of the CMIT (2005) report on hydrotests.	4.4.3 4.3.3 4.3.3 4.3.3 4.3.3 4.3.3
Disturbance to Visual Amenity	The pipe will be installed underground.	4.10.3
Death, Injury and Disturbance to Fauna	The construction workforce will be briefed during inductions about their obligations to protect fauna. Construction activities will be confined to the dry season when the activity levels of reptiles are lower. Fatalities of animals that fall into the trench will be minimised through the installation of temporary refuges or escape routes. Wildlife handlers will be available on-site to inspect the trench daily from sunrise. Wildlife handlers will remove wildlife from the trenches, identify, record data and release the captures into nearby vegetated areas.	4.4.3 4.4.3 4.4.3 4.4.3 4.4.3

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	Wildlife handlers will be legally permitted, trained in appropriate handling protocols, and will possess the necessary Personal Protection Equipment (PPE) for the handling of animals. Animal handlers will follow the Australian National Health and Medical Council's <i>Australian Code of Practice for the Care and Use of Animals for Scientific Purposes (2004)</i> when dealing with injured fauna. Wildlife data will be given to the PWSNT, and any dead animals found will be preserved and submitted as voucher specimens. Animals that are unable to be identified in the field will be taken and lodged as voucher specimens with MAGNT. A permit to interfere with wildlife from the PWSNT will be obtained before trench construction commences. Issues arising with stock will involve the landowner as the first point of contact. Logs and fallen vegetation will be pulled back over the alignment to provide habitat for native fauna. Construction activities will be planned so the excavated trench will be open for the minimum amount of time.	4.4.3 4.4.3 4.4.3 4.4.3 4.4.3 4.4.3 4.4.3 4.4.3
Damage and Destruction of Vegetation and Flora	Project personnel will be briefed during inductions about their obligations to protect native vegetation. Removal of large trees on river banks will be avoided where possible. Only saplings that may grow into large trees close to the pipeline will be removed during the maintenance of the pipeline corridor. Large fruiting trees which provide important food resources for native fauna will be retained where possible. Understorey cover will be allowed to regenerate over the entire construction corridor after construction. The majority (80%) of woodland and forest cleared by the Project will be allowed to grow back across the pipeline corridor. Construction activities will be designed, planned and managed so that only specified areas of native vegetation, referred to in Alignment Sheets are cleared (e.g. the boundaries of the pipeline corridor and all construction sites will be clearly indicated in construction drawings and marked out on the ground in relevant areas). Clearing, reinstatement and rehabilitation will be undertaken progressively over the construction period. Additional infrastructure or clearing found to be necessary closer to the Project start date will be subject to the same environmental, archaeological and cultural assessments as outlined for the existing route.	4.4.3 4.4.3 4.4.3 4.4.3 4.4.3 4.9 4.4.3 4.4.3 4.4.3
Impacts on Aquatic Ecosystems	Machinery and equipment that is submersed in a waterway will be washed down and decontaminated before being used in another waterway. Culverts will be designed to be environmentally sensitive, and to avoid restricting channel width. All in-stream maintenance will be scheduled for the dry season to avoid critical periods of fish passage. HDD, which involves no direct impact to the watercourse and immediate riparian vegetation, will be used for crossing the Daly, Tom Turners Creek, and two crossings of Green Ant Creek. Construction camps and fuel and chemical storages will be located away from watercourses.	4.4.3 4.4.3 4.4.3 4.4.3 4.4.3

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Disturbance to Ecologically Sensitive Habitats	Clean up and reinstatement measures will be implemented as soon as possible after construction. Boundaries of special areas will be shown on alignment sheets. Construction activities will maintain a distance of at least 100m from isolated wetlands. New access tracks shall avoid environmentally sensitive areas.	4.4.3 4.4.3 4.4.3 2.2.6
Introduction and Spread of Exotic Flora and Fauna	Before entering the area, all plant, vehicles and equipment will be certified 'weed free'. Weed eradication programs will be implemented as required, and a weed and exotic species management plan will be implemented during construction. Weed washdown bays will be developed and managed. Workers undertaking the following tasks will be required to fulfil all washdown requirements: surveying; fencing / gating; clearing and grading; and reinstating. The remainder of the workforce will be required to stay on Project approved roads or on the construction corridor, where they will not come into contact with weeds. Equipment and material introduced to the region, especially those from interstate, will be screened for pest species.	4.4.3 4.4.3 4.4.3 4.4.3 4.4.3 4.4.3
Fire Management	The Project will not intentionally light fires for any purpose. Fire management measures will include; spark arrestors, exclusion zones for combustible materials, and firewater tankers located near activities requiring naked flame.	4.8.3 4.8.3
Biting Insects	Personal protection measures encouraged for construction workers will involve: avoiding peak mosquito biting times (sunset to sunrise); wearing personal repellent containing the active ingredient DEET or Picaridin; and wearing loose, light coloured, long-sleeved clothing and full length trousers. Construction Camps will be located as far as possible away from major mosquito breeding sites. If imported malaria cases occur, the individual will be kept indoors at night away from mosquito bites until a risk assessment is made by the Medical Entomology Branch (MEB). Artificial receptacles sourced from North Queensland or Tennant Creek will be treated with a chlorine solution to kill any mosquito eggs that may be present. Infrastructure such as water tanks, sewage systems and wastewater treatment facilities will be screened to prevent mosquito entry. After installation, the pipeline route will be finished to a level surface in order to prevent ponding of water. All personnel will be advised of the mosquito borne diseases. All borrow pits will be rendered free draining, and borrow pits will be constructed more than 5km from human settlement. Areas around construction camps and work areas at high risk of biting insects will be sprayed with bifenthrin. Personnel clothing will be impregnated with bifenthrin if serious biting insect problems are encountered. Bifenthrin, if used will be applied in accordance with the MSDS for the product.	4.5.3 4.5.3 4.5.3 4.5.3 4.5.3 4.5.3 4.5.3 4.5.3 4.5.3 4.5.3 4.5.3
Non-hazardous Solid Waste Stream	All work areas will be maintained in a neat and orderly manner. Putrescibles and camp wastes (including food scraps) will be contained in bins and disposed of regularly to avoid attracting vermin.	4.7.3 4.4.3

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Non-hazardous Liquid Waste Stream	Transportable Waste Water Treatment Systems (WWTSSs) will be used at the construction camps for the period of the construction works, with the effluent being disposed of to land. Waste discharge will be separated into 'grey' and 'septic water'. The discharge system will be in accordance with Northern Territory Environmental Health Guidelines, including Code of Practice for Small On-Site Sewage and Sullage Treatment Systems and the Disposal or Reuse of Sewage Effluent November 1996 where it is relevant to transportable systems, and with a Type Approval and specific approvals for the WWTSS. Discharge from the septic system will be by spray irrigation, in accordance with Northern Territory Environmental Health requirements and Waste Discharge Licence conditions to be issued by the Environmental Protection Agency. Disposal of sludge (biosolids) will be to a licensed facility.	4.7.3 4.7.3 4.7.3 4.7.3 4.7.3
Chemical or Hydrocarbon Spills	All hazardous materials and dangerous goods will be purchased, transported, stored and used in accordance with the relevant Australian Standards, National Occupational Health Safety Commission (NOHSC) guidelines, Work Health (Occupational Health and Safety) Regulations, Dangerous Goods Regulations and Northern Territory guidelines. Spill kits and containment devices (such as drip trays) will be available and used wherever required. Main fuel and chemical storage and wastewater treatment facilities will be designed and constructed to Australian Standards. No refuelling of plant, equipment, or vehicles will be undertaken within 100m of a watercourse.	2.2.7 4.4.3 4.4.3 4.4.3
Greenhouse Gases	Cleared vegetation will be allowed to decompose naturally, and will not be intentionally converted to CO₂.	4.9
Other Gaseous Emissions	Sensing devices, including pressure sensors and flow meters, will be in place for the detection of accidental gas release. Regular aerial patrols will identify any areas of natural or third party activity which could threaten the integrity of the pipeline so that preventative measures can be implemented. Valves will be inspected at regular intervals to ensure that: each valve is supported; support points are not corroding; valves are not leaking; valves and actuators are fully operable; valves are secured to prevent unauthorised access and usage; and valves are regularly tested and operated to confirm operability.	4.6.3 4.6.3 4.6.3
Dust Emissions	The construction corridor and access routes will be watered to maintain the integrity of the road and prevent bulldust formation. The time exposure for surfaces such as stockpiles and cleared areas will be minimised. The site induction will include dust generation awareness and applicable control measures. The construction corridor will be reinstated as early as possible to assist in soil stabilization. There will be controls on Project vehicle speeds, and their travel will be restricted to approved roads during construction. Vehicle speeds will be limited when travelling and water trucks will be used to improve soil moisture.	4.6.3 4.6.3 4.6.3 4.6.3 4.6.3 4.2.3
Noise Emissions	Transport movements, which have the most potential to impact sensitive noise receptors, will be managed through the Road Use Management Plan (RUMP).	

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	Plant and equipment will be maintained regularly to minimise the potential for noise impacts. Truck movements along the construction corridor, access tracks and main roads, will take place during daylight hours where possible. Local residents will be notified in advance of construction activities. Local residents and communities will be notified at least 24 hours in advance of planned noise events (e.g. blasting of rock if required). Construction will be during daytime hours as far as possible (hydrotesting will involve evening and night-time work). Noise levels during operations at the boundary of the future compressor station will be within the limits specified under the relevant legislation.	4.6.3 4.6.3 4.6.3 4.6.3 4.6.3
Vibration and Blasting	All blasting activities will be in accordance with the Northern Territory Dangerous Goods Act and associated Regulations, and Australian Standard 2187.1 and 2 (2006). Special safety and licensing requirements for the manufacture, sale, storage, transport and use of explosive material will be adhered to. Blasting activities will only be undertaken by highly trained and approved operators. An explosives contractor will provide management procedures including: an overview of blasting; safety practices; alert notices; types of explosives and detonation technique; and debris control.	4.2.3 4.2.3 4.2.3 4.2.3
Archaeology and Historic Heritage	All recommendations in the Archaeology and Historic Heritage Report, such as monitoring, will be carried out during the Project. Areas of archaeological importance have been logged into the Project GIS system and will be included in the alignment sheets for construction contractors. Where the route passes near identified archaeological sites, fences will be installed along the boundaries of the construction corridor for a distance of 100 metres. An archaeological survey will be carried out over the proposed route from KP38 to the Moyle River (KP84). Brightly coloured flagging tape will be placed around the historic features at risk of disturbance. Should any suspected human remains be unearthed or located during works, the police will be immediately notified and the remains will not be disturbed until all necessary investigations are complete.	4.11.3 4.11.3 4.11.3 4.11.3 4.11.3 4.11.3
Cultural and Regional Economic Impacts	Consultations with the Traditional Owners, through the NLC, will continue throughout the lead up to and during construction phase of the Project. Local communities will be advised of (employment) opportunities available in association with the Project. APT has entered into an agreement with the NTICN to assist with resourcing local businesses and labour during the construction period. The final pipeline route will be presented to the NLC Full Council meeting. A Cultural Heritage Management Plan will be developed, and will be approved by the NLC before construction commences. NLC permitting procedure requirements will be implemented.	4.11.3 4.13.3 4.13.3 4.11.1 4.12.3 4.12.3

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	Any newly constructed access tracks will be managed in accordance with the Cultural Heritage Management Plan (CHMP).	
Social Impacts	The construction crew, which may reach a peak of around 250, will be housed in fully self-contained construction camps. Machinery operators (a large proportion of the workforce) will be under a zero (alcohol) tolerance limit. There will be random breath-testing of workers. A 'Fit for Work Program' will be implemented to protect the health and well being of all workers. Induction programs will be conducted for all workers to provide background information on the area (e.g. Indigenous history, culture, current status of the land and cultural awareness so as to reduce cross-cultural misunderstanding). 'Wet mess' facilities will be provided within the construction camps to minimise the need for workers to visit local hotels. Suitable arrangements will be made for prohibiting the sale of alcohol within construction camps to people other than identified construction workers. Local communities will be advised of (employment) opportunities available in association with the Project. A paramedic and an ambulance will support the construction crew.	4.12.3 4.12.3 4.12.3 4.12.3 4.12.3 4.12.3 4.12.3 4.12.3 4.12.3
Safety and Risk	All personnel working in the area of Fenton Camp will be informed of the possibility of buried unexploded ordnance. Workers on the alignment will have constant radio contact. Any over size loads will be transported in accordance with the <i>Motor Vehicles Act (MVA) 1959</i> and <i>Motor Vehicles (Standards) Regulations (MV(S) R)</i>. Shutdown valves will be located at the inlet to the pipeline at Wadeye and at the ADP interconnection. A Road Use Management Plan (RUMP) has been developed, and will be implemented in the lead up to, and throughout construction. Public entry will be prevented within construction areas. All visitors will be supervised. There will be continual communication between the Project and public, landowners, and other relevant stakeholders. Staff training will be provided to ensure that all risk management measures are understood and implemented. All signage for traffic management will be in accordance with the requirements of the Department of Planning and Infrastructure. A Safety and Operating Plan will be developed that deals with all risks identified in the AS2885 risk assessment. Controls will include: • Patrolling the pipeline to monitor for external threats, pipeline damage and environmental issues. The pipeline will be monitored on a regular basis for third party work occurring along the ROW. • Remote and onsite monitoring for corrosion, pipeline coating damage, equipment faults, alarms, etc • Routine maintenance and inspection programs • Regular contact with the stakeholders along the pipeline and supplying them with maps to ensure that they have the necessary information to identify the location of the pipeline.	4.11.3 4.4.3 2.2.12 2.2.4 4.14.3 7.1.3 7.1.3 7.1.3 7.1.3 2.1.7 7.1.3

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	• Use of trained, competent and authorized personnel • Preventing access to above-ground facilities through security fencing, monitoring and patrols. • Installation of pipeline marker signs at inter-visible intervals to indicate the location of the buried gas pipeline. Signage will show the Gas Operations Company contact phone numbers so that contractors can call prior to commencing work or in case of an emergency. A Construction Safety Management Plan will be prepared by the construction contractor to meet the requirements of: APT: APIA construction safety guidelines; Northern Territory Worksafe Standards; National Standard for Construction Work [NOHSC 1016 (2005)]; and AS2885.1.	6
Land Tenure Approvals	APT are in continual consultation with all land owners on or near the proposed corridor (refer Chapter 8) and will provide notice of construction activities.	4.10.3
	APT will provide notice of construction activities. Detailed description of the route and accompanying GIS coordinates and maps will be made available to all future land-users and developers on application. Pipeline marker posts will be indicating the presence of the pipeline, and will be installed, in accordance with the requirements of AS2885, at crossings, fencelines, bends, and above ground facilities. Fencing crews will be mobilized to set up temporary gates and fences where necessary at the start of construction. Creation of any new access tracks will be scheduled to minimize disturbance to landholders, and will be rehabilitated in accordance with landowner requirements.	4.10.3 4.10.3 4.10.3 4.10.3 2.2.6
Legislation and Permits	All applicable legislation will be followed and all applicable licences and permits will be obtained before the Project commences.	2.1.7